

Canadian Council of Motor Transport Administrators

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# Road Safety Vision 2010



Making Canada's Roads  
the Safest in the World

## Mid-Term Review

## Final Report



*CCMTA wishes to note this document is a third-party report commissioned by CCMTA to be an impartial and unbiased mid-term review of Road Safety Vision 2010*



# ***Canadian Traffic Safety Institute***

Canadian Council of Motor Transport Administrators

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## **Road Safety Vision 2010**

### **Mid-Term Review**

### **Final Report**

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**TABLE OF CONTENTS**

**EXECUTIVE SUMMARY.....ES-1**

**1 BACKGROUND..... 1**

1.1 STUDY OBJECTIVES ..... 1

1.2 STUDY METHODOLOGY ..... 2

1.3 THE REPORT ..... 3

**2 OVERALL TARGETS..... 5**

2.1 OVERALL TARGET ..... 5

2.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS..... 5

2.3 FATALITY RATES - PROVINCES & TERRITORIES ..... 6

2.4 ACTUAL PERFORMANCE AND REQUIRED PROGRESS..... 8

2.5 STATUS OF OVERALL PROGRAM ..... 20

**3 EFFECTIVE MANAGEMENT PROCESSES FOR ROAD SAFETY ..... 23**

3.1 THE SAFE SYSTEM APPROACH ..... 23

3.2 RESULTS FOCUS ..... 24

3.3 IMPLEMENTATION ARRANGEMENTS ..... 26

3.4 INTERVENTIONS ..... 37

3.5 AREAS WHERE GREATER EFFORT IS REQUIRED ..... 42

3.6 RECOMMENDATIONS ..... 42

**4 OCCUPANT RESTRAINTS ..... 45**

4.1 SUB-TARGET ..... 45

4.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS..... 45

4.3 NATIONAL OCCUPANT RESTRAINT PROGRAM (NORP) PROGRAM ..... 48

4.4 SEAT BELT SURVEYS ..... 50

4.5 STATUS OF PROGRAM..... 53

4.6 EXAMPLES OF INTERNATIONAL GOOD PRACTICE ..... 54

4.7 AREAS WHERE GREATER EFFORT IS REQUIRED ..... 54

4.8 RECOMMENDATIONS ..... 55

**5 IMPAIRED DRIVING..... 56**

5.1 SUB-TARGET ..... 56

5.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS..... 56

5.3 STRATEGY TO REDUCE IMPAIRED DRIVING PROGRAM ELEMENTS..... 58

5.4 STATUS OF PROGRAM..... 64

5.5 EXAMPLES OF INTERNATIONAL GOOD PRACTICE ..... 67

5.6 AREAS WHERE GREATER EFFORT IS REQUIRED ..... 68

5.7 RECOMMENDATIONS ..... 70

---

<b>6</b>	<b>RURAL ROAD SAFETY</b> .....	<b>77</b>
6.1	SUB-TARGET .....	77
6.2	ACTUAL PERFORMANCE AND REQUIRED PROGRESS.....	77
6.3	RURAL ROAD SAFETY PROGRAM ELEMENTS .....	79
6.4	STATUS OF PROGRAM.....	82
6.5	EXAMPLES OF INTERNATIONAL GOOD PRACTICE .....	84
6.6	AREAS WHERE GREATER EFFORT IS REQUIRED .....	86
6.7	RECOMMENDATIONS .....	86
<b>7</b>	<b>VULNERABLE ROAD USERS</b> .....	<b>88</b>
7.1	SUB-TARGET .....	88
7.2	ACTUAL PERFORMANCE AND REQUIRED PROGRESS.....	88
7.3	VULNERABLE ROAD USER PROGRAM ELEMENTS .....	92
7.4	STATUS OF PROGRAM.....	94
7.5	EXAMPLES OF INTERNATIONAL GOOD PRACTICE .....	95
7.6	AREAS WHERE GREATER EFFORT IS REQUIRED .....	96
7.7	RECOMMENDATIONS .....	96
<b>8</b>	<b>YOUNG DRIVERS</b> .....	<b>98</b>
8.1	SUB-TARGET .....	98
8.2	ACTUAL PERFORMANCE AND REQUIRED PROGRESS.....	98
8.3	YOUNG DRIVERS PROGRAM ELEMENTS .....	101
8.4	STATUS OF PROGRAM.....	102
8.5	EXAMPLES OF INTERNATIONAL GOOD PRACTICE .....	103
8.6	AREAS WHERE GREATER EFFORT IS REQUIRED .....	104
8.7	RECOMMENDATIONS .....	104
<b>9</b>	<b>SPEED-RELATED COLLISIONS</b> .....	<b>105</b>
9.1	SUB-TARGET .....	105
9.2	ACTUAL PERFORMANCE AND REQUIRED PROGRESS.....	105
9.3	SPEED AND INTERSECTION SAFETY MANAGEMENT (SISM) PROGRAM....	108
9.4	STATUS OF PROGRAM.....	111
9.5	EXAMPLES OF INTERNATIONAL GOOD PRACTICE .....	112
9.6	AREAS WHERE GREATER EFFORT IS REQUIRED .....	117
9.7	RECOMMENDATIONS .....	117
<b>10</b>	<b>INTERSECTION-RELATED COLLISIONS</b> .....	<b>119</b>
10.1	SUB-TARGET .....	119
10.2	ACTUAL PERFORMANCE AND REQUIRED PROGRESS.....	119
10.3	SPEED AND INTERSECTION SAFETY MANAGEMENT (SISM) PROGRAM....	121
10.4	STATUS OF PROGRAM.....	123
10.5	EXAMPLES OF INTERNATIONAL GOOD PRACTICE .....	124
10.6	AREAS WHERE GREATER EFFORT IS REQUIRED .....	127
10.7	RECOMMENDATIONS .....	127

