



MONASH University

---

**Local Government Enhanced Speed Enforcement  
Management Project: Phase One**

**RR 10-001**

---

**Curtin-Monash Accident Research Centre**

**School of Public Health**

**Curtin University**

**Hayman Road**

**Bentley WA 6102**

Peter Palamara; Jenny Jones; Janina Hildebrand; Jim Langford  
June 2011

**CURTIN-MONASH ACCIDENT RESEARCH CENTRE  
DOCUMENT RETRIEVAL INFORMATION**

---

<b>Report No.</b>	<b>Project No.</b>	<b>Date</b>	<b>Pages</b>	<b>ISBN</b>	<b>Version</b>
RR 10-001	09-001 CON	June 2011	174+	N/A	3.0

---

**Title**

Local Government Enhanced Speed Enforcement Management Project: Phase One

---

**Author(s)**

Palamara, P.; Jones, J.; Hildebrand, J.; Langford, J.

---

**Performing Organisation**

Curtin-Monash Accident Research Centre (C-MARC)  
School of Public Health  
Curtin University  
Hayman Road  
BENTLEY WA 6102

Tel: (08) 9266-2304

Fax: (08) 9266-2958

[www.c-marc.curtin.edu.au](http://www.c-marc.curtin.edu.au)

---

**Sponsor**

Western Australian Local Government Association  
15 Altona Street  
WEST PERTH WA 6005

---

**Abstract**

This report details the methodologies and findings of Phase One of the Western Australian Local Government Association's investigation into the possible role of Local Government in speed enforcement management in Western Australia. Three possible models of Local Government participation in speed enforcement were identified from a review of the literature and considered in relation to existing speed management practices, including enforcement, in Western Australia. The models will be the subject of further consultation with Western Australian Local Government members and other road safety stakeholders in Phases Two and Three of the project.

---

**Keywords**

Road safety; Local Government; speed management; speed enforcement

---

**Disclaimer**

This report is disseminated in the interest of information exchange. The views expressed here are those of the authors and not necessarily those of Curtin University of Technology or Monash University.

---

## TABLE OF CONTENTS

LIST OF TABLES .....	v
LIST OF FIGURES.....	viii
EXECUTIVE SUMMARY .....	ix-xix
ACKNOWLEDGEMENTS .....	xx
1. INTRODUCTION.....	1
1.1 Aims, Objectives and Project Structure .....	3
2. SPEEDING: A ROAD SAFETY PROBLEM .....	8
2.1 Road Crashes and Speeding.....	8
2.2 Managing speeding: Enforcement and Automated Speed Camera Programs .....	10
2.3 A Potential Role for Local Government in Speed Enforcement Management.....	14
3. REVIEW OF THE LITERATURE ON LOCAL GOVERNMENT SPEED ENFORCEMENT MANAGEMENT .....	16
3.1 Methodology .....	16
3.2 Findings of the review .....	17
3.2.1 Australia .....	18
3.2.2 New Zealand.....	19
3.2.3 United Kingdom.....	19
3.2.4 Unites States of America .....	23
3.2.5 Canada .....	25
3.2.6 Sweden .....	25
3.2.7 Norway .....	26
3.2.8 Germany .....	26
3.2.9 Summary of the main findings of the review .....	32
4. SURVEY OF WESTERN AUSTRALIAN LOCAL GOVERNMENT .....	34
4.1 Overview .....	34
4.2 Methodology .....	34
4.2.1 Ethics .....	34
4.2.2 Questionnaire Development and Completion .....	34
4.2.3 Contact and Sampling of Western Australian Local Government .....	35
4.3 Data Management and Analysis .....	36
4.4 Details of Local Government Respondents .....	37
4.5 Survey Findings .....	40
4.5.1 Monitoring of Local Area Vehicle Travel Speeds .....	40
4.5.2 Local Government Attitudes to Speed Monitoring and Data Use.....	49
4.5.3 Local Government Speed Management Activities.....	53
4.5.4 Local Government Area Speed Zoning.....	62
4.5.5 Speed Enforcement on Local Government Area Roads.....	69
4.5.6 Local Government Road Safety Management and Attitudes.....	77
4.5.7 Additional Comments from Respondent Councils.....	89
4.5.8 Summary and Observations.....	90
5. SPEEDING IN WESTERN AUSTRALIA.....	100

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

5.1 Speed Zoning .....	100
5.1.1 Western Australia .....	101
5.1.2 Elsewhere in Australia.....	103
5.1.3 New Zealand.....	106
5.1.4 Conclusion.....	107
5.2 Speed Enforcement in Western Australia .....	108
5.2.1 Speeding offences and the administration of the offence.....	108
5.2.2 Police enforcement of speeding .....	112
5.2.3 The development of a strategic ‘best practice’ plan for speed enforcement in Western Australia .....	118
5.2.4 Speed data.....	121
6. SUMMARY AND CONCLUDING COMMENTS .....	128
6.1 Upcoming project tasks .....	131
REFERENCES.....	132
APPENDIX A	
Email to Western Australian Local Government members inviting their participation in the on-line survey.....	140
APPENDIX B	
On-line Western Australian Local Government Phase 1 survey.....	143

**LIST OF TABLES**

Table 2.1	Measured effects of speed cameras on crashes and crash injury severity (percentage reductions in road trauma shown as negative values), Australasia and Great Britain. (from Cameron, 2009) .....	13
Table 4.1	Name and demographic information of respondent councils .....	39
Table 4.2	Employment position of respondent council staff.....	40
Table 4.3	Monitoring of vehicles and vehicle travel speeds by respondent councils.....	40
Table 4.4	Vehicle travel speed monitoring method of respondent councils.....	41
Table 4.5	Frequency of monitoring vehicles and vehicle travel speeds by type of road..	41
Table 4.6	Criteria for selecting local area roads for monitoring vehicle travel speeds ....	42
Table 4.7	Use of list of designated monitoring sites by respondent .....	43
Table 4.8	Distribution of sites monitored for the 2007/2008 and 2008/2009 financial years by respondent councils .....	43
Table 4.9	Use of standardised community reporting and council .....	44
Table 4.10	Distribution of average monthly local resident complaints about speeding.....	45
Table 4.11	Respondent council use of routine review procedures for monitored vehicle travel speed data .....	45
Table 4.12	Respondent council personnel who routinely review vehicle travel speed data	46
Table 4.13	Main purpose of the review of monitored vehicle travel speed data by respondent councils .....	47
Table 4.14	Use of monitored vehicle travel speed data by respondent councils .....	48
Table 4.15	It should be mandatory for Local Government to monitor vehicle travel speeds on all local area roads at least once per year .....	50
Table 4.16	Abiding minimum guidelines should be established for the analysis and reporting of vehicle travel speeds by Local Government.....	50
Table 4.17	Vehicle travel speed data is under-utilised by Local Government to manage the problem of speeding on local roads.....	51
Table 4.18	At present, there are inadequate processes for the efficient sharing of locally collected vehicle travel speed information with agencies like Main Roads Western Australia and WA Police.....	52
Table 4.19	Local Government should provide to WA Police a monthly listing of problem local roads for priority speed enforcement activity .....	52
Table 4.20	Road engineering treatments used in the last three years by respondent councils to calm or lower vehicle traffic speeds.....	54
Table 4.21	Respondent council ratings of the ‘effectiveness’ of individual road engineering treatments used to calm or lower vehicle travel speeds.....	55
Table 4.22	Respondent council ratings of the ‘value for money’ of individual road engineering treatments used to calm or lower vehicle travel speeds.....	56

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Table 4.23	Respondent council ratings of the ‘public acceptance’ of individual road engineering treatments used to calm or lower vehicle travel speeds.....	57
Table 4.24	Behavioural-educational initiatives used in the last three years by respondent councils to calm or lower vehicle traffic speeds.....	59
Table 4.25	Respondent council ratings of the ‘effectiveness’ of individual behavioural-educational initiatives used to calm or lower vehicle travel speeds .....	60
Table 4.26	Respondent council ratings of the ‘value for money’ of behavioural-educational initiatives used to calm or lower vehicle travel speeds .....	61
Table 4.27	Respondent council ratings of the ‘public acceptance’ of behavioural-educational initiative used to calm or lower vehicle travel speeds.....	62
Table 4.28	Respondent council local area speed zones .....	63
Table 4.29	Respondent council satisfaction with the appropriateness and credibility of local area speed zones.....	63
Table 4.30	Frequency distribution of the number of applications made by respondent councils in the previous three years to reduce a posted speed limit and the percentage approved by Main Roads WA .....	65
Table 4.31	Respondent council ratings of the appropriateness of the Main Roads WA application process to change local area road speed zones .....	66
Table 4.32	Respondent council ratings of the efficiency of the Main Roads WA application process to change local area road speed zones .....	67
Table 4.33	Do you agree that Local Government should have independent autonomy to reclassify local area speed zones? .....	68
Table 4.34	Do you agree that Local Government should share responsibility with Main Roads WA to reclassify local area speed zones?.....	69
Table 4.35	How would you rate the level of co-operation between your Local Government and the WA Police in determining the locations of speed enforcement activity by police on Local Government area roads? .....	70
Table 4.36	How would you rate the level of co-operation between your Local Government and the WA Police in determining the frequency of speed enforcement activity by police on Local Government area roads? .....	71
Table 4.37	How satisfied is your Local Government with the level of police speed enforcement that occurs on a fortnightly basis in your Local Government area?72	
Table 4.38	Satisfaction with the level of fortnightly police speed enforcement for respondent councils that provided and did not provide an estimate of the average number of days of enforcement.....	73
Table 4.39	How would you rate the effectiveness of the current level of police enforcement to reduce speeding in your Local Government area? .....	74
Table 4.40	Do you agree that Local Government should have authority, in conjunction with police, for the legal enforcement of speed limits on Local Government area roads? .....	76
Table 4.41	Barriers identified by respondent councils to local .....	77

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Table 4.42	Details of administrative support within respondent councils for road safety related activities.....	79
Table 4.43	There is a lack of appropriate officers within my Local Government to undertake road safety related activities .....	80
Table 4.44	How would you rate the level of understanding among your Local Government staff of the State’s <i>Toward Zero</i> safe system road safety strategy? .....	80
Table 4.45	How would you rate the level of understanding among the elected councillors of your Local Government of the State’s <i>Toward Zero</i> safe system road safety strategy?.....	81
Table 4.46	Respondent council inclusion of safe system principles in council strategies, plan or policies by rating of council staff knowledge of <i>Toward Zero</i> .....	82
Table 4.47	My Local Government has limited knowledge of the type of road safety related activities it could undertake to make the roads safer for all road users.....	83
Table 4.48	There is a lack of strong leadership among my Local Government’s officers to undertake road safety related activities .....	84
Table 4.49	There is strong leadership among my Local Government’s elected councillors to undertake road safety related activities .....	84
Table 4.50	My Local Government has sufficient financial resources to undertake the road safety related activities it would like to .....	85
Table 4.51	There is strong support within the rate-payer community for my Local Government to undertake road safety related activities .....	86
Table 4.52	My Local Government has difficulty involving other required road safety agencies in local road safety related activities.....	86
Table 4.53	Working with other Local Governments in our regional area will increase the efficiency of my Local Government’s undertaking of road safety related activities.....	87
Table 4.54	Safety on my Local Government’s roads would be substantially increased if Local Government were given shared responsibility for the enforcement of traffic laws. ....	88

**LIST OF FIGURES**

Figure 3.1 Administrative structure of the German Federal State (Leunig, 2007).....27

## **EXECUTIVE SUMMARY**

### **Background and report structure**

The Western Australian Local Government Association (WALGA) has called for an investigation of the potential role(s) of Local Government in speed enforcement management. The study, known as the *Local Government Enhanced Speed Enforcement Management Project*, is aligned with the State's *Toward Zero* road safety strategy 2008-2020 and relates to action under two of the strategy's cornerstones: *Safe Road Use* and *Safe Speed*.

The study consists of four distinct phases of work toward the overall aim of developing one or more models for the contribution of Local Government to speed enforcement management in Western Australia. In broad terms the objectives of the four phases were as follows:

#### *Phase One*

To document the current and potential role(s) of Local Government in the enforcement of speed limits, locally and elsewhere, and the broader relationship between Western Australian Local Government and other speed management and enforcement stakeholders in Western Australia.

#### *Phase Two*

To develop a number of interim options or models for the involvement of Western Australia Local Government in the management of speed enforcement.

#### *Phase Three*

To consult with Western Australian Local Government, State Government stakeholders and agencies, and Non-Government Organisations (NGOs) to obtain feedback on the proposed speed enforcement management models.

#### *Phase Four*

To provide a final set of recommendations for a preferred model (or models) of Local Government speed enforcement management based on the outcomes of Phases Two and Three.

This report documents the outcomes of the following three activities under Phase One of the study:

- I. The identification, retrieval and critical review of relevant local, national and international literature -published and unpublished- on Local Government involvement in speed enforcement management.
- II. The development, distribution and analysis of an ‘on-line’ questionnaire to survey n=139 Western Australian local governments about their:
  - speed management and speed enforcement activities past, present and future, and
  - their opinions and attitudes on enforcement issues raised in the project brief developed by WALGA.
- III. Liaise with key State Government stakeholders to document the state’s speed management and enforcement process, including the collection and sharing of speed data and the proposed strategy for ‘best practice’ in speed enforcement (see Cameron, 2008; Cameron & Delaney, 2006).

## **Key Findings**

### *Review of the literature on Local Government involvement in speed enforcement management*

The most relevant information on Local Government involvement in speed enforcement management was identified for Germany and the United Kingdom (UK) and to a lesser extent the United States of America (USA) and Australia.

- The German Local Government speed camera program operates independently of state police speed enforcement. Local Government has control over the deployment of cameras, the issuing of offences, and the receipt of monies which are in turn retained by the issuing council to fund the program. No information was available on the cost or efficacy of the program.
- In the UK, local area camera programs (consisting of mostly ‘fixed’ and some mobile operation) represent a partnership between police and local authorities. This program was initially funded on a ‘cost recovery’ basis before the advent of a road safety grants scheme. Recently announced reductions in the level of grant funding to local

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

authorities has resulted in some councils downscaling the number of operational cameras or withdrawing their camera program altogether because of cost considerations. For the most part this scheme has been relatively successful in reducing speed related crashes around camera sites.

- In the USA, photo-enforcement of speeding and red-light violations is undertaken at the Federal, State and City level. At the City level, which is the closest approximation to Australian Local Government, the speed camera program is administered by the City's own police department; camera operations are undertaken by sworn law enforcement officers and *not* non-police personnel. All monies from fines are retained by the City and used to fund on-going camera activities.
- Australian Local Government involvement in speed enforcement management was found to be restricted to the collection and supply of vehicle travel speed information to police to assist with the strategic deployment of cameras by police on local area roads (under a New South Wales Roads and Traffic Authority Local Government Road Safety Program).

The three broad examples of Local Government participation in speed enforcement management were subsequently summarised as follows:

1. The operation of an automated speed camera program by Local Government independent of police, with full deployment and financial control responsibilities.
2. The operation of a speed camera program under a local area partnership financed by government under a road safety grants scheme.
3. The collection of and provision of vehicle travel speed information by Local Government to police to support the strategic deployment of enforcement resources such as speed cameras on local area roads.

#### *'On-line' survey of Western Australian Local Government*

Thirty-three of n=139 Western Australian Local Governments (12 metropolitan; 21 non-metropolitan) completed and submitted the 'on-line' survey. This represented a response fraction of only 23.7% of eligible Western Australian councils, thus limiting the confidence level for the findings to the low (33%) to moderate (48%) range.

(i) Vehicle Travel Speed Monitoring

- Nearly all respondent Local Governments reported the monitoring of vehicle travel speeds using Metro Count equipment most commonly on District Distributor A and B roads.
- The most frequently mentioned criterion for monitoring vehicle speeds across *Urban* (86%) and *Non-Urban* (80%) Local Government was the receipt of ‘*Complaints from residents, businesses, and school contacts*’, with only one in three Local Governments maintaining a list of designated roads for on-going monitoring.
- Local Government responses indicated a general absence of standardised procedures for the reporting of complaints by the community about speeding and the follow-up of these complaints by Local Government.
- Across all Local Government respondents the amount of monitoring undertaken did not appear to be substantial; less than half of respondent councils monitored 11 or more sites in each of the last two financial years. This suggests that the Local Government respondents are not uniformly active in routine, wide-spread systematic surveillance of vehicle travel speeds.
- Local Governments, particularly those classified as *Urban*, reported sharing speed data with Main Roads WA and WA Police, though this was not routinely undertaken, was limited to specific circumstances, and lacked formal arrangement and protocols.
- *Urban* Local Governments more so than *Non-Urban* were supportive of the following monitoring issues and proposals:
  - the need for mandatory annual monitoring of vehicle travel speeds;
  - the establishment of abiding guidelines for the analysis and reporting of the data;
  - the increased efficient use of speed data by councils;
  - the efficiency of the processes for sharing data with WA Police and Main Roads WA, and
  - the requirement to provide police with a monthly listing of roads for priority speed enforcement.
- The preceding finding suggests that Local Government, and particularly those in the *Non-Urban* area, require support to undertake a more committed and effective speed monitoring program that would further support future speed management initiatives with Main Roads WA and WA Police.

(ii) Speed Management Activities

- Nearly all of the respondent Local Governments reported the use of road engineering treatments in the last three years to lower or calm vehicle travel speeds. Line Markings, Kerb Extensions, Speed Humps/Cushions, and Roundabouts were the most frequently nominated treatments.
- There was strong endorsement from Local Governments for the ‘effectiveness’ and ‘value for money’ for nearly all road treatments to reduce vehicle travel speeds, with Roundabouts judged to be the most effective and best value for money.
- Roundabouts, Line Markings, and Centre Blisters were all highly rated for ‘public acceptance’, with Road Closures rated the least acceptable to the public as a speed reduction measure.
- These responses suggest there is a reasonable level of commitment within Local Government to road engineering treatments to manage speeding and a reasonably consistent understanding within Local Government of the road engineering treatments that are effective, that represent value for money, and are acceptable to the public.
- Behavioural and educational initiatives were less frequently endorsed for use by the respondent Local Government, particularly those classified as *Non-Urban*, as measures to calm or lower vehicle travel speeds.
- The most frequently used behavioural/educational initiatives, particularly among *Urban* Local Governments, were the Speed Alert Mobile Trailers and co-operative arrangements with police to enhanced speed enforcement.
- Programs that encouraged the community’s reporting of speeding and hoon behaviour were highly rated by Local Government respondents for ‘public acceptance’, perhaps because such programs give the community a ‘voice’ in tackling speeding on local roads.

(iii) Speed Zoning

- The majority of respondent Local Governments, and particularly those from the *Non-Urban* area, were satisfied to varying degrees that their local area speed zones were *credible* and *appropriate*.
- Approximately six in ten Local Government respondents reported submitting between one and three applications to Main Roads WA in the previous three years to decrease a posted speed limit.

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

- Despite most applications for a change in speed zone being rejected, Local Government respondents were mostly supportive of the *appropriateness* and *efficiency* of the application process because Main Roads WA was thought to be unbiased and skilled in such adjudications.
- Some respondent councils were however critical of long delays and complexity of the approval process and Main Roads WA's lack of 'local knowledge' to appropriately assess applications.
- Around three quarters of respondent Local Governments, and even more from the *Urban* area, supported the proposal that Local Government should share in the responsibility to change posted speed limits rather than have independence and autonomy for posting speed limits.
- The preceding finding suggests that processes and procedures could be developed to facilitate a more streamlined and strategic application and review process, one that might permit Local Government to make amendments as they see fit (accompanied by supporting documentation) with Main Roads WA having final oversight of the amendment.

#### (iv) Speed Enforcement

- Local Government respondents, particularly those in the *Non-Urban* area, reported a reasonable level of co-operation with WA Police in regard to determining both the *location* and *frequency* of local area speed enforcement, despite the inability of most respondents to estimate how much enforcement was conducted in their local area.
- Most Local Governments, and particularly those in the *Non-Urban* area, claimed to be satisfied with the current level of enforcement on their local roads and rated the enforcement as *effective*.
- Respondent Local Governments claimed both the *frequency* and *effectiveness* of speed enforcement could however, be improved by increasing police presence on the road; by undertaking targeted strategic enforcement -which included making greater use of local speed data supplied by councils- and by allowing Local Government to undertake enforcement activities.
- The absence of a formalised arrangement between Local Government and police for the planning and implementation of strategic enforcement appeared to be the main

reason underlying Local Government's dissatisfaction with local area speed enforcement.

- Approximately a third of respondents, particularly those in the *Non-Urban* area, indicated some level of support for the proposed enforcement of speeding by Local Government, with just under half expressing opposition to the proposition.
- Respondents who opposed the enforcement of speeding by Local Government cited physical and financial resourcing, lack of skill, and legislative issues as substantial barriers. Respondents who supported the proposal cited a greater capacity to conduct a more strategic level of enforcement based on local knowledge as a key issue.
- Workable models of Local Government enforcement of speeding would in the first instance need to be financially viable or at the very least 'cost neutral' to gain increased Local Government support.

(v) Road Safety Management

- Only a quarter of Local Government respondents considered they were sufficiently financial to undertake the road safety related activities it would currently like to.
- As a group, respondent Local Governments employed relatively few dedicated road safety personnel (i.e., Road Safety or Travel Smart officers) though many more did report the co-ordination of a RoadWise or similar road safety committee.
- Around half of the respondent Local Governments agreed there was a lack of appropriate staff within their council to undertake road safety related activities, with knowledge of the State's road safety strategy, *Toward Zero*, thought to be limited among staff and elected councillors.
- A third of respondent Local Governments claimed their road safety strategies, plans or policies included safe system principles which underlie the *Toward Zero* strategy.
- The majority of respondents considered there to be strong leadership among officers and elected councillors, and reasonably good support within the ratepayer community, to undertake road safety related activities.
- The majority of Local Government respondents claimed that working in collaboration with other Local Governments in their area would increase the efficiency of their road safety related activities.

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

- Nearly half of the respondent Local Governments, and particularly those in the *Non-Urbana* area, disagreed that road safety would be substantially improved if Local Government were given shared responsibility for the enforcement of traffic laws.
- Councils opposed to their enforcement of traffic laws considered that enforcement should not be a Local Government responsibility and that Local Government could not reasonably resource the requirement.
- The preceding findings suggest that Local Government in Western Australia is committed to undertaking road safety related initiatives but will need to form collaborative partnerships among individual Local Governments to develop the capacity to effectively manage its individual and collective road safety responsibilities and commitments.

#### *Review of Speed Enforcement Management in Western Australia*

##### (i) Speed Zoning

- Main Roads WA has singular authority over all roads for speed limit setting though there are provisions within the Road Traffic Code 2000 (WA) to delegate speed zoning authority to others such as Local Government. This option was not however, uniformly endorsed by the Local Government respondents.

##### (ii) Responsibility for speed enforcement

- Western Australia Police presently have sole responsibility and authority for the enforcement of speeding.
- Sections of the Road Traffic Act 1974 (WA), the Road Traffic Code 2000 (WA), the Road Traffic (Administration) Act 2008, and the Police Act 1982 (WA) provide for personnel such as Local Government officers to enforce traffic laws for speeding if:
  - they are deputised by the Commissioner of Police as ‘Wardens’ or ‘Special Constables’, and,
  - when appropriately trained and authorised by the Commissioner of Police to use approved speed monitoring devices.

(iii) Speed enforcement in Western Australia

- The primary methods of enforcement of speeding in Western Australia are the mobile digital camera and dual Speed/Red-Light intersection camera programs operated by Western Australia Police.
- There are currently (February 2011) 23 mobile Vitronic digital laser cameras operating for approximately 4,000 hours per month across metropolitan and rural Western Australia and 13 dual Red-Light/Speed intersection cameras (increasing to 30 cameras across 49 intersections by April 2011).
- WA Police also operate 14 TruCam hand-held digital laser cameras though these are not used for automatic photo-enforcement as they are incompatible with the existing Image and Infringement Processing System. WA Police had hoped to resolve the incompatibility problem by April 2011.
- WA Police's enforcement program does not involve a formal partnership with Local Government to strategically target speeding, though they do from time to time receive information from Local Government on problem local area roads.
- Monies collected through the police's camera enforcement programs (speed and red-light) are deposited with the Road Trauma Trust Fund (RTTF) (one third) and State Treasury (two thirds) with no provision to return funds to agencies such as Local Government should they contribute to a camera program.

(iv) Proposed best practice in speed enforcement strategy

- Local Government's control over and knowledge of nearly 90% of the State's roads positions it to contribute to the State's proposed program of best practice in speed enforcement developed by Cameron (2008).
- Local Government could fulfil an outsourcing role for the increased number of camera hours required under the proposed strategy, particularly on lower volume, lower speed roads, through the use of the Laser Technology Incorporated TruCam 2020 mobile digital laser speed camera.

(v) Speed data collection

- Consideration of the type and level of data available on speeding to assist with the strategic management of speeding identified that Main Roads Western Australia

provides the most rigorous and reliable data as part of its ongoing monitoring of free travel speeds across the State.

- Though Main Roads WA data on speeding is made available to WA Police to assist with enforcement its main drawback is the lag in time between collection, analysis and dissemination.
- Via their Metro Count programs, Local Government is in a strong position to provide WA Police with timely information on speeding on local area roads to assist with the deployment of resources to enforce speeding.
- However, many of the Local Government respondents cannot or do not wish to maintain a rigorous, formalised program of speed monitoring which would assist police, particularly not without financial assistance.

### **Summary and Concluding Comments**

Prior to the inception of the *Road Traffic Act 1974 (WA)*, Local Government was responsible for the promulgation and enforcement of road traffic laws, including speeding. The *Act* effectively transferred all responsibility for traffic law enforcement to WA Police. Nowadays WA Police predominantly ‘enforce’ posted speed limits via an extensive automated digital camera program using intelligence about speeding from a number of sources.

Local Government’s responsibility for nearly 90% of the State’s roads and its program of vehicle travel speed surveillance positions it as a possible contributor to the management of speed enforcement. A review of the published and unpublished literature and internet websites identified a number of potential roles for the contribution of Local Government. These roles were summarised as:

1. the operation of an automated speed camera program with full deployment and financial control responsibilities and independence of police;
2. the operation of an automated fixed and mobile speed camera program under a local area partnership involving police and financed by government under a road safety grants scheme, and
3. the collection of and provision of vehicle travel speed information to police to support the strategic deployment of enforcement on local area roads.

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

The appropriateness and viability of either of these models is dependent on a number of factors, not the least of those being the willingness of Local Government to accept a greater responsibility for speed enforcement management and the acceptance of the supporting arguments for their involvement by other State road safety stakeholders. In regard to the former, the on-survey of WA Local Government identified mixed support across a number of possible speed enforcement management options and initiatives for Local Government.

It would seem that the biggest issue for Local Government in regard to their involvement in the management of speed enforcement and their contribution to the State's proposed strategy of best practice in speed enforcement is the absence of the necessary physical and financial resources. The survey responses were very clear on this point. This issue stands out as the single most important obstacle to the participation of Local Government in speed enforcement. Appropriate models of funding will be addressed in Phase Two of the project.

Though some Local Governments considered that speed enforcement should not be part of their responsibility, other councils were concerned that there was no legal opportunity for them to undertake enforcement per se. However, the review of the State's current speed enforcement and management processes identified both legislative opportunities and barriers to an expanded role for Western Australian Local Government in speed enforcement.

At present, Local Government is working toward a more sustainable model of existence and service and for some members this may mean amalgamation or at the very least a sharing of services and infrastructures. How Local Government might undertake a greater role in speed enforcement management against this backdrop seemingly depends on the model(s) of physical and financial resourcing that can be developed.

In Phase Two of the project the information and issues presented here will be considered by the project team and synthesised for presentation to Local Government and other State road safety stakeholders to seek their opinions on the appropriateness and viability of the initiatives to engage Local Government in speed enforcement management.

## **ACKNOWLEDGEMENTS**

The authors would like to acknowledge the Western Australian Local Government Association; members of the Project Advisory Group; Main Roads Western Australian; WA Police; the WA Office of Road Safety, and Western Australian Local Government members for their assistance with the various project tasks and preparation of the report.

## 1. INTRODUCTION

The Western Australian Local Government Association (WALGA) has called for an investigation of the potential role(s) of Local Government in speed enforcement management. The resulting study, known as the *Local Government Enhanced Speed Enforcement Management Project*, is aligned with the State's *Toward Zero* road safety strategy 2008-2020 and relates to action under two of the strategy's cornerstones: Safe Road Use and Safe Speed.

More specifically, the project relates to two of the Action Plan responsibilities for WALGA under *Toward Zero*, namely to:

- Investigate opportunities for Local Government to undertake enforcement activities (such as speed enforcement on local roads) [p. 11], and
- Research the role that Local Government can play in speed enforcement including sharing local traffic data with WA Police to allow targeted local enforcement [p. 18].

*(Toward Zero-Recommended Implementation Plan 2009-2001, August 2008)*

Western Australia's *Toward Zero* strategy had adopted a strong position on the importance of managing vehicle speeds through its focus on the philosophy of the Safe System (Organisation for Economic Co-operation and Development [OECD], 2008; Turner et al., 2009). The core belief of the Safe System is that road users are fallible and thus are prone to errors, mistakes and misjudgements (Tingvall & Lie, 2008). Consequently, crashes will continue to occur, notwithstanding the effect of interventions (OECD, 2008). Secondly, the Safe System approach acknowledges that road users are subject to biomechanical tolerance limits (Tingvall & Lie, 2008) and for this reason strategies must be developed to maintain crash impact energies "...below the threshold likely to produce either death or serious injury" (OECD, 2008, p. 19). This can be achieved, among other things, by the design of road environments that are more accommodating of the physical vulnerability of road users to crash energies, and secondly, through a complimentary reduction in posted speed limits and their strategic enforcement (OECD, 2008).

The fallibility of road users and their limits to physical forces must be taken into account by those who are responsible for designing and managing the road transport

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

system and those who contribute more broadly to the transport sector such as vehicle manufacturers. Road users must also accept responsibility for their own behaviour. As an example, drivers must acknowledge the inherent limitations of the traffic and transport system, comply with traffic regulations, and undertake all other reasonable actions (e.g., purchase vehicles with improved crash worthiness) so as to maintain their own safety (OECD, 2008).

The involvement of Local Government in speed enforcement has some precedence as it once played a central role in traffic control throughout Western Australia (Department of Local Government, 1981). The Traffic Act of 1919 effectively gave councils responsibility for the control of traffic, including the promulgation and enforcement of local traffic by-laws, including speeding. This arrangement remained until the amendment of the Traffic Act in 1974 and the creation of the centralised Road Traffic Authority. From this date Western Australian police have assumed centralised responsibility for the enforcement of traffic laws across the state (Department of Local Government, 1981).

Nowadays, Local Government maintains responsibility for approximately 88% of the total Western Australian road network (MainRoads Western Australia, n.d.). The importance of this responsibility is underscored by the fact that 63% of all crashes and 61% of crashes resulting in death or hospitalisation in Western Australia, 2005-2009, occurred on locally managed roads (Radalj, 2010). As road network owners and managers, Local Government has both a detailed understanding of its roads and an obvious critical interest in their management to improve road safety for the benefit of local communities.

Nationally, Local Government recognises the important role it can take in reducing road deaths and serious injuries on local roads and similarly the applicability of the principles of Safe Systems to this end (Australian Local Government Association, 2010). Local Government accepts that road safety is a 'core deliverable' but this must be understood and appropriately financed against a background of increasing demands on Local Government for the delivery of a variety of services and the need to be financially sustainable (Australian Local Government Association, 2009).

The realisation of Western Australia's Local Government commitment to road safety is similarly plagued by concerns of 'sustainability' in regards to finances and the attraction and retention of appropriately skilled workers. The Systemic Sustainability Study undertaken by WALGA (2008) has noted the practicalities of Local Government amalgamations and/or regional 'pooled' arrangement for staff, administrative services, and 'whole of regional' infrastructure services among other initiatives as a means to achieve 'sustainability' (WALGA, 2008). It is against this dynamic climate and landscape that Local Government must decide *if* and *how* it can undertake a greater role in speed enforcement management. The State's road safety stakeholders must correspondingly consider if and how Local Government's participation in speed enforcement management threatens or enhances both the quantity and quality of enforcement and to what extent it is prepared to support Local Government in this endeavour. These are some of the broader issues to be addressed in this project.

### **1.1 Aims, Objectives and Project Structure**

The study consists of four distinct phases of work toward the overall aim of developing one or more models for the contribution of Local Government to speed enforcement management in Western Australia. The project specifications require the study to be

- based on the delivery of positive road safety outcomes;
- representative of best practice in speed enforcement;
- linked with the State Government Speed Enforcement Strategy;
- underpinned by a sustainable financial model; and
- cognisant of the proposed regional model of Local Government for service delivery as outlined in *The Journey: Sustainability into the Future, Shaping the Future of Local Government in Western Australia*.

The objectives of the project's four phases are as follows:

#### Phase One

*Document the current and potential role of Western Australian Local Government in the enforcement of speed limits and the broader relationship between Local*

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

*Government and other speed management and enforcement stakeholders in Western Australia.*

This phase of the project, reported in this document, addresses, where relevant, the following questions posed by WALGA:

- What role does Local Government play in other Australian and international jurisdictions in speed enforcement?
- What contemporary and accessible information is available to Local and State Government to guide decision making on the best role for Local Government in speed enforcement to maximize road safety outcomes?
- How does Local Government contribute to ensuring “planned intelligence lead enforcement” (in that it covers large areas, is in permanent operation and is based on area analysis and long term plans that are thoroughly evaluated) on local roads occurs in partnership with the community, Main Roads WA, and WA Police?
- How does Local Government share traffic and complaints data and encourage residents to share their concerns on local roads?
- What are the legal and resource implications for Local Government in speed enforcement?
- What are the current components of speed enforcement in WA?
- What options within these components could be considered for Local Government involvement?
- What would be the road safety benefits of providing Local Government with the power to enforce speed non-compliance?
- Should Local Government have a greater say in where speed enforcement options can be strategically placed on the local road network according to data they collect and their knowledge of the network?
- Would a partnership between State and Local Government in the systematic management of speed enforcement be effective?
- Should Local Government play a part in the purchase and operation of speed enforcement tools to address speeding and traffic management problems?

***Local Government Enhanced Speed Enforcement Management Project: Phase One***

- If a role for Local Government is identified in the operation of speed enforcement tools to address speed and traffic management problems, how should the associated revenue raised be dealt with?
- Is there an opportunity for Local Government, on a fee for service basis, to undertake speed enforcement on behalf of the State Government?
- What is the potential role for WALGA within the context of each of the options outlined in *the Development of Strategies for Best Practice in Speed Enforcement in Western Australia* (supplementary report) (Cameron, 2008).

Three activities will be undertaken to address the above issues and to collate the required background information to assist with the interim development of models of Local Government participation in speed enforcement management. These activities are:

1. The identification, retrieval and critical review of relevant local, national and international literature on Local Government enforcement of speed limits.

A variety of transport literature databases and known transport/road safety related internet sites will be interrogated to identify relevant local, national and international published literature. In addition to this, project staff will liaise with selected contacts to investigate the speed enforcement management activities elsewhere in the world and relevant documentation. This will be restricted to the following countries: the United Kingdom, USA, Canada, Sweden, Norway, and New Zealand. The outcomes of this task are presented in Chapter 3 of this report.

2. The development, distribution and analysis of a questionnaire to survey Western Australian Local Government members.

The intention of the survey is to identify the members' speed management and enforcement activities past, present and future, and to canvass their opinions and attitudes on issues in the project brief developed by WALGA. The outcomes of this task are presented in Chapter 4 of this report.

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

3. Liaise with key State Government stakeholders and review relevant materials to document the State's:
  - a. speed management and enforcement process;
  - b. collection and sharing of speed data, and
  - c. legislation and regulations pertaining to speed enforcement management.

Project staff will liaise with agencies such as Western Australia Police, Main Roads Western Australia, and the Western Australian Office of Road Safety to document their respective management roles and current co-operative arrangements with Western Australian Local Government in regards to speed enforcement and broader management issues. The outcomes of this task are presented in Chapter 5 of this report.

#### Phase Two

*Specify a number of interim models for the involvement of Western Australia Local Government in speed enforcement management.*

Using the findings from Phase One activities, a number of interim models for Local Government involvement in speed enforcement management will be specified and distributed to Western Australian Local Government for review. This will be followed up with a workshop of Local Government representatives to determine which of the interim models have broad support and should be developed further.

#### Phase Three

*Consult with Western Australian Local Governments, State Government stakeholders and agencies, and Non-Government Organisations (NGOs) to obtain feedback on the proposed speed enforcement management models.*

The interim models that have the broadest support for Local Government involvement in speed enforcement management will be specified in more detail, including a cost-analysis, and distributed for review to Local Government, State Government and Non-government stakeholders in the area of speed enforcement and management. Representatives from these groups will be asked to complete an on-line survey to provide feedback on the proposed models.

***Local Government Enhanced Speed Enforcement Management Project: Phase One***

Following the on-line survey, a number of Local Governments will be invited to participate in an in-depth telephone interview. Local Governments will also have the opportunity to participate in a final round of workshops in metropolitan Perth and rural Western Australia (Geraldton and Bunbury).

**Phase Four**

*Provide a final set of recommendations for a preferred model (or models).*

The findings from the Phase Three on-line survey, the in-depth interviews, and the workshops will be used to develop a recommended model or models for Local Government participation in speed enforcement management.

## **2. SPEEDING: A ROAD SAFETY PROBLEM**

This chapter will present a brief overview of road crashes, speeding, and speed management and enforcement as background material to the problem of speeding and consideration of the potential role(s) of Local Government in speed enforcement management.

### **2.1 Road Crashes and Speeding**

Road traffic crashes and resulting trauma are a substantial problem for all levels of government. It has been estimated that by 2020 road traffic crashes will have moved from 9<sup>th</sup> to 3<sup>rd</sup> in world ranking of burden of diseases (Wilson, Willis, Hendrikz & Bellamy, 2009). Each year, nearly 1.2 million people are killed and 50 million are injured in road crashes worldwide, making it a major societal and public health problem in all countries (OECD and European Conference of Ministers of Transport [ECMT] Transport Research Centre, 2006).

Against this trend Australia has experienced a substantial reduction in road fatalities over the last three decades due to a strong program of legislation, enforcement and education. Since 1975 the Australian road injury fatality rate has declined from 26.5 deaths/100,000 population to 6.8 deaths in 2008, a reduction of around 74% (Department of Infrastructure, Transport, Regional Development and Local Government, 2009). In Western Australia, the road injury casualty rate (persons killed, admitted to hospital or requiring medical treatment) has declined by 30% over the period 1986 to 2006 (722 versus 509 per 100,00 population) (Marchant et al., 2008).

Despite these substantial reductions there is still considerable focus and effort at the national and state levels to further reduce the burden of road injury. This focus is exemplified by the Australian Transport Council's *National Road Safety Strategy 2001-2010*, the accompanying *National Road Safety Action Plan 2009-2010*, and locally, Western Australia's *Toward Zero 2008-2020* road safety strategy. The preceding strategies have a strong focus on the management of speeding as a known leading causal factor in the occurrence of road crashes and injury (Langdon, Greaves & Grzebieta, 2002; Nilsson, 2004; Aarts & van Schagen, 2006; Rodier, Shaheen, & Cavanagh, 2007; Global Road Safety Partnership, 2008; Nouvier, 2008). Speeding

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

has been estimated to account for approximately one-third of all fatal crashes and is considered to be a contributing factor in all collisions, with an estimated 50% of drivers exceeding the posted speed limit (Burch & Rowe, 2008; Nouvier, 2008).

Research has identified that increases in vehicle travel speeds on a given road increase both the crash rate and the severity of injury for involved road users because of the direct relationship between speed and the increased stopping distance required at higher speeds and the amounts of kinetic energy released in the event of a crash (Aarts & van Schagan, 2006; Global Road Safety Partnership, 2008). It has been estimated, for example, that travelling at just 5km/hour over the speed limit in a 60km/hour doubles the risk of fatal crash involvement (Kloeden, McLean, Moore & Ponte, 1997; Kloeden, McLean & Glonek, 2002), while a 5% reduction in average vehicle travel speeds is hypothesised to result in a 10% reduction in all injury crashes and 20% reduction in fatal crashes (Nilsson, 2004). Finding such as these reinforce the need to manage vehicle travel speeds.

In Western Australia, speeding was estimated to be a contributing factor in 34% of crashes resulting in death and serious injury in the period 2005-2007, and up to 40% for crashes in the more remote areas of Western Australia (Cameron I., 2008). Compliance with the posted speed limit is also a significant problem in Western Australia with an estimated 41% of vehicles state-wide in 2008 failing to comply with the posted speed limit (Radalj & Sultana, 2009). Further analysis showed that the proportion of speed compliant vehicles varied across the state and across posted speed zone. Speed compliance was found to be consistently *lower* on rural roads, 60km/hour roads (which are typically managed by Local Government), and 110km/hour roads (Radalj & Sultana, 2009).

Crashes, injury and speeding are clearly a problem on local area roads, which begs the question whether Local Government *should* or *could* participate in other speed management strategies, such as enforcement, in addition to their current use of traffic calming engineering initiatives.

## **2.2 Managing speeding: Enforcement and Automated Speed Camera Programs**

Reducing the incidence of speed related crashes and injury requires an active and diverse approach to ensure drivers “..adopt speeds that offer mobility without compromising safety” (Global Road Safety Partnership, 2008, p. 3). To achieve this, speed management has encompassed a range of strategies, including:

- the setting of appropriate and credible speed limits;
- the strategic and innovative enforcement of these limits;
- road engineering treatments to slow or calm vehicle speeds, and,
- behavioural and education programs to promote compliant driver behaviour (VTT Communities and Infrastructure, 1998).

Of the many speed management initiatives, enforcement has long been considered a necessary and effective countermeasure to reduce or slow vehicle speeds (Wilson et al., 2009). There are however, a number of assumptions and requirements underlying the use and effectiveness of the legal enforcement of the posted speed limit. Firstly, it is assumed that the posted speed limit to be enforced is credible and appropriate for the road in question, such that having drivers adhere to the limit will reduce the likelihood of crashes and the occurrence of injuries. Previous systematic reviews have shown that merely reducing speed limits, without an accompanying program of enforcement, is an insufficient measure to reduce road injuries (Morrison, Petticrew & Thomson, 2003). Next, enforcement must be a deterrent, meaning that there is certainty of detection, severity of punishment, and swiftness of the punishment (Zaal, 1994). In relation to speeding, this means that:

- drivers must perceive a high likelihood of being detected if they exceed the posted speed limit (certainty of detection);
- the penalty for the speeding driver must be meaningful (severity of punishment), and,
- the punishment must be timely to establish a temporal relationship between the speeding behaviour and its adverse consequences (swiftness of punishment).

The deterrence of speeding behaviour through enforcement operates on two levels and has important implications for any proposed strategy of speed enforcement to be managed by Local Government. Firstly, generally deterring drivers through highly

visible or overt enforcement serves to create a level of fear or expectation within the motoring public of a certain level of risk of being detected should they not comply with traffic laws (Zaal, 1994). A highly overt speed camera operation, such as that in Western Australia (where cameras are not hidden and general camera locations are advertised to the public) has the potential to modify the behaviour of all drivers, and as such is regarded as a program of *general deterrence*. In other areas of traffic enforcement and offending, such as random breath testing of drink-driving, general deterrence has indeed been regarded as the primary means of deterring would-be offenders (Hemel, 1988). Conversely, enforcement can be *specific* in deterrence when it leads to the actual detection and punishment of an offending driver. Both instances of enforcement remind the driver of the likelihood or risk of being detected and in the latter case the cost of being detected, which should motivate the driver not to reoffend (Zaal, 1994). Clearly then, a high level of strategically deployed enforcement activity, preferably both seen (overt) and unseen (covert) and backed by appropriate speed limits and penalties, is an important component of speed management.

Striking the right balance between general and specific deterrence and the level of ‘threat’ entailed in these programs is an important consideration for program managers. In relation to this Cameron (2009) considers that some program managers may shy away from enforcement activities with too high a likelihood of detection (e.g., intensive, high level covert enforcement) as the community may regard this as unacceptable. This is an important consideration for Local Government which is generally regarded as being community focussed and not adversarial.

In recent years the most substantial development in the enforcement of speeding to increase the threat of detection has been the advent of automated or camera based measures. These programs can be:

- highly mobile, such as the Multanova system that has operated for some years in Western Australia;
- fixed at specific locations as per the UK Safety Camera program and dual Red-Light/Speed Camera intersection program emerging in Western Australia, or,
- ‘point to point’ in operation, which detects speeding based on the average speed travelled between two camera locations over a specified distance.

By way of summary, there is mounting evidence of the positive impact of automated camera enforcement on crashes, injury severity, and speeding. For example, the systematic review undertaken by Decina, Thomas, Srinivasan & Staplin (2007) of international studies of automated enforcement concluded that automated speed enforcement was associated with reported reductions in “estimated injury crashes, all crashes, or speed related crashes at camera sites, or system wide..” (p. 2) following implementation of the programs. Similarly Wilson et al. (2009) concluded from their meta-analysis of the many evaluations of camera based speed enforcement programs that the “consistency of reported positive reductions in speed and crash outcomes across all studies show that speed enforcement detection devices (SEDs) are a rational intervention for reducing the number of road traffic crashes, injuries and deaths” (p. 13).

Most recently, Cameron’s (2009) detailed summary of automated speed enforcement programs by type of camera site and mode of operation showed that there was considerable variation in the effectiveness of programs on crash and injury outcomes (see Table 2.1, page 13). With respect to overt camera operations, the greatest reductions in crash outcomes were noted for *fixed installations*, where fatal crashes were reduced by up to 90% and serious injury crashes up to 53% around the camera site (local effect). In contrast, overt *mobile camera* operations were associated with a 28% reduction in serious injury crashes at the camera site (local effect). Covert mobile camera operations were also noted to have an impact on crash outcomes though this effect was more general in nature than specific to the camera site. Cameron (2009) also noted that the emerging technology of ‘point to point’ speed enforcement, despite the limited number of evaluations conducted to date, is associated with a strong general deterrent effect and substantial reductions in crash and injury outcomes, including a 49% reduction in fatal and serious injuries and 32% reduction in serious injury crashes.

The level or intensity of enforcement (e.g., hours of operation, number of infringements issued) has also been noted to be a determining factor in the effectiveness of an automated speed enforcement program. Citing the work of Elvik, Cameron (2009) reports that crash reductions occur for increases in enforcement intensity, at least up to 10-12 fold increases noted in studies evaluated by Elvik.

**Local Government Enhanced Speed Enforcement Management Project: Phase One**

Other studies of the impact of camera enforcement intensity cited by Cameron (2009) show a strong relationship between an increase in the number of speed infringements issued and the reduction in the relative risk of a casualty crash and a strong relationship between the number of hours of (overt mobile) camera operation per month and general casualty crash reductions.

**Table 2.1** Measured effects of speed cameras on crashes and crash injury severity (percentage reductions in road trauma shown as negative values), Australasia and Great Britain. (from Cameron, 2009)

Type of speed camera site and operation:	Overt Camera Operations			Covert Camera Operations		
	Fixed installations, conspicuous signage	Mobile operations at known fixed sites, or signed sites/zones	Randomly scheduled mobile operations at fixed sites	Covert mobile operations at signed sites or zones	Covert mobile operations at unsigned sites	Covert mobile “flashless” cameras at unsigned sites; lower enforcement tolerance
<b>Effects On crashes:</b>						
Jurisdictions operating automatic cameras in this way	Great Britain New Zealand N.S.W.	Great Britain New Zealand Western Australia	Queensland (3000 hours per month, 2002)	New Zealand (hidden camera trial, 1997-2000)	Victoria to 2000/2001 (4000 hours per month)	Victoria from 2001/2002 (50% increase in hours)
Fatal crashes	Local effect [NSW]: -90%					
Serious casualty crashes	Local effect [GB]: -53%	Local effect [GB]: -28%	<b>Doubling of camera hours (2003) -</b> Additional general effect: -9%			
Serious casualty crashes		Local effect [NZ]: -23% General effect: -13%				
Casualty crashes	Local effect [NSW]: -23%					
Casualty crashes	Local effect [GB]: -26%		Local effect: -35%. General effect: -26%	Additional general effect: -11%	General effect: -21% (-32% in Melbourne)	Additional general effect: -3.25% *
Casualties per casualty crash				Additional general effect: -9%		
Serious casualties per crash					General effect: -21% (Melbourne)	
Fatalities per crash						Additional general effect: -51% *
Material damage crashes			Local effect: -20%. General effect: ≈ -10%			

\*Added general effect of covert mobile operations in Victoria was principally due to the increased hours in 2001/02

### **2.3 A Potential Role for Local Government in Speed Enforcement Management**

Crashes, injury and speeding are clearly a problem on roads managed by Local Government. Their responsibility for and understanding of speed as a problem on these roads means they are well positioned to assist in the management of speeding beyond their traditional engineering role.

In addition to the above, the wealth of evidence supporting the effectiveness of automated camera enforcement programs to reduce speeding and crashes suggest this measure of enforcement might be a viable, effective option for Local Government participation. Though the effectiveness of automated camera programs may be particular to higher volume roads to which cameras are typically deployed, other automated enforcement technologies exists that are appropriate for lower volume, lower speed roads (e.g., 50km/hour to 70km/hour Access and Distributor roads carrying up to 7,000 vehicles per day) and could thus be utilised by Local Government personnel. The best contemporary example of this technology is the Laser Technology Incorporated (LTI) *TruCam* mobile digital laser camera (see <http://www.lasertech.com/TruCAM-Laser-Speed-Gun.aspx?s=1> and Section 5.2.2 for a more detailed discussion of the application of this technology in the Local Government context).

The observed relationship between mode of camera operation (*covert* versus *overt*), intensity of enforcement, and reduction in crashes and injury suggests that any Local Government administered speed camera program would need to strike a balance between the level of perceived risk or threat of detection it wishes to establish within the community and the type of relationship it wishes to have with the broader community. For example, running a high level, intensive covert enforcement program to achieve a high level of deterrence *across* the local road network may inadvertently create a hostile, adversarial relationship with the local community. This is seemingly contrary to the ethos of Local Government. Conversely, a highly visible overt camera operation to increase the level of general deterrence, whilst possibly more acceptable to the community, is likely to have a positive localised effect and a relatively lower impact on speeding and crashes *across* the network.

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

This possible measure of contribution by Local Government, along with others such as the supply of strategic information on speeding to police, will be discussed in later sections of this report.

### **3. REVIEW OF THE LITERATURE ON LOCAL GOVERNMENT SPEED ENFORCEMENT MANAGEMENT**

#### **3.1 Methodology**

The aim of this task was to retrieve and review the available published and unpublished information on the legal enforcement of posted speed limits (and where found, ‘on-road’ traffic laws more generally) by Local Government authorities. The review *did not* seek to retrieve information on Local Government involvement in speed management initiatives more broadly (such as engineering, behavioural-educational, or local road speed zone reductions, e.g., 30km/h or 50km/h initiatives). As communicated to the Project Advisory Group in the document titled *Clarifying Speed Management versus Speed Enforcement* (10<sup>th</sup> February 2010), the focus of the review was restricted to speed enforcement as a legal deterrence initiative, an activity which is traditionally undertaken by police and just one strategy in the suite of speed management practices.

The information was retrieved using a variety of methods. Firstly, a number of ‘key descriptors’ were identified and used to construct a search strategy for the retrieval of local, national and international publications from a number of relevant databases. Literature searches were undertaken on the Australian Transport Index, which contains over 135,000 records of publications from throughout the world, on roads, transport and related fields. The records cover books, reports, journals articles and conference papers. The database is produced by the ARRB Transport Research Library and is Australia’s major transport database. As well as the holdings of the ARRB Transport Research Library collection, it includes the holdings of a number of other Australian libraries with transport-related collections. The TRIS database, produced by the US National Transport Library, the ITRD database, produced by the Organisation for Economic Co-operation and Development (OECD), and the PsychInfo database were also searched for relevant references. The search was undertaken by specialist staff in the M.G. Lay library at ARRB in Melbourne, Victoria. This strategy was found not to be particularly productive for the identification of relevant literature.

Second to the above, the aims and objectives of the project were distributed to a number of colleagues nationally and internationally for their assistance in identifying

relevant literature and providing relevant contacts that might be able to assist. This was restricted to activities in Australia, the United Kingdom, Canada, the United States of America, Sweden, Norway and New Zealand. Again, this process was found not to be particularly productive.

Finally, project staff embarked on a labour intensive search of the World Wide Web using a variety of search engines and tools. A number of websites were also specially targeted; these included:

- international road safety and/or research organisations;
- government transport, road safety, and legislative homepages, and,
- non-government and Local Government organisations.

This strategy identified the most useful information on one level but frequently failed to retrieve detailed information about administrative procedures and processes. In addition, foreign languages limited the information obtained from certain countries. Fortunately, one of the project staff members who is fluent in German was able to translate information obtained from this country that was found to be highly relevant to the project.

Readers are reminded that it is not within the scope of this review or the project brief to examine in detail the various methods of speed enforcement or their effectiveness per se. For reviews of these issues readers are referred to Simcic & Townsend (2008); National Highway and Safety Administration (2008); Willis et al. (2009) and the OECD and EMCT Transport Research Centre (2006)

### **3.2 Findings of the review**

Overall, there was limited published information on the involvement of Local Government in speed enforcement management. The vast majority of literature and information retrieved instead considered the efficacy of speed enforcement programs which are typically managed by government authorities such as police, transport or road safety agencies. Consequently, a broader spectrum of published and unpublished reports and websites were reviewed. The findings of the review have been organised by the countries that were identified for additional review plus the

inclusion of Germany. As will be seen, the most relevant information was obtained from the United Kingdom and Germany.

### **3.2.1 Australia**

The various search methods failed to identify evidence of the legal enforcement of speeding by Local Government in Australia. Across all jurisdictions posted speed limits are enforced by state police. The review did however identify a partnership program between New South Wales Local Government and police for the collection and use of speed data for the strategic and targeted enforcement of speeding by police. Further to this, the review identified a non-speeding related example of the non-police enforcement of the WA Road Traffic Code. Both programs are summarised below.

#### **3.2.1.1 Lower Hunter Speed Project**

The New South Wales Roads and Traffic Authority's (RTA) Local Government Road Safety Program was initiated in 1992 and currently funds over 80 road safety officers across nearly 100 councils to provide educational and behavioural initiatives to the local community (Roads and Traffic Authority, 2010). Funding from the RTA program provides Local Government with an opportunity, among other things, to work co-operatively and strategically with police to reduce speeding and associated crashes. This is exemplified by the Lower Hunter Speed Project. The aim of the project was to "...conduct a joint police enforcement and council education program to slow drivers on identified streets in rural and residential streets" (Port Stephens Council, n.d.). Under the partnership, councils in the Lower Hunter region (Dungog, Cessnock, Maitland, Port Stephens) placed vehicle classifiers on a schedule of three local area roads to collect up to date accurate information on vehicle travel speeds. The data was analysed by council staff and shared with police to establish a strategic pattern of enforcement (by time, day of week) on selected roads. This enforcement was supplemented with print and radio advertising and roadside speed checks (conducted by councils) to educate drivers on the need to slow down. For the 2005-2006 program, an additional 31 hours of police enforcement (resulting in the issue of 56 infringement notices for speeding and nine charges) and 680 hours of courtesy speed checks was undertaken across the Lower Hunter region. The best results were said to be found for the Local Government area of Port Stephens where reductions in

mean 85<sup>th</sup> percentile speeds ranged between two and four points across the area's three sites over the period August 2005 to June 2006. No significance testing was undertaken on the data (Port Stephens Council, n.d.).

### **3.2.1.2 Western Australian Public Transport Authority: Railway crossing offences**

Though not related to speeding, the review process did identify a Western Australian example of non-police enforcement of an 'on-road' traffic law. This activity is mentioned to highlight the role of a non-police agency in the enforcement of the State's Road Traffic Code 2000 (see Section 5.2 for a further discussion). The Public Transport Authority (PTA) presently has red-signal cameras operating at two metropolitan Perth rail crossings to detect offences under the Road Traffic Act 1974 (WA) for proceeding against a red signal. It has full control over the camera installation and its administration, including the issue of infringement notices and the receipt of funds. Monies collected by the PTA are forwarded to the State for consolidated revenue. Once the infringement is paid the PTA advises WA Police (Infringement Management Office) of this upon which the associated Demerit Points are allocated to the driver. The PTA will continue to control the camera program but will relinquish responsibility for the issue of infringements once the police automated enforcement camera system achieves full digital capacity in the near future. When this occurs the PTA will be able to interface with police systems to upload their digital images of red signal violators (Personal communication with Trevor Greenham, Manager, Public Transport Authority, 2010).

### **3.2.2 New Zealand**

As in Australia, New Zealand police maintain full responsibility for the enforcement of posted speed limits using both radar and laser technologies (Povey, Frith & Keal, 2003). Police enforce the limits posted by Local Governments under existing legislation that permits them to write by-laws to alter speeds (Personal communication, Colin Brody, New Zealand Transport Agency, 2010).

### **3.2.3 United Kingdom**

The United Kingdom (UK) has one of the most extensive speed enforcement systems in the world through its safety camera program. In 2008, it was estimated that the fixed speed camera program numbered around 6000 with an increasing number of

‘sectional control’ (i.e., point to point) cameras (Simcic & Townsend, 2008). The program is reviewed in considerable detail below because of its innovative nature and strong focus on local area partnerships.

The UK’s speed camera program dates back to 1992 but it was in 2000 that the Prime Minister of the UK launched the Road Safety Strategy “Tomorrow’s Roads-Safer for Everyone” to improve road safety and set targets for 2010 to decrease the casualties on the road (Department for Transport, 2009; Office of Public Sector Information, 2006). This strategy aimed to change the relationship between the sectors of government from national to local levels and simplify the ancient structures of British government (Stenson, 2005). Local partnership between police, Local Government and authorities, and highway agencies were developed to assist in speed enforcement and decide how funding would be directed toward road safety issues (Department for Transport, 2009; Jones, Sauerzapf, & Haynes, 2008). The premise behind this was that Local Government would take greater accountability with regards to speed enforcement, and thus perform better than central government (Andrew & Goldsmith, 1998).

Historically, speed enforcement equipment was first nationally acknowledged in 1991 in The Road Traffic Act when it gave judges the right to punish those who were caught speeding by photographic equipment. In 1992 the West London Speed Camera Demonstration Project was piloted to implement this new system. The project soon had financial problems, making it difficult to extend the system. Financial difficulties were evident as local authorities and police forces paid for the installation and maintenance of equipment, yet all income revenue was directed to the British Treasury (Carnis, 2007). As a result, in 2000, a Safety Camera Funding scheme was established in eight pilot areas (European Road Safety Observatory, 2007). This pilot scheme allowed the fine income from speed cameras and red-light cameras (referred collectively as ‘safety cameras’) to be recovered by the eight pilot areas and used to locally fund the camera enforcement activities via a process of cost-recovery (Gains, Heydecker, Shrewsbury & Robertson, 2004; Jones et al., 2008). Any additional revenue generated was directed to central government (European Road Safety Observatory, 2007). The scheme was successful and thus extended to other areas in 2001 (European Road Safety Observatory, 2007). By April

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

2006 the National Safety Camera Program was operating in 46 safety camera partnership areas- virtually all of Great Britain (Ladyman, Scott, and Davies, 2007). As a result, in 2001, the Vehicle (Crimes) Act was introduced which legislated the local partnership (police, highway agencies and Local Government and agencies) to recover the costs generated by safety cameras, allowing the cost-recovery scheme to be implemented nation-wide (Jones et al., 2008).

The handbook of rules for the Safety Camera Netting-Off Scheme was developed to provide payment conditions in the form of rules, guidance and guidelines. Partnerships should follow the guidelines, but these are flexible to take account of local circumstances (The Government's Response to the Transport Local Government and the Region's Committee Report, 2002).

On the 15<sup>th</sup> December 2005 the Department for Transport announced that camera activity, funding and partnerships was to be integrated into the wider road safety delivery process from 1<sup>st</sup> April 2007, allowing greater freedom and flexibility to local authorities on future use of cameras. The Road Safety Act 2006 further broadened the road safety strategy. The Act enabled the provision of surplus revenue from safety camera enforcement to be used by public authorities and enabled the provision of Road Safety Grants to local authorities to assist in the cost of any measures promoting road safety (Office of Public Sector Information, 2006). In 2006, road safety was one of the themes for the Beacon Scheme - a scheme set-up by the Department of Communities and Local Government - to increase the skills and standards within Local Government (Department for Transport, 2008).

In 2007, there were 5000 speed checking units spread over the whole country and 1745 people were saved from being fatally or seriously injured in a car accident. The governance of the speed enforcement system was supported by national and local structures based on a 'local partnership' and showing a distinct local dimension. The Department for Transport is responsible for supervising the national program and contains the 'nation safety camera program board'. The local systems are accountable to the national bodies to ensure consistency and homogeneity among local authorities. The national bodies set specific criteria resulting in limiting political influence and avoiding inappropriate equipment deployment (Carnis, 2007).

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

In regards to the effectiveness of the scheme, Gains et al.'s (2004) analysis three years post-implementation showed a significant reduction in speeding at camera sites (32% at new camera sites and 71% at fixed sites), significant reduction in casualties at camera sites (40% fewer people being killed or seriously injured), general public acceptance, and satisfactory working of the funding and partnership arrangements. The scheme showed a positive cost-benefit ratio of 4:1 with the benefits in the third year in excess of €221 million versus enforcements costs of €54 million. A four year evaluation was also performed and also found that vehicle speeds were down, both casualties and deaths were down, there was a positive cost-benefit of around 2.7:1, and the public supported the use of safety cameras for targeted enforcement (Gains et al., 2005).

A report by Symonds (2004) also found that the best performing county councils in reducing casualties on the road had area committees with local delivery units and area officers and clear strategies and visions. Positive results were associated with high collaboration and co-operation with adjacent authorities, with many local highway authorities sharing computer-based databases that store collision and casualty data. In order for councils to achieve excellent results well trained employees are essential but are often in short supply creating some cause for concern.

A recently published evaluation of Norfolk's mobile speed camera program (Jones et al., 2008) two years post-implementation reported a 1% reduction in fatal crashes but a 9% reduction in major injuries overall. However, crashes at camera sites had decreased by 19% from levels two years prior to implementation with the biggest reduction noted for fatal crashes as camera sites. These findings provide further evidence to suggest that locally run UK camera programs can decrease crashes, particularly fatal crashes.

Notwithstanding the apparent success of the safety camera program, there is information to suggest that some local authorities are now scaling back their camera programs because of reduced road safety grant funding from the Department for Transport to local authorities to administer their safety camera programs (BBC,

2010). It was reported that Oxfordshire has turned off its total compliment of fixed cameras after losing approximately £600,000 in funding.

In conclusion, the UK program is an innovative approach to sharing the responsibility and costs for area wide (mostly fixed) camera based enforcement of speed (and red-light running). The value of this program to the current project is its focus on the establishment of local partnerships and the initial funding model of cost-recovery to implement a high level of enforcement activity. However, the recent move from a cost-recovery model to a grant funding arrangement which has been subject to Government budget cut backs has brought about a reduction in the camera program across a number of local authorities. This recent development highlights the importance of providing adequate and stable funding to local authorities to maintain their commitment to reduce speeding.

### **3.2.4 Unites States of America**

The concept of Local Government in the USA does not directly equate to the structure and organisation in Australia but varies depending on the State in question. The most common level of government that perhaps equates with Australian Local Government is the City level which is considered to be ‘municipal’ in nature and structurally beneath that of the County and State level. However, one of the fundamental differences between the USA City level of government and Australian Local Government is that the former has the capacity to employ its own police personnel to legally enforce local traffic laws.

With respect to speed enforcement, the USA does have an extensive speed camera program across 56 jurisdictions down to the City level of policing (Oesch, 2009). One of these jurisdictions, Arizona, ceased the photo enforcement of speeding on State highways in July 2010 because of mismanagement of the program and the failure to enforce payment of the infringements issued (Arizona Department of Public Safety, 2010).

A 2007 review by Shaheen, Rodier & Cavanagh (2007) reported that camera operations were mostly located on residential streets with posted speeds ranging between 30-50 miles per hour. How and where the program operates (e.g., type and

location of road, time of day, length of time) and who runs the programs depends on the legislation that has been passed at the State or local municipal level. Other information provided by Shaheen et al. (2007) shows that the camera programs are a mix of both fixed and mobile though mobile cameras are more commonly used.

What is not entirely clear across the entire camera program is whether this enforcement is undertaken by locally employed non-police personnel or by municipal police employed by the City. However, two published evaluations of such camera programs in Scottsdale City Arizona (Retting, Kyrychenko & McCartt, 2008) and Montgomery County Maryland (Retting, Farmer & McCartt, 2008) indicate that the programs were administered by City and County police respectively. They were responsible for the staffing of camera operations and the identification and charging of the offending driver. In the absence of information to suggest otherwise, it would be reasonable to conclude that speed camera operations in the USA are undertaken by municipally employed police and that offence monies, either in part or full, are returned to the local or State authority as the camera program managers.

The other notable traffic enforcement activity by local municipalities in the USA is the red-light camera intersection program. This program is far more extensive than the speed camera program but like the speed camera program its operation depends on the relevant State, County or City legislation governing the use of red-light cameras. One notable difference to the speed camera program is that municipal police do not always administer the red-light program. A review of a number of USA City government websites showed that red-light camera programs were enforced by a diverse group of municipal departments, including the Department of Revenue Parking Citation Administration Division (City of Chicago Citation Administration Division, 2010) and the Department of Transportation (New York City Department of Transportation, 2006), though Houston City municipal police administer and issue citations for red-light camera offences (Houston Police Department, 2010).

The USA is a diverse country in regards to the existence of legislation for automated enforcement techniques (Shaheen et al., 2007; Oesch 2009) and the operation of these programs. There is evidence to show that both speed and red-light camera programs are administered by municipal councils though these local authorities also

employ police personnel who can, particularly in the case of speed camera operations, have responsibility for the enforcement programs. Municipalities in the USA appear to be unlike those in Australia in regards to administrative and legal responsibilities and for that reason do not offer much insight into how speed enforcement could be undertaken by Local Government in Australia.

### **3.2.5 Canada**

On one level Canada has a similar system of government to Australia with levels of Federal, Provincial and Local Governments. However, unlike Australian Local Government, Canadian Local Government has a significant responsibility for services such as police and fire and emergency (Makarenko, 2007). Consequently, similar to the USA, speed photo camera programs such as those used in Vancouver British Columbia have been operated by police agencies such as the Royal Canadian Mounted Police and municipal police (Vancouver City Council 1996). Other information shows that the BC Provincial government and the Insurance Corporation of British Columbia once partnered to administer the speed photo program (Chen and Warburton, 2006). More recent information indicates however, that this program has since been discontinued in BC, while it has been implemented in other jurisdictions such as the City of Calgary, Alberta (Johnson and Howard, 2007). In this jurisdiction police administer the program. No other evidence could be found that was relevant to Local Government and speed enforcement management in Canada.

### **3.2.6 Sweden**

Though Sweden has an extensive Local Government system totalling 290 municipalities and 20 county councils and a strong philosophy of public administration at the local area level (Ministry of Finance Sweden, 2005), no evidence could be found linking Local Government with speed enforcement management. The most recent and readily obtained information indicated that speed enforcement per se is the responsibility of the Swedish National Police Board while the Automatic Road Safety Control Program (the automated speed camera program) is the joint responsibility of the National Police Board and the Swedish Road Administration (Swedish Road Administration, 2008). The camera program consists of both fixed and mobile units and was most recently evaluated to be effective in

terms of reductions in average speeds, speeding violations, fatalities and serious injuries (Swedish Road Administration, 2009).

### **3.2.7 Norway**

Like Sweden, Norway has an extensive Local Government system consisting of 19 counties and 431 municipalities (European Union Community, 2007). There is also a strong level of devolvement of public sector responsibilities to Local Government, including responsibility for local roads (European Union Community, 2007). Again however, no information could be found linking the Norwegian Local Government sector with speed enforcement management, particularly with the Automatic Speed Control (ASC) program (Budalen, 2008).

Norway's ASC program commenced in 1988 and is administered by the Norwegian Public Roads Administration and Norwegian police. The program consists largely of fixed cameras which numbered around 360 as at 2008 with around 90% of activity undertaken by the newer digital technology. The program reportedly monitored around 120 million vehicles and captured 240,000 vehicles in 2007 (Budalen, 2008). In contrast, very little speed enforcement is undertaken by traditional policing methods. In 2008, it was estimated that hand held mobile speed enforcement was undertaken at the rate of one hour of enforcement per kilometre of road annually (Simcic & Townsend, 2008)

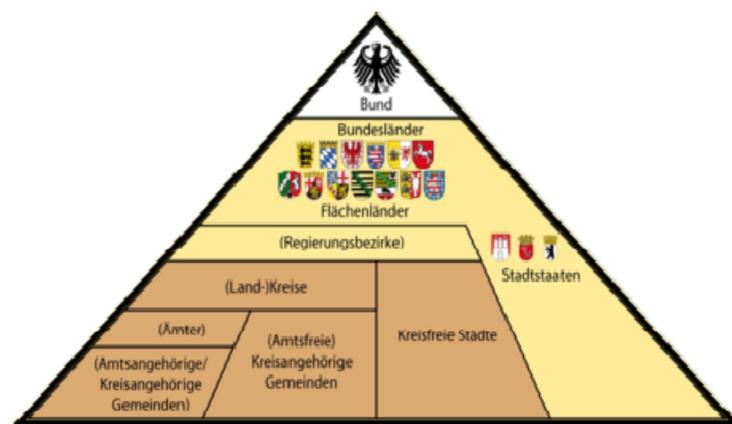
### **3.2.8 Germany**

The review identified the central and important role of German municipalities or local authorities in traffic law enforcement, particularly speeding. The available English literature and other translated German language literature is summarised below. An overview of the German political and administrative system is firstly provided to contextualise the speed enforcement authority of the local municipalities.

#### *Administrative structure of the German Federal State*

Germany is a federal parliamentary democratic republic consisting of 16 federal states (*Bundesländer*). The larger states are subdivided into governmental districts also called administrative regions (*Regierungsbezirke*). The governmental districts as well as all states are further categorised into rural districts (*Kreise*) or district free

towns/cities (*Kreisfreie Städte*). Excluded are Berlin, Hamburg and Bremen which are classified as city-states (*Stadt-Staaten*). Some states have further subdivisions of administrative units (*Ämter*) which are located at a level between municipality and rural district. All rural districts and administrative units (*Ämter*) are subdivided into municipalities (*Gemeinden*), the smallest administrative units in Germany. Cities and towns also fall into this category. Figure 1 exemplifies this reasonably complex administrative organisation of the German Federal State (*Bund*) (Leunig, 2007).



**Figure 3.1** Administrative structure of the German Federal State (Leunig, 2007)

Each one of the 16 Federal States has its own constitution, parliament, and a differing structure and functions within their local government. All states have in common that their local authorities have influence on the federal council of Germany (*Bundesrat*) which is composed of representatives elected by each of the federal states. The federal legislative authority (*Bundestag*) also represents the 16 state governments but constitutes of members who are directly elected by the people in proportional representation of each state. The federal legislative authority adopts and enacts all legislation affecting state responsibilities on a national level including the road traffic regulations. The constitution created by the States is uniform throughout the administrative subdivisions of each State. Local Governments (*Gemeinden*) are responsible for administration of programs authorised by the Federal or State government (e.g. programs related to youth, schools, public health, social assistance) and have the right to regulate all affairs of the local community within the legislative limits (Leunig, 2007).