<b>11 COMMERCIAL VEHICLE COLLISIONS .....</b>	<b>128</b>
11.1 SUB-TARGET .....	128
11.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS.....	128
11.3 COMMERCIAL VEHICLE SAFETY PROGRAM ELEMENTS .....	130
11.4 STATUS OF PROGRAM.....	132
11.5 EXAMPLES OF INTERNATIONAL GOOD PRACTICE .....	133
11.6 AREAS WHERE GREATER EFFORT IS REQUIRED .....	134
11.7 RECOMMENDATIONS .....	134
<b>12 HIGH RISK DRIVERS.....</b>	<b>135</b>
12.1 PROGRESS REPORT .....	135
<b>13 CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>136</b>
13.1 INTERNATIONAL COMPARISONS.....	136
13.2 CONCLUSIONS .....	136
13.3 RECOMMENDED PRIORITY ACTIONS - SUMMARY .....	140
13.4 THE CHALLENGE – MEETING THE TARGET .....	145

## LIST OF TABLES

Table1: Fatality Rates – 2005 (Transport Canada) .....	7
Table 2 – Year That Seat Belt and Child Restraint Legislation Commenced with Fines/Demerit Points.....	49
Table 3A: 2002-2004-2006 Rural Seat Belt Comparisons.....	52
Table 3B Comparison of the National Surveys.....	52
Table 4: Fatalities by Road User Class – 2001-2005.....	89
Table 5: Short term (immediate) priority areas of effort.....	141
Table 6: Medium term (1-2 years) priority areas of effort.....	143

**LIST OF FIGURES**

Figure 1A: Fatalities - Canada.....	5
Figure 1B: Serious Injuries - Canada .....	5
Figure 2A: Fatalities - Alberta.....	8
Figure 2B: Serious Injuries - Alberta .....	8
Figure 3A: Fatalities - British Columbia 5.....	9
Figure 4A: Fatalities - Manitoba.....	10
Figure 4B: Serious Injuries - Manitoba.....	10
Figure 5A: Fatalities - New Brunswick.....	11
Figure 5B: Serious Injuries - New Brunswick.....	11
Figure 6A: Fatalities - Newfoundland and Labrador.....	12
Figure 6B: Serious Injuries - Newfoundland and Labrador.....	12
Figure 7A: Fatalities - Nova Scotia.....	13
Figure 7B: Serious Injuries - Nova Scotia.....	13
Figure 8A: Fatalities - Northwest Territories.....	14
Figure 8B: Serious Injuries - Northwest Territories.....	14
Figure 9A: Fatalities - Ontario.....	15
Figure 9B: Serious Injuries - Ontario.....	15
Figure 10A: Fatalities - Prince Edward Island.....	16
Figure 10B: Serious Injuries - Prince Edward Island.....	16
Figure 11A: Fatalities - Quebec.....	17
Figure 11B: Serious Injuries - Quebec.....	17
Figure 12A: Fatalities - Saskatchewan.....	18
Figure 12B: Serious Injuries - Saskatchewan.....	18
Figure 13A: Fatalities - Yukon.....	19
Figure 13B: Serious Injuries - Yukon.....	19
Figure 14 Management and Coordination Arrangements for Road Safety in Victoria.....	31
Figure 15A: Fatalities - Unbelted Occupants - Canada.....	45
Figure 15B: Serious Injuries - Unbelted Occupants - Canada.....	46
Figure 15C: Unbelted Occupants Sub-target vs Baseline.....	47
Figure 16: Percentage of Occupants Using Seat Belts 2006 .....	51
Figure 17A: Fatalities - Drink Driving Crashes - Canada.....	56
Figure 17B: Serious Injuries - Drink Driving Crashes - Canada.....	56
Figure 17C: Impaired Sub-target vs Baseline.....	57
Figure 18: Summary of STRID program elements.....	64
Figure 19: Fatally injured drivers testing positive for drugs.....	74
Figure 20A: Fatalities - Rural Roads - Canada.....	77
Figure 20B: Serious Injuries - Rural Roads - Canada.....	77
Figure 20C: Rural Roads Sub-target vs Baseline.....	78