*Traffic law enforcement by German local authorities: A brief overview*

In principal, traffic law enforcement in Germany is a responsibility of the State and traditionally that of the police. Since 1986, municipalities have had the right to enforce traffic laws within their local boundaries to different degrees of authority, and in the majority of States today, local authorities can now realise traffic enforcement laws, including speed enforcement. Since then a large number of municipalities have taken over responsibility for the control of local traffic enforcement activities. This has assisted in relieving the police from an increasing work load allowing them to focus on conducting other local traffic-related tasks. However, where local authorities decide to take up traffic law enforcement activities in their local region this does not imply a decreased authority of the police to monitor traffic safety and ensure adequate measures such as enforcement are implemented. Instead, police and local authorities are required to share responsibility and co-operate to ensure an appropriate level of traffic law enforcement measures are maintained (Legler, 2008).

*The enforcement of speeding by local authorities*

Administratively, German local authorities undertake speed enforcement in a similar way to police through the use of automated camera equipment (both stationary and mobile). Independent of police they determine their own pattern of enforcement (e.g., day of week, time of day, location). Unlike police, local authorities do not however have authority to stop vehicles which means that drivers do not experience the immediacy of deterrence, nor can other associated offences such as drink-driving be detected. The camera equipment used by local authorities photographs both the vehicle's registration plate and the driver. In 2000, private organisations were said to be used to 'develop' the photographs (which suggests that the camera system back then was based on wet-film technology) with local authorities forwarding the notice of offence for payment (Heidstra et al., 2000).

Heidstra et al.'s (2000) review of the system in 2000 noted that 70% of the speed enforcement work by local authorities was 'self-funding' with an estimated one-third profiting greatly from the exercise. These comments can be taken to imply that the local authorities are not required to forward offence monies to the State nor do they partner with the State in a 'cost-recovery' program as previously noted in the UK.

Though not explicitly stated it seems that municipalities retain all speeding offence monies. Heidstra et al. (2000) also reported that up to 80% of the local authority communities had positive perceptions of the program (particularly when conducted in high risk areas such as around schools and traffic calming areas) with 80-85% of offending drivers paying the penalty upon notice. Unfortunately, Heidstra et al. (2000) were not able to provide evidence of a 'safety benefit' of the local authority program. It was noted however, that of the local authorities surveyed by Heidstra et al. (2000) 50 million vehicles are 'recorded' (which is taken to mean passing through the camera) annually. Two-thirds of this number is recorded by stationary equipment which attests to the use of this equipment on high density traffic roads.

Heidstra et al. (2000) concluded that there are a number of advantages and disadvantages to the enforcement of speeding by non-police local authorities. First and foremost, there is a huge increase in the level of enforcement activity and thus deterrence and a freeing up of valuable police resources for other traffic and non-traffic activities. It was said that road users generally accepted this level of enforcement and did not necessarily make a distinction between local authority and police enforcement with respect to camera enforcement. However, no empirical evidence could be provided by Heidstra et al. (2000) of the most crucial advantage of increased enforcement activity, that being reductions in speeding and crashes. Heidstra et al. (2000) also made note of a number of disadvantages or concerns of local authority enforcement of speeding. Firstly, comment was made on the possible tension between maintaining the traffic safety objectives of the program and the financial gains and objectives of the program. Could financial imperatives over-rule or detract from the traffic safety objectives of the program? If revenue raising concerns were seen by the public to be the local authority's priority it would necessarily diminish the community's support for the program. This concern is not unlike that frequently expressed about Western Australia's automated camera program which is run by the state police. The next concern related to the co-ordination of the program and the possible doubling-up and waste of resources if local authorities and police could not reach agreement on the operationalisation of their respective enforcement activities. This comment seems to be concerned with the marginal return or impact on speeding behaviour for an 'excess' level of enforcement in a particular location. This point raises the importance of police and

local authorities working closely to develop a co-ordinated enforcement strategy to maximise the effectiveness of their respective efforts.

*Speeding enforcement practices by local authorities in Bavaria*

The review process also identified a German language report on speed enforcement in Bavaria (south-east Germany). The report by Legler (2008) sought to determine whether traffic law enforcement carried out by local authorities in Bavaria contributed positively to road safety and was not just a revenue raising exercise for local authorities. A translated summary of Legler's (2008) report is presented below.

In 2008, speed enforcement was carried out by 20% (n=429) of all Bavarian municipalities. The municipalities are authorised to implement speed enforcement activities in urban areas only using both mobile and stationary traffic control. The right to monitor speeding on freeways and highways remains exclusively with state police (Legler, 2008).

According to the current legislation, municipalities responsible for controlling traffic law enforcement are required to self-finance any personnel and equipment related to speeding control activities. In this case, all penalty fees are paid directly to the respective municipalities. This contrasts with police controlled enforcement of speeding where all monies generated belong to the State. Staff hired to fulfil these tasks may be employed by the municipality or subcontracted from private companies. Private companies may also be consulted to assist in technical duties such as the leasing of appropriate equipment or the development of photographs. Staff employed by local authorities may investigate, prosecute and penalise speeding drivers.

The enforcement of traffic safety measures including speeding control by local authorities remains a controversial issue in Germany. Local authorities have frequently been accused by the public of implementing speed enforcement as a measure of increasing their budgets rather than improving local traffic safety (Legler, 2008).

The possibilities of traffic law enforcement within each state are multiple with regards to their content, organisation, and personnel. It has been suggested that a clearer and more controllable and manageable system is required to improve cost and time efficient functioning. This may possibly be achieved by establishing administration units on rural district levels or in form of collaboration between several partnering municipalities which would be assigned with the responsibility of managing traffic law enforcement in these areas. Alternatively, an independent over bearing 'traffic administration unit' which takes on the responsibility for state-wide traffic law enforcement could be created (Legler, 2008).

Traffic monitoring is not regarded as an isolated procedure but is associated with various measures and tasks. Therefore, to ensure effective traffic law enforcement it has been recommended to authorise local authorities to be able to stop and advise or educate offenders immediately after committing speed violations. This is expected to have a stronger impact on behaviour change than merely issuing a penalty. While lack of acceptance or respect for local authorities carrying out this role is a possible disadvantage and implies additional costs are needed to train and provide staff, it is assumed that adopting this measure would outweigh the disadvantages by facilitating prosecution of cases. This means that not every single traffic violation would necessarily have to be investigated, prosecuted and penalised and local authorities can instead focus their attention on more severe cases (Legler, 2008).

According to Legler (2008), the main advantage of assigning the responsibility to enforce speed offences to local authorities is their ability to act quicker and be more flexible in line with their specific local needs and requirements than the police. Despite controversial discussions concerning arbitrary speeding enforcement laws, it has been recommended to continue the use of non-police based traffic monitoring bodies in Germany (Legler, 2008).

Unfortunately Legler's (2008) review was restricted to policy and administrative issues surrounding the local authority enforcement of speeding. It did not consider empirical evidence related to the incidence of speeding or crashes and the effect of the local authority program on these outcomes.

### **3.2.9 Summary of the main findings of the review**

The most relevant information on the role of Local Government in the management of speed enforcement was identified from overseas, particularly for Germany and the UK and to a lesser extent for the USA.

In Germany, the Local Government speed camera program operates independently of state-based police enforcement. In this country Local Government has control over the deployment of cameras, the issuing of offences, and the receipt of monies which are in turn retained by Local Government to fund the program. Unfortunately no detailed information could be obtained on the legislative background to this arrangement, the costs of administering the program, or the impact of the program on vehicle speeding and speed related crashes on local roads.

The situation in the UK was found to be administratively different to that in Germany. In the UK, local area camera programs represent a partnership between police and local authorities. The program was initially administered on a 'cost recovery' basis but more recently has been funded by road safety grants from the Department for Transport. Recently announced reductions in the level of grant funding to local authorities has resulted in some councils downscaling the number of operational cameras and others withdrawing their camera program altogether. Prior to this, evaluations had shown the safety camera program, which was mostly a fixed camera operation, to be reasonably effective in reducing crashes, particularly around the camera sites.

In the USA, speed and red-light camera enforcement are undertaken at the Federal, State and City level. At the City level, which is a larger and administratively more sophisticated version of Australian Local Government, the speed camera program is administered by the City's own police department. In other words, camera operations are not undertaken by non-police personnel but by sworn law enforcement officers. As far as can be ascertained, all monies from the fines are retained by the City and used to fund on-going camera activities.

The involvement of Australian Local Government in speed enforcement management does not extend to their active participation in road side camera operations but

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

appears restricted to the collection and supply of vehicle travel speed information to police to assist with the strategic enforcement of speeding on local area roads. The published example of this was the Lower Hunter Speed Project which was funded by the NSW RTA Local Government Road Safety Program. This program highlights how government funds can be used to involve Local Government in the management of speeding in partnership with local area police. The program provides an appropriate and seemingly low cost opportunity for Local Government to specify where police enforcement could be conducted across their local road network to combat speeding. No information was available on the broader longevity or success of this partnership program.

In conclusion, the review has identified three broad examples of Local Government participation in speed enforcement management, being:

- the operation of an automated speed camera program with full deployment and financial control responsibilities and independence of police;
- the operation of an automated fixed and mobile speed camera program under a local area partnership involving police and financed by government under a road safety grants scheme, and
- the collection of and provision of vehicle travel speed information to police to support the strategic deployment of enforcement initiatives on local area roads.

These broad examples will be developed further under the Phase Two and Three plans of work where the opinions and attitudes of Local Government and Western Australian road safety stakeholders will be sought to refine one or more of the models of Local Government involvement in speed enforcement management.

## **4. SURVEY OF WESTERN AUSTRALIAN LOCAL GOVERNMENT**

### **4.1 Overview**

An 'on-line' questionnaire was developed to survey Western Australian Local Government members on issues pertaining to speed monitoring, speed management (including enforcement and speed zoning), and road safety administration. With the exception of the Shires of Christmas and Cocos (Keeling) Islands, n=139 Western Australian Local Governments were invited to participate in the survey. The survey remained open for approximately four weeks, after which time 33 councils (12 metropolitan; 21 non-metropolitan) had completed and submitted the survey. This represents a response fraction of 23.7% of eligible Western Australian councils.

### **4.2 Methodology**

#### **4.2.1 Ethics**

This research was undertaken with the approval of the Human Research Ethics Committee of the School of Public Health, Faculty of Health Sciences, Curtin University of Technology (approval SPH-5-2010). Potential respondents were informed that electronic submission of the survey would be accepted as their understanding of and consent to the requirements of participation detailed at the survey site. Though the identity of participating councils would be reported to the project managers -the Western Australian Local Government Association-respondent councils were given the option of having their responses remain anonymous and not aligned to their identity. Two councils requested that their responses not be identified to WALGA.

#### **4.2.2 Questionnaire Development and Completion**

The objective of the survey was to gather data from Western Australian Local Government on the following issues:

- vehicle travel speed monitoring activities and speed data sharing with Main Roads Western Australia and WA Police;
- use of various road engineering treatments to manage vehicle travel speeds, the cost of those treatments, and judgements on the efficacy, 'money for value' and public acceptance of treatments;

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

- use of various behavioural-educational initiatives to reduce vehicle travel speed behaviour, and judgements on the efficacy, 'value for money, and public acceptance of initiatives;
- attitudes toward speed zoning and use of the Main Roads WA speed zone change application process;
- attitudes toward the enforcement of speeding and co-operation with WA Police for the enforcement of speeding on local roads, and,
- general road safety management, knowledge and attitudes.

Questionnaire items were developed for each of the above areas and reviewed by the Project Advisory Group and the project sponsors. Recommended changes were noted and made, such as the inclusion of a number of 'open-ended', qualitative questions to obtain a more detailed understanding of Local Governments' position on a number of the issues. The final set of questionnaire items were reviewed again by the project sponsor and by the research team for readability and consistency.

A copy of the 'on-line' survey is presented in Appendix B. The facing page of the survey provided background information on the project and the requirements and responsibilities of participation for both respondent councils and the survey administrators, C-MARC. Once respondents commenced the survey they could suspend and return to the survey as necessary by providing some basic contact details and establishing a user name and password for re-entry to the site. Once the survey was submitted respondents were unable to re-access and amend their submission.

#### **4.2.3 Contact and Sampling of Western Australian Local Government**

In the months leading up to the distribution of the survey, WALGA promoted the project and the need for councils to complete the survey via monthly newsletters and bulletins to Local Government. Invitations to councils to participate in the survey were distributed to all n=139 Local Government members (which excludes Christmas and Cocos (Keeling) Islands) via an email listing provided by WALGA (see Appendix A for a copy of the invitation email). For the most part the email addresses supplied by WALGA were generic administration addresses and hence relied on 'front of office' administrative staff to distribute the invitation to the most

appropriate council officers for response. This ‘filtering’ may have contributed to the lower than expected response fraction. The research team were unable to determine what proportion of invitation emails were in fact received and consequently rejected by appropriate council officers.

The survey site remained open for approximately four weeks. During this time the following activities were undertaken to maximise participation in the survey:

- Two ‘reminder’ emails advertising extended closing dates were sent to councils that had not completed the survey;
- WALGA Regional RoadWise Safety Officers contacted their Local Governments to encourage participation;
- The Australian Institute of Traffic Planning and Management (AITPM) wrote to Western Australian members (many of whom are local council officers) to promote the survey;
- The survey was promoted at the WA State Conference of the Institute of Public Works Engineering Australia (IPWEA) which was being attended by Western Australian Local Government engineers, and,
- Approximately 16 councils that had partially completed but not submitted the survey were contacted by email and telephone to encourage their completion and submission of the survey.

#### **4.3 Data Management and Analysis**

At the conclusion of the survey period the responses were downloaded from *Limesurvey* into SPSS (Version 18). The data was then visually inspected for completeness and non-conforming responses. Where necessary, respondent councils were contacted by telephone to clarify non-conforming responses or to obtain a response for survey items that appeared to have been overlooked. The integrity of the data was further checked through an examination of frequency counts of the responses to the quantitative, closed-ended items.

Analysis of the quantitative survey items was restricted to the presentation of descriptive statistics including frequency counts, the calculation of proportions, and median scores (for interval data). Cross-tabulations were also computed to

investigate the relationship between survey responses and respondent factors such as location (*Urban/Non-Urban*) of council. However, because of the small number of respondent councils (see Section 4.3) it was not possible to satisfy the requirements for a test of the statistical significance of differences in proportions and the relative strength of association between variables.

The text for qualitative survey items was initially reviewed by the second author (JJ) to identify and code the main issues or themes presented by respondent councils. The text and identified themes were subsequently reviewed by the senior author (PP) for concordance. Minor revisions were made as required.

#### **4.4 Details of Local Government Respondents**

A total of 33 councils completed and submitted the on-line survey (see Table 3.1). Information from WALGA identifies 12 of the respondent councils as ‘metropolitan’ and 21 as ‘non-metropolitan’. Excluding the Shires of Christmas and Cocos (Keeling) Islands, the sample represents approximately 23.7% of all Western Australian councils (n=139), 39% of metropolitan Perth councils (n=31), and 19.4% of non-metropolitan Western Australian councils (n=108). The sample sizes are considerably less than the required n=103 WA councils, n=29 metropolitan and n=85 non-metropolitan councils required to achieve a confidence level of 95% with a 5% margin of error for the survey responses (Raosoft, Inc., 2004). The best estimate of the confidence levels (with a 5% margin of error) for the findings given the number of respondents are:

- 48% for all Western Australian Local Government member councils;
- 38% for non-metropolitan Local Government member councils, and
- 33% for metropolitan Local Government member councils.

For this reason, the findings presented below have a low to moderate level of generalisability to the Western Australian population of Local Government member councils.

For the purposes of statistical analysis the councils were reclassified into *Urban* (n=14) and *Non-Urban* (n=19) councils. *Urban* councils are those with close geographic proximity to Perth; relatively high population density; high proportion of

local area 'sealed' road, and location within a WA Police metropolitan district (see Table 4.1). The exception to these criteria was the classification of the City of Bunbury as *Urban*. Although located less than 200km from Perth in the South West regional policing district, the area's high population density and high proportion of 'sealed' road suggests that the council's speed related problems are likely to approximate those of a metropolitan rather rural locality (e.g., speeding in comparatively lower speed zones such as local roads, around schools and shopping precincts).

A total of 43 council employees contributed to the responses of the 33 councils. For the majority of respondent councils (81%) the survey was completed by one staff member only, with the remaining local councils utilising between two and four staffer members. The number of years of employment in the Local Government sector of the 43 respondents ranged from less than one year to 36 years, with a mean of 14.1 years of employment.

The various employment positions of the 43 respondent council staff are presented in Table 4.2. 'Managers' in the area of engineering and technical services accounted for nearly one-quarter of respondents, followed by 'Technical Officers' in the area of engineering and design (18.6%). There were very few respondents in a designated road safety position.

**Local Government Enhanced Speed Enforcement Management Project: Phase One**

Table 4.1 Name and demographic information of respondent councils

<b>Council</b>	<b>Distance from Perth CBD (km)</b>	<b>Area (sq km)</b>	<b>Resident Population</b>	<b>Total length of road (km)</b>	<b>Proportion of sealed road (%)</b>	<b>Western Australian Policing District</b>	<b>Urban/Non-Urban Context*</b>
City of Perth	0	9	15,113	96.00	100	Central Metro	Urban
City of South Perth	4	20	43,000	198.10	100	Central Metro	Urban
City of Melville	8	53	99,351	531.00	100	South Metro	Urban
City of Stirling	9	100	193,000	1,014.00	100	West Metro	Urban
Town of Claremont	9	5	9,605	48.00	100	Central Metro	Urban
Town of Bassendean	10	11	14,325	95.00	100	West Metro	Urban
City of Gosnells	17	127	100,000	725.00	100	South East Metro	Urban
City of Joondalup	26	99	160,000	979.00	100	North West Metro	Urban
Shire of Mundaring	35	644	33,438	672.60	87.57	East Metro	Urban
Town of Kwinana	40	118	29,000	327.29	99.58	Peel Metro	Urban
Serpentine Jarrahdale Shire	45	905	16,000	675.00	80.74	Peel Metro	Urban
City of Rockingham	47	261	97,338	755.00	96.82	Peel Metro	Urban
Mandurah City Council	72	174	67,053	652.00	99.39	Peel Metro	Urban
City of Bunbury	184	66	32,841	315.90	99.40	South West	Urban
Shire of Waroona	108	835	4,000	408.00	63.24	South West	Non-Urban
Shire of Pingelly	158	1,223	1,168	587.00	34.58	Wheatbelt	Non-Urban
Shire of Quairading	166	2,000	1,134	942.00	30.57	Wheatbelt	Non-Urban
Shire of Capel	212	554	13,908	478.00	61.72	South West	Non-Urban
Shire of Busselton	219	1,454	29,183	1,143.00	72.62	South West	Non-Urban
Shire of Trayning	235	1,632	433	774.90	23.38	Wheatbelt	Non-Urban
Shire of Koorda	238	2,662	497	1,085.00	22.58	Wheatbelt	Non-Urban
Shire of Dalwallinu	250	7,187	1,368	1,939.00	23.16	Wheatbelt	Non-Urban
Shire of Boyup Brook	270	2,838	1,565	1,000.00	21.00	South West	Non-Urban
Shire of Augusta Margaret River	274	2,138	10,352	1,063.70	45.67	South West	Non-Urban
Shire of Manjimup	301	7,028	9,773	1,304.00	39.26	South West	Non-Urban
Shire of Plantagenet	360	4,792	4,655	1,234.00	26.42	Great Southern	Non-Urban
Shire of Denmark	400	1,842	5,100	740.00	44.59	Great Southern	Non-Urban
Shire of Mt Magnet	562	13,877	580	1,029.60	19.65	Mid-West Gascoyne	Non-Urban
Shire of Esperance	725	44,500	14,500	4,498.00	18.21	Goldfields-Esperance	Non-Urban
Shire of Menzies	730	128,353	353	2,179.42	0.34	Goldfields-Esperance	Non-Urban
Shire of Northam	964	1,443	10,500	639.00	54.30	Wheatbelt	Non-Urban
Town of Port Hedland	1647	11,844	17,000	918.80	19.02	Pilbara	Non-Urban
Shire Of Broome	2200	56,000	15,607	703.00	29.45	Kimberley	Non-Urban

\*The classification of local councils into *Urban* and *Non-Urban* was based on the distance of the council from the Perth CBD, the population density of the council area, the WA Police district of the council, and the proportion of total local area road that is 'sealed'.

Table 4.2 Employment position of respondent council staff

<b>Position of respondent council staff</b>	<b>n</b>	<b>%</b>
Chief Executive Officer	6	13.9
Director - <i>Works/Infrastructure/Operations/Technical Services</i>	4	9.3
Coordinator - <i>Traffic/Engineering/Road Safety Services</i>	3	6.9
Manager - <i>Engineering/Infrastructure/Asset/Design/Works/Technical Services</i>	10	23.4
Team Leader - <i>Design</i>	1	2.3
Engineer - <i>Traffic/Transport</i>	4	9.3
Technical Officer - <i>Engineering/Design</i>	8	18.6
Road Safety Officer	2	4.7
Travel Smart Officer	1	2.3
Administration/Project/Finance Officer	4	9.3
All Positions	43	100

## 4.5 Survey Findings

### 4.5.1 Monitoring of Local Area Vehicle Travel Speeds

Approximately 88% of respondent councils undertake the monitoring of vehicles and vehicle travel speeds, with the proportion being highest for those councils classified as *Urban* (100% versus 79%) (Table 4.3). Four of the 19 *Non-Urban* councils (Menzies, Pingelly, Northam and Trayning) claimed they did not monitor vehicles and vehicle travel speeds. The main reasons given for this included a lack or shortage of resources (i.e., personnel, equipment, time, funding) and the absence of complaints or issues involving vehicle travel speeds. Other reasons given included the threat of vandalism to equipment; the high proportion of unsealed gravel roads (which were claimed not to be speed limited) and the high proportion of Main Roads WA controlled roads. One council (Pingelly) also claimed that monitoring of vehicles and travel speeds ‘*was not the function of Local Government*’.

**Table 4.3 Monitoring of vehicles and vehicle travel speeds by respondent councils**

<b>Monitoring of vehicles and vehicle travel speeds</b>	<b>Respondent Council</b>					
	<b>Urban</b>		<b>Non-Urban</b>		<b>All</b>	
	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>
Yes	14	100	15	78.9	29	87.9
No	0	0.0	4	21.1	4	12.1
Total	14	100	19	100	33	100

Of the 29 councils that reported monitoring vehicles and travel speeds, all reported using Metro Count equipment, with a further 24% monitoring vehicle speeds through the Speed Alert Mobile Units (Table 4.4). Only two councils reported using other means to monitor vehicle travel speeds on local area roads, which included the use of Hand-Held Speed Guns (City of Perth) and receiving information about vehicle speed directly from WA Police (City of Melville).

**Table 4.4 Vehicle travel speed monitoring method of respondent councils**

Vehicle travel speed monitoring method	Respondent Council					
	Urban		Non-Urban		All	
	n	%*	n	%*	n	%*
Metro Count Classifier	14	100	15	100	29	100
Speed Alert Mobile Unit	5	35.7	2	13.3	7	24.1
Hand-Held Speed Gun	1	7.1	0	0.0	1	3.4
Information from Police	1	7.1	0	0.0	1	3.4

\*Percentage of Urban (n=14), Non-Urban (n=15) and All Councils (n=29) that report monitoring vehicles and vehicle travel speeds

The frequency of the monitoring of vehicles and vehicle travel speeds by type of local area road is presented in Table 4.5. For District Distributor A and B roads, around one in three councils indicated that monitoring occurred *At least yearly*, though many councils (around four in 10) claimed to monitor vehicle travel speeds on these roads only as required and not according to a specified time schedule. Needs-based monitoring of vehicle travel speeds was most common for Local Distributor roads (58.6%) and Access roads (82.8%).

**Table 4.5 Frequency of monitoring vehicles and vehicle travel speeds by type of road**

Frequency of monitoring	Type of Road							
	District Distributor A		District Distributor B		Local Distributor		Access Roads	
	n	%	n	%	n	%	n	%
At least yearly	10	37.0	9	33.3	4	13.8	-	0.0
Every 2 years	1	3.7	2	7.4	3	10.3	1	3.4
Every 3 years	3	11.1	2	7.4	5	17.2	4	13.8
More than 3 years	1	3.7	2	7.4	-	0.0	-	0.0
As required	11	40.7	12	44.4	17	58.6	24	82.8
Don't know	1	3.7	-	0.0	-	0.0	-	0.0
Total	27*	100	27*	100	29	100	29	100

\*n=2 missing

Table 4.6 summarises the criteria used by councils to determine which local area roads are monitored. A total of 70 mentions were provided by the 29 monitoring councils. Five councils provided one criteria only; 12 provided two criteria; eight provided three criteria; four provided four criteria, and one council provided five. In all, 11 criteria were coded from council responses. The most frequently mentioned criteria for the selection of sites for monitoring was complaints received from the community, including residents, businesses and schools (83% of monitoring councils). Approximately 86% of *Urban* councils and 80% of *Non-Urban* councils that monitor mentioned this criteria. Second to this, funding applications and budget requirements were the next most frequently mentioned reason for the selection of particular monitoring sites. Interesting, not one council specifically mentioned applications to Main Roads WA to alter a speed zone as a specific reason for monitoring.

**Table 4.6 Criteria for selecting local area roads for monitoring vehicle travel speeds**

Code	Criteria	n	%*
1	Complaints from residents, businesses, school contacts	24	83.0
2	Funding applications; determining budgets	11	38.0
3	Incidence of crashes	5	17.2
4	Request from agencies such as RoadWise committee, police, MainRoads, schools	5	17.2
5	Traffic volume and counting data requirements	6	20.6
6	Policies and programs that require speed data (eg. Black Spot)	2	6.9
7	Local Government development; road changes, and planning	5	17.2
8	Monitoring of designated sites according to program	4	13.8
9	Based on road hierarchy	1	3.4
10	Heavy vehicle permit requests	1	3.4
11	Local knowledge	1	3.4

\*Percentage of n=29 monitoring councils

Of the 29 councils who monitor vehicle travel speeds, approximately one-third reporting using a list of designated monitoring sites (though only 13.8% mentioned this as a reason for monitoring particular sites, see Table 4.6). This proportion was highest for *Urban* councils (46.2%) compared with *Non-Urban* councils (21.4%). The number of designated monitoring sites ranged between seven (Plantagenet) and 1,500 (Stirling) with a median of 100 sites.

**Table 4.7 Use of list of designated monitoring sites by respondent councils**

Uses list of designated monitoring sites	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Yes	6	46.2	3	21.4	9	33.3
No	7	53.8	11	78.6	18	66.7
Total	13	100	14	100	27	100

n=2 missing

The frequency distribution of the number of sites monitored in the 2007/2008 and 2008/2009 financial years are presented in Table 4.8. Four (28.5%) of the 14 *Urban* councils and four (26.6%) of the 15 *Non-Urban* councils did not provide information on the number of sites monitored in each period. Only one monitoring council did not monitor a single site in either period. Across both periods the number of sites monitored ranged between one and 110, with 47.6% of councils monitoring between one and 10 sites in either period. Three councils –Denmark, Perth, Melville–consistently monitored 80 or more sites across both periods, while Plantagenet claimed to monitor 110 sites in 2008/2009 but only four in 2007/2008.

**Table 4.8 Distribution of sites monitored for the 2007/2008 and 2008/2009 financial years by respondent councils**

Distribution of sites monitored	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
<b>2007/2008</b>						
<b>Financial Year</b>						
nil sites	0	0.0	1	9.1	1	4.8
1-10 sites	5	50.0	6	5	10	47.6
11+ sites	5	50.0	4	45.5	10	47.6
Total	10	100	11	100	21	100
<b>2008/2009</b>						
<b>Financial Year</b>						
nil sites	0	0.0	1	9.1	1	4.8
1-10 sites	4	40.0	6	54.6	10	47.6
11+ sites	6	60.0	4	36.4	10	47.6
Total	10	100	11	100	21	100

n=8 of 29 monitoring councils missing

Only 12 monitoring councils (8 *Urban*; 4 *Non-Urban*) estimated the cost of monitoring vehicle travel speeds in the 2008/2009 financial year. The cost varied from \$1,000 for 10 sites (Waroona) to \$75,000 for 20 sites (Stirling), with a median cost of around \$17,000.

When questioned about the existence of standardised procedures for local residents to report their concerns about vehicle travel speeds and the council's response to those concerns, *Urban* councils (57%; n=8) were substantially more likely than *Non-Urban* councils (21.4%; n=3) to have in place and use standardised reporting and response procedures (Table 4.9).

**Table 4.9 Use of standardised community reporting and council response procedures by respondent councils**

Use of standardised community reporting and council response procedures	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Yes	8	57.1	3	21.4	11	39.2
No	6	42.9	11	78.6	17	60.8
Total	14	100	14	100	28	100

n=1 *Non-Urban* monitoring council missing

Unfortunately not all 11 councils with reporting and response procedures provided information about those procedures. Six councils indicated that local residents could report speeding activity either in writing, in person, via telephone, or through the completion of a web-based form. One other council (Kwinana) distributed *Neighbourhood Speed Watch* forms that could be completed and lodged with the council. With respect to how these reports are dealt with, four councils reported that resident complaints are dealt with according to specified council guidelines and policies variously known as: Local Area Traffic Management Policy; the Traffic Intervention and Investigation Guidelines, or the Traffic Management Warrants Policy. One other council (Port Hedland) indicated they may lay Metro Count equipment and alert police in response to residents' complaints.

A higher monthly frequency of complaints was received from residents in *Urban* localities compared with residents of *Non-Urban* localities (Table 4.10). This is most

likely due to the greater traffic and resident density and speeding in these areas and the greater use of standardised procedures by *Urban* councils for community reporting.

**Table 4.10 Distribution of average monthly local resident complaints about speeding**

Distribution of average monthly local resident speeding complaints	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
nil	0	0.0	2	18.2	2	8.3
< 1	0	0.0	1	9.1	1	4.2
2-9	8	61.5	7	63.6	15	62.4
10-20	2	15.4	1	9.1	3	12.5
21-40	3	23.1	0	0.0	3	12.5
Total	13	100	11	100	24	100

n=5 monitoring councils missing

Differences were also noted between *Urban* and *Non-Urban* councils in regard to the review of monitored vehicle travel speed data (Table 4.11). *Urban* councils (85.7%) were substantially more likely than *Non-Urban* councils (28.6%) to conduct a routine review of the data by a designated individual or group within council.

**Table 4.11 Respondent council use of routine review procedures for monitored vehicle travel speed data**

Routine review of monitored vehicle travel speed data	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Yes	12	85.7	4	28.6	16	57.1
No	2	14.3	10	71.4	12	42.9
Total	14	100	14	100	28	100

n=1 *Non-Urban* monitoring council missing

Councils who routinely reviewed vehicle travel speed data were asked to provide details on the review process, including who contributed to the review, how often it was undertaken, and its main purpose. The details of the council personnel or group who routinely review monitored speed data is presented in Table 4.12. Of the n=16 councils who conduct routine reviews, eleven councils reported that the reviews involved the following personnel: Technical Services personnel, Traffic Design

Engineers and associates, Roads Safety Officers, and Traffic Project and Engineering co-ordinators. Only four councils mentioned that the review was specifically undertaken by a group or collective of council staff, with only one council (Plantagenet) reporting that a RoadWise Committee contributed to the data review process.

**Table 4.12 Respondent council personnel who routinely review vehicle travel speed data**

Code	Council personnel or group who undertake the review	n	%*
1	Technical Services Officers/ Directors	3	20.0
2	Traffic Design Engineers	4	26.6
3	Road Safety Officer/s	4	26.6
4	Traffic projects and engineering co-ordinators	2	13.3
5	Fleet Management and Road Safety working group	1	6.6
6	Traffic Strategy Unit	1	6.6
7	RoadWise Steering Committee	1	6.6
8	Transport services staff	1	6.6
9	Chief Executive Officer	1	6.6

\*Percentage of n=15 councils who conduct routine reviews of speed data; n=1 missing.

Only four councils provided information on the frequency of the data review process. Two councils (Joondalup and Claremont) indicated the review was undertaken at the conclusion of each traffic ‘count’, while Mandurah claimed to undertake the process ‘frequently’ and Plantagenet every six months when the RoadWise Committee meets.

Nine councils who conducted routine reviews of the data provided information on the main purpose of the review. This limited data are summarised in Table 4.13 and shows that decision making about road engineering treatments is the most frequently reported reason for the routine review (44.4% of n=9 councils), followed by the general assessment of road speeds (33.3%).

**Table 4.13 Main purpose of the review of monitored vehicle travel speed data by respondent councils**

Code	Purpose of the speed data review process	n	%*
1	To determine potential Black Spot sites	1	11.1
2	To assess the response to resident complaints	2	22.2
3	To determine traffic treatments	4	44.4
4	To refer sites to WA Police	2	22.2
5	General assessment of road speeds	3	33.3

\*Percentage of n=9 councils who conduct routine reviews of speed data; n=6 missing.

All councils who monitor vehicle travel speeds, irrespective of how regularly they review their data, were asked to consider and endorse a range of uses for the data (Table 4.14). Across all councils, five uses were endorsed by nearly 70% or more of councils, with general archiving and monitoring being the most frequency endorsed (82.7%). This was closely followed by the use of speed data to develop traffic calming engineering works and Black Spot Treatment applications (79.3%) and to support applications to Main Roads WA for a change in posted speed limit. There were quite noticeable differences between *Urban* and *Non-Urban* councils in the use of speed data. *Urban* councils appeared to use their data far more extensively than *Non-Urban* councils, with nearly eight in 10 councils endorsing all of the listed uses with the exception of Local Government community education campaigns (57.1%). In comparison, there was considerable diversity among *Non-Urban* councils in the use of data. Eight in 10 councils used the data to support Black Spot Treatment applications with other uses being endorsed by four and six in 10 councils. Around half of *Non-Urban* councils used the data for strategic police enforcement purposes with fewer again using the data to support community road safety grant applications. Clearly, *Non-Urban* councils are not using the data as strategically as they could to support a range of other road safety initiatives, which may be due to a comparative lack of administrative support.

**Table 4.14 Use of monitored vehicle travel speed data by respondent councils**

Uses of monitored vehicle travel speed data	Respondent Council					
	Urban		Non-Urban		All	
	n	%*	n	%*	n	%*
General Archival and Monitoring	14	100	10	66.6	24	82.7
To develop engineering works programs for traffic calming	14	100	9	60.0	23	79.3
To support applications to MRWA for a change in posted speed limits	13	92.8	9	60.0	22	75.8
To support applications to, or consultation with, WA Police to undertake speed enforcement activities	12	85.7	8	53.3	20	68.9
To undertake Local Government community-based educational campaigns to lower vehicle speed limits	8	57.1	4	26.6	12	41.3
To support funding applications to MRWA for Black Spot Treatments	11	78.5	12	80.0	23	79.3
To support applications to Community Road Safety Grants Program	11	78.5	6	40.0	17	58.6
Other	3	21.4	1	6.6	4	13.7

\*Percentage of *Urban* (n=14), *Non-Urban* (n=15) and *All Councils* (n=29) that report monitoring vehicles and vehicle travel speeds

As shown in Table 3.14, respondent councils, and in particular *Urban* councils, share vehicle travel speed data with WA Police and Main Roads WA for the general purposes of speed enforcement and local road speed rezoning. Councils were subsequently asked to elaborate on *how* and *why* this sharing occurs and what *problems* there are, if any, with the process. This information, summarised below, was provided in varying depth of detail from 20 respondent councils but unfortunately did not provide much additional information.

With respect to the sharing of data with WA Police, a number of councils reported that they provided actual speed data (including Metro Count records; 85<sup>th</sup> percentile data) detailing time and location directly to police via spread sheets and/or summaries provided in a formal letter (email or otherwise). Other councils indicated that problem speeding was communicated to police via an existing RoadWise committee, while another indicated that they only communicated with police after a direct request *from* police to provide speed data. Council responses indicated that sharing of data occurred when speeding, as determined mostly by 85<sup>th</sup> percentile levels, was identified in a particular location and it was considered that police

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

enforcement was appropriate and required. Most councils did not comment on the problems or otherwise with the data sharing process. Of those that did:

- one council (Waroona) commented they had no idea if police used the data and information provided;
- two councils (Claremont; Gosnells) reported a lack of action or follow-up from police,
- another (Melville) cited the lack of technical understanding and interpretation of the data by police,
- while others (Jarrahdale; Broome) indicated there were no problems with the data sharing process.