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Figure 21A: Fatalities - Vulnerable Road Users - Canada.....	88
Figure 21B: Serious Injuries - Vulnerable Road Users - Canada.....	89
Figure 21C: Vulnerable Road Users Sub-target vs Baseline.....	90
Figure 22A: Motorcycle fatalities in Canada – 1980-2005.....	91
Figure 22B: Motorcycle fatalities per 100,000 motorcycles registered.....	91
Figure 23A: Fatalities - Young Drivers - Canada.....	98
Figure 23B: Serious Injuries - Young Drivers - Canada.....	98
Figure 23C: Young Drivers Sub-target vs Baseline.....	99
Figure 24: Graduated Licensing Program in Canada.....	100
Figure 25A: Fatalities - Speed Related - Canada.....	105
Figure 25B: Serious Injuries - Speed Related - Canada.....	105
Figure 25C: Speed Related Sub-target vs Baseline.....	106
Figure 26A: Fatalities - Intersection-Related - Canada.....	119
Figure 26B: Serious Injuries - Intersection-Related - Canada.....	119
Figure 26C: Intersection-Related Sub-target vs Baseline.....	120
Figure 27A: Fatalities - Commercial Vehicle Involved - Canada.....	128
Figure 27B: Serious Injuries - Commercial Vehicle Involved - Canada.....	128
Figure 27C: Commercial Vehicle Sub-target vs Baseline.....	129
Figure 28: Fatalities Per Billion Vehicle Kilometres Travelled – OECD.....	136
Figure 29: Canada’s Fatality and Serious Injury Trend Lines To 2010.....	145

**LIST OF APPENDICES**

Appendix A: Road Safety Vision 2010 Workshop

Appendix B: Survey of CCMTA Road Safety Research and Policies Task Force

Appendix C: Road Safety Organizations and Agencies in Canada



## EXECUTIVE SUMMARY

### 1 OVERVIEW

Road Safety Vision 2010 is Canada's national road safety plan. It is the successor to the first national initiative, Road Safety Vision 2001, officially launched in 1996. The goal of Road Safety Vision is to make Canada's roads the safest in the world. Its strategic objectives are:

- To raise public awareness of road safety issues
- To improve communication, cooperation and collaboration among road safety agencies
- To enhance enforcement measures
- To improve national road safety data quality and collection.

Road Safety Vision 2010 emphasizes the importance of partnerships and the use of a wide variety of initiatives that focus on road users, roadways and motor vehicles. The adoption of Road Safety Vision 2010 by the Canadian Council of Motor Transport Administrators (CCMTA), and the official endorsement of its stated targets by the Council of Ministers Responsible for Transportation and Highway Safety in the fall of 2000, provided Canada's road safety stakeholders with targets against which to develop new strategies and measure intervention efforts. Annual Road Safety Vision reports have introduced the program, described Canada's action plan, reviewed successful road safety initiatives implemented in Canada and internationally, and outlined the benchmark data for the quantitative targets.

In June 2006 the Canadian Traffic Safety Institute was retained by the CCMTA to undertake a mid-term review of Road Safety Vision 2010. This review included:

- An assessment of the progress made by the provincial/territorial/federal governments towards achieving the strategic objectives and targets of Road Safety Vision 2010
- Identification of what measures in the various strategies have been implemented in each jurisdiction
- Identification of areas where greater efforts are required to achieve the targets
- Recommending possible changes in the targets
- Identifying the expertise and resources required to achieve the quantitative targets
- Comparing programs and targets in the world's safest countries.

This report outlines the findings of the review and makes several recommendations. It is structured as follows:

- **Chapter 2** reviews the progress towards the overall targets by all jurisdictions
- **Chapter 3** describes the management processes adopted by countries with the safest driving conditions
- **Chapters 4 through 12** review each of the sub-targets and outline the progress
- **Chapter 13** concludes on where greater focus is required, and makes recommendations.

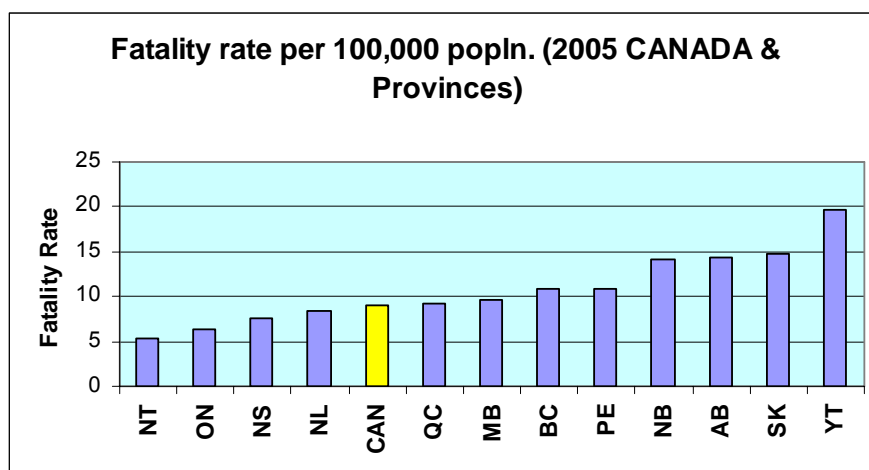
## 2 REVIEW OF PROGRESS

Progress at the end of 2005 (and confirmed by the recently available preliminary fatality figure for 2006 for Canada) towards the RSV 2010 fatality and serious injury targets is disappointing. While some sub-target areas have responded to the rollout of effective interventions, and the serious injury levels continue to fall, (although at less than half the desired rate), fatalities have rebounded to levels last experienced in 2002. It is important to recognize that some provinces/territories are in fact meeting the required reduction in fatalities and serious injuries, but **the overall Canadian position is unacceptable.**

**Why is Canada in this position?** Other similar jurisdictions internationally have continued to lower their fatality levels.