Four of the 19 councils that provided additional information on data sharing with Main Roads WA indicated that they did not share information unless specifically requested to by Main Roads WA. The majority of councils did not specifically detail *how* the data was shared, apart from. Of those that did:

- Melville claimed to provide Main Roads WA with ‘raw data’ files;
- Busselton cited the use of the ROMAN system to share data, while,
- Plantagenet provides data via the local RoadWise Committee.

Most councils cited ‘approval requests’, such as Black Spot Treatment funding and changes in posted speed limits, as the main reasons for sharing data with Main Roads WA. Data was not otherwise readily shared. Only two councils (Melville; Broome) commented on the problems or otherwise with the data sharing process, with both claiming there were no specific problems.

#### **4.5.2 Local Government Attitudes to Speed Monitoring and Data Use**

Respondent councils’ level of agreement with five statements concerning the collection and use of vehicle travel speed data by Local Government is presented in Tables 3.15 to 3.19

Two-thirds of councils disagreed that it should be mandatory for Local Government to monitor vehicle travel speeds at least annually (Table 4.15). This proportion was slightly higher among *Urban* councils (71.4%) compared with *Non-Urban* councils

(63.2%). The varying level of speed monitoring identified thus far in the report perhaps suggests that some councils consider the requirement of annual monitoring too costly, unwarranted, and not in the best interests of their community.

**Table 4.15 It should be mandatory for Local Government to monitor vehicle travel speeds on all local area roads at least once per year**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	3	21.4	6	31.6	9	27.3
Disagree	7	50.0	5	26.3	12	36.4
Somewhat Disagree	0	0.0	1	5.3	1	3.0
Neutral/Unsure	1	7.1	3	15.8	4	12.1
Somewhat Agree	1	7.1	1	5.3	2	6.1
Agree	2	14.3	3	15.8	5	15.2
Strongly Agree	0	0.0	0	0.0	0	0.0
Total	14	100	19	100	33	100

*Urban* and *Non-Urban* councils were diametrically opposed in regard to the establishment of abiding guidelines for the analysis and reporting of vehicle travel speed data (Table 4.16). Around six in 10 *Urban* councils expressed varying levels of *agreement* with the statement, while six in 10 *Non-Urban* councils expressed varying levels of *disagreement*. Clearly *Non-Urban* councils are reluctant, perhaps because of resource implications, to abide by a reporting and analysis regime.

**Table 4.16 Abiding minimum guidelines should be established for the analysis and reporting of vehicle travel speeds by Local Government**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	0	0.0	2	10.5	2	6.3
Disagree	1	7.7	8	42.1	9	28.1
Somewhat Disagree	2	15.4	1	5.3	3	9.4
Neutral/Unsure	2	15.4	3	15.8	5	15.6
Somewhat Agree	2	15.4	1	5.3	3	9.4
Agree	6	46.2	4	21.1	10	31.3
Strongly Agree	0	0.0	0	0.0	0	0.0
Total	13	100	19	100	32	100

N= 1 missing

Council assessment of the utilisation of vehicle travel speed data in the management of speeding was mixed (Table 4.17). Around 42% of councils agreed that speed data is under-utilised, a proportion that was consistent across *Urban* (43%) and *Non-Urban* councils (42%). A similar proportion of *Urban* (43%) and somewhat lesser proportion of *Non-Urban* (36%) councils expressed varying levels of disagreement with the statement. Councils thus appear to be evenly divided in their judgement of the utilisation of speed data. Those councils that feel they under-utilise speed data perhaps do so because of a lack of resources/personnel to analyse the data and consider strategies for its use.

**Table 4.17 Vehicle travel speed data is under-utilised by Local Government to manage the problem of speeding on local roads**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	0	0.0	1	5.3	1	3.0
Disagree	4	28.6	3	15.8	7	21.2
Somewhat Disagree	2	14.3	2	10.5	4	12.1
Neutral/Unsure	2	14.3	5	26.3	7	21.2
Somewhat Agree	4	28.6	6	31.6	10	30.3
Agree	2	14.3	2	10.5	4	12.1
Strongly Agree	0	0.0	0	0.0	0	0.0
Total	14	100	19	100	33	100

The majority of councils (54%) agreed there are inadequate processes for the efficient sharing of locally collected vehicle travel speed data with agencies like Main Roads Western Australia and WA Police (Table 4.18). A higher proportion of *Urban* (64%) than *Non-Urban* councils (47%) agreed with the statement. This differential may be due to smaller *Non-Urban* councils having a less formal and closer relationship with local police and therefore a more efficient and open means of communicating speed problem areas. What is nevertheless interesting to note is that the concern expressed by councils regarding the efficient sharing of data was not necessarily reflected in the above commentary by councils when asked to elaborate on the data sharing arrangements.

**Table 4.18 At present, there are inadequate processes for the efficient sharing of locally collected vehicle travel speed information with agencies like Main Roads Western Australia and WA Police**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	0	0.0	1	5.3	1	3.0
Disagree	1	7.1	3	15.8	4	12.1
Somewhat Disagree	2	14.3	3	15.8	5	15.2
Neutral/Unsure	2	14.3	3	15.8	5	15.2
Somewhat Agree	3	21.4	3	15.8	6	18.2
Agree	3	21.4	5	26.3	8	24.2
Strongly Agree	3	21.4	1	5.3	4	12.1
Total	14	100	19	100	33	100

While 54% of councils supported the proposal to provide WA Police with a monthly listing of problem roads to assist speed enforcement activity, this support was greatest among *Urban* councils (64%) compared with *Non-Urban* councils (47.4) (Table 4.19). Again, the somewhat greater reluctance of *Non-Urban* councils to abide by a formalised regime of speed data reporting may be associated with resource implications and the reluctance to formalise what is already a reasonably productive arrangement with local agencies. Other findings to follow affirm that *Non-Urban* councils have a reasonably productive and acceptable relationship with local police for the enforcement of speeding, despite the limited administrative resources they have to undertake road safety related initiatives.

**Table 4.19 Local Government should provide to WA Police a monthly listing of problem local roads for priority speed enforcement activity**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	0	0.0	2	10.5	2	6.1
Disagree	2	14.3	4	21.1	6	18.2
Somewhat Disagree	1	7.1	1	5.3	2	6.1
Neutral/Unsure	2	14.3	3	15.8	5	15.2
Somewhat Agree	5	35.7	5	26.3	10	30.3
Agree	2	14.3	4	21.1	6	18.2
Strongly Agree	2	14.3	0	0.0	2	6.1
Total	14	100	19	100	33	100

### **4.5.3 Local Government Speed Management Activities**

Councils were asked to provide information on how they manage vehicle travel speeds on local roads, particularly in regard to the road engineering treatments and community based behavioural-educational initiatives that are employed. The findings for these questions are presented in Sections 3.1.4.1 to 3.1.4.4

#### **4.5.3.1 *The use and cost of road treatments to reduce vehicle travel speeds***

Three (9%) of the 33 respondent councils indicated that they had not undertaken road engineering treatments in the last three years to lower or calm vehicle travel speeds. One of the three councils (Koorda) claimed that speed was not an issue in the Shire, while another (Menzies) indicated they intended to purchase a Speed Alert Mobile Trailer to deal with speeding because of the closure of the local police station. The number of road treatment types used by the remaining 30 councils ranged from one to nine (of a possible 12) with a median of five treatment types used over the last three years.

The frequency distribution of each of the road engineering treatments used by councils is presented in Table 4.20. Approximately seven in 10 councils reported using Line Markings in the last three years to calm or lower vehicle travel speeds. This proportion was highest for *Urban* councils (85.7%) compared with *Non-Urban* councils (57.9%). Roundabouts were the next most frequently used treatment by *Urban* councils (78.6%) followed by Kerb Extensions for *Non-Urban* councils (47.4%). Differences between *Urban* and *Non-Urban* local area road types are a likely reason why all but three of the road treatments were endorsed by less than a third of *Non-Urban* councils compared with only two treatments (Road Closures, 14.3%; Tactile Surface Treatments, 28.6%) being endorsed by less than a third of *Urban* councils. The ‘Other’ treatments reported by two *Non-Urban* councils were not road engineering treatments per se, while the ‘Other’ treatments reported by Rockingham was for ‘raised intersections’ which could otherwise be designated as a ‘Raised Plateau’. Road Closures (9.1%) and Tactile Surface Treatments (12.1%) were the least used road treatments to reduce vehicle travel speeds in the previous three years.

With respect to the cost of treatments in the most recent financial year, 36% of councils failed to provide information while other councils submitted costs ranging from a low of \$3,500 to a high of \$3 million with a median cost of \$50,000. The considerable variation in cost leads to some concern over the validity of this information. Councils may have had some difficulty in isolating the costs for speed related treatments versus non-speed related treatments.

**Table 4.20 Road engineering treatments used in the last three years by respondent councils to calm or lower vehicle traffic speeds**

Road treatments	Respondent Council					
	Urban		Non-Urban		All	
	n	%*	n	%*	n	%*
Raised Plateau	7	50.0	4	21.1	11	33.3
Speed Hump/Cushion	10	71.4	6	31.6	16	48.5
Kerb Extension	7	50.0	9	47.4	16	48.5
Slow Points (one or two lane)	8	57.1	1	5.3	9	27.3
Centre Blisters	9	64.3	5	26.3	14	42.4
Midblock Median Treatments	9	64.3	5	26.3	14	42.4
Roundabouts	11	78.6	6	31.6	17	51.5
Tactile Surface Treatments	4	28.6	0	0.0	4	12.1
Landscaping	5	35.7	7	36.8	12	36.4
Lane Narrowing	8	42.9	4	21.1	12	36.4
Line Marking	12	85.7	11	57.9	23	69.7
Road Closure (full or partial)	2	14.3	1	5.3	3	9.1
Other	1	7.1	2	10.0	3	9.1

\*Percentage of *Urban* (n=14), *Non-Urban* (n=19) and *All Council respondents* (n=33)

Council ratings for the judged effectiveness, value for money, and public acceptance of each road treatment type used are presented in Sections 3.1.4.2 to 3.1.4.4. The ratings provided by *Urban* and *Non-Urban* councils have been combined because of the comparatively small proportion of *Non-Urban* councils that endorsed the use of various treatments. In addition, for reporting purposes the response categories have been collapsed from seven to three because of the absence of and/or minimal number of responses in many of the original response categories.

#### **4.5.3.2 The effectiveness of road treatments**

Overall, there was strong endorsement from councils for the effectiveness for all road treatments to reduce vehicle travel speeds (Table 4.21). Closer inspection of council ratings showed that Roundabouts were judged to be the *most* effective, with 44% of councils considering them to be *Very Effective*. The one exception to the strong

endorsement of the effectiveness of all treatment types was Tactile Surface Treatments. Around a third of councils who reported using this treatment rated it *Very Ineffective to Somewhat Ineffective*, while another third were *Unsure* of this treatment’s effectiveness. This rating perhaps explains the limited use of this treatment by councils.

**Table 4.21 Respondent council ratings of the ‘effectiveness’ of individual road engineering treatments used to calm or lower vehicle travel speeds**

Road Treatment		‘Effectiveness’			Total
		Very Ineffective-Somewhat Ineffective	Unsure/Don’t Know	Somewhat Effective-Very Effective	
Raised Plateau	n	0	4	11	15
	%	0.0	26.7	73.3	100
Speed Hump/Cushion	n	1	1	12	14
	%	7.1	7.1	85.7	100
Kerb Extension	n	2	1	13	16
	%	12.5	6.3	81.3	100
Slow Points	n	0	1	10	11
	%	0.0	9.1	90.9	100
Centre Blisters	n	1	1	12	14
	%	7.1	7.1	85.7	100
Midblock Median	n	3	0	14	17
	%	17.6	0.0	82.4	100
Roundabouts	n	0	0	18	18
	%	0.0	0.0	100	100
Tactile Surface Treatments	n	2	2	2	6
	%	33.3	33.3	33.3	100
Landscaping	n	2	2	10	14
	%	14.3	14.3	71.4	100
Lane Narrowing	n	0	0	13	13
	%	0.0	0.0	100	100
Line Marking	n	2	3	19	24
	%	8.3	12.5	79.2	100
Road Closure	n	0	1	5	6
	%	0.0	16.7	83.3	100

**4.5.3.3 The value for money of road treatments**

With the exception of Tactile Surface Treatments, two-thirds and more of councils rated all road treatments as *Reasonable to Very Good Value for Money* as an option to reduce vehicle travel speeds (Table 4.22). Closer inspection of the data revealed that Speed Humps/Cushions (28.6%) and Roundabouts (22%) received the highest endorsement of *Very Good Value for Money* from councils. Although only a small

number of councils claimed to use Tactile Surface Treatments, half rated it as a *Very Poor* to *Limited Value for Money* option, with another third unsure of its value.

**Table 4.22 Respondent council ratings of the ‘value for money’ of individual road engineering treatments used to calm or lower vehicle travel speeds**

Road Treatment		‘Value for Money’			Total
		Very Poor-Limited Value	Unsure/Don’t Know	Reasonable-Very Good Value	
Raised Plateau	n	0	3	11	14
	%	0.0	21.4	78.6	100
Speed Hump/Cushion	n	2	1	11	14
	%	14.3	7.1	78.6	100
Kerb Extension	n	0	0	15	15
	%	0.0	0.0	100	100
Slow Points	n	1	2	8	11
	%	9.1	18.2	72.7	100
Centre Blisters	n	1	0	13	14
	%	7.1	0.0	92.9	100
Midblock Median	n	3	0	13	16
	%	9.1	0.0	81.3	100
Roundabouts	n	1	0	17	18
	%	5.6	0.0	94.4	100
Tactile Surface Treatments	n	3	2	1	6
	%	50.0	33.3	16.7	100
Landscaping	n	1	2	11	14
	%	7.1	14.3	78.6	100
Lane Narrowing	n	0	0	12	12
	%	0.0	0.0	100	100
Line Marking	n	0	3	20	23
	%	0.0	13.0	87.0	100
Road Closure	n	0	2	4	6
	%	0.0	33.3	66.7	100

#### **4.5.3.4 The public acceptance of road treatments**

Only three road treatments were considered by a quarter or more of councils to be relatively unacceptable to the public as a speed reduction measure (Table 4.23). Road Closures were judged least acceptable, with two-thirds of councils who use this treatment rating it as *Totally to Somewhat Unacceptable to the public*, perhaps because of the disruption and frustration to drivers caused by re-routing. Next, around three in 10 councils who used Speed Humps/Cushions and Raised Plateaus considered them to be unacceptable to varying degrees. The highest acceptability rating was provided for Line Marking (95.7%), with nearly three in 10 councils who

use this treatment rating it as *Totally Acceptable*. Why certain treatments are more or less acceptable (e.g., frustration, ease and comfort of travel) and to *whom* (e.g., local residents *versus* non-resident road users) requires further investigation.

**Table 4.23 Respondent council ratings of the ‘public acceptance’ of individual road engineering treatments used to calm or lower vehicle travel speeds**

Road Treatment		‘Public Acceptance’			Total
		Totally-Somewhat Unacceptable	Unsure/Don’t Know	Somewhat-Totally Acceptable	
Raised Plateau	n	4	1	9	14
	%	28.6	7.1	64.3	100
Speed Hump/Cushion	n	4	0	9	13
	%	30.8	0.0	69.2	100
Kerb Extension	n	1	1	14	16
	%	6.3	6.3	87.5	100
Slow Points	n	1	2	10	13
	%	7.7	15.4	76.9	100
Centre Blisters	n	0	1	13	14
	%	0.0	7.1	92.9	100
Midblock Median	n	2	0	14	16
	%	12.5	0.0	87.5	100
Roundabouts	n	1	0	17	18
	%	5.6	0.0	94.4	100
Tactile Surface Treatments	n	1	2	4	7
	%	14.3	28.6	57.1	100
Landscaping	n	0	1	13	14
	%	0.0	7.1	92.9	100
Lane Narrowing	n	0	3	9	12
	%	0.0	25.0	75.0	100
Line Marking	n	0	1	22	23
	%	0.0	4.3	95.7	100
Road Closure	n	4	1	1	6
	%	66.7	16.7	16.7	100

**4.5.3.5 The use and cost of behavioural and educational measures to reduce vehicle travel speeds**

Of the seven behavioural and educational initiatives listed to reduce vehicle travel speeds, five councils (Menzies, Koorda, Manjimup, Boyup Brook and Capel) failed to endorse one or more of these initiatives. Menzies stated however, that it was intending to purchase a Speed Alert Mobile Trailer, while Capel reported having supported the Youth Driver Development Program in the previous three years. Boyup Brook indicated that they had not initiated behavioural and educational

programs because speeding was not a problem in their area, while Koorda claimed that behavioural and educational initiatives to reduce speeding were “not a high priority for the council”. Among the remaining 28 councils, the number of behavioural and educational initiatives used by councils to reduce vehicle travel speeds ranged from a low of one to a maximum of six, with a median of two initiatives.

The frequency distribution for each of the behavioural and educational initiatives used by councils in the last three years is presented in Table 4.24. Overall, around six in 10 councils reported the use of Speed Alert Trailers and Co-operative arrangements with WA Police for enhanced speed enforcement. For both initiatives the proportion was highest among *Urban* as opposed *Non-Urban* councils. Second to this, Print Media initiatives (such as the distribution of pamphlets, brochures and stickers) were reported by six in 10 *Urban* councils and four in 10 *Non-Urban* councils. These differences are most likely due to the differing levels of resourcing within *Urban* and *Non-Urban* councils to cover road safety initiatives. The ‘Other’ speed reduction initiatives to be reported include the ‘Commemoration of Road Victims’ (Gosnells); ‘Drive Safe Kids in Cars’, and the ‘Youth Driver Development Program’ (Capel).

**Table 4.24 Behavioural-educational initiatives used in the last three years by respondent councils to calm or lower vehicle traffic speeds**

Behavioural-educational initiatives	Respondent Council					
	Urban		Non-Urban		All	
	n	%*	n	%*	n	%*
Speed Alert Mobile Trailers to advise drivers of their travel speed	12	85.7	10	52.6	22	66.7
Print Media (eg., pamphlets, stickers) encouraging safe travel speeds	9	64.3	8	42.1	17	51.5
Community Commitment programs and accords to pledge safe driving	3	21.4	2	10.5	5	15.2
Programs to encourage reporting of speeding and hoon behaviour	10	71.4	0	0.0	10	30.3
Co-operative arrangements with WA Police for enhanced speed enforcement	10	71.4	10	52.6	20	60.6
Workshops and speaker programs to educate residents about safe travel speeds	2	14.3	1	5.3	3	9.1
Web based material about safe travel speed	1	7.1	0	0.0	1	3.0
Other	1	7.1	2	10.5	3	9.0

\*Percentage of *Urban* (n=14), *Non-Urban* (n=19) and *All Council respondents* (n=33)

Council ratings of the effectiveness, value for money and public acceptance of the behavioural and educational initiatives are presented in the following sections. Once again the ratings of *Urban* and *Non-Urban* councils have been combined and the response categories collapsed because of low response numbers.

#### 4.5.3.6 *The effectiveness of behavioural and educational initiatives*

The highest ratings of effectiveness were provided for initiatives that directly target real-time, on-road speeding behaviour, such as the use of Speed Alert Mobile Trailers (82.6%) and co-operative arrangements with police to conduct enhanced enforcement (95.2%) (Table 4.25). Community Commitment Pledge type programs were rated least effective, with 33.3% of councils that used this initiative considering the programs to be *Very* to *Somewhat Ineffective*. This judgement was however, based on a very small number of responses. Given the difficulty of directly measuring the impact of some behavioural-educational initiatives on speeding behaviour, it was not surprising that some councils were unsure of the effectiveness of this type of initiative.

**Table 4.25 Respondent council ratings of the ‘effectiveness’ of individual behavioural-educational initiatives used to calm or lower vehicle travel speeds**

Behavioural/educational initiative		Effectiveness			Total
		Very Ineffective-Somewhat Ineffective	Unsure/Don't Know	Somewhat Effective-Very Effective	
Speed Alert Mobile Trailers to advise drivers of their travel speed	n	2	2	19	23
	%	8.7	8.7	82.6	100
Print Media (eg., pamphlets, stickers) encouraging safe travel speeds	n	3	6	12	21
	%	14.3	28.6	57.1	100
Community Commitment programs and accords to pledge safe driving	n	3	2	4	9
	%	33.3	22.2	44.5	100
Programs to encourage reporting of speeding and hoon behaviour	n	1	4	6	11
	%	9.0	36.4	54.6	100
Co-operative arrangements with WA Police for enhanced speed enforcement	n	0	1	20	21
	%	0.0	4.8	95.2	100
Workshops and speaker programs to educate residents about safe travel speeds	n	0	5	3	8
	%	0.0	62.5	37.5	100
Web based material about safe travel speed	n	0	3	1	4
	%	0.0	75.0	25.0	100

#### **4.5.3.7 The value for money of behavioural and educational initiatives**

Consistent with the findings for the efficacy of initiatives, ‘on-road’ behavioural initiatives such as co-operative arrangements with police received the strongest endorsement for value for money (Table 4.26). Eighteen (90%) of the 21 councils employing this initiative considered it to be *Reasonable to Very Good Value for Money*, with seven of the 18 rating it as *Very Good Value for Money*. Second to this, nearly 73% of councils that employ Speed Alert Mobile Trailers considered the initiative to have value for money. Interestingly, seven of the 10 councils that run programs to encourage the reporting of speed and hoon behaviour considered these programs good for value for money, perhaps because they require few resources to implement and run and can be easily measured via the number of complaints received. Once again, a number of councils were rightly unsure of the value for money of other community based initiatives (e.g. Print Media, Speed Pledge

Programs) given the assumed difficulty of measuring the impact of these programs on speeding behaviour.

**Table 4.26 Respondent council ratings of the ‘value for money’ of behavioural-educational initiatives used to calm or lower vehicle travel speeds**

Behavioural/educational initiative		Value for Money			Total
		Very Poor-Limited Value	Unsure/Don't Know	Reasonable-Very Good Value	
Speed Alert Mobile Trailers to advise drivers of their travel speed	n	4	2	16	22
	%	18.1	9.1	72.8	100
Print Media (e.g., pamphlets, stickers) encouraging safe travel speeds	n	3	5	12	20
	%	15.0	25.0	60.0	100
Community Commitment programs and accords to pledge safe driving	n	1	3	4	8
	%	12.5	37.5	50.0	100
Programs to encourage reporting of speeding and hoon behaviour	n	1	2	7	10
	%	10.0	20.0	70.0	100
Co-operative arrangements with WA Police for enhanced speed enforcement	n	1	1	18	21
	%	5.0	5.0	90.0	100
Workshops and speaker programs to educate residents about safe travel speeds	n	0	4	3	8
	%	0.0	57.1	32.3	100
Web based material about safe travel speed	n	0	3	1	4
	%	0.0	75.0	25.0	100

**4.5.3.8 The public acceptance of behavioural and educational initiatives**

Initiatives that directly target on-road speeding behaviour (e.g., Speed Alert Mobile Trailers; police enforcement programs) and those that provide the community with an opportunity to report speeding offenders were rated as having relatively strong public acceptance (Table 4.27). In particular, nearly one-third of councils that use Speed Alert Mobile Trailers and those that have co-operative arrangements with police for enhanced enforcement rated these initiatives as *Totally Acceptable* to the public. Unlike the road treatment engineering treatments, there was no behavioural or educational initiative to reduce vehicle travel speeds that was seen to be substantially unfavourable with the public, perhaps because initiatives like community educational programs do not adversely affront the public or influence or disrupt local driving

behaviour in the way road closures and speed humps/cushions might. Conversely, their low impact on the community also means they are likely to be less effective.

**Table 4.27 Respondent council ratings of the ‘public acceptance’ of behavioural-educational initiative used to calm or lower vehicle travel speeds**

Behavioural/educational initiative		Public Acceptance			Total
		Totally-Somewhat Unacceptable	Unsure/Don't Know	Somewhat-Totally Acceptable	
Speed Alert Mobile Trailers to advise drivers of their travel speed	n	1	0	21	22
	%	4.5	0.0	95.5	100
Print Media (e.g., pamphlets, stickers) encouraging safe travel speeds	n	1	3	16	20
	%	5.0	15.0	80.0	100
Community Commitment programs and accords to pledge safe driving	n	1	1	6	8
	%	12.5	12.5	75.0	100
Programs to encourage reporting of speeding and hoon behaviour	n	0	1	9	10
	%	0.0	10.0	90.0	100
Co-operative arrangements with WA Police for enhanced speed enforcement	n	3	0	17	20
	%	15.0	0.0	85.0	100
Workshops and speaker programs to educate residents about safe travel speeds	n	0	3	3	6
	%	0.0	50.0	50.0	100
Web based material about safe travel speed	n	0	2	1	3
	%	0.0	66.7	33.3	100

#### 4.5.4 Local Government Area Speed Zoning

The frequency distribution of speed zones that apply in each of the respondent council areas is presented in Table 4.28. Fifty and 60km/h speed zones were most common across all councils. As to be expected, there was a distinct pattern of zoning across *Urban* and *Non-Urban* councils with the latter reporting a higher proportion of maximum speed (110km/h) and delimited zones.

**Table 4.28 Respondent council local area speed zones**

Local area speed zones (Km/h)	Respondent Council					
	Urban		Non-Urban		All	
	n	%*	n	%*	n	%*
30	2	14.3	0	0.0	2	6.1
40	13	92.9	11	57.9	24	72.7
50	14	100	18	94.7	32	97.0
60	14	100	16	84.2	30	90.9
70	11	78.6	12	63.2	23	69.7
80	9	64.3	15	78.9	24	72.7
90	6	42.9	14	73.7	20	60.6
100	7	50.0	13	31.6	13	39.4
110	4	28.6	17	89.5	21	63.6
Speed Delimited	4	28.6	10	52.6	14	42.4
Variable Speed Zoning	3	21.4	3	15.8	6	18.2

\*Percentage of *Urban* (n=14), *Non-Urban* (n=19) and *All Council respondents* (n=33)

Council satisfaction with the credibility and appropriateness of their local area speed zoning is presented in Table 4.29. Nearly seven in 10 councils indicated they were *Mostly to Very Satisfied* with their local road speed zones, though this proportion was somewhat higher for *Non-Urban* than *Urban* councils (73.7% versus 57.1%). Greatest dissatisfaction was reported by *Urban* councils, with just under 30% claiming to be *Somewhat Dissatisfied*.

**Table 4.29 Respondent council satisfaction with the appropriateness and credibility of local area speed zones**

Satisfaction	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Very Dissatisfied	0	0.0	0	0.0	0	0.0
Mostly Dissatisfied	0	0.0	0	0.0	0	0.0
Somewhat Dissatisfied	4	28.6	3	15.8	7	21.2
Unsure/ Don't Know	0	0.0	0	0.0	0	0.0
Somewhat Satisfied	2	14.3	2	10.5	4	12.1
Mostly Satisfied	8	57.1	12	63.2	20	60.6
Very Satisfied	0	0.0	2	10.5	2	6.1
Total	14	100	19	100	33	100

When questioned about their applications to Main Roads WA in the last three years to either *increase* or *decrease* the posted speed zone of a local road, two *Urban* and two *Non-Urban* councils had made one application each to *increase* the speed limit with two of the four applications being successful.

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

The frequency of applications to *decrease* a posted speed zone, and the percentage approved, is presented in Table 4.30. Approximately 31% of *Urban* and 25% of *Non-Urban* councils had not submitted an application in the last three years. Of the 21 councils that had submitted an application, the minimum number of applications was one with a maximum of eight and a median of two applications for both *Urban* and *Non-Urban* councils.

The proportion of successful applications varied across *Urban* and *Non-Urban* councils. Forty-four percent of *Urban* councils who submitted an application indicated that none had been approved, with another third indicating that all applications had been approved. In contrast, only 25% of submitting *Non-Urban* councils indicated zero success, with just under six in 10 reporting 100% approval. Overall, nearly half of all submitting councils had achieved a reduction in the posted speed limit for each and every application.

**Table 4.30 Frequency distribution of the number of applications made by respondent councils in the previous three years to reduce a posted speed limit and the percentage approved by Main Roads WA**

Number of applications to decrease the posted speed limit	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
0	4	30.8	4	25.0	8	27.6
1	1	7.7	4	25.0	5	17.2
2	3	23.1	0	0.0	3	10.3
3	2	15.4	7	43.8	9	31.0
4	2	15.4	0	0.0	2	6.9
5	1	7.7	0	0.0	1	3.4
8	0	0.0	1	6.3	1	3.4
Total	13	100	16	100	29*	100
<b>Percentage of total council applications approved</b>						
0	4	44.4	3	25.0	7	33.3
25	1	11.1	0	0.0	1	4.8
66	0	0.0	1	8.3	1	4.8
67	1	11.1	0	0.0	1	4.8
87	0	0.0	1	8.3	1	4.8
100	3	33.3	7	58.3	10	47.6
Total	9	100	12	100	21	100

n=4 missing

With respect to the speed zone change application process, the majority of councils expressed moderate to strong belief in the appropriateness of Local Government having to apply to Main Roads WA (Table 4.31). Around eight in 10 councils considered the application process to be *Somewhat* to *Totally Appropriate*. Interestingly, 90% of n=10 councils that had *not* made an application to Main Roads WA in the last three years to change a local road speed limit also rated the application process as *Somewhat* to *Totally Appropriate*. Differences were also noted between *Urban* and *Non-Urban* councils, with *Urban* councils strongly endorsing the appropriateness of the application process. Forty-three percent of *Urban* councils considered the process to be *Totally Appropriate* compared with 28% of *Non-Urban* councils. Clearly *Non-Urban* councils are comparatively less committed to the process but stop short of dismissing the process out of hand.

**Table 4.31 Respondent council ratings of the appropriateness of the Main Roads WA application process to change local area road speed zones**

Appropriateness	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Totally Inappropriate	0	0.0	1	5.6	1	3.1
Mostly Inappropriate	0	0.0	0	0.0	0	0.0
Somewhat Inappropriate	3	21.4	2	11.1	5	15.6
Unsure/ Don't Know	0	0.0	0	0.0	0	0.0
Somewhat Appropriate	1	7.1	4	22.2	5	15.6
Mostly Appropriate	4	28.6	6	33.3	10	31.3
Totally Appropriate	6	42.9	5	27.8	11	34.4
Total	14	100	18	100	32	100

n= 1 missing

When asked to justify their reasons for rating the process as appropriate or inappropriate, there was minimal agreement among the councils who criticised the process and reasonably good agreement among those who supported the process. Three councils (2 *Non-Urban*; 1 *Urban*) considered that Main Roads WA's 'local knowledge' of the problem was limited, hence local councils should adjudicate the need for change; a further four councils commented that the application was 'too long' or too complex, while one other commented that local ratepayers would better accept the decisions of local councils than that of Main Roads WA.

Eleven councils endorsed the application process because Main Roads WA was thought to have the experience, expertise and resources to make the most appropriate decision. Fourteen councils also considered that the process created consistency and standardisation for speed zoning, while one other identified the impartiality of Main Roads WA as a positive issue.

While the vast majority of councils considered the Main Roads WA application process to be an appropriate one, there was less endorsement of the process as an *efficient* one (Table 4.32), particularly among *Urban* councils. Just under six in 10 councils considered the process to be *Somewhat* to *Very Efficient*, with *Non-Urban* councils (72.2%) twice as likely as *Urban* councils (35.6%) to rate the process as efficient. *Non-Urban* councils may have reservations about the appropriateness of the

application process but they nevertheless consider the process to be relatively efficient. Of the councils who had not made an application in the previous three years, 73% rated the process as efficient, while 27% were unsure or unable to rate the efficiency. This finding, and the preceding, undermines any suggestion that councils who failed to make an application did so because of concerns about the appropriateness and efficiency of the application process.

**Table 4.32 Respondent council ratings of the efficiency of the Main Roads WA application process to change local area road speed zones**

Efficiency	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Very Inefficient	0	0.0	0	0.0	0	0.0
Mostly Inefficient	2	14.3	2	11.1	4	12.5
Somewhat Inefficient	4	28.6	3	16.7	7	21.9
Unsure/ Don't Know	3	21.4	0	0.0	3	9.4
Somewhat Efficient	1	7.1	2	11.1	3	9.4
Mostly Efficient	3	21.4	8	44.4	11	34.4
Very Efficient	1	7.1	3	16.7	4	12.5
Total	14	100	18	100	32	100

n= 1 missing

Councils provided a diverse range for reasons for considering the application process to be an efficient one. Reasons for its efficiency included:

- the process being external to local council and therefore less likely to be biased or influenced;
- being 'economical';
- thorough, quickly resolved, and consistent response because there is one authority;
- a 'self-explanatory' process, and,
- appropriately staffed and resourced.

In contrast, councils who considered the process to be inefficient mostly cited the length of time required to process applications and the complexity of the application process. Other councils cited, as previously mentioned, Main Roads WA's lack of 'local knowledge' as contributing to the inefficiency of the process. Clearly some councils are under-resourced or even under-trained to undertake the application

process and perhaps resentful that decisions about local zoning are being undertaken by those outside the community.

Respondent council agreement with the options of (i) independent autonomy and (ii) shared responsibility (with Main Roads WA) to reclassify the speed limits of local roads are respectively presented in Tables 4.33 and 4.34. Just under two-thirds of all councils *disagreed* that Local Government should have independent autonomy, with *Urban* councils being more strongly opposed than *Non-Urban* councils (42.9% *versus* 26.3% *Strongly Disagree*).

**Table 4.33 Do you agree that Local Government should have independent autonomy to reclassify local area speed zones?**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	6	42.9	5	26.3	11	33.3
Disagree	3	21.4	6	31.6	9	27.3
Somewhat Disagree	1	7.1	0	0.0	1	3.0
Neutral/Unsure	0	0.0	1	5.3	1	3.0
Somewhat Agree	2	14.3	4	21.1	6	18.2
Agree	2	14.3	3	15.8	5	15.2
Strongly Agree	0	0.0	0	0.0	0	0.0
Total	14	100	19	100	33	100

In contrast to the above finding, there were was considerable support among councils for Local Government to share the responsibility with Main Roads WA to reclassify local area speed zones. Approximately 73% of councils agreed with this position, with agreement being somewhat stronger among *Non-Urban* than *Urban* councils (47.5% *versus* 28.5% *Agree to Strongly Agree*).

**Table 4.34 Do you agree that Local Government should share responsibility with Main Roads WA to reclassify local area speed zones?**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	0	0.0	3	15.8	3	9.1
Disagree	3	21.4	3	15.8	6	18.2
Somewhat Disagree	0	0.0	0	0.0	0	0.0
Neutral/Unsure	0	0.0	0	0.0	0	0.0
Somewhat Agree	7	50.0	4	21.1	11	33.3
Agree	3	21.4	7	36.8	10	30.3
Strongly Agree	1	7.1	2	10.5	3	9.1
Total	14	100	19	100	33	100

Councils who *disagreed* that Local Government should have speed zoning responsibility cited again the need for one authority to enforce a consistent zoning standard. Second to this, councils made mention again of the lack of technical skill, resources and expertise as reason why councils should not have responsibility for speed zoning. These two themes feature quite strongly across the survey as reasons why councils support Main Roads WA as the sole, authorising authority on speed zoning.

Among the councils who *agreed* that Local Government should have speed zoning responsibility, the predominant reason related to their belief in the importance of local knowledge, which they consider Main Roads WA does not have, to determine the appropriateness of speed limits. Obviously these councils feel Main Roads WA does not appreciate or understand local issues, or that they (councils) are unable to effectively convey the nature of these local issues in the application process. Other cited reasons for councils having speed zoning responsibility include the ability to ‘speed up’ the speed zoning change process and the ability to be innovative with speeding zoning.