From 2002 to 2004, the fatality trend for Canada was sufficiently close to the required trend to support the view that the target was readily achievable. However, fatalities increased substantially in 2005, and again in 2006 (preliminary figures which are not included in this report).

In considering relative performance, it needs to be remembered that provinces and territories commenced their initiatives supporting RSV 2010 at different levels of performance. At the end of 2005, the absolute performance, as measured on the basis of fatalities per 100,000 population, remains different between provinces and territories. Saskatchewan, Alberta and New Brunswick have substantially higher fatality rates than the Canadian average. Ontario and the Northwest Territories have the best rates at less than half of the rate of the poorest performing province.



**Figure 1: Summary of performance on the basis of fatalities / population - 2005**

The jurisdictions that have achieved good performance in fatality reduction (in excess of the pro-rata target (i.e. where they should be in 2005 in order to meet 2010 targets) since the baseline years, are the Northwest Territories, Yukon, Prince Edward Island and Nova Scotia.

The jurisdictions where performance in fatality reduction since the baseline years has been disappointing are Alberta, British Columbia and New Brunswick. Fatality levels in these provinces have increased substantially since the baseline years.

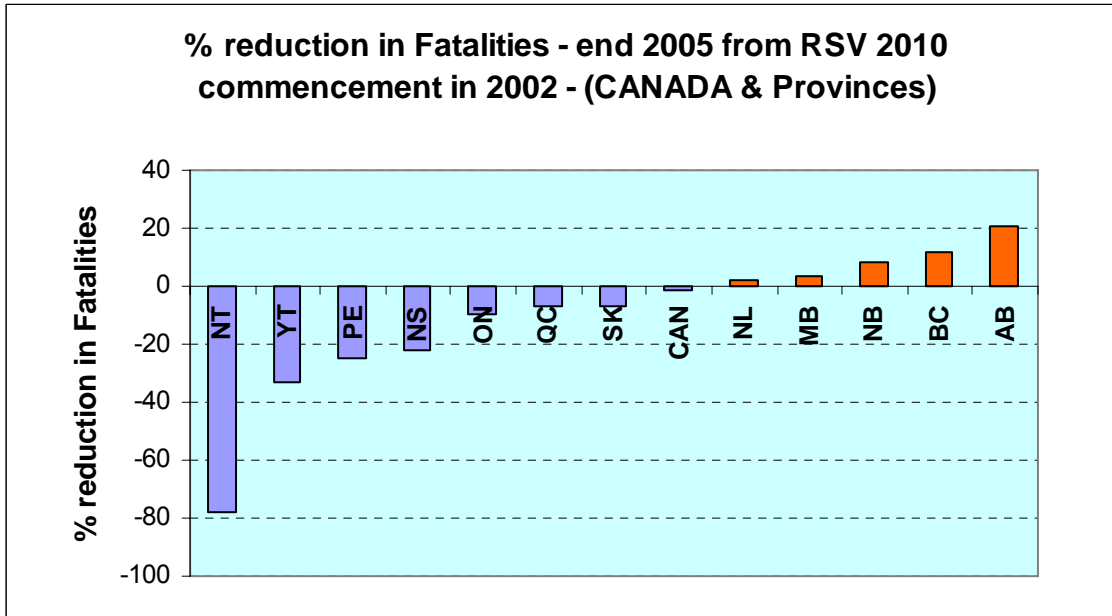


Figure 2: Performance - Fatality reduction (pro-rata target-13%) – 2002 to 2005

For serious injury reduction, the larger and generally more consistent data set, good performers (in excess of the pro-rata target) have been Prince Edward Island, Saskatchewan, Newfoundland and Labrador, Manitoba, New Brunswick, Nova Scotia, Ontario and Northwest Territories.

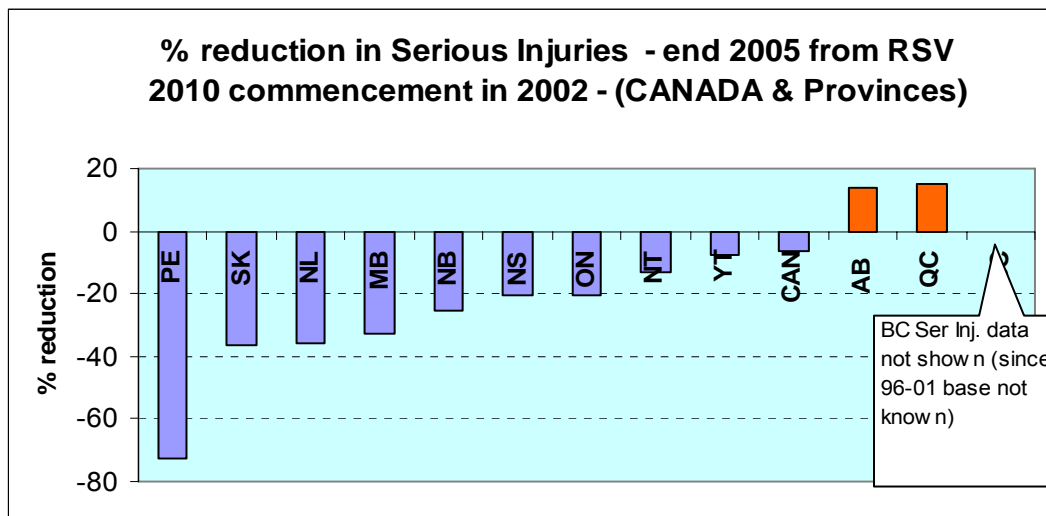


Figure 3: Performance – Serious injury reduction (pro-rata target -13%) - 2002 to 2005

And so there are a number of better performing provinces/territories and their performance needs to be acknowledged. However, the poor performance of other jurisdictions is preventing the required overall target trend being achieved, especially in the case of serious injuries.

At the end of 2005, there is not a sub-target area that is below the target trend line. The sub-target areas where performance has been most disappointing have been speed management, vulnerable road users, commercial vehicle involved crashes, drinking and driving, rural roads and in 2005, young drivers. At the end of 2005, only unbelted serious injury rates and intersection related fatality and serious injury rates were within reach of the required pro-rata sub-target.

Therefore, while it is considered unlikely that the established targets in RSV 2010 will be met, there is much to be done if improved movement towards the RSV 2010 targets and sub-targets is to be achieved. This will require the active commitment of Canada's road safety agencies and governments in all provinces and territories and at the federal level. There are also important opportunities for actions in the medium term that will, if embraced, not only assist movement towards the target, but importantly, will provide for increased effectiveness of any successor strategy (and achievement of associated targets) beyond RSV 2010.

### 3. THE THREE-TIER APPROACH

How is Canada (at the provincial, territorial and federal levels) approaching the task of managing road safety?

The current World Bank Transport Note (TRN-1) addresses this issue of road safety management. It emphasizes the importance of **implementation (institutional and management frameworks)** as underpinning effective road safety outcomes. It notes that worthwhile and effective **interventions** require and build upon this robust foundation / framework in order to achieve **outcomes / results**.

This three tier approach to the management of road safety overall is considered a highly useful model, with application for higher performing countries. As a means of assessing Canada's capacity to achieve the RSV 2010 and future targets, the review therefore set out to examine the road safety situation in Canada under the categories of:

- Implementation (institutional and management frameworks)
- Interventions
- Results (targets and outcomes).

Most of the existing emphasis in the RSV 2010 program is on achieving **results** (the target) and introducing the series of **interventions (strategies/actions)** that jurisdictions were encouraged to adopt.

While this focus is necessary, there is in fact little emphasis on the underpinning **implementation (institutional and management) frameworks** including the linkages to senior government levels. It is contended that the arrangements within these frameworks are fundamentally important in determining whether road safety operates successfully in any jurisdiction. These issues are discussed in more detail in Section 4.1 below.

Finally, it is encouraging that in the past couple of years, some jurisdictions have begun to develop a more strategic and collaborative approach to managing road safety. We are hopeful that in the latter part of the Road Safety Vision 2010 implementation (i.e. 2007-2010) greater progress will be made towards the targets. Planning for the next version of Canada's Road Safety Plan should commence within this time frame looking towards greater progress in the next 5-10 years and should have a more robust target setting mechanism (**results**), set out to comprehensively address the management and institutional framework (**implementation**) issues and of course, set and achieve the targets through the roll out of challenging **interventions**.

While all levels of government, as well as several instrumental public and private sector partners supported the announcement of the renewed plan, in many instances this support was not transferred into action - through any substantial allocation of additional resources or on-going commitment to major legislative change. Perhaps greater progress might have been made if all jurisdictions had been prepared to adopt improved road safety as a priority.

## 4. AREAS WHERE GREATER EFFORT IS REQUIRED

The areas which are considered to warrant focus in order to (a) improve performance and move towards achievement of as much as possible of the desired RSV 2010 target reductions in road trauma by 2010 and (b) to establish the strategies and settings for an effective successor strategy to RSV 2010, are summarised below under the headings of Implementation, Interventions and Results.

### 4.1 Implementation (institutional and management frameworks)

There is little in the area of improved road safety institutional, management and coordination arrangements (implementation arrangements) that was proposed in the RSV 2010 Actions.

While there has been a considerable level of research into interventions over the years, **little research has been carried out** into the institutional and management frameworks. In recent years, the awareness of the importance of this framework – how we organize ourselves to tackle road safety effectively - has developed and a number of papers have begun to seriously address it.

As indicated earlier, the current World Bank Transport Note – TRN-1 emphasizes the importance of implementation (institutional and management frameworks) for achieving road safety outcomes, together with the need for an approach targeting results/ outcomes and utilizing a series of worthwhile and effective interventions.