#### **4.5.5 Speed Enforcement on Local Government Area Roads**

Council ratings of the level of co-operation with WA Police in determining the local area sites for speed enforcement activity are presented in Table 4.35. Nearly 50% of councils indicated there was *Good to Very Good Co-operation* between council and WA Police, with another 45% rating the level of co-operation as *Minimum* to

*Moderate*. Council ratings also suggest that co-operation is somewhat greater among *Non-Urban* councils compared with *Urban* councils (56.3% versus 38.5% *Good to Very Good Co-operation*). Only two councils (Claremont; Waroona) indicated there was no co-operation at all between council and police for the determination of enforcement sites.

**Table 4.35 How would you rate the level of co-operation between your Local Government and the WA Police in determining the locations of speed enforcement activity by police on Local Government area roads?**

Cooperation	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
No co-operation at all	1	7.7	1	6.3	2	6.9
Minimum level of co-operation	5	38.5	4	25.0	9	31.0
Moderate level of co-operation	2	15.4	2	12.5	4	13.8
Good level of co-operation	4	30.8	7	43.8	11	37.9
Very good level of co-operation	1	7.7	2	12.5	3	10.3
Unsure/ don't know	0	0.0	0	0.0	0	0.0
Total	13	100	16	100	29	100

n= 4 missing

Councils also reported a reasonably good level of co-operation with police in determining the *frequency* of enforcement (Table 4.36). Fifty percent of councils rated the co-operation as *Moderate to Good*, with another third considering the co-operation to be *Minimal*. Three councils (Claremont; Waroona; Esperance) (10%) reported there was no co-operation at all. Once again, the level of co-operation between council and WA Police was somewhat stronger for *Non-Urban* than *Urban* councils, with 56% of the former rating co-operation as *Moderate to Good* compared with 42.9% of *Urban* councils. This differential, and the one noted above, adds further support to the belief that *Non-Urban* councils are able to establish effective working relationships with local road safety related agencies despite being comparatively under resourced in areas such as the employment of dedicated Road Safety Officers.

Councils were somewhat divided in their suggestions and opinions for improving co-operation between WA Police and councils to determine both the location and frequency of speed enforcement. In the first instance two councils considered that

police were in the best position to determine ‘their own requirements’ which suggests they did not necessarily seek to change the current level of co-operation.

Other councils considered that co-operation could be improved through:

- an increase in effective communication between WA Police and councils, including the appointment of Local Government liaison officers, face to face meeting monthly or quarterly, and the establishment of a formal enforcement request process;
- the commitment of additional resources by both the WA Police and the State government, and if
- Local Government had permission to conduct their own enforcement activities on local roads.

These last two comments do not particularly address the issue of co-operation between council and police per se but how the general frequency of enforcement could be increased. This is addressed following Table 4.38.

**Table 4.36 How would you rate the level of co-operation between your Local Government and the WA Police in determining the frequency of speed enforcement activity by police on Local Government area roads?**

Cooperation	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
No co-operation at all	1	7.1	2	12.5	3	10.0
Minimum level of co-operation	7	50.0	4	25.0	11	36.7
Moderate level of co-operation	2	14.3	1	6.3	3	10.0
Good level of co-operation	4	28.6	8	50.0	12	40.0
Very good level of co-operation	0	0.0	1	6.3	1	3.3
Unsure/ don't know	0	0.0	0	0.0	0	0.0
Total	14	100	16	100	30	100

n= 3 missing

Only 11 (3 Urban; 8 Non-Urban) of the 33 councils provided an estimate of the average number of days per fortnight of police enforcement of speeding on Local Government area roads in the preceding 12 months. The average number of days ranged from zero (Menzies) to 14 (Busselton), with a median of four days per fortnight.

Approximately six in 10 respondent councils reported that they were *Somewhat* to *Very Satisfied* with the level of police speed enforcement, with a further 19.4% being unsure (Table 4.37). A substantial difference in satisfaction was noted across locations with *Non-Urban* councils (76.5%) reporting substantially greater satisfaction than *Urban* councils (42.8%).

**Table 4.37 How satisfied is your Local Government with the level of police speed enforcement that occurs on a fortnightly basis in your Local Government area?**

Satisfaction	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Very Dissatisfied	0	0.0	0	0.0	0	0.0
Mostly Dissatisfied	3	21.4	0	0.0	3	9.7
Somewhat Dissatisfied	3	21.4	0	0.0	3	9.7
Unsure/ Don't Know	2	14.3	4	23.5	6	19.4
Somewhat Satisfied	3	21.4	4	23.5	7	22.6
Mostly Satisfied	1	7.1	7	41.2	8	25.8
Very Satisfied	2	14.3	2	11.8	4	12.9
Total	14	100	17	100	31	100

n= 2 missing

In addition to the noted variation in satisfaction by location of respondent council, satisfaction was noted to differ between councils who reported on the frequency of enforcement activity and those that did not (Table 4.38). Of the councils who were able to estimate the average number of day of enforcement per fortnight, approximately 82% were *Somewhat* to *Very Satisfied* with the level of enforcement. Twenty of the 22 respondent councils that were unable to or chose not to provide an estimate of the frequency of enforcement nevertheless rated their satisfaction with the level of enforcement. For this group 25% were unsure of their council's level of satisfaction, while 50% indicated their council was *Somewhat* to *Very Satisfied*, despite not being able to or choosing not to report the frequency of fortnightly police enforcement.

**Table 4.38 Satisfaction with the level of fortnightly police speed enforcement for respondent councils that provided and did not provide an estimate of the average number of days of enforcement**

Satisfaction	Respondent Council					
	Estimate provided of average number of day of enforcement		No estimate provided of the average number of days of enforcement		All	
	n	%	n	%	n	%
Very Dissatisfied	0	0.0	0	0.0	0	0.0
Mostly Dissatisfied	1	9.1	2	10.0	3	9.7
Somewhat Dissatisfied	0	0.0	3	15.0	3	9.7
Unsure/ Don't Know	1	9.1	5	25.0	6	19.4
Somewhat Satisfied	2	18.2	5	25.0	7	22.6
Mostly Satisfied	5	45.5	3	15.0	8	25.8
Very Satisfied	2	18.2	2	10.0	4	12.9
Total	11	100	20	100	31	100

n=2 missing

When asked to justify their satisfaction or dissatisfaction with the current level of enforcement in their local area, *satisfied* councils cited the positive and appropriate response of police when problem speeding was brought to their attention and their visibility through the use of speed camera and laser gun operations. One other council (Joondalup) cited the close and productive relationship with the local police area group, which included bi-monthly meetings. Councils who were *dissatisfied* with the level of enforcement made mention of:

- the lack of focus by police on local roads compared with ‘major highways’ and ‘higher order’ roads;
- the non-existent or limited feedback from police regarding how much enforcement activity is conducted and how successful it is, and,
- the ‘low profile’ of police on local area roads.

Some of the comments from councils who are *dissatisfied* with the current level of local enforcement appear to reinforce an emerging theme of ‘communication problems’ with police, including a lack of feedback about issues such as police activity within the Local Government area.

A number of councils (n=17) also provided suggestions as to how police enforcement of speeding on Local Government roads could be increased. There was

very strong agreement among councils for an increase in police numbers and presence on the road as a solution, followed by the adoption of more strategic enforcement based on local speed data (from council). One council suggested the utilisation of combined red-light and speed cameras, while two councils (Gosnells; Mandurah) suggested that Local Government should be allowed to undertake enforcement (in line with other council enforcement activities such as parking) as a solution to the lack of police resources for enforcement.

Council ratings of the effectiveness of police enforcement of speeding in their Local Government area are presented in Table 4.39. Around 64% of councils considered police enforcement to be *Somewhat to Very Effective* in reducing speeding on local roads with 24% rating it *Somewhat to Very Ineffective*. Again, these ratings differed between *Urban* and *Non-Urban* councils with the latter group of councils strongly endorsing the effectiveness of police enforcement (47.3% versus 7.1% *Mostly to Very Effective*). There are a number of possible reasons for this differential.

**Table 4.39 How would you rate the effectiveness of the current level of police enforcement to reduce speeding in your Local Government area?**

Effectiveness	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Very Ineffective	1	7.1	0	0.0	1	3.0
Mostly Ineffective	0	0.0	1	5.3	1	3.0
Somewhat Ineffective	5	35.7	1	5.3	6	18.2
Unsure/ Don't Know	1	7.1	3	15.8	4	12.1
Somewhat Effective	6	42.9	5	26.3	11	33.3
Mostly Effective	0	0.0	7	36.8	7	21.2
Very Effective	1	7.1	2	10.5	3	9.1
Total	14	100	19	100	33	100

When asked to suggest how the *effectiveness* of police enforcement of speeding on Local Government roads could be improved, five of 19 councils reiterated previously identified suggestions for increasing the *frequency* of enforcement: more police and the increased visibility of police. While an increased frequency of activity *may* contribute to greater effectiveness of enforcement, other councils appreciate that effectiveness can be improved through more strategic and targeted operations. For

example, a number of councils expressed the need to undertake enforcement activities:

- on local distributor roads;
- at irregular times and dates;
- at night;
- during peak periods;
- across varying locations, and,
- to have input into the placement of ‘speed traps’.

Once again, Gosnells extolled the benefits of allowing Local Government to conduct speed enforcement as a means of increasing the effectiveness of local enforcement, particularly if police refused to commit to increased enforcement on local roads.

Following on from the expressed desire by some councils to undertake the enforcement of speeding, all councils were asked to rate their level of support for Local Government having authority to legally enforce (in conjunction with police) posted speed limits on local area roads. Support for this among the respondent councils was mixed (Table 4.40). Close to 49% of councils disagreed (*Somewhat to Strongly Disagree*) with the proposition, with 36.4% agreeing (*Somewhat to Strongly Agree*) that Local Government should be authorised to legally enforce speed limits on local area roads. Around 15% of councils were neutral or unsure about the proposal. Support for the proposition was somewhat stronger among *Urban* councils (42.9%) compared with Non-Urban councils (31.6%).

**Table 4.40 Do you agree that Local Government should have authority, in conjunction with police, for the legal enforcement of speed limits on Local Government area roads?**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	1	7.1	6	31.6	7	21.2
Disagree	3	21.4	3	15.8	6	18.2
Somewhat Disagree	2	14.3	1	5.3	3	9.1
Neutral/Unsure	2	14.3	3	15.8	5	15.2
Somewhat Agree	2	14.3	2	10.5	4	12.1
Agree	2	14.3	3	15.8	5	15.2
Strongly Agree	2	14.3	1	5.3	3	9.1
Total	14	100	19	100	33	100

The ‘barriers’ and ‘enablers’ identified by councils for Local Government enforcement of speeding are discussed below. Respondents focussed more on the ‘barriers’ to enforcement (Table 4.41), of which a lack of ‘resources’ was the most frequently mentioned (56.5% of councils) but not well elaborated. Another ‘resource’ related concern was the lack of trained and skilled staff to undertake enforcement. Together, these comments suggest that councils are clearly concerned that they would not have the necessary finances and personnel to support enforcement activity and that the cost of equipment (i.e., Multanova cameras as cited by Trayning) and training (as cited by Dalwallinu) are legitimate concerns. The second major barrier cited by councils relates to the current lack of legislation to support Local Government enforcement of speeding (34.8% of councils). This issue was highlighted in the preceding review of the management and enforcement of speeding in Western Australia. Somewhat related to this was the bureaucratic, if not moral, position of councils that enforcement should not be a Local Government responsibility but a State one.

**Table 4.41 Barriers identified by respondent councils to local government enforcement of speeding**

Identified barriers	n	%*
Lack of trained and skilled staff to undertake enforcement	3	13.0
Concerns about interference, independence and the politicising of enforcement activity	3	13.0
'Resourcing' of enforcement activity (including finances)	13	56.5
Absence of legal provisions to support Local Government enforcement	8	34.8
Enforcement is a State and not a Local Government responsibility	3	13.0
Concerns over the consistency of enforcement; prefer one enforcement agency	3	13.0

\*Percentage of n=23 respondent councils

Few respondent councils provided useful information in regard to the perceived 'enablers' for Local Government enforcement of speeding. In fact, only two themes could be readily determined. The first of these was the need to 'train' staff to undertake enforcement, and secondly, the utility of local knowledge and data to better inform and strategically direct Local Government enforcement of speeding.

In conclusion, nearly half of the respondent councils disagreed to some extent with Local Government having responsibility for the legal enforcement of speeding in their local area. Disagreement was slightly greater among *Non-Urban* (52.7%) than *Urban* (42.8%) councils, perhaps because of the perceived burden of resourcing and staffing required of these smaller, resource-compromised councils (see Section 3.2.6 below). 'Resourcing' and 'legislative' issues were the two most substantial 'barriers' identified by councils, issues that will obviously require extensive consideration and planning to resolve to pave the way for councils to 'buy in' to the legal enforcement of speeding.

#### **4.5.6 Local Government Road Safety Management and Attitudes**

Council responses to questions on the level of existing administrative support for road safety activities, their understanding of and implementation of Safe System principles, and attitudes on various road safety related matters and initiatives are presented in Tables 3.42 to 3.54.

The reported administrative resources to support road safety varied considerably across the respondent councils and particularly between *Urban* and *Non-Urban*

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

respondents (see Table 4.42). Only five councils, all *Urban*, reported the employment of a designated Road Safety Officer, with the City of Perth employing three officers and Gosnells two officers. Five *Urban* councils also reported the employment of one or more Travel Safe Officers, while n=13 respondent councils (9 *Urban*; 4 *Non-Urban*) indicated the employment of other personnel who had some responsibility for (unspecified) designated road safety related activities.

With the exception of the City of Perth, South Perth and Mundaring, all other *Urban* councils (78.5%) reported the co-ordination of a RoadWise or other road safety group to assist with road safety related activities. The situation was quite different for *Non-Urban* councils with only n=8 (42%) reporting the co-ordination of a RoadWise or other road safety related group.

The relatively low number of designated road safety council staff was acknowledged by respondents with just over half of all councils (51.5%) agreeing there was a lack of appropriate staff within their council to undertake road safety related activities (Table 4.43). As to be expected, given the discrepancy between *Urban* and *Non-Urban* councils in designated road safety staff, *Non-Urban* councils (57.9%) were somewhat more likely than *Urban* councils (42.8%) to acknowledge a lack of appropriate staff.

**Table 4.42 Details of administrative support within respondent councils for road safety related activities**

<b>Council</b>	<b>Urban Non-Urban</b>	<b>Road Safety Officers</b>	<b>Travel Smart Officers</b>	<b>Other Officers</b>	<b>RoadWise or other road safety group</b>
City of Perth	Urban	3	1		
City of South Perth	Urban		1	5	
City of Melville	Urban		2	2	City of Melville RoadWise/Travelsmart Committee
City of Stirling	Urban	1	1	1	City of Stirling Road Safety Working Group
Town of Claremont	Urban			2	
Town of Bassendean	Urban				Fleet Management and Road Safety Working Group
City of Gosnells	Urban	2		1	City of Gosnells RoadWise Committee
City of Joondalup	Urban	1		2	Joondalup Road Safety Committee
Shire of Mundaring	Urban			Yes	
Town of Kwinana	Urban	1			Community Safety Committee
Serpentine Jarrahdale Shire	Urban				Serpentine-Jarrahdale RoadWise Committee
City of Rockingham	Urban			2	City of Rockingham RoadWise Advisory Committee
Mandurah City Council	Urban		1	2	Mandurah RoadWise
City of Bunbury	Urban				Regional Road Group
Shire of Waroona	Non-Urban			1	Peel RoadWise Committee
Shire of Pingelly	Non-Urban				
Shire of Quairading	Non-Urban				Quairading RoadWise Committee
Shire of Capel	Non-Urban				
Shire of Busselton	Non-Urban			1	Cape Naturaliste RoadWise Committee
Shire of Trayning	Non-Urban				
Shire of Koorda	Non-Urban				
Shire of Dalwallinu	Non-Urban				
Shire of Boyup Brook	Non-Urban				
Shire of Augusta Margaret River	Non-Urban			1	
Shire of Manjimup	Non-Urban				
Shire of Plantagenet	Non-Urban				RoadWise Steering Committee
Shire of Denmark	Non-Urban				Shire of Denmark RoadWise Committee
Shire of Mt Magnet	Non-Urban				
Shire of Esperance	Non-Urban			1	Esperance RoadWise Committee
Shire of Menzies	Non-Urban				Menzies-Leonora RoadWise Committee
Shire of Northam	Non-Urban				
Town of Port Hedland	Non-Urban				
Shire Of Broome	Non-Urban				Broome RoadWise Committee

**Table 4.43 There is a lack of appropriate officers within my Local Government to undertake road safety related activities**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	1	7.1	1	5.3	2	6.1
Disagree	4	28.6	3	15.8	7	21.2
Somewhat Disagree	1	7.1	1	5.3	2	6.1
Neutral/Unsure	2	14.3	3	15.8	5	15.2
Somewhat Agree	1	7.1	3	15.8	4	12.1
Agree	4	28.6	8	42.1	12	36.4
Strongly Agree	1	7.1	0	0.0	1	3.0
Total	14	100	19	100	33	100

The apparent greater capacity of *Urban* councils to initiate or co-ordinate road safety related activities was somewhat reflected in the comparatively higher rating of *Urban* council staff as being more knowledgeable of the State's *Toward Zero* road safety strategy (Table 4.44). As can be seen, around four in 10 *Urban* councils and nearly five in 10 *Non-Urban* councils considered their staff had limited knowledge of *Toward Zero*, with 6% of *Non-Urban* councils claiming their staff had no knowledge at all. Around 21% of *Urban* councils rated their staffs' knowledge as *Excellent*, compared with only 5% of *Non-Urban* councils.

**Table 4.44 How would you rate the level of understanding among your Local Government staff of the State's *Toward Zero* safe system road safety strategy?**

Knowledge	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
No Knowledge	0	0.0	2	10.5	2	6.1
Limited Knowledge	6	42.9	10	52.6	16	48.5
Reasonable Knowledge	3	21.4	6	31.6	9	27.3
Good Knowledge	2	14.3	0	0.0	2	6.1
Excellent Knowledge	3	21.4	1	5.3	4	12.1
Unsure/ Don't Know	0	0.0	0	0.0	0	0.0
Total	14	100	19	100	33	100

Compared with council staff, elected councillors were rated as having less understanding of *Toward Zero* (66.7% *Limited* to *No Knowledge*) (Table 4.45). The

level of knowledge of councillors was however, rated to be somewhat greater among elected *Urban* councillors than *Non-Urban* councillors (35.6% versus 24.3% *Reasonable to Excellent Knowledge*).

**Table 4.45 How would you rate the level of understanding among the elected councillors of your Local Government of the State's *Toward Zero* safe system road safety strategy?**

Knowledge	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
No Knowledge	1	7.1	2	10.5	3	9.1
Limited Knowledge	7	50	12	63.2	19	57.6
Reasonable Knowledge	3	21.4	1	5.3	4	12.1
Good Knowledge	1	7.1	1	5.3	2	6.1
Excellent Knowledge	1	7.1	1	5.3	2	6.1
Unsure/ Don't Know	1	7.1	2	10.5	3	9.1
Total	14	100	19	100	33	100

The conditional knowledge of *Toward Zero* among councils subsequently translated to only a third (33%, n=11) of respondent councils (5 Urban; 6 Non-Urban) reporting that their road safety strategies, plans or policies incorporate the safe system principles which underlie the *Toward Zero* strategy. Interestingly five of the n=11 councils rated their council staffs' knowledge of the *Toward Zero* safe system strategy as *Limited* (see Table 4.46). This finding somewhat undermines the validity of the stated initiatives of the n=5 councils as truly representing safe system principles and/or the council staff's understanding or assessment of the safe system status of their strategies, plan and policies.

**Table 4.46 Respondent council inclusion of safe system principles in council strategies, plan or polices by rating of council staff knowledge of *Toward Zero***

Council staff knowledge of <i>Toward Zero</i>	Includes safe systems principles of road safety in council strategies, plans or policies					
	Yes		No		All	
	n	%	n	%	n	%
No Knowledge	0	0.0	0	0.0	0	0.0
Limited Knowledge	5	45.4	8	72.7	19	57.6
Reasonable Knowledge	4	36.4	2	18.2	4	12.1
Good Knowledge	3	18.2	0	0.0	2	6.1
Excellent Knowledge	0	0.0	1	9.1	2	6.1
Unsure/ Don't Know	0	0.0	0	0.0	3	9.1
Total	11	100	11	100	22	100

n=11 missing

Very few councils provided specific details when asked to exemplify the safe system principles of their strategies, plans or policies. Some councils merely named certain council programs, such as:

- ‘Audit Design’ prior to construction program;
- Local Road Safety Strategy;
- Road Safety Audit Policy;
- House Urban Design and Planning program, and
- Traffic Management and Treatment Policy Guidelines.

Other councils went on to mention their commitment to Black Spot Funding Programs to establish a network of safe road use; their commitment to safe speeds on local roads, and existing Vehicle Fleet Purchasing Policy for safe vehicles.

Unfortunately the lack of detail from respondent councils makes it difficult to judge the extent of integration of *Toward Zero* safe system principles in council strategies, plans or policies.

Eight councils provided comment on why they had not included safe systems principles in their strategies, plans and policies. One council (Manjimup) stated it was ‘not a priority’ within council, while another (Menzies) stated it was not ‘ignored but also did not feature’ except in respect to road construction. Three

councils (South Perth; Claremont; Kwinana) claimed a lack of knowledge and/or resources (including staff) to develop and implement safe system based strategies. Finally, two councils (Joondalup; Mandurah) claimed ‘time’ was a limiting factor, though Joondalup indicated it was currently developing a Road Safety Plan based on safe system principles but it would take ‘months/years’. These findings suggest there is a clear need to assist councils with their understanding of safe system principles for the development and implementation of safe system strategies, particularly if Local Government is to play a greater role in the management of speeding via enforcement.

Though council knowledge of and use of *Toward Zero* was limited, particularly among *Non-Urban* councils, the majority of councils did not necessarily consider their knowledge to be limited of the type of road safety initiatives it could undertake to make the roads safer (Table 4.47). Approximately two-thirds (64%) of councils *disagreed* with the statement that their council had limited knowledge of the type of road safety related activities it could undertake. *Urban* councils (78.6%) were substantially more likely than *Non-Urban* councils (52.7%) to disagree with this statement, with nearly one-third of *Non-Urban* councils agreeing their council’s knowledge was limited (compared with 7% of *Urban* councils). Again, the discrepancy between *Urban* and *Non-Urban* councils is likely to be due to the differences in available resources and knowledge-base of staff.

**Table 4.47 My Local Government has limited knowledge of the type of road safety related activities it could undertake to make the roads safer for all road users**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	3	21.4	1	5.3	4	12.1
Disagree	6	42.9	8	42.1	14	42.4
Somewhat Disagree	2	14.3	1	5.3	3	9.1
Neutral/Unsure	2	14.3	3	15.8	5	15.2
Somewhat Agree	0	0.0	4	21.1	4	12.1
Agree	1	7.1	2	10.5	3	9.1
Strongly Agree	0	0.0	0	0.0	0	0.0
Total	14	100	19	100	33	100

Consistent with previous findings of differences between *Urban* and *Non-Urban* councils, *Urban* respondents were similarly more likely than *Non-Urban* respondents to consider that their staff *and* councillors possessed greater leadership for road safety related activities. Approximately 86% of *Urban* respondents disagreed that their council officers lacked leadership in this area, compared with 47% of *Non-Urban* respondents (Table 4.48). Similarly, *Urban* councillors (71.4%) were thought to demonstrate somewhat stronger leadership than *Non-Urban* councillors (59.4%) for road safety related activities (Table 4.49).

**Table 4.48 There is a lack of strong leadership among my Local Government’s officers to undertake road safety related activities**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	4	28.6	2	10.5	6	18.2
Disagree	5	35.7	5	26.3	10	30.3
Somewhat Disagree	3	21.4	2	10.5	5	15.2
Neutral/Unsure	2	14.3	5	26.3	7	21.2
Somewhat Agree	0	0.0	3	15.8	3	9.1
Agree	0	0.0	2	10.5	2	6.1
Strongly Agree	0	0.0	0	0.0	0	0.0
Total	14	100	19	100	33	100

**Table 4.49 There is strong leadership among my Local Government’s elected councillors to undertake road safety related activities**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	1	7.1	0	0.0	1	3.1
Disagree	0	0.0	3	16.7	3	9.4
Somewhat Disagree	1	7.1	3	16.7	4	12.5
Neutral/Unsure	2	14.3	3	16.7	5	15.6
Somewhat Agree	6	42.9	2	11.1	8	25.0
Agree	3	21.4	7	38.9	10	31.3
Strongly Agree	1	7.1	0	0.0	1	3.1
Total	14	100	18	100	32	100

N= 1 missing

Council ratings of their financial ability to undertake road safety related activities are presented in Table 4.50. Approximately 55% of respondents considered there were

insufficient financial resources available within their council to undertake their desired road safety related activities. Consistent with findings above that point to *Non-Urban* councils being somewhat compromised on personnel and other administrative resources to support road safety initiatives, *Non-Urban* councils (63.2%) were more likely than *Urban* councils (42.9%) to consider there are insufficient financial resources.

**Table 4.50 My Local Government has sufficient financial resources to undertake the road safety related activities it would like to**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	0	0.0	2	10.5	2	6.1
Disagree	4	28.6	6	31.6	10	30.3
Somewhat Disagree	2	14.3	4	21.1	6	18.2
Neutral/Unsure	4	28.6	2	10.5	6	18.2
Somewhat Agree	2	14.3	5	26.3	7	21.2
Agree	2	14.3	0	0.0	2	6.1
Strongly Agree	0	0.0	0	0.0	0	0.0
Total	14	100	19	100	33	100

The majority (66%) of respondents agreed there was strong support within the rate-payer community for their council to undertake road safety activities (Table 4.51). This perception was somewhat greater among *Urban* (71.3%) than *Non-Urban* (61.1%) councils. Nearly 30% of *Non-Urban* councils were unsure of the level of support among their rate-payers for council initiated road safety activities.

**Table 4.51 There is strong support within the rate-payer community for my Local Government to undertake road safety related activities**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	0	0.0	0	0.0	0	0.0
Disagree	0	0.0	1	5.6	1	3.1
Somewhat Disagree	2	14.3	1	5.6	3	9.4
Neutral/Unsure	2	14.3	5	27.8	7	21.9
Somewhat Agree	1	7.1	7	38.9	8	25.0
Agree	8	57.1	2	11.1	10	31.3
Strongly Agree	1	7.1	2	11.1	3	9.4
Total	14	100	18	100	32	100

n= 1 missing

Most councils (56.3%), and particularly *Urban* (64.3%) rather than *Non-Urban* (50%) councils, *disagreed* they had difficulty involving required road safety agencies in their local road safety initiatives (Table 4.52). Less than two in 10 respondent councils agreed to some difficulty though this was mostly of a minor nature. Around 25% of councils were in fact uncertain or unable to give an opinion about the level of difficulty they experienced in trying to involve the required road safety agencies. *Urban* councils may have greater success in involving other road safety agencies because of their greater capacity to do so (i.e. greater resources; increased staff numbers) and because of their closer physical proximity to agencies such as Main Roads WA, Office of Road Safety, and WALGA.

**Table 4.52 My Local Government has difficulty involving other required road safety agencies in local road safety related activities**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	1	7.1	2	11.1	3	9.4
Disagree	4	28.6	5	27.8	9	28.1
Somewhat Disagree	4	28.6	2	11.1	6	18.8
Neutral/Unsure	3	21.4	5	27.8	8	25.0
Somewhat Agree	1	7.1	3	16.7	4	12.5
Agree	1	7.1	1	5.6	2	6.3
Strongly Agree	0	0.0	0	0.0	0	0.0
Total	14	100	18	100	32	100

n= 1 missing

Approximately 76% of councils agreed that working with other councils in their regional area would increase the efficiency of their road safety related activities (Table 4.53). This belief was reasonably consistent across *Urban* (78.5%) and *Non-Urban* (73.7%) councils. The finding suggests that most councils, irrespective of location, recognise the utility of working co-operatively with neighbouring councils. This finding should encourage members of WA Regional Road Groups to continue to work co-operatively to improve local road safety and provide a solid foundation for the sharing of resources to support possible speed enforcement activities in the future.

Interestingly however, three *Urban* councils and three *Non-Urban* councils did not consider that working with other councils in their regional area would increase the efficiency of local road safety related programs. Why this is so requires further investigation for these councils and perhaps all of the WA Regional Road Groups.

**Table 4.53 Working with other Local Governments in our regional area will increase the efficiency of my Local Government’s undertaking of road safety related activities**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	0	0.0	2	10.5	2	6.1
Disagree	3	21.4	1	5.3	4	12.1
Somewhat Disagree	0	0.0	2	10.5	2	6.1
Neutral/Unsure	0	0.0	0	0.0	0	0.0
Somewhat Agree	5	35.7	8	42.1	13	39.4
Agree	5	35.7	5	26.3	10	30.3
Strongly Agree	1	7.1	1	5.3	2	6.1
Total	14	100	19	100	33	100

Councils were reasonably divided in their opinion about the road safety benefit of councils sharing responsibility with police for the enforcement of traffic laws. Just under four in 10 respondent councils agreed there would be a road safety benefit on local roads while just under five in 10 disagreed. Substantial differences in agreement were noted between *Urban* and *Non-Urban* councils. Approximately 50% of *Urban* councils expressed varying level of agreement compared with 31.6% of *Non-Urban* councils. Overall, these findings suggest that councils, particularly

*Non-Urban* councils, are not uniformly convinced that the enforcement of traffic laws by Local Government would necessarily benefit local road safety.

**Table 4.54 Safety on my Local Government’s roads would be substantially increased if Local Government were given shared responsibility for the enforcement of traffic laws.**

Agreement	Respondent Council					
	Urban		Non-Urban		All	
	n	%	n	%	n	%
Strongly Disagree	1	8.3	6	31.6	7	22.6
Disagree	3	25.0	5	26.3	8	25.8
Somewhat Disagree	0	0.0	0	0.0	0	0.0
Neutral/Unsure	2	16.7	2	10.5	4	12.9
Somewhat Agree	1	8.3	5	26.3	6	19.4
Agree	3	25.0	0	0.0	3	9.7
Strongly Agree	2	16.7	1	5.3	3	9.7
Total	12	100	19	100	31	100

n= 2 missing

Councils provided a number of succinct reasons why they agreed or disagreed that Local Government enforcement of traffic laws would substantially increase safety on local roads. Councils who agreed with the statement cited the following reasons why Local Government enforcement of traffic laws would increase local safety:

- council knowledge of local road safety issues;
- the ability to target local roads when police do not;
- the resulting increase in the level of visible enforcement activity, and
- the ability to generate venue to be returned to local road safety programs.

Similarly, there was considerable agreement among councils who disagreed with the statement. Not all reasons given were directly related to the issue of Local Government traffic enforcement and increased road safety but once again related to the reasons why Local Government should not undertake enforcement. For example, a number of councils merely reiterated the belief that:

- law enforcement was not the responsibility of Local Government but that of the State and that to undertake enforcement would be a duplication of resources;
- that there are insufficient resources to undertake law enforcement, and that,
- Local Government staff would need to be trained in enforcement.

Other councils considered that road safety would not necessarily be increased because:

- Local Government was not an expert in law enforcement unlike police;
- inconsistent, ad-hoc standard of enforcement would occur;
- there would be conflict between police and councils over enforcement, and that
- Local Government would only undertake enforcement during ‘business hours’ and not when required.

The above comments provide further support for the conclusion that councils differ in their support for increased enforcement powers on the basis of resourcing and expertise-skill issues, standards of application, the need to increase enforcement activity, and their belief that councils and their local knowledge will facilitate a more strategic level of enforcement above that currently provided by police.

#### **4.5.7 Additional Comments from Respondent Councils**

Councils were provided with an opportunity to comment further on the issues addressed in the survey. Only one council (Boyup Brook) provided positive comments, claiming satisfaction with the current level of police enforcement within their Shire. This council was also one of a small number of councils who considered speed enforcement and traffic law enforcement more generally *not to be* the responsibility of Local Government.

The majority of additional comments were negative in tone and in part reiterated previously expressed concerns about a lack of resources to undertake road safety initiatives or a greater level of vehicle travel speed monitoring. One council expressed particular concern over the value of enforcement given that insufficient funds from traffic fines were redirected back to Local Government to undertake local road safety initiatives.

One other council made mention of the need to conduct appropriate evaluations of road engineering treatments such as speed humps/cushions to determine their efficacy, while another questioned whether Metro Count could develop a template to assist with council reporting of vehicle travel speeds.

#### **4.5.8 Summary and Observations**

A lower than expected number of councils completed and submitted the ‘on-line’ survey; this has unfortunately limited the generalisability of the findings. One factor that potentially contributed to this was the inability to directly email to the most appropriate council officer who could consider the request to participate. Consequently, the 23.7% (n=33/139 councils) response fraction has reduced the confidence level for the findings to a low to moderate range of 33% to 48%. Notwithstanding this limitation the survey provided a number of important findings which are summarised below along with relevant observations.

##### *Vehicle Travel Speed Monitoring*

With the exception of four *Non-Urban* councils, all respondent councils reported the monitoring of vehicle travel speeds using Metro Count equipment. Annual monitoring was most common on District Distributor A and B roads, with ‘As Required’ monitoring most common on Local Distributor roads. Though one-third of monitoring councils claimed to use a list of designated sites for monitoring, the most commonly mentioned criterion for monitoring vehicle speeds across *Urban* (86%) and *Non-Urban* (80%) councils was the receipt of ‘*Complaints from residents, businesses, and school contacts*’. Other responses from councils indicated that the most common uses for speed monitoring data were for the general recording and archiving of travel speeds on Local Government roads; the development of traffic calming initiatives, and to support Black Spot Treatment applications and submissions for changes in posted speed limits. Compared with *Non-urban* councils *Urban* councils were more extensive in their uses of collected speed data. Overall, the amount of monitoring undertaken did not appear to be substantial with less than half of respondent councils monitoring 11 or more sites in each of the last two financial years.

Standardised procedures for the community’s reporting of complaints about speeding and the council’s dealing with them was not widespread. Just over half of respondent councils reported the use of such procedures with *Urban* councils nearly three times as likely as *Non-Urban* councils to do so. Perhaps because of this reasons and the nature of their local road network, *Urban* councils also received more complaints per month from residents about speeding. The greater administrative support within

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

*Urban* councils for dealing with speed monitoring was also evident by the greater proportion that routinely reviewed speed data: 86% *versus* 29% of *Non-Urban* councils. This finding, in conjunction with others summarised below, suggests that *Non-Urban* councils are not utilising their speed data productively, most likely because, comparatively, they do not have the necessary administrative resources and expertise to do so.

While councils do share speed data with Main Roads WA and WA Police, the sharing is not routinely undertaken but is limited to specific circumstances. Councils share data with Main Roads WA via applications for Black Spot Treatment funding and a change in posted speed limit and at other times if specifically requested. For WA Police, the main reason councils share speed data is when speeding in excess of the 85<sup>th</sup> percentile is identified and police enforcement is requested. Overall, *Urban* councils were more likely than *Non-Urban* councils to share speed data with both Main Roads WA and WA Police. Councils unfortunately provided little information on the mechanism for sharing data (other than to report figures in written submission or letters), nor were substantial problems with sharing identified. What is evident is the absence of an on-going formal or routine arrangement for the sharing of speed data between councils and Main Roads WA and WA Police. This is just one of the areas where councils and Main Roads WA and WA Police could develop and implement a standardised data sharing arrangement with defined objectives and outcomes. However, as was noted (and summarised again below), councils did not uniformly agree on a standard protocol for monitoring or reporting speed data and for sharing data with WA Police.

Attitudes toward a number speed monitoring issues also showed that councils were not a homogenous group. Councils did not uniformly agree on issues such as:

- the need for mandatory annual monitoring of vehicle travel speeds;
- the establishment of abiding guidelines for the analysis and reporting of the data;
- the efficient use of speed data by councils;
- the efficiency of the processes for sharing data with WA Police and Main Roads WA, and

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

- the requirement to provide police with a monthly listing of roads for priority speed enforcement.

There was some evidence to suggest that *Urban* councils are more positive and supportive than *Non-Urban* councils on most of the above issues. This is possibly due to the greater capacity of *Urban* councils to support speed monitoring related initiatives and their greater focus on and concern for speeding on their local roads. These findings suggest that *Non-Urban* councils in particular require additional support to undertake a more committed and effective speed monitoring program that would further support future speed management initiatives with Main Roads WA and WA Police.

#### *Speed Management Activities*

As with speed monitoring, nearly all of the respondent councils reported the use of road engineering treatments in the last three years to lower or calm vehicle travel speeds. Considerable variation was noted between *Urban* and *Non-Urban* councils in the use of particular types of road treatments, though Line Markings, Kerb Extensions, Speed Humps/Cushions, and Roundabouts were the most frequently endorsed treatments overall. There was strong endorsement from councils for the ‘effectiveness’ and ‘value for money’ for nearly all road treatments to reduce vehicle travel speeds, with Roundabouts judged to be the most effective and best value for money. On the other hand, Tactile Surface Treatments were judged to be the least effective and representing the poorest value for money; hence their infrequent use by councils. Roundabouts, Line Markings, and Centre Blisters were all highly rated for ‘public acceptance’, with Road Closures rated the least acceptable to the public as a speed reduction measure, obviously because of the inconvenience and frustration closures cause for motorists. These findings suggest there is a reasonably consistent understanding among councils of the road engineering treatments that are effective, that represent value for money, and are acceptable to the public. What is at issue however, is how these opinions are reached by councils (e.g., what supporting data is collected and assessed).

Compared with road engineering treatments, behavioural and educational initiatives were less frequently endorsed for usage by the respondent councils, particularly *Non-*

*Urban* councils, as measures to calm or lower vehicle travel speeds. This is perhaps because of (i) the lower number of officers within councils (relative to engineering personnel) who might otherwise develop, implement and evaluate such initiatives, and (ii) the greater difficulty in assessing the impact of such measures. Of the various initiatives listed, the most frequently endorsed, particularly by *Urban* councils, were the use of Speed Alert Mobile Trailers and co-operative arrangements with police to enhanced speed enforcement. Council ratings of the ‘effectiveness’, ‘value for money’ and ‘public acceptance’ of the various behavioural and educational initiatives showed that initiatives such as Speed Alert Mobile Trailers and enhanced police enforcement that directly target real-time, on-road speeding behaviour were highly rated on all measures. Programs that encourage the community’s reporting of speeding and hoon behaviour were also rated highly for ‘public acceptance’, perhaps because such programs give the community a ‘voice’ in tackling speeding on local roads. Again, what is at issue is the use of and type of information or evidence councils use to form their opinions.

The survey findings suggest that councils have a reasonable level of commitment to road engineering treatments to manage local area vehicle travel speeds and that some treatments are more highly regarded than other for their effectiveness, value for money and public acceptance. What is at issue however, is how and why councils have formed this opinion. Secondly, the findings suggest that behavioural-educational initiatives and program to tackle local area vehicle travel speeds, and to support engineering treatments, are in limited use across councils, particularly among *Non-Urban* councils. What is interesting to note is that initiatives that directly target driver behaviour in the act of driving, such as Speed Mobile Alert Trailers and strategic police enforcement, are rated quite highly. Although some councils have indicated a reasonably good co-operative relationship with WA Police for enforcement, a more formal, strategic enforcement arrangement between councils and police, which involves the sharing of local speed data, is warranted.

### *Speed Zoning*

There was a reasonable spread of speed zones across the local roads of the respondent councils, with most, particularly the *Non-Urban* councils, being satisfied to varying degrees that their speed zones were credible and appropriate. This general level of satisfaction may explain why 60% of councils submitted a minimal number of applications in the previous three years (between one and three) to Main Roads WA to decrease a posted speed limit. Though many applications were rejected, councils were nevertheless mostly supportive of the *appropriateness* and *efficiency* of the application process. This may be because Main Roads WA was largely viewed by councils to have the necessary expertise and experience to adjudicate on such matters and to be unbiased and timely in their decision making. The application process was also seen to be economical and appropriately staffed and resourced. On the negative side, some councils were critical of long delays in approval; the overly complex application process, and Main Roads WA's lack of 'local knowledge' to appropriately assess applications. These comments suggest that Main Roads WA should review their assessment procedures and consider a more in-depth survey of Local Governments' experience of the posted speed limit change application process.

Despite the generally positive view across councils of the existing speed zone change application process, around three quarters of councils, and even more *Urban* councils, supported the proposal that Local Government should share in the responsibility to change posted speed limits. The reasons for this related to improving the efficiency and timeliness of changes in posted speed limits, and the general utility of local knowledge in recommending changes. Councils who disagreed (20%-25%) and supported the current arrangement cited a lack of appropriate expertise and resources within council to determine appropriate posted speed limits and the need to maintain a consistent standard for speed zoning across the road network, which could only be achieved by having a single, authorising authority.

The overall findings suggest there is a greater level of satisfaction than dissatisfaction among councils with their existing local area posted speed limits and for the Main Roads WA posted speed limit change application process. That said, there appears to be room for some 'fine tuning' or revision of the application process

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

and/or how responsibility for adjudicating change is shared between councils and Main Roads WA. There appears to be more support among councils for sharing responsibility for speed zoning rather than being autonomous of Main Roads WA. This suggests that processes and procedures could be developed to facilitate a more streamlined and strategic application and review process, one that might permit councils to make amendments as they see fit (accompanied by supporting documentation) with Main Roads WA having final oversight of the amendment.

#### *Speed Enforcement*

Councils reported a reasonable level of co-operation with WA Police in regard to determining both the *location* and *frequency* of local area speed enforcement, with a greater level of co-operation with police reported by *Non-Urban* councils compared with *Urban* councils. Unfortunately, only a third of respondent councils provided an estimate of the average number of days per fortnight of police speed enforcement in their local area, which was calculated to be four (median score).

Most councils claimed to be satisfied with the current level of enforcement on their local roads and rated the enforcement as effective. These ratings were however, found to vary by location of council with a greater proportion of *Non-Urban* councils expressing satisfaction with the level of enforcement and rating the enforcement as effective. The reasons cited across all councils for being satisfied with the level of enforcement included the positive and appropriate response of police; their general visibility on local roads, and willingness to liaise to discuss local area speed enforcement. On the other hand, dissatisfied councils made mention of the lack of enforcement on local roads compared with major roads and poor feedback from police on enforcement activities within their Local Government area.

In general, councils considered that both the frequency and effectiveness of speed enforcement could be improved by increasing police presence on the road; by undertaking targeted strategic enforcement, which included making greater use of local speed data, and even allowing Local Government to undertake enforcement activities. With respect to this last suggestion, nearly half of the respondent councils did not support the enforcement of speeding by Local Government with only a third indicating some level of support for the option. Once again *Urban* and *Non-Urban*

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

councils differed with the latter being more supportive of the option. Councils who opposed this option cited resourcing, skill and legislative issues as substantial barriers, while councils who supported the option cited a greater capacity to conduct a more strategic level of enforcement based on local knowledge as a key issue (though staff would still need to be appropriately trained and skilled).

The above findings suggest there is considerable scope for improving the co-operation between many councils and police for local area speed enforcement, and perhaps more so for *Urban* than *Non-Urban* councils. It appears that the absence of a formalised arrangement between councils and police for the planning and implementation of strategic enforcement is at the heart of the disquiet expressed by councils. Such an arrangement would hopefully lead to a greater level of communication (including speed data sharing) between police and council and increase the strategic value of enforcement. Councils commented that efforts to increase both the level and effectiveness of local area enforcement would require additional resources (financial and physical) which should be provided by the State (which includes WA Police). Councils' concern over the level of financial and physical resources required to bolster local area speed enforcement also applied to enforcement that might be undertaken by councils themselves. This concern was one of a number that contributed to nearly half of the respondent councils not supporting Local Government enforcement of speeding. Thus, workable models of Local Government enforcement of speeding would in the first instance need to be financially viable or at the very least 'cost neutral' to gain additional support from councils. This point will be developed further in Phase Two of the project.

#### *Road Safety Management*

Councils varied considerably in regard to the level of available finances, staffing, administrative structures, knowledge, leadership, and community support required to develop and manage road safety related activities. Only a quarter of respondent councils considered they were sufficiently financial to undertake the road safety related activities it would currently like to. Perhaps because of this, respondent councils as group employed relatively few dedicated road safety personnel (i.e., Road Safety or Travel Smart officers) though many more councils did report the co-ordination of a RoadWise or similar road safety committee. Consistent with this,

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

around half of the respondent councils agreed there was a lack of appropriate staff within their council to undertake road safety related activities. Knowledge of the State's road safety strategy, *Toward Zero*, was also noted to be limited among council staff and elected councillors. Correspondingly, only a third of respondent councils claimed their road safety strategies, plan or policies included safe system principles which underlie the *Toward Zero* strategy. On a positive note, the majority of respondent councils considered there to be strong leadership among council officers and elected councillors, and reasonably good support within the ratepayer community, to undertake road safety related activities. In addition, the majority of councils did not consider they had difficulty engaging or involving other required road safety agencies (e.g., Main Roads WA, Office of Road Safety; WALGA) in their local road safety initiatives. The majority of councils similarly believed that working in collaboration with other Local Governments in their area would increase the efficiency of their road safety related activities. This is a particularly encouraging finding given as Western Australian Local Government works toward a more sustainable and cost-efficient model of management.

Councils were however, reasonably divided on the benefit of their involvement in enforcing road traffic laws more generally. Like many councils who did not support Local Government enforcement of speeding, close to half of the respondent councils, and particularly *Non-Urban* councils, disagreed that road safety would be substantially improved if Local Government were given shared responsibility for the enforcement of traffic laws. Some opposing councils maintained the line that enforcement should not be a Local Government responsibility and that Local Government could not reasonably resource the requirement. These will be important issues to develop further in Phase Two of the project. On the other hand, supporting councils again cited the benefit of local knowledge leading to strategic and more effective enforcement.

While it is encouraging to note the level of leadership within council and support within the community and road safety-Local Government network, the acknowledged limited resources for road safety related activities and limited knowledge of *Toward Zero* poses some cause for concern. The strategy has identified Local Government as a significant contributor to the development and

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

implementation of safe system initiatives to reduce road trauma. Clearly this sector needs to be well-resourced, skilled and knowledgeable to make the effective contribution that is required. This is particularly so for the *Non-Urban* council sector which evidenced fewer resources, knowledge and support.

The Western Australian Local Government Association is currently conducting a series of Safe System workshops for Local Government councils to facilitate their understanding of the principles underlying *Toward Zero*. This will hopefully improve both the knowledge and application of Safe System principles and strategies by councils, particularly in relation to safe speeds. However, an appropriate level of financial and physical resourcing for councils is still required to support the significant road safety contribution expected of Local Government. Without an increase in resources Western Australian councils also cannot be expected to undertake anything more than a minor supporting role in speed enforcement or traffic law enforcement more generally. As previously stated, any model to enable the enforcement of traffic laws by Local Government must be financially viable or at the very least 'cost neutral' to gain additional support from councils.

#### *Concluding comments*

Overall, this task has identified that Local Government is not uniformly active in routine, wide-spread systematic surveillance and analysis of local area vehicle travel speeds. Local Government was also divided on whether the collection of vehicle travel speed data should be a mandatory requirement. It was encouraging to find that some Local Governments have in place mechanisms by which members of the community can voice their complaints about speeding motorists. The survey findings also suggested that Local Government does not have a formal, systematic process for sharing the vehicle travel speed data it does collect with WA Police to assist planned, intelligence lead enforcement. Where information is shared with agencies like WA Police or Main Roads WA there again appears to be no formal mechanism or appropriate communication strategy to follow-up how the data has been used or to evaluate its use. The survey also showed that Local Government is somewhat divided on if and how it can be involved in speed enforcement with WA Police or whether enforcement is a task it should undertake itself. What is definitely clear from the

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

survey is that Local Government considers it does not have the infrastructure and finances to undertake an expanded role in speed enforcement activities.

## **5. SPEEDING IN WESTERN AUSTRALIA**

The intention of this chapter is to provide an overview of speeding in Western Australia in relation to speed zoning, and speed enforcement and its management and data. Throughout the section a *non-legal* assessment of the Western Australian legislation and regulations pertaining to zoning and enforcement will be presented. This will assist with understanding the legislative and regulative constraints (and amendments required) associated with the various options for Local Government involvement in speed enforcement. The assessment has been limited to the more general legislation and regulations of the Road Traffic Act 1974 (WA), the Road Traffic Code 2000 (WA), and The Police Act 1892. Reference was also made to the Road Safety Council Act 2002 (WA) and the Road Trauma Trust Fund in respect to monies obtained from traffic offences and the possible funding of equipment for enforcement. A more rigorous assessment of the above Acts and Code, and indeed other regulatory material, would need to be undertaken by the State's legal advisors to determine what changes and amendments would be required under the proposed models for Local Government speed enforcement management.

### **5.1 Speed Zoning**

In this section information is provided on the responsibility and process of setting speed limits in Western Australia compared with elsewhere in Australia and in New Zealand. Though the setting of posted speed limits relates to the broader issue of speed management and not enforcement per se, the setting of credible and appropriate speed limits does have a bearing on the level of speeding (and required enforcement levels) and associated crashes and injury.

Elvik, Hoye, Vaa & Sorensen (2009) provide evidence to show that changes (increases) in posted speed limits lead to increases in mean travel speeds and that increases in mean speeds are associated with increases in injury and other types of crashes (which depend on the amount of increase in speed). According to the power model of speed, when the "...speed limit is changed by 10km/h, speed changes by about 2.5km/h" (Elvik et al, 2009 page 448). Based on Nilsson's (2004) Power Function a change in average speed of around 1km/h will increase the number of crashes between 2% (for roads with higher speed zones, i.e., 120km/h) and 4% on

roads with lower speed zones (i.e., 50km/h) (European Road Safety Observatory 2007).

Consequently, the management of local area speed zoning is an important responsibility and aspect of speed management. However, changes in posted speed limits in isolation of other management activities (such as enforcement) are thought to have limited effectiveness (Elvik et al., 2009). Because of the relationship between speed limits and speeding and crashes, a comparative overview of speed limit setting in Western Australia and elsewhere is provided.

### **5.1.1 Western Australia**

Main Roads Western Australia is the agency authorised to post and alter speed limits across the road network, irrespective of whether the road is their responsibility or is a Local Government managed road.

Main Roads WA's authority to post and alter speed limits is provided under the Road Traffic Code 2000 (WA) Part 20-*General*

#### ***297. Power to erect traffic-control signals and road signs***

- (1) *The Commissioner of Main Roads may erect, establish or display, and may alter or take down any road sign, road marking or traffic-control signal.*

The Commissioner also has the power to delegate this authority, for example, to a body such as Local Government.

- (2) *The Commissioner of Main Roads may allow an authorised body to erect, establish, display, alter or take down any particular road sign, road marking or traffic-control signal, or road signs, road markings or traffic-control signals of a class or type of classes or types, and in the circumstances (if any), specified in the instrument of authorisation.*

Interestingly however, the survey findings showed that councils did not uniformly desire independent authority to change their local road speed limits, with just under two-thirds of all councils *disagreeing* that local government should have independent autonomy to change a speed limit. Slightly more *Urban* councils (64%) were opposed compared with *Non-Urban* councils (58%).

### ***Local Government Enhanced Speed Enforcement Management Project: Phase One***

What councils did support however, was a greater sharing of the responsibility in posting speed limits. Under current arrangements Local Government can apply to Main Roads WA for a review of the posted speed limit for a particular road and indeed for a total local area. The application process requires councils to provide 85<sup>th</sup> percentile data, crash statistics, and any information on past and future road works and area development for consideration by Main Roads WA of a change. Councils must essentially reason why a change in speed limit is sought and can even suggest a revised appropriate limit. Applications are then prioritised for consideration and expedited as soon as possible, preferably within a month. Applications are considered by the speed zoning officers (of which there are two); the review is undertaken with consideration of the Main Roads WA Speed Zoning Policy and Guidelines (which are based on Australian Standards 1742 (Part 4) Speed Control) (Personal communications with Craig Wooldridge, MRWA, 2009; John Moore, MRWA, 2010; Colin Da Costa, MRWA, 2010).

With respect to the above application process, the survey findings showed that few applications (between one and three) had been made by councils in the previous three years. In the first instance this could be because councils mostly endorsed their local road speed limits as appropriate. Despite the number of applications, councils were reasonably supportive of the *appropriateness* and *efficiency* of the application process and commented that Main Roads WA had the necessary skills and expertise to determine the most appropriate limit. Despite the efficiency rating councils were in support of a model of shared responsibility for changing speed limits, if only to make the process more efficient and timely. Some councils did view the process negatively, regarding it as too involved, too lengthy and at times 'out of touch' with local area requirements. These are issues that Main Roads WA should examine in greater detail. After consideration of speed zoning elsewhere, some suggestions are provided at the end of this section as to how the speed zone change process could be improved for Local Government and Main Roads WA.

In the following sections the speed zoning practices elsewhere in Australia and New Zealand will be considered for their relevance to any amendment of the current practice in Western Australia.

### **5.1.2 Elsewhere in Australia**

There is a perception in Western Australia that other Australian jurisdictions have devolved speed zoning responsibilities from State authorities to Local Government. Based on our reviews of government websites, consultation with peak Local Government organisations within these jurisdictions, and consultation with State road authorities, we found some evidence of devolvement of speed zoning responsibility for the Northern Territory and to a lesser extent Queensland. All other States and Territories, like Western Australia, allow Local Government to apply for and recommend changes to speed limits, though, as is the case in Western Australia, the respective State road authorities retain ultimate responsibility and authority for posting speed limits.

#### **5.1.2.1 New South Wales**

The setting of speed limits is a State Government responsibility in New South Wales. The Road Transport (Safety and Traffic Management) Act 1999 enables the Road Traffic Authority (RTA) of NSW to set and administer speed limits. However, councils are able to make recommendations and requests to RTA for changes to speed limits. Most councils have local traffic committees which contribute to the development of speed zoning submissions (Personal communication, Richards Connors, Senior Roads and Transport Policy Officer, RTA, 2009).

#### **5.1.2.2 South Australia**

There are currently no policies in place to permit South Australian Local Government to set or change speed limits. Informally however, councils negotiate with DTEI (Department for Transport, Energy and Infrastructure), the responsible authority, regarding recommendations to change speed limits (Personal communication, David Hitchcock- Assistant Director of Environment and Development, DTEI, 2009).

#### **5.1.2.3 Tasmania**

A range of opinions and information was obtained from Tasmania but all point to the one assessment that all speed limits are set and managed by the Department of

### ***Local Government Enhanced Speed Enforcement Management Project: Phase One***

Infrastructure, Energy and Resources (DIER) to maintain consistency on public roads (Personal communication, Lisa Caswell, Policy Analyst, Local Government Division, Department of Premier and Cabinet, 2009).

Local councils are welcome to raise speed limit issues, but the investigation on the suitability of a possible change is undertaken by experienced DIER traffic practitioners to ensure a consistent approach is applied through the State. When assessing speed limits, DIER uses the road function and road environment as signification indicators on what is an appropriate speed limit. Consultation is an important part of the assessment process and DIER will always consult with the road owner and on major arterial roads will consult with the leading motoring body (RACT) and on occasions with the Heavy Vehicle Transport Industry. Due to the relationships developed through the traffic meetings, the implementation of speed limits usually runs smoothly (Personal communication, Peter Hubble, Manager, Traffic Projects, DIER, 2009).

As both Local Government and DIER engineers make speed zone assessments based on Australian Standards and other factors such as stakeholder consultation, more often than not requests received from councils are approved by DIER (Personal communication, Kate Hiscock, Senior Policy Officer, Local Government Association of Tasmania, 2009).

#### ***5.1.2.4 Queensland***

In Queensland, the Transport Operations (Road Use Management) Act 1995 states that new traffic signs should only be installed by the authority of the Director-General, Transport and Main Roads or a Local Government. In reality, this does not mean that Local Government has independent authority as it is still required to consult with and gain approval for the review process from a local Speed Management Committee that consists of representatives from:

- Qualified engineer from Local Government
- Qualified engineer from Main Roads Regional Office and relevant Dept of Transport
- Queensland police representative

- Dept of Transport and Main Roads safety advisor.

The revised speed zoning shall only be endorsed when the majority of committee members agree to the change. If and when the change is accepted the speed zone proposal is submitted to the Dept of Transport and Main Roads.

#### **5.1.2.5 Victoria**

The Road Management Act (Regulation 13) provides VicRoads with the statutory responsibility of setting speed limits state-wide. VicRoads does conduct a Local Government speed zone review application process which incorporates a computer program (known as V-Limits) to assist with the determination of the most appropriate speed limit. This is a locally developed program that Local Government must complete to support their application (Personal communication, Ken Beer, Senior Road Safety Engineer, Directorate of Road Safety and Network Access, VicRoads, 2010).

#### **5.1.2.6 Australian Capital Territory**

The ACT is in a unique situation in that the ACT Government has both state and Local Government functions. Accordingly, Roads ACT has the function of setting speed limits on the entire ACT road network, i.e., both territorial and municipal roads. The procedures and policies for reviewing and changing speed limits are based on the Australian Standards and Austroads Guides (Personal communication, David Quinlan, Manager, Road Safety, Roads ACT, 2009).

#### **5.1.2.7 Northern Territory**

Local Government in Northern Territory have authority under various sections of the Road Traffic Act, the Controller Road Act, and the Traffic Act to determine and post speed limits on all local roads under their control. The Controller Road Traffic Act recognises local councils as 'road authorities' and are therefore permitted to set limits for their local roads. Speed zoning is undertaken in accord with Australian Road Rules guidelines and all proposed changes require a council resolution agreeing to the change. Once this is obtained the council 'signs off' on the change and advice is then sent to the Ministers for Local Government, Transport and Works, and Lands

and Planning. Police are also advised of the change and are expected to enforce the new road speed limit once it is posted. Technically speaking, the respective Ministers can challenge and over-rule the local council's decision but this has not been known to occur (Personal communication, Peter McLinden, Manager, Transport and Infrastructure Services, Local Government Association of the Northern Territory, 2009;2010).

### **5.1.3 New Zealand**

Local Government in New Zealand are designated as Road Controlling Authorities (RCA) and have authority to write local bylaws to set speed limits on local roads. Bylaws are passed by local councils in accord with the Local Government Act 2002 (LGA 2002) and the Land Transport Rule 54001: Setting of Speed Limits 2003. Government documents show that the "...maximum speed limits under the bylaw are only applicable where a lesser speed is not imposed or dictated or implied by the Land Transport (Road User) Rule 2004" (Auckland Council 2010). RCAs can set speed limits other than 50 km/h on urban roads and less than 100km/h on rural roads and temporary speed limits.

To set speed limits the RCA must:

- Calculate the speed limit using New Zealand Land Transport Rule and ensure it is safe and appropriate
- Consult with people and organisations that will be affected by the proposed change in speed limit
- Make a bylaw
- Make all notifications as appropriate, e.g., Commissioner of Police; Director of Land Transport Safety.
- Record details of speed limits in a register (register must be maintained)
- Erect speed limit signs.

The RCA is responsible for ensuring all traffic control devices installed on roads are safe, efficient and appropriate before speed limits come into power. The RCA must also review the speed limit when a significant change to the road or environment adjacent to the road or if they receive a formal written request from the Director of Land Transport Safety. The RCA must demonstrate they have an audit process in

place to ensure quality of its procedures for reviewing and setting speed limits. Though New Zealand Land Transport Safety has authority to over-rule a speed limit bylaw this does not happen in practice (Personal communication, Colin Brody, New Zealand Transport Agency).

#### **5.1.4 Conclusion**

The review has identified that the Local Governments of the Northern Territory and New Zealand have independent authority for speed zoning on local area roads. This contrasts to the arrangement in Western Australia where Main Roads WA has singular authority over all roads for speed limit setting. Whilst there are provisions within the Road Traffic Code 2000 (WA) for Main Roads WA to delegate speed zoning authority, the councils surveyed did not uniformly seek to have *independent authority* but were more supportive of *sharing responsibility* with Main Roads WA for speed limit setting.

Local Government could be given greater responsibility if they were required to specifically address Main Roads WA Policy and Guidelines toward the proposal of a new limit. Main Roads WA, as a matter of formality, could then ‘sign off’ or ‘confirm’ the determination once they are satisfied that councils have sufficiently addressed all Policy and Guidelines to determine the new limit. This would expedite a faster acquittal of approvals and turn around by Main Roads WA staff. Naturally some level of training of Local Government staff would be required to ensure that applications meet the required criteria. Main Roads WA and the Western Australian Local Government Association should perhaps take note of the V-Limit application process used by VicRoads for its appropriateness.

Although not strongly endorsed by respondent councils, an alternative model would provide Local Government with full responsibility for speed zoning on local roads. This could be granted to ‘qualifying’ councils under the current Road Traffic Code 2000 (WA). Councils would qualify once having demonstrated appropriate capacity and skill to undertake the process; they might also be subject to a random yearly audit process to ensure consistency and appropriateness of performance. This arrangement would:

- dramatically reduce the speed zoning burden on Main Roads WA;
- improve the timeliness of the speed zone change review process and permit Local Government to respond more efficiently to speed limit concerns, and,
- streamline the administrative responsibilities of Local Government in line with their overall authority for the local road network.

Obviously some councils will have a greater capacity to meet such recommended additional requirements while others will be further burdened by the process if they lack appropriate finances, personal and skill. It is recommended that a thorough review be undertaken to determine what risks any changes to the existing system might present to the validity and reliability (consistency) of the speed zoning process and to the authority and credibility of Main Roads WA.

## **5.2 Speed Enforcement in Western Australia**

In this section the traffic offence of ‘speeding’ will be discussed in relation to the associated legislation, administrative procedures, police enforcement, and broader speed enforcement management issues.

### **5.2.1 Speeding offences and the administration of the offence**

Driving offences in Western Australia are regulated under the Road Traffic Act 1974 (WA) and the Road Traffic Code 2000 (WA). The Code is based on the Australian Road Rules 2000 and details the rules governing how, where and when motor vehicles are driven on Western Australia public roads and the penalties for the contravention of the rules (Mugliston, Ainsworth & Colebatch, 2007).

Part Three (Regulations 11-16) of the Code specifies the general and specific speed restrictions. In general, a motor vehicle driver is considered to have committed an offence if they:

*“..drive a vehicle in a speed zone, at a speed exceeding, in kilometres per hour, that indicated by the numerals on the speed limit sign, at the beginning of the speed zone”* (page 41).

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Other regulations are provided for specific speed zones such as School Zones, Pedestrian Malls, Shared Zones, Local Traffic Area, Freeways, Heavy Vehicle Speed Zones, and Bridges.

Penalties for speeding consist of both Demerit Points and Modified Penalty Units of \$50 value. The exception to this is Regulation 17(1) *Exceeding the speed limit by (a) not more than 9km/h* which does not attract a Demerit Point penalty but 1.5 Modified Penalty Units (i.e., \$75) only. Mugliston et al. (2007) state that Demerit Points are applied to driving offences where an element of danger exists. This is an interesting assessment given that speeds of up to 5km/h above the posted speed limit of 60km/h are known to double the risk of crash involvement (Kloeden et al., 1997).

Penalties for speeding do vary according to:

- the number of kilometres above the post speed limit the driver is travelling;
- whether the offence occurs during a designated state holiday period; if so, the Demerit Point penalty *only* is doubled, and,
- whether the offence is committed by a driver of a heavy vehicle; if so the penalties are higher.

The upper level speeding offence category is more than 40km/h. By default this category is in excess of 40km/h but less than 45km/h as speeds equal to or great than of 45km/h are regarded as a Reckless Driving offence and are considered under the Road Traffic Act 1974 (WA) (Mugliston et al, 2007). Drivers whose vehicle speeds are within the posted speed limit may nevertheless be deemed to have committed an offence under Section 18 *Reckless driving generally* if the vehicle speed is unsuitable for the road or travel condition. Obviously such an offence cannot be detected via automated speed enforcement but is reliant upon police to make such an assessment. Whether an assessment of this nature could similarly be undertaken by non-police enforcement personnel such as Local Government officers would depend on the powers bestowed on such persons under the Road Traffic Act 1974 (see section below on *Wardens* and *Special Constables*).

Drivers are notified of a speeding offence via a Traffic Infringement Notice (TIN) that is either issued ‘on the spot’ by the police officer who has detected the offence

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

or mailed to the registered owner of the offending vehicle for offences that are detected by the automated speed camera program. Whether non-police enforcement personnel should be permitted to stop a speeding vehicle and issue a TIN to the offending driver raises questions about the need for wider powers of non-police personnel to deal with other contraventions of the Road Traffic Act 1974 (such as suspected impaired driving; defective vehicles) or even non-traffic criminal offences that might be identified at the time of issuing the TIN at the roadside. As was noted in the review of the German model of Local Government speed enforcement, local authorities are restricted to automated enforcement activities.

Payment of the prescribed Modified Penalty Unit(s) by the driver within 28 days is accepted as an admission of guilt or offence by the driver and thus permits the allocation of any associated Demerit Point penalty. Failure to pay within 28 days will result in the issue of a 'Final Demand Notice' and an additional \$13.50 fee to be acquitted with 28 days. Subsequent failure to pay will result in the infringement being registered with the Fines Enforcement Registry for action by way of additional penalties and possible licence suspension. Drivers who dispute the offence may have the matter adjudicated in court but may be subject to an additional penalty and costs if found guilty. Registered owners of vehicles who are issued with a TIN under the automated speed camera program also have the right to review the photographic evidence supporting the offence and to have the infringement reissued to a nominated driver if they are not the offending driver. At present Western Australia does not have full owner-onus legislation; thus, vehicle owners cannot be held liable for a camera recorded offence they did not commit and cannot identify the driver for.

The procedures for processing and acquitting a TIN issued for a speeding offence raise a number of important administrative issues for potential Local Government involvement in speed enforcement. Firstly, it would appear impractical and financially unsound for Local Government to replicate the administrative resources required for the processing, issue, and follow-up of TINS and offending drivers, which can also include the loss of personnel for up to a day if required to present evidence in court as the issuing officer. The more practical and cost-efficient solution would be to use the existing police infringement management systems and resources. In the case of automated enforcement operations, it would be incumbent on Local

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Government to use detection equipment that can readily interface with police's proposed digitised infringement management police system. Clearly however, the increased demand on police's systems and resources through the increased deterrence activity and generation of additional TINs by Local Government would need to be met and offset by additional funding to police. The proposed digital camera system and processing would however be less resource intensive than the existing 'wet film' processes that are being phased out.

Monies from speed offences generated by the State's camera programs (speed and red-light) are in part credited to the Road Trauma Trust Account. The Road Safety Council Act 2002 *Section 12 (1) Road Trauma Trust Account* (p.7) notes that:

*"..there is to be credited to the Account one-third of each prescribed penalty paid pursuant to a photograph-based vehicle infringement notice."*<sup>1</sup>

The remaining two-thirds of camera generated offence monies are directed to consolidated revenue, along with all other traffic offence monies. For the financial year 2008-2009, approximately \$13million was credited to the Trust (Personal Communication Paul Gregson, Office of Road Safety, 2010).

Road Trauma Trust Account funds are used to (partly) fund the State's road safety initiatives, including additional police enforcement under the Strategic Traffic Enforcement Program. Trust funds cannot however be used to purchase infrastructure or equipment to support traffic enforcement activities (Personal Communication Paul Gregson, Office of Road Safety, 2010). Consequently, it would not be possible to use Trust funds to subsidise the purchase of additional speed detection equipment required for the non-police enforcement of speeding. Local Government would have to acquire speed detection equipment from WA Police or alternatively lease or purchase appropriate equipment and undertake some cost-recovery for this outlay. The other implication of the existing Road Safety Council Act 2002 is that Local Government could not retain or re-direct monies from speeding offences they issue for revenue raising purposes or even cost-recovery.

---

<sup>1</sup> The proportion will increase to 50% in July 2011 and 100% in July 2012

Some other cost-recovery or funding arrangement with the State will need to be developed, perhaps along the lines of the UK safety camera program funding arrangements. Supporting legislation and regulations would need to be developed to permit such a model.

### **5.2.2 Police enforcement of speeding**

Though police have sole responsibility for the enforcement of the State's regulations for speeding on gazetted public roads, the Commissioner of Police also has authority to deputise persons with powers to enforce road traffic laws. The Road Traffic Act 1974 (WA), the Road Traffic Code 2000 (WA), The Road Traffic (Administration) Act 2008 (see *Part 2-Administration-General Matters Sections 23 and 24*) and The Police Act 1892 (WA) are relevant to these activities.

Firstly, Part II –Administration Section 6 *Functions of the Commissioner of Police and the Director General* stipulates that the:

*The Commissioner of Police is responsible for the control and regulation of traffic, and the enforcement of this Act.*

The Commissioner for Police may delegate traffic enforcement and other responsibilities under the Act to approved 'Wardens'. Part II –Administration Section 6 *Functions of the Commissioner of Police and the Director General* states that:

*The Commissioner of Police may appoint wardens to perform —*

- (a) duties relating to the controlling of vehicles and pedestrians at children's crossings and pedestrian crossings;*
- (b) duties relating to the parking and standing of vehicles;*
- (c) duties of such other nature relating to the traffic regulation provisions of this Act as the Minister administering the Police Act 1892 may from time to time approve.*

Essentially, appointed Wardens have the same powers conferred by the Act on police. Part II –Administration Section 7 *Wardens* states that:

*For the purposes of the performance of the duties for which a warden was appointed under this section —*

- (a) the warden has such of the powers conferred by this Act on a member of the Police Force as may be prescribed; and*

***Local Government Enhanced Speed Enforcement Management Project: Phase One***

*(b) a reference in this Act to a member of the Police Force is to be read as including a warden if the regulations so provide.*

Also, Part VI- Miscellaneous Section 102 *Traffic infringement notices* states:

*(1) Where a member of the Police Force or warden has reason to believe that a person has committed any such offence against this Act as is prescribed for the purposes of this section, he may serve on that person a notice, in the prescribed form, (a **traffic infringement notice**) informing the person that, if he does not wish to be prosecuted for the alleged offence in a court, he may pay to an officer specified in the notice, within the time therein specified, the amount of the penalty prescribed for the offence, if dealt with under this section.*

In addition to the above, The Police Act 1892 (WA) Part III-Section 35 *Special constables* and Section 36 *Functions of special constables*, the Commissioner of Police has the authority to appoint Special Constables and to limit their authority to defined areas (i.e., traffic enforcement).

**35. *Appointing and terminating special constables***

- (1) The Commissioner may appoint any person as a special constable.*
- (2) The appointment of a special constable may be for such period and on such terms and conditions as the Commissioner decides.*
- (3) The appointment of a special constable must not include a term that provides for the payment of any remuneration to a special constable unless the Minister has approved the term.*

And...

**36. *Functions of special constables***

- (4) Without limiting subsection (3) or section 35(2), the document appointing a special constable may do any or all of the following —*
  - (a) limit the powers that the special constable may exercise;*
  - (b) limit when the special constable may exercise his or her powers or any of them;*
  - (c) limit where in the State the special constable may exercise his or her powers or any of them;*
  - (d) limit the circumstances in which the special constable may exercise his or her powers or any of them;*
  - (e) limit the offences in respect of which the special constable may exercise his or her powers or any of them;*

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

- (f) *limit the purposes for which the special constable may exercise his or her powers or any of them;*
- (g) *limit or prohibit the possession or use of anything that the special constable would otherwise be authorised under a written law to possess or use, despite the written law.*

Both the Warden and Special Constable provisions provide prima facie support for the authorisation of Local Government personnel to undertake traffic enforcement activities. The application of these provisions are exemplified by the appointment of officers of the Public Transport Authority of Western Australia (PTA) as Special Constables who have the authority to issue TINs to drivers for breaches of Regulation 107 of the Road Traffic Code 2000 (WA). This regulation relates to proceeding through a controlled railway crossing while the warning lights are flashing red. (Personal communication with Trevor Greenham, Manager, Public Transport Authority, 2010).