Canadian provinces/territories, to varying degrees, have embraced the latter two measures. However, the implementation approaches in most provinces/territories are not of good practice standard. As discussed above much could be done at the provincial/territorial level to improve road safety management arrangements.

At the **provincial/territory level**, these institutional and management arrangements should include, for example,

- A strong focus on day to day activity and planning (measuring performance, responding promptly and proactively to emerging issues including briefings for Ministers) for achievement of improved road safety outcomes
- The requirement to become more effective advocates within government, seeking to convince senior executive management in the first instance about the merits of your case, to gain their commitment to improved outcomes and then to engage the political level through them, with a clear ongoing focus on achieving road safety gains
- Identification and effective operation (with others) of the lead agency
- Developing the business cases for funding and pursuing improved allocations
- Effective active partnerships with research institutions
- Arguing strongly for legislative change
- Constantly review the adequacy and enforceability (for police) of legislation

- Seeking government support for more extensive, targeted, police enforcement
- Integrated, coordinated arrangements between the relevant agencies, both - vertically (i.e., levels of government) and horizontally (departments/ agencies within a level of government) -not as separate groups in behavioural, enforcement, infrastructure and vehicle safety activities who communicate infrequently – if at all - with each other
- Clear accountabilities for performance which are regularly measured and reported to government and the community
- Monitoring and evaluation of interventions.

At the ***national level***, the fragmentation of practitioner groupings between behavioural, enforcement and infrastructure/speed limit issues in particular, limits development of comprehensive responses to road trauma and does not provide an optimum model for multi-sectoral management arrangements at provincial/territorial level, limiting identification, adoption and rollout of integrated solutions.

Working together offers the promise of substantial benefits and provides a stronger basis for approaches to government seeking support for programs.

A good example of the need for close working relationships is enforcement. This cannot just be left to police to do their best. Strong partnerships require all agencies to agree to the inputs necessary, the intermediate outcomes to be achieved (e.g. percentage of alcohol impaired drivers, free speeds, seat belt wearing rates) and the final road trauma reductions to be achieved. A combined approach to government, recognizing the primary police role but, for example, supporting them in advocacy (within and outside government), the combined production of public information materials and involvement in media appearances to support enforcement efforts (well prior to, and during rollout) are examples of activities required from a genuine partnership. Without this support, change is less likely to be successfully introduced.

These are major challenges for CCMTA in reassessing its road safety activity in the immediate future. It will require an engagement of the various committees with infrastructure, speed limit setting, vehicle safety, justice and enforcement specialists as an essential means to obtain a broader perspective not only of the intervention related issues, but also the effectiveness of the road safety management effort. The challenge will be to provide support to the jurisdictions to address these matters, provide guidance about highly effective, focused interventions and to work together in a multi-sectoral way to obtain support within the provinces/territories and at the federal level, for their implementation and delivery.

It will be important to encourage timely reporting of trauma and other performance data to governments and the public.

While the critical work of introduction of change and the detailed development, advocacy and negotiation of those changes will continue to occur at provincial/territorial level, the vital role of CCMTA road safety committees in providing professional and policy development leadership nationally requires strengthening in these activity areas.

## 4.2 Interventions

It must be said that interventions are considered weak for some sub-target areas, such as speed-related crashes, vulnerable road user crashes, commercial vehicle involved crashes, rural road crashes and drinking driving. There would be substantial benefit in strengthening these measures, in addition to adopting a Safe System approach (see Section 3.1 of the report) to interventions. This could bring about improved outcomes developed around addressing particular crash types (such as run off road, head-on, intersection and pedestrian-involved), but could also encourage the closer working arrangements between agencies that would be required.

The inadequacies of the planned interventions in the above sub-target areas have been compounded by poor performance, generally – for Canada in aggregate – in delivering these interventions.

Determining specific causation would require detailed evaluation studies. However, there has been unequivocal comment from jurisdictions and stakeholders about **reduced levels of police enforcement** effort since 2001 and some evidence from a jurisdiction that supports this position. This would be consistent for example with an increase in mean free speeds for the provinces where speed-related fatalities and serious injuries have increased, but this link needs to be established.

Given the policy trends across the provinces/territories in the last 5 or so years (removal of automated speed enforcement in some provinces and the lack of far-sighted initiatives to increase the scope, depth and effectiveness of speed and drinking driving enforcement in particular through changes to legislative and regulatory arrangements with associated police funding for increased road safety enforcement in most provinces), it is hardly surprising that fatality and serious injury numbers in many jurisdictions have been disappointing.

Governments need to **not only maintain the all important enforcement resource** to avoid rapid deterioration in road trauma due to impaired driving (alcohol, drugs, distraction, and fatigue), speeding and lack of seat belt wearing, but also to:

- Strengthen the mix of policy instruments in use to better address these and other key challenges
- Allocate increased resources to support their rollout and enforcement
- And improve public awareness of the scale of risk these issues represent for the community.

These are vital road trauma reduction issues.

**Vulnerable road user, commercial vehicle involved and rural road crash** casualties are also unacceptably high. It is possible that the vulnerable road user increase in casualties is a reflection, among other matters, of poor levels of resourcing for enforcement, an inadequate policy response to the growth of motorcycling activity and a lack of investment in targeted infrastructure safety measures to improve pedestrian safety. It is likely that rural road crash risk and commercial vehicle involved crash risk would both be reduced by increased targeted enforcement and targeted infrastructure safety measures to improve vehicle occupant safety.