Whether Local Government would wish to take advantage of the legislative provisions that would permit them to undertake speed enforcement is another matter. As noted in the survey findings, around half of the respondent councils did not support the option to undertake enforcement of speeding with half also considering road safety in their local area would not be substantially improved if Local Government shared responsibility with police for the enforcement of traffic laws more generally. Issues of financing and personnel and skill were frequently cited barriers to this support. Clearly these are issues that need to be considered and addressed if enforcement by Local Government is to be considered an option.

The Road Traffic Act 1974 (WA) also addresses the matter of authorised speed measuring equipment and the persons who are qualified to use them, both of which have implications for Local Government involvement in speed enforcement should they pursue this authority.

Part VI- Miscellaneous Section 98A *Certain Measuring Equipment* states:

(1) *In this section **authorised person** means —*

(a) *in relation to distance measuring equipment —*

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

- (i) a member of the Police Force; or*
- (ii) a person certified by the Commissioner of Police as being competent to use the equipment;*
- (b) in relation to speed measuring equipment —*
  - (i) a member of the Police Force; or*
  - (ii) a person certified by the Commissioner of Police as being competent to use the equipment (page 201)*

Sub-sections (2) to (7) (pp. 202-203) provide further information regarding the type of measuring equipment, the evidentiary nature of measurements taken, and the training and competence of persons authorised to undertake measurements. The implications of these sections for Local Government, should they be involved in speed detection for enforcement purposes, is that they must obviously use approved measurement equipment and can only be authorised by the Commissioner for Police to use such equipment once appropriately trained and certified. Training is thus another cost to be considered along with sourcing measurement devices.

Automated mobile digital speed cameras operated by WA Police are the foundation to speed enforcement in Western Australia (see Cameron & Delaney (2006) and Palamara & Bosch (2005) for back ground material on the program). The program has continued to evolve, most notably with the move from ‘wet film’ processing to the digital operation. Information on the current program was provided by Acting Superintendent John Vivian (Specialist Services) and Inspector Mark Ridley (Enhanced Speed Enforcement Program) (Personal communication, 2010) and Inspector Col Murray (Personal communications , 2011).

As of April 2011, the number of cameras available for daily rotation has increased to around 23. All Multanova ‘wet film’ cameras having been ‘retired’ and have been replaced with digital Vitronic laser cameras. The cameras currently operate for around 3,000 hours per month. In December 2010, the number of hours of operation increased by 1,000 hours per month due to the employment of additional camera operators. Approximately six cameras are permanently deployed across the rural Western Australia areas of Geraldton; the Wheatbelt; Great Southern, and Albany. In the metropolitan Perth area cameras are typically deployed in the various policing regions of West Metropolitan, Nth West Metropolitan, South Metropolitan, East Metropolitan, and Central.

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

In contrast to previous times when cameras were only deployed in the forward or approaching mode and could not identify speeding motorcyclists, it is now possible to photograph vehicles from the rear or receding mode to capture the licence plates of speeding motorcyclists. By February 2011 six of the new Vitronic laser cameras will have dual camera capability. Though dual mode operation is expected to account for only 5% of all speed camera deployment, it is a significant development given that nearly 81,000 motorcyclists were photographed exceeding the enforceable speed limit in the period July 2000-June 2005 but could not be issued with a TIN due to the absence of a photographed registration plate (Palamara & Bosch (2005).

The deployment criteria for speed cameras is as follows and does not appear to have changed markedly since the review conducted by Palamara & Bosch (2005):

- on a road where a fatal crash or serious crash has occurred where speed is an element. Camera to be positioned at a similar time of day. Crash to have occurred within the last 2 years;
- at locations of 'speed related complaint' that demand positive response to inappropriate or unsafe driver behaviour (complaints to be derived from the Hoon Hotline in the metropolitan area);
- at school zone locations;
- at locations where speed in excess of the posted speed limit has been recorded by more than 15% of road users, and,
- at locations in accordance with the above criteria only.

Even though the criteria for the deployment of a speed camera to a site is clearly articulated, WA Police acknowledge their speed camera program is not necessarily supported by a strategic plan that address the number of hours a camera should be deployed to a site and over what period of time for maximum effect, and other criteria for the ongoing monitoring and evaluation of the success of deployment at a given site.

The above speed camera program is supported by additional automated speed detection technology, namely an expanding dual Red-Light/Speed Camera operation across metropolitan Perth intersections. There are 13 dual Red-Light/Speed Cameras

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

in operation; this number is expected to increase to 30 across 49 metropolitan intersections in April 2011.

One other technological development in speed enforcement since the review by Palamara & Bosch (2005) of relevance to the potential enforcement of speeding by Local Government is the WA Police's current use of the TruCam 2020 speed camera (Laser Technology Inc., 2010). The TruCam is a highly mobile hand-held or tripod mounted laser-based speed camera that captures both digital video and still images of speeding vehicles. The cameras can be operated in manual (operator activated) or automatic mode (speed activated) to detect vehicle exceeding the enforceable speed limit. WA Police are currently trialling 14 of these cameras in metropolitan Perth. At present, camera images cannot be uploaded in 'batch' mode to the Image and Infringement Processing System (IIPS). Consequently WA Police presently use the cameras to issue 'on the spot' infringement notices rather than process the images manually to issue a TIN to the registered owner of the vehicle. Police are hopeful that modifications to the IIPS will be completed by April 2011 to allow images to be easily uploaded to the system for processing and issue of a TIN.

The TruCam 2020 laser digital video speed camera represents a viable option for non-police enforcement of speeding. At a cost of \$14-\$20k (depending on purchase volumes) and with a five year warranty and requiring only annual calibration, the TruCam is both affordable and sustainable for use on low volume, single lane traffic lanes. Because set-up is around 10-15 minutes it is also a highly mobile piece of speeding monitoring equipment, thus allowing operators to quickly move from one local site to the next. The affordability and flexibility of this technology makes it an ideal consideration for the possible use by Local Government. With training, Local Government personnel could operate the cameras in automatic mode (set to automatically capture images of vehicles exceeding the nominated enforceable speed limit) on lower volume, lower speed Access and Local Distributor roads that typically receive little or no police enforcement.

It is reasonable to conclude that WA's speed camera program does not involve a formal partnership with Local Government to strategically target speeding on lower volume local area roads. At best, the relationship between WA Police and Local

Government appears ad hoc. Indeed, there was little evidence from the survey of Local Government members to indicate any significant sharing of vehicle travel speed information with police by councils to effect wide spread, systematic and strategic enforcement. For this to occur, councils would firstly need to develop a more systematic approach to speed monitoring, and secondly, a more systematic, efficient and timely method of sharing data with police. The suggestion that councils could provide police with a monthly listing of ‘problem local roads’ was not uniformly supported by surveyed councils; neither was the mandatory collection of vehicle travel speed data. Despite the absence of a formal data sharing and enforcement arrangement councils did however express a reasonable level of satisfaction for the frequency and effectiveness of local area enforcement of speeding by police. As an alternative to Local Government initiated camera enforcement of speeding, there is reason and scope to develop a program for the sharing of data between Local Government and WA Police to facilitate the strategic enforcement of speeding on local area roads. How this might be funded is an issue for examination in Phase Two of the project.

### **5.2.3 The development of a strategic ‘best practice’ plan for speed enforcement in Western Australia**

The speed enforcement landscape in Western Australia is likely to undergo further changes as a result of the acceptance and implementation of ‘best practice’ strategies in speed enforcement recommended by Cameron & Delaney (2006) and Cameron (2008). These reports were commissioned by the State’s *Enhanced Speed Enforcement Steering Committee* to assist police with the development of a business case for enhanced enforcement strategies. Tables 8 and 9 in Cameron (2008) present the revised recommended and alternative speed enforcement programs. The programs are revised from those presented in Cameron & Delaney (2006) because of the inclusion of ‘point to point’ camera initiatives. Both the recommended and alternative programs address both Urban and Rural roads using a mix of covert and overt (recommended program) and overt only (alternative program) enforcement through mobile, black spot and fixed cameras. These are broad ranging strategies that have a whole-of-State approach to increase both the actual and perceived threat of detection. How Local Government might contribute to the implementation of either

of these recommended programs is a matter for speculation here and further debate under Phase Two of the project toward the development of a final model(s).

**5.2.3.1 *Local Government's contribution to the strategy***

The initial justification for the consideration of a role for Local Government in the recommended strategy relates to its level of responsibility for the majority of the State's road network and their positioning across the broad land of Western Australia, particularly in rural and remote areas with comparatively low traffic volumes.

Their presence in these locations and their relatively strong presence in road safety in the metropolitan area would clearly assist with the implementation and/or maintenance of the various enforcement strategies recommended by Cameron (2008), subject of course to the availability of appropriately skilled staff and financing. For example, Local Government personnel could contribute to the increased hours of camera enforcement, and hence level of deterrence, proposed in the strategy via the operation of the highly mobile, easy to use LTI TruCam on both urban and rural roads at 'black spot' type locations selected from vehicle speed data collected by Local Government. It is recommended that this activity be overt in operation rather than covert to maintain Local Government's positive relationship with the community. Because the TruCam can only determine the speed of a single vehicle at any one time this technology would be limited to use on lower volume, lower speed single lane roads. The use of the TruCam technology is also dependent on WA Police modifying the IIPS to permit the 'batch' loading of digital images to the system. Fortunately there does not appear to be any legislative impediment to the outsourcing of camera operations to Local Government personnel. This can be authorised under existing legislation that permits the appointment of Traffic Wardens and Special Constables (once have completed the training to use speed measurement detection devices as required under the Road Safety Act WA 1974).

In addition to the 'outsourcing' of camera activities, Local Government can also assist and support the proposed strategy through the provision of timely and strategically collected speed monitoring data to 'inform' police camera operations. This would assist with the deployment of cameras and resources to the most

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

problematic roads for speeding. For this to occur however, Local Government would need to undertake a more thorough and timely program of Metro Count activity than is currently undertaken (as reflected in survey responses). Additionally, Local Government and WA Police would need to establish a protocol for the timely sharing and use of vehicle travel speed data.

What is encouraging and bodes well for the involvement of Local Government in the support of the recommended program of enforcement is the reported level of leadership and commitment among respondent council staff and elected members to support road safety. Consequently, Local Government personnel such as road safety officers and traffic engineers could also be harnessed to provide supportive educational-behavioural measures and local area traffic calming to support the proposed strategy of camera enforcement.

The major barrier to the contribution of Local Government to the proposed strategy is the acknowledged lack of physical and financial resources within councils to undertake additional road safety related activities. Clearly then, the contribution of Local Government to the proposed strategy would need to be appropriately financed and resourced. For example, Local Government would require funding to increase the level of Metro Count activity and to provide personnel and resources required for roadside camera activity. This could include funding to purchase equipment such as the LTI TruCam (which could be purchased either by WA Police or councils themselves), the running cost of vehicles, and even payment for Local Government camera operators to attend court as required. It is assumed that WA Police would provide all administrative resources required for processing the digital images and issue infringement notices. This review has already highlighted two possible funding models used in the UK, being a 'netting off' or cost recovery model and a road safety grant model. How these models can be financed will be considered in Phase Two of the project.

In conclusion, there are aspects of the proposed speed enforcement strategy that Local Government could contribute to, particularly in relation to fulfilling an outsourcing role for the increased number of camera hours of enforcement required (particularly on lower volume, lower speed roads) and the supply of extensive Metro

Count data to provide police with up to date information on the deployment of cameras and other enforcement options to problem local area roads. This would only be possible however, if appropriate resourcing were provided to support the involvement of Local Government. Without an increase in resourcing Local Government are unlikely to assist with the implementation of the proposed strategy.

#### **5.2.4 Speed data**

The collection and dissemination of valid and reliable data on speeding is crucial to the strategic management of the problem. In this section an overview will be presented on the available data on speeding in Western Australia (excluding Local Government monitoring data since this process has been investigated in the survey of councils) with discussion on how this information is shared. It should be noted that the bulk of this information is cited directly from a previous review of speed data by Palamara & Bosch (2005) and has been updated where necessary.

##### *Main Roads Western Australia*

Main Roads Western Australia is responsible for the network of highways and major roads. Discussions with MRWA indicate that vehicle speed data is collected under two circumstances. Firstly, it is collected by default or incidentally as part of their on-going core business of monitoring traffic (volume, type) across the road network. Secondly, speed data is collected in response to requests by the Office of Road Safety for the establishment of baseline data for specific evaluations of speed countermeasures (e.g., 50km/hour local road rezoning) and the provision of Key Performance Indicators for speeding. These measures will be discussed below.

MRWA surveys of traffic across the state road network using pneumatic vehicle classifiers occur approximately every two years. The survey records information on the class of vehicle using a particular road, the volume of traffic, and incidentally, traffic speeds. Data is available from the 1990's though some areas have data from the 1970s though it is not stored in the database and is therefore not readily accessible. Traffic measurements are not necessarily repeated for all locations as some locations are surveyed for a particular 'one-off' reason. According to MRWA staff, the data is not in a user-friendly format; their processes and software are very specific and as such, they do not release raw data for analysis or use by outside

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

agencies or groups. In circumstances where the data is provided to MRWA by local councils or shires, the data is 'validated' using tools within Main Roads' software. MRWA does not want it to be publicly known that their vehicle classifiers collect speed data 'by default' for fear that this will lead drivers to alter their behaviour.

MRWA has at the request and sponsorship of the Office of Road Safety (ORS) conducted state-wide free-travel speed surveys. The first survey on behalf of the ORS was conducted in 2000 (known as the 'baseline' survey) and has since been repeated in 2003, 2004, 2005, 2007 and 2008 (Radalj & Sultana, 2009). The data from these surveys are a Key Performance Indicator for the reduction in speeding. Free-travel speed surveys have also been conducted of 60km/h and 50km/h speed zones as part of the introduction of the 50km/h local road initiative.

Analysis of the data by Radalj & Sultana (2009) has produced findings for the distribution of vehicle speeds by speed zone and time of survey and region; mean and 85<sup>th</sup> percentile speeds for time of survey and region, and percentage change in vehicle speeds and change in mean speeds over time by region. This information is available in aggregated report form and but could under request be provided to Local Government by specific local area sites across the many years of collection.

#### *Western Australia Police*

Western Australia Police contributes three sources of speed related information. These include police reports of speed as a contributing factor to road crashes; operational data from the State's speed camera program, and the Traffic Infringement (INF) database. These three sources of speed information will be reviewed in the following sections.

WA Police attend approximately one in five police recorded crashes in Western Australia. Divisional officers who attend a crash are required to complete two possible reports. The first, known as the 1-18 Form is completed by officers who attend a serious injury crash. The second, known as the P72 Crash Report, is also completed by attending police officers (or members of the public) in the event of a non-injury crashes. These documents record the circumstances of the crash and the attending officer's judgement about speed (recorded as either 'Yes' or 'No') and

other issues as contributing factors. Information from these forms is entered into various crash database jointly maintained by WA Police and MRWA. Speed as a contributing factor is subsequently analysed by crash severity and is reported in the annual publication of *Reported Road Crashes in Western Australia* produced by the Road Safety Council. The judged contribution of speed to fatalities and serious injuries has been identified as a Key Performance Indicator for the State. There are however, a number of important limitations to the use of this data as an indicator of the problem of speeding and for the evaluation of the success of speed countermeasures.

Police data on the contribution of speed to crashes and injuries most likely underestimates the magnitude of the problem because police do not attend all crashes. Police will generally attend crashes that involve death or injury, in other words crashes in which higher speeds are more likely to be a contributing factor because of the severity of the outcome. However, from year to year a small percentage of fatal crashes may not be attended by police. Police are less likely to attend crashes where less excessive speed may have been a contributing factor and has not resulted in a serious injury, thus biasing the reporting of the contribution of speed to crashes.

While police will normally attend the most serious of crashes, a judgement about the contribution of speed may not always be made by police. The investigation by Palamara & Bosch (2005) identified considerable variation in the proportion of fatal injuries and fatal crashes assessed for the involvement of speeding, over the period 1998-2002. The factors underlying this variation are unknown and still require investigation.

At the heart of this variability are concerns for the validity and reliability of judgement made about speed as a contributing factor. The Major Crash Investigation Section (MCIS) of the WA Police advise that the judgement made by divisional officers about speeding as a contributing factor is based on the most elementary of facts such as eye witness accounts of vehicle speeds (which have been shown in the past to be less than accurate), driver self-report, vehicle damage, and perhaps some tyre skid marks. Unlike MCIS officers who undertake extended specialist training in

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

crash investigation and reconstruction, the instruction received by attending divisional officers is relatively brief and is geared toward the completion of the various crash reports rather than a comprehensive investigation of the factors contributing to the crash.

The most concerning aspect of the judgement of the contribution of speed is that police *do not* appear to have a strategy or process in place to determine the validity and reliability of the judgements made by attending divisional officers. A consequence of this is that the level of ‘measurement error’ in the reported contribution of speed to crashes and injury is unknown, which makes it difficult to determine the significance and importance of annual changes in the contribution of speed to fatal injuries and crashes. A more accurate understanding of the involvement of speed would be obtained through a full crash reconstruction but these are expensive and time consuming to conduct and require the involvement of specially trained officers of the MCIS. Operationally, MCIS staff will investigate all fatal crashes in the metropolitan Perth area and only those fatal crashes in the rural area of Western Australia where there is a surviving driver (for the purpose of gathering evidence to determine whether the surviving driver has committed a traffic offence and should be prosecuted) (Personal Communication WA Police, Mark Ridley, 2011).

A further source of data on speeding comes from the operation of the State’s speed camera program. The program generates a variety of operational data, including the number of camera hours; the number of vehicles passing through the camera, the proportion of vehicles exceeding the posted speed limit; the proportion of vehicles exceeding the ‘enforceable speed limit’ (which is the speed zone limit plus an undisclosed km/hour tolerance), and the number of infringements issued. This information can be readily obtained by year of operation and the area (metro versus rural) of operation. These details by camera site, speed zone, time of day, and day of week of operation are frequently analysed for quality assurance purposes. Aspects of this data provide important administrative and process information for the operation of the speed camera program and have been identified as an intermediate indicator of the efforts to reduce speeding. However, as a means of monitoring driver speeding behaviour it has many shortcomings. These shortcomings include inherent location

bias resulting from the deployment of cameras to areas most in need of enforcement; the selective deployment of cameras by time of day and speed zone, and the overt nature and advertising of the program which means that drivers may 'react' to the presence of the camera which thus biases the measurement of their usual travel speed.

The final source of police data on speeding is the issue of Traffic Infringement Notices. As a general rule, details of infringement notices for speeding are purged from the system five years after the date of offence. Because all offences are 'coded', it is possible to interrogate the INF database to analyse speeding offences by date, time, location, level of offence, and method of generation of offence (i.e., 'On the Spot' or speed camera). The involvement of certain types of vehicles such as goods or heavy transport vehicles may also be identified through an analysis of the code of speeding offence (though only for offences detected via On the Spot enforcement).

Statistical reports of the database are generated on a 'needs basis' for various sections of the WA Police. Upon request, police will supply infringement data to outside agencies for research purposes. The experience of one of the authors (PP) is that the data requires extensive sorting, manipulation and where necessary, linkage with other datasets if it is to be used for research purposes and to 'target' drivers by age, gender, and licensing status.

There are a number of limitations to the use of the INF data to measure the extent of speeding. The first is that infringement data for speeding is purged every five years which makes extensive retrospective analysis of the data and tracking of driver speeding behaviour over time difficult unless 'cuts' of the data have been progressively archived by police. Secondly, the database provides limited information about speeding by vehicle type. For example, infringements issued to drivers of 'goods' and 'heavy' vehicles may not necessarily be identified as offences involving these vehicles if the infringement was generated by a speed camera. Similarly, the INF database cannot discern infringements issued to speeding motorcyclists as no special category of speeding offence exists for motorcyclists. One final limitation of the INF data is that not all speeding offences generated by camera enforcement will be recorded in the INF database. For example, camera

### *Local Government Enhanced Speed Enforcement Management Project: Phase One*

generated offences that are cancelled because of an inability to identify the offending driver will not appear in the INF data (but would appear in the Camera Detection System database).

Although the data reflects only detected speeding behaviour which in turn will vary with the amount of enforcement undertaken, it nevertheless represents a useful source of population-based data for the calculation of offence rates per licensed driver according to various driver characteristics such as age, gender, licence type. This information is useful to determining the effect of countermeasures of specific target groups. It may be particularly useful to groups like Local Government if offences were geocoded to specify their exact occurrence to build intelligence around problem areas for speeding.

#### *Office of Road Safety Self-Report Tracking Surveys*

The Office of Road Safety has for many years undertaken a combination of face to face and telephone interview of road safety issues, including self-reported speeding behaviour and drivers' attitudes and opinion toward speed enforcement. This ongoing cross sectional surveying of road users across the State provides useful and timely information on the impact of both enforcement and mass media campaigning on the speeding related attitudes and (self-reported) behaviour of drivers, particularly in the 17-39 year age group for males. Whether these impacts are related to objective changes in driver speeding behaviour is unclear since no work has been done to link respondents' answers with objective outcomes such as speeding offences.

#### *Conclusion*

Of the various sources of speed data discussed above, perhaps the most reliable and useful source is that collected by Main Roads Western Australia as part of its ongoing monitoring of free travel speeds across the State on behalf of the Office of Road Safety. This data is based on a consistent and rigorous methodology. Its main drawback however, is the lag in time between collection, analysis and dissemination.

If Local Government and WA Police are to forge an effective and strategic partnership to manage speeding on local roads, police require data that is timely and contemporary. As a group, Local Government could assist with this requirement if

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

their vehicle travel count programs were considerably more systematic and regular. Unfortunately, it seems that many councils cannot or do not wish to maintain a rigorous program of vehicle travel speed monitoring. As previously mentioned, Local Government would require considerable financial incentive and support to undertake increased Metro Count activity to supply police with vehicle speed data for the strategic deployment of camera resources.

**6. SUMMARY AND CONCLUDING COMMENTS**

This phase of the *Local Government Enhanced Speed Enforcement Management Project* has sought to collate background material to assist with the development of one or more models for the contribution of Western Australian Local Government to the enforcement of speeding. The impetus for this project is the strong involvement of Local Government in the management and knowledge of nearly 90% of the State's roads on which 60% of crashes occurs, and, the identification of Local Government as a key stakeholder in the progress of the State's *Toward Zero* road safety strategy.

An extensive review of the published and unpublished literature and a search of internet websites identified some precedence for the contribution of Local Government to speed enforcement management. From this information the following three models of Local Government involvement have been articulated, which will be developed further in Phase Two and Three of the project:

4. the operation of an automated speed camera program with full deployment and financial control responsibilities and independence of police;
5. the operation of an automated fixed and mobile speed camera program under a local area partnership involving police and financed by government under a road safety grants scheme, and
6. the collection of and provision of vehicle travel speed information to police to support the strategic deployment of enforcement on local area roads.

Models 1 and 2 relate to the respective involvement of Local Government in Germany and the United Kingdom and represent alternative models to the traditional, singular authority of police for the legal enforcement of speeding. The appropriateness and viability of either of these models in Western Australia is dependent on a number of factors, not the least of those being the willingness of Local Government to accept a greater responsibility for speed enforcement management and secondly, the acceptance of the supporting arguments for their involvement by other State road safety stakeholders, particularly the WA Police. In regard to the former issue, the on-line survey of Local Government members identified mixed support across a number of possible speed enforcement

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

management options for Local Government. The views of road safety stakeholders toward one or more of the above models or their variants will be surveyed in Phase 3.

The Local Government survey responses did however show greater support for a more strategic and efficient alliance with police in regards to the sharing of speed data and the development of local road enforcement strategies. This is represented as Model 3. This proposal is in keeping with the model of Local Government participation that has been observed in NSW under the RTA's Local Government Road Safety Program where councils undertake the collection of vehicle speed data to assist police in the strategic deployment of enforcement resources to better target speeding motorists on local area roads. Western Australian Local Government presently undertakes vehicle speed monitoring using the Metro Count system, though the program of activity is less than systematic and routine. There is no formal data sharing arrangement with WA Police or even Main Roads Western Australia, except perhaps for Black Spot funding grants and applications to change posted speed limits. Major initiatives are required in both the level of monitoring and data sharing undertaken by Local Government before it can be a provider of timely data for planned intelligence led enforcement.

The above models highlight how Local Government could play a more supportive and partnering role for the existing speed enforcement program and indeed the program of 'best practice' strategies in speed enforcement recommended by Cameron (2008). Bearing in mind the developing nature of the State's speed enforcement program and the changing landscape of Local Government in Western Australia, this report has considered the possible contribution of Local Government to the proposed strategy as an 'outsourcer' of camera activities on lower volume, lower speed roads to help increase the number of enforcement hours specified in the strategy. Failing that, Local Government could restrict its involvement to the provision of timely speed data for the strategic deployment of speed enforcement resources by police on local area roads.

Notwithstanding the support required from local road safety stakeholders, the major barrier to Local Government participation in any future model of speed enforcement

***Local Government Enhanced Speed Enforcement Management Project: Phase One***

management is the sector's expression of a perceived lack of required physical and financial resources. The on-line survey responses of Local Government were very clear on this point: *Local Government does not have the financial or physical resources required to support their increased involvement and would thus need to be supported or compensated.* The financing model noted in Germany (for a Model 1 option) does not seem viable given the current legislation for the disbursement of monetary penalties in WA. A more realistic funding arrangement, irrespective of the model, is one based on a granting or local area partnership arrangement such as that identified in the United Kingdom. How this might be financed will be addressed in Phases Two and Three of the project.

Though some Local Governments considered that speed enforcement should not be their responsibility, other councils were concerned that there was no legal opportunity for them to undertake enforcement (as per a Model 1 and 2 scenarios) even if they wished to. However, the review of the State's current speed enforcement and management processes identified both legislative opportunities and barriers to an expanded role for Western Australian Local Government. A thorough examination of the legislation should be undertaken by a legal expert to be certain of what is possible under the existing legislation and what legislative or regulation changes might be required to permit the enforcement of speeding, particularly via automatic camera operations, by Local Government personnel.

At present, Local Government is working toward a more sustainable model of existence and service. For some members this may mean amalgamation or at the very least a sharing of services and infrastructures. How Local Government might undertake a greater role in speed enforcement management against this backdrop of change seemingly depends on the model(s) of physical and financial resourcing that can be developed. One possible arrangement is that councils form regional partnerships to apply for road safety grant funding to undertake speed enforcement in their local areas. Somewhat surprisingly however, the survey responses showed that not all respondent councils considered that working in partnership with another would necessarily improve road safety on their local roads. Clearly there is some tension among councils which should be addressed to pave the way for greater cooperation and sharing of resources to improve road safety in Local Government.

**6.1 Upcoming project tasks**

In Phases Two of the project the information and issues presented here will be considered by the project team and synthesised for presentation to Local Government representative to seek their opinions on the appropriateness and viability of possible models of speed enforcement management. The outcomes of this consultation will then be reviewed and the models refined, subjected to an economic analysis, and presented again to Local Government and local road safety stakeholders in an effort to finalise the best model/s for participation by Local Government. The final model/s will be tabled in the Phase Four project report.

**REFERENCES**

- Aarts, L., & van Schagen, I. (2006). Driving speed and the risk of road crashes: A review. *Accident Analysis & Prevention*, 38(2), 215-224.
- Andrew, C., & Goldsmith, M. (1998). From Local Government to Local Governance: And beyond? *International Political Science Review / Revue internationale de science politique*, 19(2), 101-117.
- Arizona Department of Public Safety. (2010). *Arizona Department of Public Safety announces the expiration of the Statewide Photo Enforcement Contract*. Retrieved August 3, 2010, from <http://www.azdps.gov/Media/News/View/?p=252>
- Auckland Council. (2010). *Have your say on the Speed Limits Bylaw*. Retrieved 09 June 15, 2010, from <http://www.waitakere.govt.nz/havsay/speedbylaw.asp>
- Australian Local Government Association. (2010). *Road safety: Australian Local Government Association*. Retrieved August 5, 2010, from <http://www.alga.asn.au/index.php?id=94526dc74319517f55ba9dc7aa458ece>
- BBC News. (2010). *More speed cameras to go across England amid cuts*. Retrieved November 2, 2010, from <http://news.bbc.co.uk/2/hi/programmes/newsnight/8931956.stm>
- Budalen, A. B. (2008). *Automatic Speed Control in Norway*. Retrieved June 10, 2010, from <http://www.nordicroads.com/website/index.asp?pageID=215>
- Burch, B. W., & Rowe, D. J. (2008). *Operational guidance for the data-led enforcement of speeding violations: Technical Assistance Consultant's Report* (No. TA 4698-PRC). Asian Development Bank.
- Cameron, I. (2008, September 26). *Consultation Process to Develop the Road Safety Strategy Towards Zero for Western Australia 2008 - 2020*. Paper presented at the 2008 Organisation for Economic Co-operation and Development Achieving Ambitious Targets Conference, Paris, France.
- Cameron, M. (2008). *Development of strategies for best practice in speed enforcement in Western Australia: Supplementary report* (No. 277). Victoria: Monash University Accident Research Centre (MUARC).
- Cameron, M. (2009). *Safety benefits of speed cameras*. Retrieved July 14, 2010, from <http://c-marc.curtin.edu.au/local/docs/CMARC%20Fact%20Sheet%205%20Speed%20Cameras.pdf>

- Cameron, M., & Delaney, A. (2006). *Development of strategies for best practice in speed enforcement in Western Australia: Final report* (No. 270). Victoria: Monash University Accident Research Centre (MUARC).
- Carnis, L. (2007). The automated speed enforcement system in Great Britain: between a technical revolution and administrative continuity. *International Review of Administrative Sciences*, 73(4), 597-610.
- Chen, G., & Warburton, R. N. (2006). Do Speed Cameras Produce Net Benefits? Evidence from British Columbia, Canada. *Journal of Policy Analysis and Management* 25(3), 661-678.
- City of Chicago, Citation Administration Division. (2010). *Parking and Red-light Citation Administration*. Retrieved June 12, 2010, from <http://www.cityofchicago.org/city/en/depts/rev/provdrs/citation.html>
- Decina, L. E., Thomas, L., Srinivasan, R., & Staplin, L. (2007). *Automated Enforcement: A Compendium of Worldwide Evaluations of Results*. Washington, DC: National Highway Traffic Safety Administration.
- Department of Infrastructure, Transport, Regional Development and Local Government. (2009). *Road Deaths Australia 2008 Statistical Summary, Road Safety Report No. 4*. Canberra, Australian Capital Territory: Department of Infrastructure, Transport, Regional Development and Local Government.
- Department of Local Government. (1981). *The Role and Origins of Local Government in Western Australia*. Perth, Western Australia: Department of Local Government.
- Department for Transport. (2008). *Rural Road Safety Demonstration Project - Background Note*. Retrieved June 19, 2009, from <http://www.dft.gov.uk>
- Department for Transport. (2009). *Road Safety Research Report 108: Contribution of Local Safety Schemes to Casualty Reduction*. London, UK: Department for Transport.
- Elvik, R., Høy, A., Vaa, T., & Sørensen, M. (2009). *The Handbook of Road Safety Measures* (2nd ed.). Bingley, UK: Emerald Group Publishing Limited.
- European Road Safety Observatory. (2007). *Speed Enforcement*. Retrieved June 12, 2009, from [http://ec.europa.eu/transport/wcm/road\\_safety/erso/knowledge/Content/20\\_speed/speed\\_enforcement.htm](http://ec.europa.eu/transport/wcm/road_safety/erso/knowledge/Content/20_speed/speed_enforcement.htm)
- European Union Community. (2007). *Norwegian local authorities*. Retrieved June 19, 2010, from [http://www.tft.gender.is/no/page/no\\_authorities](http://www.tft.gender.is/no/page/no_authorities)

- Gains, A., Heydecker, B., Shrewsbury, J., & Robertson, S. (2004). *The National Safety Camera Programme: Three-year Evaluation Report*. London, UK: Department of Transport, Road Safety Division.
- Gains, A., Nordstrom, M., Heydaker, B., Shrewsbury, J., Mountain, L., & Maher, M. (2005). *The National Safety Camera Programme: Four-year Evaluation Report*. London, UK: Department of Transport, Road Safety Division.
- Global Road Safety Partnership. (2008). *Speed Management: A Road Safety Manual for Decision-Makers and Practitioners*. Geneva, Switzerland: Global Road Safety Partnership.
- Government of Western Australia, Department of the Premier and Cabinet. (2009). *Road Traffic Act 1974, Road Traffic Code 2000* (Version 02-h0-05). Retrieved October 20, 2010, from <http://www.slp.wa.gov.au/>
- Government of Western Australia, Department of the Premier and Cabinet. (2010). *Road Traffic Act 1974* (Version 10-h0-00). Retrieved October 20, 2010, from <http://www.slp.wa.gov.au/>
- Government of Western Australia, Department of the Premier and Cabinet. (2010). *The Police Act 1892* (Version 14-c0-00). Retrieved October 20, 2010, from <http://www.slp.wa.gov.au/>
- Government of Western Australia, Department of the Premier and Cabinet. (2010). *Road Traffic (Administration) Act 2008* (Version 00-c0-00). Retrieved October 20, 2010, from <http://www.slp.wa.gov.au/>
- Heidstra, J., Goldenbeld, C., Gelau, C., Makinen, T., Jayet, M., & Evers, C. (2000). *Traffic Law Enforcement by Non-Police Bodies*. Europe: The "Escape" Project.
- Hommel, R. (1988). *Policing and punishing the drinking driver: A study of general and specific deterrence (Research in Criminology)*. New York: Springer-Verlag.
- Houston Police Department. (2010). *Red Light Camera Enforcement Safety Program*. Retrieved June 19, 2010, from <http://www.houstontx.gov/police/trafficsafety.htm>
- Johnson, M., & Howard, E. (2007). *Road Safety Vision 2010*. Burnaby, BC: Canadian Council of Motor Transport Administrators, Canadian Traffic Safety Institute.
- Jones, A. P., Sauerzapf, V., & Haynes, R. (2008). The effects of mobile speed camera introduction on road traffic crashes and casualties in a rural county of England. *Journal of Safety Research*, 39(1), 101-110.

- Kloeden, C. N., McLean, A. J., Moore, V. M., & Ponte, G. (1997). *Travelling Speed and the Risk of Crash Involvement: Volume 1 - Findings*. Adelaide, South Australia: National Health and Medical Research Council (NHMRC) Road Accident Research Unit, The University of Adelaide.
- Kloeden, C. N., McLean, A. J., & Glonek, G. (2002). *Reanalysis of Travelling Speed and the Risk of Crash Involvement in Adelaide, South Australia*. Adelaide, South Australia: Department of Transport and Regional Services, Australian Transport Safety Bureau, Road Accident Research Unit, The University of Adelaide.
- Ladyman, S., Scott, T., & Davies, A. (2007). *Second Review of the Government's Road Safety Strategy*. London, UK: Department for Transport.
- Langdon, N., Greaves, S., & Grzebieta, R. (2002, 3-5 November). *Implications of recent legislation for statutory road safety authorities: a case study in speed control measures*. Paper presented at the 2002 Road Conference, Adelaide, South Australia.
- Laser Technology, Inc. (2010). *TruCAM Laser Speed Gun with Video*. Retrieved October 12, 2010, from <http://www.lasertech.com/TruCAM-Laser-Speed-Gun.aspx>
- Legler, A. (2008). *Kommunale Verkehrsüberwachung in Bayern*. PhD Thesis. Würzburg, Germany: Julius-Maximilians-Universität.
- Leunig, S. (2007). *Die Regierungssysteme der deutschen Länder im Vergleich*. Opladen, Germany: Verlag Barbara Budrich UTB.
- MainRoads WA (n.d.). *Local Government*. Retrieved September 2, 2010, from <http://www.mainroads.wa.gov.au/buildingroads/Projects/LocalGovernment/Pages/LocalGovernment.aspx>
- Makarenko, J. (2007). *Local Government in Canada: Organization & Basic Institutions*. Retrieved June 12, 2010, from <http://www.mapleleafweb.com/features/local-government-canada-organization-basic-institutions>
- Marchant, R. J., Hill, D. L., Caccianiga, R. A., & Gant, P. D. (2008). *Reported Road Crashes in Western Australia 2006*. Perth, Western Australia: Road Safety Council of Western Australia.
- Ministry of Finance Sweden. (2005). *Local government in Sweden - organisation, activities and finance*. Stockholm, Sweden: Ministry of Finance.
- Morrison, D. S., Petticrew, M., & Thomson, H. (2003). What are the most effective ways of improving population health through transport interventions? Evidence from systematic reviews. *Journal of Epidemiology and Community Health*, 57(5), 327-333.

- Mugliston, P., Ainsworth, S., & Colebatch, H. G. P. (2007). *Traffic Law in Western Australia*. Australia: LexisNexis Butterworths.
- National Highway Traffic Safety Administration. (2009). *Countermeasures that Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices* (4<sup>th</sup> ed.). Washington, DC: U.S. Department of Transportation.
- New South Wales Consolidated Acts. (2010). *Road Transport (Safety and Traffic Management) Act 1999*. Retrieved September 24, 2010, from [http://www.austlii.edu.au/au/legis/nsw/consol\\_act/rtatma1999412/](http://www.austlii.edu.au/au/legis/nsw/consol_act/rtatma1999412/)
- New York City Department of Transportation. (2006). *City To Add 50 New Cameras To Red Light Camera Program*. Retrieved June 8, 2010, from [http://www.nyc.gov/html/dot/html/pr2006/pr06\\_51.shtml](http://www.nyc.gov/html/dot/html/pr2006/pr06_51.shtml)
- Nilsson, G. (2004). *Traffic safety dimensions and the power model to describe the effect of speed on safety: Bulletin 221*. Lund, Sweden: Lund Institute of Technology.
- Nouvier, J. (2008, September 25-26). *Speed Management, Successful Strategies*. Paper presented at the 2008 Organisation for Economic Co-operation and Development Achieving Ambitious Targets Conference, Paris, France.
- Oesch, S. L. (2009). *Statement before the Maryland Senate Committee on Judicial Proceedings on Senate Bill 277, Research on Automated Speed Enforcement*. Arlington, VA: Insurance Institute for Highway Safety.
- Office of Public Sector Information. (2006). *Road Safety Act 2006, Explanatory Notes (c.49)*. Retrieved November 1, 2010, from [http://www.legislation.gov.uk/ukpga/2006/49/pdfs/ukpgaen\\_20060049\\_en.pdf](http://www.legislation.gov.uk/ukpga/2006/49/pdfs/ukpgaen_20060049_en.pdf)
- Office of Road Safety. (2008). *Toward Zero - Recommended Implementation Plan 2009-2011*. Perth, Western Australia: Office of Road Safety.
- Office of the Queensland Parliamentary Counsel. (2010). *Transport Operations (Road Use Management) Act 1995* (Reprint No. 111 revised edition). Queensland: Office of the Queensland Parliamentary Counsel.
- Organisation for Economic Co-operation and Development (OECD) and European Conference of Ministers of Transport (ECMT) Transport Research Centre. (2006). *Speed Management*. Retrieved July 15, 2010, from <http://www.internationaltransportforum.org/jtrc/safety/SpeedSummary.pdf>
- Organisation for Economic Co-operation and Development (OECD) / International Transport Forum. (2008). *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach*. Paris, France: OECD.

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

- Palamara, P. G. & Bosch, B. (2005). *Review of speeding in Western Australia: Part One-Data sources and countermeasures: Report to the WA Office of Road Safety (RR158)*. Perth, Western Australia: Office of Road Safety.
- Pilkington, P., & Kinra, S. (2005). Effectiveness of speed cameras in preventing road traffic collisions and related casualties: systematic review. *BMJ*, 330(7487), 331-334.
- Port Stephens Council. (n.d.) *Lower Hunter Speed Project*. Retrieved June 5, 2010, from <http://www.portstephens.nsw.gov.au/>
- Povey, L. J., Frith, W. J., & Keall, M. D. (2003). *An investigation of the relationship between speed enforcement, vehicles speeds and injury crashes in New Zealand*. Paper presented at the Road Safety Research, Policing and Education Conference. Land Transport Safety Authority, New Zealand.
- Radalj, T. (2010). *Severity of crashes by region and road type, 2005 to 2009*. Unpublished Report. Perth, Western Australia: Main Roads WA.
- Radalj, T., & Sultana, S. (2009). *Driver Speed Behaviours on Western Australian Road Network 2000, 2003, 2004, 2005, 2007 and 2008*. Perth, Western Australia: Main Roads WA, Office of Road Safety.
- Raosoft, Inc. (2004). *Sample size calculator*. Retrieved March 12, 2010, from <http://www.raosoft.com/samplesize.html>
- Retting, R. A., Farmer, C. M., McCartt, A. T. (2008). Evaluation of automated speed enforcement in Montgomery County, Maryland. *Traffic Injury Prevention*, 9(5), 440-5.
- Retting, R. A., Kyrychenko, S. Y., & McCartt, A. T. (2008). Evaluation of automated speed enforcement on Loop 101 freeway in Scottsdale, Arizona. *Accident Analyses & Prevention*, 40(4), 1506-12.
- Roads and Traffic Authority (RTA). (2010). *Local Government Road Safety Program*. Retrieved September 15, 2010, from <http://www.rta.nsw.gov.au/doingbusinesswithus/lgr/downloads/programs/lgrsp.html>
- Rodier, C. J., Shaheen, S. A., & Cavanagh, E. (2007). *Automated speed enforcement for California: a review of legal and institutional issues: Research report (UCD-ITS-RR-07-37)*. Davis, California: Institute of Transportation Studies, University of California.
- Shaheen, S. A., Rodier, C. J., & Cavanagh, E. (2007). *Automated Speed Enforcement in the U.S.: A Review of the Literature on Benefits and Barriers to Implementation*. Davis, California: Institute of Transportation Studies, University of California.

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

- Simcic, G., & Townsend, E. (2008). *Managing Speed, Towards Safe and Sustainable Road Transport*. Brussels, Belgium: European Transport Safety Council.
- Stenson, K. (2005). Sovereignty, biopolitics and the local government of crime in Britain. *Theoretical Criminology*, 9(3), 265-287.
- Swedish Road Administration. (2008). *Annual Report 2007, Road Safety Cameras*. Sweden: National Police Board Swedish, Road Administration.
- Swedish Road Administration. (2009). *Annual Report 2008, Road Safety Cameras*. Sweden: National Police Board Swedish, Road Administration.
- Symonds, C. (2004). *Road Safety Research Report No. 53: Assessing the Casualty Reduction Performance of Local Highway Authorities*. West Yorkshire, UK: Department for Transport.
- The Government's Response to the Transport Local Government and the Region's Committee Report: Road Traffic Speed, Presented to Parliament by the Secretary of State for Transport by Command of Her Majesty*. (2002). Presented to Parliament by the Secretary of State for Transport by Command of Her Majesty, October 2002.
- Tingvall, C., & Lie, A. (2008, September 25-26). *Implementing the Safe System – a progress report*. Paper presented at the 2008 Organisation for Economic Co-operation and Development Achieving Ambitious Targets Conference, Paris, France.
- Turner, B., & ARRB Group. (2009). *Safe system infrastructure national roundtable*. Vermont South, Victoria: ARRB Group.
- Vancouver City Council. (1996). *Photo Radar in the City of Vancouver: Administrative Report*. Retrieved June 9, 2010, from <http://vancouver.ca/ctyclerk/cclerk/960326/a4.htm>
- Victorian Consolidated Legislation. (2010). Road Management Act (Regulation 13). Retrieved September 21, 2010, from [http://www.austlii.edu.au/au/legis/vic/consol\\_act/rma2004138/](http://www.austlii.edu.au/au/legis/vic/consol_act/rma2004138/)
- VTT Communities & Infrastructure. (1998). *MASTER - Managing Speeds of Traffic on European Roads: Final Report*. Finland: VTT.
- Western Australian Local Government Association (WALGA). (2006). *Systemic Sustainability Study, In Your Hands. Shaping the Future of Local Government in Western Australia: Final Report*. Perth, Western Australia: WALGA.
- Wilson, C., Willis, C., Hendrikz, J. K., & Bellamy, N. (2009). Speed enforcement detection devices for preventing road traffic injuries (Review). *The Cochrane Library*, 2009(1).

***Local Government Enhanced Speed Enforcement Management Project: Phase One***

Zaal, D. (1994). *Traffic Law Enforcement: A review of the literature*. Clayton, Victoria:  
Federal Office of Road Safety, Department of Transport, Monash University Accident  
Research Centre, Institute for Road Safety Research (SWOV).

**Appendix A:**

**Email to Western Australia Local Government members inviting their participation in the on-line survey**

**Dear <invitee>**

I am writing to invite your Local Government to participate in an **on-line** survey of speed enforcement that is being sponsored by the Road Safety Council of Western Australia via the Road Trauma Trust Fund.

We are a team of researchers from the *Monash University Accident Research Centre*, Melbourne, and the *Curtin-Monash Accident Research Centre*, Curtin University. We have been contracted by the *Western Australian Local Government Association* to review the role of Local Government in the management and potential legal enforcement of vehicle travel speeds. As you know, the legal enforcement of vehicle speeds is presently centralised through the Western Australia Police.

The **on-line** survey is the first in a number of project activities where Local Governments will have the opportunity to provide information about their management of speeding and their views on alternative models of speed enforcement involving Local Government.

Though WALGA has identified you as the most appropriate first point of contact in your Local Government for completion of the current survey, you may wish to have others within your Local Government consider the survey and provide a response to certain questions. If so, can you please pass this email on to those persons and ask them to visit the survey site. You and/or your colleagues will be able to enter the survey site and return as many times as it takes to complete the survey before finally submitting your survey (see the survey site for details on how to do this).

Please note that the survey is to be completed **ONCE** only; multiple submissions are not required. We require just one submission from your Local Government.

The current survey can be accessed by clicking the following hyperlink:

<http://lamp.health.curtin.edu.au/limesurvey/index.php?sid=88444&lang=en>

We anticipate that the survey will take approximately 30 minutes to complete.

At the site you will find further details about the project and the current survey; future activities you may be asked to participate in; your responsibilities and rights if you wish to participate in the survey, and our responsibilities as researchers.

I have also attached to this email a PDF version of the material located at the survey site (ie., the Information Page and the survey items) so you can preview it without having to enter the survey site. This document may help you decide which person or persons within your Local Government are appropriate to respond to the survey and what information you may need to have at hand before entering the survey site. The PDF document should *not* be used to complete the survey; this can *only* be done via the on-line survey site (see the above link).

We encourage you to **complete and submit the survey by Friday 19<sup>th</sup> March.**

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

If you have trouble accessing the survey page or have any questions about the survey, including the intended use of the survey responses, please contact me either by email or telephone (details below).

Thank you in anticipation of your interest and time.

Best wishes

Peter Palamara  
Research Fellow | Curtin-Monash Accident Research Centre | School of Public Health  
Curtin University of Technology | GPO Box U1987 | Perth | Western Australia 6845  
Telephone +61 8 9266 2304 | Facsimile +61 8 9266 2958 | Mobile 041 222 8510  
Email [p.palamara@curtin.edu.au](mailto:p.palamara@curtin.edu.au)  
CRICOS Provider Code 00301J

**APPENDIX B::**

**On-line Western Australian Local Government Phase 1 Survey:**

## **Western Australian Local Government Speed Enforcement Project**

---

### **Background to the Project**

Local Government plays an important role in the management of speeding via its engineering and behavioural/educational programs that aim to reduce vehicle travel speeds in local areas. Other strategies such as the setting and management of posted speed zones and their legal enforcement were once the responsibilities of Local Government but now respectively rest with Main Roads Western Australia and Western Australia Police. The overall purpose of this project is to readdress the role(s) for Western Australian Local Government in speed enforcement as part of the broader management strategy for speeding on local area roads.

### **Management of the project**

This project is being conducted by the *Monash University Accident Research Centre* (MUARC) in collaboration with the *Curtin-Monash Accident Research Centre* (C-MARC) on behalf of the *Western Australian Local Government Association* (WALGA). Sponsorship for the project has been provided by the *Road Trauma Trust Fund* of Western Australia.

The contact persons for this project are:

- Mr Warren Pearce, WALGA (08) 9213 2033 ([WPearce@walga.asn.au](mailto:WPearce@walga.asn.au))
- Mr Peter Palamara, C-MARC (08) 9266 2304 ([p.palamara@curtin.edu.au](mailto:p.palamara@curtin.edu.au))
- Mr Jim Langford, MUARC (08) 9266 9590 ([jim.langford@muarc.monash.edu.au](mailto:jim.langford@muarc.monash.edu.au))

In the first instance all enquiries should be directed to Peter Palamara, Research Fellow, C-MARC.

### **The current survey**

This survey is part of a larger program of project activities and objectives. The aims of the current survey are to:

- Identify the key activities of Local Government in the monitoring and management of vehicle travel speeds; and to,
- Determine the attitudes and preferences of Local Government toward various initiatives for speed enforcement and road safety more generally in Western Australia.

Survey respondents will be asked to answer a series of questions regarding their Local Government's past, present and future speed management and enforcement activities, and secondly, to indicate their attitude and preferences for a number of possible initiatives that could be undertaken by Local Government to assist with the legal enforcement of vehicle speed limits.

This information will be used to develop a range of options or models of speed enforcement for Local Government involvement that will be subsequently canvassed at workshops for Councils to obtain further feedback and refinement before proposing a final set of speed enforcement management roles.

Up to four persons from any one Local Government can be identified (ie., name, position) as respondents to the survey and can assist with the response to individual questions. Multiple

## ***Local Government Enhanced Speed Enforcement Management Project: Phase One***

respondents can access the survey once the completion process has commenced by following the 'Resume Later' instructions (*see below*). *Please note that we require the survey to be completed and submitted ONCE only (although up to four persons may assist with answers to the survey items).*

You can save and resume your survey before its completion and submission at any time by clicking the 'Resume Later' tab at the bottom left hand corner of the survey page. The first time you do this you will be prompted to enter a name, password and email address. You will then receive an email with a new link to follow to re-access your incomplete survey. Your Council colleagues may use this link to access the survey to add their responses to certain questions. You may also move forward and backward within the survey by pressing the appropriate arrows. Please note that only ONE person at a time should access your survey responses.

For assistance with completing the on-line survey please contact Peter Palamara, C-MARC, 08-9266-2304 or [p.palamara@curtin.edu.au](mailto:p.palamara@curtin.edu.au)

### **Who will have access to the survey information and how will it be maintained?**

The responses you give will be uploaded to an electronic dataset which will be stored on a secure network at C-MARC, Curtin University. Only MUARC and C-MARC research staff will be able to access your identified responses. While responses will generally be aggregated and reported in a manner that would *not* identify individual respondents or local government, some reporting circumstances might permit your organisation's identity and response to be known to WALGA. If you wish to ensure that your responses *always* remain anonymous to WALGA, please check the 'anonymity required' box at the commencement of the survey. *You will not be permitted to answer the survey questions until you respond to the question on anonymity.*

### **Informed consent**

This survey has been approved for distribution by the Human Research Ethics Committee of the School of Public Health, Curtin University of Technology. If you wish to speak with someone about the ethics of your participation in this project you may contact Linda Teasdale, Ethics Officer, Curtin University of Technology, (08) 9266-2784.

Your completion and submission of the on-line survey will be accepted as your *informed consent* to participate and of your understanding of your rights and involvement in the project, namely that:

- Information you provide will be used for the purpose of developing an understanding of local government initiatives to manage and enforce vehicle travel speeds and for the purposes of developing models of Local Government speed enforcement.
- Your participation in this survey is voluntary and that you may withdraw your consent at any time without prejudice.
- Your participation in this survey does not imply your consent to participate in future activities for the WALGA Speed Enforcement Project, though you may be invited to do so in the future.

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

- You have the right to keep your responses anonymous to the project sponsor, which means that we will not share your information with WALGA in a way that would identify you or your Local Government.

**Local Government Speed Management and Enforcement Survey**

Anonymity

Do you consent to your Local Government's survey responses being identified to the Western Australian Local Government Association?      YES    NO

You and your Local Government's details

Please provide the following details about yourself:

*Person 1*

Name: \_\_\_\_\_

Position: \_\_\_\_\_

How many years have you worked in Local Government?

*Person 2*

Name: \_\_\_\_\_

Position: \_\_\_\_\_

How many years have you worked in Local Government?

*Person 3*

Name: \_\_\_\_\_

Position: \_\_\_\_\_

How many years have you worked in Local Government?

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

*Person 4*

Name: \_\_\_\_\_

Position: \_\_\_\_\_

How many years have you worked in Local Government?

The name of your Local Government: \_\_\_\_\_

The name of the WA Police regional district for your Local Government:

\_\_\_\_\_

Monitoring of vehicle travel speeds

*Please answer the following questions about your Local Government's monitoring of vehicles travel speeds*

Does your Local Government conduct monitoring of vehicles and their travel speeds on local area roads?

*(Please indicate)*

YES                      NO [*go to Question X*]

How are vehicle travel speeds monitored by your Local Government?

*(please select those that apply)*

-MetroCount Vehicle Classifier system                      YES    NO

-Speed Alert Mobile units    YES    NO

-Other *(please provide details)*    YES    NO

\_\_\_\_\_

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

For the roads that apply in your Local Government area, how frequently do you monitor vehicle travel speeds on these roads?

*Respondents to select from the following response scale options*

- At least yearly
- Every 2 years
- Every 3 years
- More than 3 years
- As Required
- Don't know

District Distributor A: \_\_\_\_\_

District Distributor B: \_\_\_\_\_

Local Distributor: \_\_\_\_\_

Access Roads: \_\_\_\_\_

Please list the criteria your Local Government uses to determine which roads will be monitored for vehicle travel speeds. *For example, complaints from residents; incidence of crashes; a designated number of monitoring sites etc.*

---

---

---

---

Does your Local Government have a listing of designated sites for the monitoring of vehicle travel speeds? *If 'Yes', please indicate the number of sites on the list.*

YES    number of sites                      NO

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Across your Local Government's road network, how many sites were monitored for vehicle travel speed in the:

2008/2009 Financial Year:    %

2007/2008 Financial Year:    %

Please provide an estimate of the cost to your Local Government for monitoring vehicle travel speeds in the 2008/2009 financial year? *If 'unknown' please indicate so.*

\$    ,         Unknown

Do you have standardised procedures for local residents to report their vehicle travel speed concerns and for your Local Government's dealing with those concerns? *If YES, please provide details.*

YES (*please summarise the procedures below*)      NO

---

---

---

---

---

---

On average, how many complaints does your Local Government receive from local residents each month about vehicle travel speeds? *If unsure, leave blank.*

complaints per month

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Is the vehicle travel speed information you collect routinely reviewed by a particular individual or committee or other group in your Local Government? *If YES, please provide details of the person/position or committee/group; how often this review occurs, and what is the main purpose of the review.*

NO

YES

---

---

---

*Survey continues.....*

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Please indicate the various ways in which your Local Government uses the vehicle travel speed information it collects to manage local area speeding. *Please select as many as apply.*

-For general archival and monitoring purposes YES NO

-To develop engineering works programs for traffic calming YES NO

-To support applications to Main Roads Western Australia for a change in posted speed limits YES NO

-To support applications to, or consultation with, WA Police to undertake speed enforcement activities YES NO

-To undertake Local Government community-based educational campaigns to lower vehicle speeds YES NO

-To support funding applications to MRWA for Black Spot treatment YES NO

-To support funding applications to the Community Road Safety Grants Program YES NO

Other (*please write details below*) YES NO

---

---

---

---

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

If your Local Government shares vehicle travel speed information with *WA Police*, please detail *how* and *why* this sharing occurs and any problems with the process.

---

---

---

If your Local Government shares vehicle travel speed information with *Main Roads Western Australia*, please detail *how* and *why* this sharing occurs and any problems with the process.

---

---

---

Please indicate the main reasons why your Local Government *does not* monitor vehicle travel speeds.

---

---

---

Please indicate your level of *agreement* with the following statements for the monitoring of vehicle travel speeds by Local Government

*Respondents to select from the following response scale options*

strongly disagree  
disagree  
somewhat disagree  
neutral/unsure  
somewhat agree  
agree  
strongly agree

It should be mandatory for Local Government to monitor vehicle travel speeds on all local area roads at least once per year

Abiding minimum guidelines should be established for the analysis and reporting of vehicle travel speeds by Local Government

Vehicle travel speed data is under-utilised by Local Governments to manage the problem of speeding on local roads

At present, there are inadequate processes for the efficient sharing of locally collected vehicle travel speed information with agencies like Main Roads WA and WA Police

Local Government should provide to WA Police a monthly listing of problem local roads for priority speed enforcement activity.

Speed Management

*Please answer the following questions about your Local Government's activities to manage vehicle travel speeds. Separate questions are provided for engineering/road treatments, behavioural/educational initiatives, posted speed limits, and speed enforcement.*

What is the title of the person(s) within your Local Government who is (are) primarily responsible for the planning of engineering or road treatments to lower or calm vehicle travel speeds. *Please provide the name and position of this person(s).*

---

---

---

*Survey continues.....*

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Which of the following *road treatments* has your Local Government used over the last 3 years to lower or calm vehicle travel speeds?

*(Select as many as apply)*

Raised Plateau	YES	NO
Speed Humps/Cushion	YES	NO
Kerb Extensions	YES	NO
Slow Points (one or two lane)	YES	NO
Centre Blisters	YES	NO
Midblock Median Treatments	YES	NO
Roudabouts	YES	NO
Tactile Surface Treatments	YES	NO
Landscaping	YES	NO
Lane Narrowing	YES	NO
Line Marking	YES	NO
Road Closure (full or partial)	YES	NO
Other treatments <i>(please give details below)</i>	YES	NO

---

---

For the most recent financial year, what was the estimated cost for all of the *road treatments* used by your Local Government to lower or calm vehicle travel speeds?

\$   ,    ,

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

For the *road treatments* you have used, how would you rate the ‘*effectiveness*’ of each to reduce vehicle travel speeds?

*Respondents to select from the following response scale options*

- very ineffective
- mostly ineffective
- somewhat ineffective
- unsure/don't know
- somewhat effective
- mostly effective
- very effective

Raised Tables *(insert response option)*

Road Humps “

Road Cushions “

Kerb Extensions “

Slow Points (one or two lane) “

Centre Blisters “

Midblock Median Treatments “

Roudabouts “

Tactile Surface Treatments “

Landscaping

Lane Narrowing

Line Marking

Road Closure (full or partial)

Others initiatives *(please name below)*

---

---

---

“  
“

For the *road treatments* you have used, how would you rate the ‘*value for money*’ of each given the cost of the treatment and the effect of the treatment on vehicle travel speeds?

*Respondents to select from the following response scale options*

- very poor value for money
- poor value for money
- limited value for money
- unsure/don't know
- reasonable value for money
- good value for money
- very good value for money

Raised Tables

Road Humps

“

Road Cushions

“

Kerb Extensions

“

Slow Points (one or two lane)

“

Centre Blisters

“

Midblock Median Treatments

“

Roudabouts

“

Tactile Surface Treatments

“

Landscaping

Lane Narrowing

Line Marking

Road Closure (full or partial)

Others initiatives (*please name below*)

---

“

---

“

---

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

For the *road treatments* you have used, how would you rate the ‘*public acceptance*’ of each to reduce vehicle travel speeds?

*Respondents to select from the following response scale options*

- totally unacceptable
- mostly unacceptable
- somewhat unacceptable
- unsure/don't know
- somewhat acceptable
- mostly acceptable
- totally acceptable

Raised Tables

Road Humps “

Road Cushions “

Kerb Extensions “

Slow Points (one or two lane) “

Centre Blisters “

Midblock Median Treatments “

Roadabouts “

Tactile Surface Treatments “

Landscaping

Lane Narrowing

Line Marking

Road Closure (full or partial)

Others initiatives (*please name below*)

\_\_\_\_\_

“

\_\_\_\_\_

“

\_\_\_\_\_

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Which of the following *behavioural/educational* initiatives has your Local Government used over the last 3 years to lower or calm vehicle travel speeds?

*Select as many as apply*

- |  |     |    |
|--|-----|----|
| Speed Alert Mobile trailers to advise drivers of their travel speed  | YES | NO |
| Production and distribution of print media (eg, pamphlets, brochures, rubbish bin stickers etc) educating and reminding residents of the need for safe travel speeds | YES | NO |
| Community commitment programs or accords for residents to 'pledge safe driving'  | YES | NO |
| Programs to engage local residents to monitor and report speeding or 'hoon' related activity   | YES | NO |
| Co-operative arrangements with WA Police to undertake enhanced speed enforcement on local roads  | YES | NO |
| Workshops and/or speaker programs etc to educate residents about safe travel speeds  | YES | NO |
| Web-based material about safe travel speeds  | YES | NO |
| Other activities ( <i>please give details below</i> )  | YES | NO |

---

---

---

If your Local Government has *not* used any *behavioural/educational* initiatives in the last 3 years to clam vehicle travel speeds, please provide some details as to why this is so.

---

---

---

*Survey continues.....*

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

For the most recent financial year, what was the estimated cost for all of the *behavioural/educational* initiatives used by your Local Government to lower or calm vehicle travel speeds?

\$   ,    ,

For the *behavioural/educational initiatives* you have used, how would you rate the 'effectiveness' of each to reduce vehicle travel speeds?

*Respondents to select from the following response scale options*

- very ineffective
- mostly ineffective
- somewhat ineffective
- unsure/don't know
- somewhat effective
- mostly effective
- very effective

Speed Alert Mobile trailers to advise drivers of their travel speed

Production and distribution of print media (eg, pamphlets, brochures, rubbish bin stickers etc) educating and reminding residents of the need for safe travel speeds

Community commitment programs or accords for residents to 'pledge safe driving'

Programs to engage local residents to monitor and report speeding or 'hoon' related activity

Co-operative arrangements with WA Police to undertake enhanced speed enforcement on local roads

Workshops and/or speaker programs etc to educate residents about safe travel speeds

Web-based material about safe travel speeds

Other initiatives (please name below

---

---

---

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

For the *behavioural/educational initiatives* you have used, how would you rate the 'value for money' of each given the cost of the initiative and the effect of the initiative on vehicle travel speeds?

*Respondents to select from the following response scale options*

- very poor value for money
- poor value for money
- limited value for money
- unsure/don't know
- reasonable value for money
- good value for money
- very good value for money

Speed Alert Mobile trailers to advise drivers of their travel speed

Production and distribution of print media (eg, pamphlets, brochures, rubbish bin stickers etc) educating and reminding residents of the need for safe travel speeds

Community commitment programs or accords for residents to 'pledge safe driving'

Programs to engage local residents to monitor and report speeding or 'hoon' related activity

Co-operative arrangements with WA Police to undertake enhanced speed enforcement on local roads

Workshops and/or speaker programs etc to educate residents about safe travel speeds

Web-based material about safe travel speeds

Other initiatives (please name below

---

---

---

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

For the *behavioural/educational initiatives* you have used, how would you rate the '*public acceptance*' of each to reduce vehicle travel speeds?

*Respondents to select from the following response scale options*

- totally unacceptable
- mostly unacceptable
- somewhat unacceptable
- unsure/don't know
- somewhat acceptable
- mostly acceptable
- totally acceptable

Speed Alert Mobile trailers to advise drivers of their travel speed

Production and distribution of print media (eg, pamphlets, brochures, rubbish bin stickers etc) educating and reminding residents of the need for safe travel speeds

Community commitment programs or accords for residents to 'pledge safe driving'

Programs to engage local residents to monitor and report speeding or 'hoon' related activity

Co-operative arrangements with WA Police to undertake enhanced speed enforcement on local roads

Workshops and/or speaker programs etc to educate residents about safe travel speeds

Web-based material about safe travel speeds

Other initiatives (please name below

---

---

---

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Please indicate which of the following speed zones apply in your Local Government area.

*Select as many as apply*

30 kmph	YES	NO
40 kmph	YES	NO
50 kmph	YES	NO
60 kmph	YES	NO
70 kmph	YES	NO
80 kmph	YES	NO
90 kmph	YES	NO
100 kmph	YES	NO
110 kmph	YES	NO
Speed Delimited	YES	NO
Variable speed zoning	YES	NO

How satisfied are you that *all* of your Local Government area speed zones are credible and appropriate?

*Respondents to select from the following response scale options*

very dissatisfied  
mostly dissatisfied  
somewhat dissatisfied  
unsure/don't know  
somewhat satisfied  
mostly satisfied  
very satisfied

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

In the last 3 years, how many times has your Local Government applied to Main Roads Western Australia to have a local road speed zone *increased* or *decreased* and what percentage of applications was successful? If no applications have been made indicate '0'.

Applications to *increase* the speed limit

(number)     (% changed)

Applications to *decrease* the speed limit

(number)     (% changed)

How would you rate the *appropriateness* of Local Government having to apply to MRWA for changes to local government area speed zones?

*Respondents to select from the following response scale options*

- totally inappropriate
- mostly inappropriate
- somewhat inappropriate
- unsure/don't know
- somewhat appropriate
- mostly appropriate
- totally appropriate

Please summarise the main reasons why you believe the speed zone change application process to MRWA is *appropriate* or *inappropriate*.

---

---

---

---

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

How would you rate the *efficiency* of the process of Local Government having to apply to MRWA for changes to local government area speed zones?

*Respondents to select from the following response scale options*

- very inefficient
- mostly inefficient
- somewhat inefficient
- unsure/don't know
- somewhat efficient
- mostly efficient
- very efficient

Please summarise the main reasons why you believe the speed zone change application process to MRWA is *efficient* or *inefficient*.

---

---

---

---

Do you agree that Local Government should have *independent autonomy* to reclassify local area speed zones?

*Respondents to select from the following response scale options*

- strongly disagree
- disagree
- somewhat disagree
- neutral/unsure
- somewhat agree
- agree
- strongly agree

Please summarise the main reasons for *agreeing* or *disagreeing* with Local Government having independent autonomy to reclassify local area speed zones.

---

---

---

Do you agree that Local Government should *share* responsibility with MRWA to reclassify local area speed zones?

*Respondents to select from the following response scale options*

strongly disagree  
disagree  
somewhat disagree  
neutral/unsure  
somewhat agree  
agree  
strongly agree

Please summarise the main reasons for *agreeing* or *disagreeing* with Local Government sharing responsibility to reclassify local area speed zones.

---

---

---

How would you rate the level of co-operation between your Local Government and WA Police in determining the *locations* of speed enforcement activity by police on Local Government area roads?

*Respondents to select from the following response scale options*

no co-operation at all  
minimal level of co-operation  
moderate level of co-operation  
good level of co-operation  
very good level of co-operation  
unsure/don't know

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

How would you rate the level of co-operation between your Local Government and WA Police in determining the *frequency* of speed enforcement activity by police on Local Government area roads?

*Respondents to select from the following response scale options*

- no co-operation at all
- minimal level of co-operation
- moderate level of co-operation
- good level of co-operation
- very good level of co-operation
- unsure/don't know

Do you have any suggestions for improving co-operation between Local Government and WA Police for determining both the locations for and frequency of speed enforcement activity on Local Government area roads?

---

---

---

---

Over the last 12 months, what has been the average number of days per fortnight that WA Police have undertaken enforcement (eg, using *Multanova Speed Camera* or *Lasergun* detector) of speeding in your Local Government area? *Please give your best estimate*

days per fortnight

Don't Know

How satisfied is your Local Government with the *level* of police speed enforcement that occurs on a fortnightly basis in your Local Government area?

*Respondents to select from the following response scale options*

- very dissatisfied
- mostly dissatisfied
- somewhat dissatisfied
- unsure/don't know
- somewhat satisfied
- mostly satisfied
- very satisfied

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Please summarise the main reasons for being *satisfied* or *dissatisfied* with the level of police speed enforcement that occurs on a fortnightly basis in your Local Government area

---

---

---

---

Do you have any suggestions as to how police enforcement of speeding on your Local Government roads could be *increased*?

---

---

---

---

How would you rate the *effectiveness* of the current level of police enforcement to reduce speeding in your Local Government area?

*Respondents to select from the following response scale options*

- very ineffective
- mostly ineffective
- somewhat ineffective
- unsure/don't know
- somewhat effective
- mostly effective
- very effective

Do you have any suggestions as to how the *effectiveness* of police enforcement of speeding on your Local Government roads could be improved?

---

---

---

---

Do you agree that Local Government should have authority, in conjunction with police, for the legal enforcement of speed limits on Local Government area roads?

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

*Respondents to select from the following response scale options*

- strongly disagree
- disagree
- somewhat disagree
- neutral/unsure
- somewhat agree
- agree
- strongly agree

Please summarise your reasons for *agreeing* or *disagreeing* with Local Government sharing responsibility for the legal enforcement of speed limits on local area roads. Please detail the particular barriers or enabling factors that are relevant to *YOUR* Local Government *taking on* or *not taking on* this shared responsibility?

---

---

---

*Survey continues.....*



*Local Government Enhanced Speed Enforcement Management Project: Phase One*

How would you rate the level of *understanding* among your Local Government staff of the State's *Toward Zero* safe system road safety strategy?

*Respondents to select from the following response scale options*

- No Knowledge
- Limited Knowledge
- Reasonable Knowledge
- Good Knowledge
- Excellent Knowledge
- Unsure/Don't Know

How would you rate the level of *understanding* among the elected Councillors of your Local Government of the State's *Toward Zero* safe system road safety strategy?

*Respondents to select from the following response scale options*

- No Knowledge
- Limited Knowledge
- Reasonable Knowledge
- Good Knowledge
- Excellent Knowledge
- Unsure/Don't Know

Does your Local Government currently include safe system principles of road safety in any of its strategies, plans or policies? If YES, please give details and provide specific examples where appropriate.

YES *(please summarise policies or strategies)*

NO *(please go to the following question)*

---

---

---

---

---

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Please indicate the main reasons why your Local Government *has not* included safe system principles of road safety in any of its strategies, plans or policies

---

---

---

Please indicate your level of *agreement* with the following statements as they apply to your Local Government.

*Respondents to select from the following response scale options*

- strongly disagree
- disagree
- somewhat disagree
- neutral/unsure
- somewhat agree
- agree
- strongly agree

There is strong leadership among my Local Government's elected Councillors to undertake road safety related activities

There is a lack of appropriate officers within my Local Government to undertake road safety related activities

My Local Government has sufficient financial resources to undertake the road safety related activities it would like to do

There is strong support within the rate-payer community for my Local Government to undertake road safety related activities

There is a lack of strong leadership among my Local Government's officers to undertake road safety related activities

My Local Government has limited knowledge of the type of road safety related activities it could undertake to make the roads safer for all road users

My Local Government has difficulty involving other required road safety agencies in local road safety related activities

Working with other Local Governments in our regional area will increase the efficiency of my Local Government's undertaking of road safety related activities

Safety on my Local Government's roads would be substantially increased if local government were given shared responsibility for the enforcement of traffic laws.

*Local Government Enhanced Speed Enforcement Management Project: Phase One*

Please summarise the main reasons for *agreeing* or *disagreeing* with the statement that safety on your Local Government's roads would be substantially increased if Local Government were given shared responsibility for the enforcement of traffic laws

---

---

---

Are there any other comments your Local Government would like to make regarding the monitoring and/or management of vehicle travel speeds on local area roads, either past, present or future?

*Please write your comments in the space provided*

---

---

---

---

---

---

Thank you for your participation in this survey. If you have any further comments or suggestions please contact Peter Palamara, Research Fellow, Curtin-Monash Accident Research Centre, 08 9266-2304 or [p.palamara@curtin.edu.au](mailto:p.palamara@curtin.edu.au)