**Political will** to acknowledge (a) the irrefutable benefits of random breath testing and automated speed enforcement, (b) the need for tougher alcohol offence penalties at BAC levels below 0.10% and (c) the responsibility to lead the public debate to achieve the introduction of these and other measures is needed in Canada. Future generations of Canadians may judge current governments harshly if they do not campaign for and achieve regulatory change and ensure they are not just giving lip service to improving road safety without showing political leadership.

### **4.3 Results**

In terms of results, the timeliness of the current provision of up to date road trauma outcome data, through CCMTA to the Deputy Ministers and to Ministers, let alone to the public, is unacceptable in terms of good international practice.

It is a poor reflection upon the provinces/ territories that monthly or even quarterly reporting of fatality data, even if it is provisional in nature, to the federal level does not take place. Provisional fatality data could be collected from police each week with later periodic adjustment as police/coronial crash files are closed and some deaths are determined to not be road deaths as defined.

This needs to be addressed as an immediate and highly important measure. CCMTA needs to champion and achieve this improvement.

It is not clear how different progress towards the overall target may have been if jurisdictions had implemented all the measures that were suggested in RSV 2010. The absence of a quantified target based on modeling inputs and outcomes makes it impractical to assess how likely it was from the outset that the target could have been achieved.

To be credible, future targets should relate input interventions to expected quantified impacts on fatalities and serious injuries. This planning approach is most useful for determining the likely outcome of a strategy but it is also a basis for a dialogue between the practitioners and the political level to agree on implementation arrangements and interventions, including levels of funding, required legislative change and the performance required on an annual basis to move towards the target.

## **5. PRIORITY AREAS FOR EFFORT**

Tables 5 and 6 in Chapter 13 of this report summarize the identified priority areas for effort in the short term (immediately) and the medium term (1 to 2 years), and is based on the following framework:

<b>Time frame</b>	<b>Road safety management element</b>	<b>Responsible organization</b>
<ul style="list-style-type: none"><li>• Short term (now)</li><li>• Medium term (1-2 years)</li></ul>	<ul style="list-style-type: none"><li>• Interventions</li><li>• Implementation</li><li>• Results</li></ul>	<ul style="list-style-type: none"><li>• CCMTA (CC)</li><li>• Provincial/Territory Govts. (P/T)</li><li>• Federal Government (including Transport Canada) (FG)</li></ul>

Within the full report, recommendations (actions) are identified in more detail following each of the individual chapters, responding to current performance against the overall Canadian targets and the individual Canadian sub-targets and the identified priority areas for effort.

To facilitate prioritization of effort by CCMTA and jurisdictions and the marketing of proposals to governments by practitioners, a more focused summary of recommended priority actions is presented here, drawing upon those included in more detail throughout the report.

## 5.1 SUMMARY – PRIORITY ACTIONS - SHORT TERM

### Interventions

#### 1) Speed Management

- Identify mean free travel speeds on urban and rural road networks, estimate the **potential annual savings** in fatalities and serious injuries if free speeds were reduced to posted speed limits and brief Ministers (Police, Justice, Roads, Health) about the benefits and costs of introducing substantially increased speed enforcement, to obtain their commitment and resourcing. (P/T)<sup>1</sup>
- Increase **public awareness** of the role of small increases in speed beyond safe system limits in dramatically increasing fatalities and serious injuries including TV advertising campaigns such as the "Wipe off 5" campaign used in Victoria, Australia in recent years. (P/T)
- Substantially expand **automated camera enforcement** in urban and rural areas. (P/T)
- Start **enforcing speed limits** at no more than a few kilometres an hour above the posted limit. (P/T)
- Strengthen **finest**, increase **demerit points** for speeding offences, and lower demerit point and suspension thresholds. (P/T)

#### 2) Impaired Driving

- Request the federal Minister of Transport to seek government agreement to establish a **Federal Parliamentary Committee** of Inquiry into drinking and driving in Canada. (FG)<sup>2</sup>
- **Brief key Ministers** in government responsible for Police, Justice, Roads, Health about substantial expansion of random check point activity, associated breath testing of drivers and riders and alcohol interlock programs to obtain commitment and resourcing. (P/T, FG)
- **Review and strengthen** the CCMTA recommendations within STRID 2010 and the STRID 2005 Strategy to Address Lower BAC drinking drivers. (CC)<sup>3</sup>

#### 3) Occupant Restraints

- Each jurisdiction should continue working towards the **removal of exemptions** for the non-use of seat belts. (P/T)
- Each jurisdiction should **target the high-risk driver** by increasing the monetary cost of an infraction and by introducing or increasing the number of demerit points for non-use of seat belts and child car seats. (P/T)

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<sup>1</sup> Provincial / Territory Governments

<sup>2</sup> Federal Government

<sup>3</sup> CCMTA

4) **Road Network Improvement**

- Assess road network wide risks by major crash type and identify **cost-effective prioritized and innovative** infrastructure interventions (such as carefully targeted/risk assessment based roadside barrier treatments or roadside hazard removal) which present a strong business case for large scale cost-effective programs to be funded by insurers or government. (P/T, FG)
- **Measure crash risk levels** across the network on the basis of travel as a key ongoing performance indicator. (P/T, FG)

5) **Vehicle Safety**

- Increase promotion of **vehicle safety information** and benefits to the public. (P/T, FG)
- Provide strategic leadership (and boost market demand for safety features) by ensuring new **government fleet vehicles** are suitably equipped. (P/T, FG)
- **Measure proportion** of vehicles entering the Canadian Fleet each year with key vehicle safety features such as electronic stability control and side curtain airbags and by overall crash protection ratings. (FG)

6) **Motorcycle Safety**

- Develop a **comprehensive and collaborative strategy** and action plan in association with motorcycle representatives to address motorcycle safety that is broader than just motorcycle training programs. (P/T)

7) **Pedestrian Safety**

- In areas of pedestrian activity, review speed limits (and reduce where risk is higher), implement engineering measures - fencing, footpaths, crossing provision with refuges and substantially increase enforcement and associated publicity. (P/T)

8) **Vulnerable Road User Safety**

- Develop a **Vulnerable Road User strategy** and action plan including the measures set out above for motorcycle and pedestrian safety, plus further longer term measures (including cyclist safety measures). (P/T)

## Implementation

### 9) Action plans and reporting

- Prepare **3 year action plans** now to address key issues in each province/territory. Ensure key recommendations above for speed and drinking and driving legislation and enforcement plus road network improvement, motorcycle and vulnerable road user safety actions, together with specific other local issues are targeted. (P/T)
- Deputy Ministers to be **accountable** for delivery and CCMTA's Standing Committee on Road Safety Research and Policies will report on action plan development and roll out. (P/T and CC)
- Improve **direct reporting** (and associated briefing) to the relevant Deputy Minister and Minister (on the Council of Ministers) with responsibility for road safety. (P/T)
- Adopt the **end of 2010** as the target date for achievement of RSV 2010 targets rather than the average of 2008-2010. (CC, FG, P/T)

### 10) Management and Coordination

- Identify the lead agency for road safety, introduce effective coordination and management arrangements, clearly identify departments' accountabilities for results and complete and implement road safety strategies including modeled targets. (P/T)

### 11) Develop integrated activity between road safety practitioners

- Build **stronger linkages** between infrastructure, vehicle safety and behavioural program practitioners to achieve integrated safety programs, particularly between TAC and CCMTA. (P/T, CC, FG)
- Adopt **safe system thinking** in addressing road trauma. (P/T, FG, CC)

## Results

### 12) Crash data

- Provide crash data in a **timely manner** – fatality and serious injury data for the previous calendar year to be provided by June 30 to Transport Canada. (P/T)
- Process crash data from jurisdictions in a timely manner and **regularly publish** fatality and serious injury data comparisons between jurisdictions to governments and the public. (FG)

### 13) Accountability for outcomes

- Clearly identify **departments' accountabilities** for results and set output targets for each department. (P/T, FG)

## 5.2 SUMMARY – PRIORITY ACTIONS – MEDIUM TERM

### Interventions

#### 1) General

- Achieve **improved road user compliance** with road rules and Canadian law, particularly drinking and driving, speed and seat belt wearing - and strengthen graduated driver licensing provisions for novice drivers. (P/T)
- Continue to **further develop** (in response to emerging issues) and promote the recommended actions from the National Occupant Restraint Program (NORP), the Speed and Intersection Safety Management (SISM) and the Strategy to Reduce Impaired Driving (STRID) task forces for adoption by all jurisdictions. (CC)

#### 2) Speed

- Ensure **automated enforcement** in urban and rural areas has been substantially expanded and enforcement tolerance levels reduced. (P/T)
- Review **speed limits** on roads and streets in higher crash risk locations where safe system thinking indicates limits are too high. (P/T)
- Continue a substantial program to increase **public awareness** of the role of small increases in speed beyond safe system limits in dramatically increasing fatalities and serious injuries. (P/T, FG)

#### 3) Drinking and Driving

- Increase extent of, and review strategies for, drinking and driving legislation and enforcement, including introduction of any measures arising from a Parliamentary Inquiry or other comprehensive provincial/territory review. (P/T)

#### 4) Network Risk

- **Expand** targeted infrastructure safety programs. (P/T, FG)

#### 5) Vehicle Safety

- Promote the use of **in-vehicle technology** such as black box devices, and speed limiters (currently being studied by CCMTA) to address speeding and fatigue and encourage insurers to provide incentives for fitment. (P/T, FG, CC)
- Work with manufacturers and international road safety agencies to achieve a limit to the **top speeds of vehicles** of 120km/h. (FG, CC)
- Increase promotion of **new vehicle safety information**, safety features and their associated benefits to the public including behaviour control related technologies. (P/T, FG)

## 6) Commercial Vehicle Operation

- **Monitor compliance** of commercial vehicle operators and motor carrier industry with driving hours and speed limits, deter **drug use** and measure **crash involvement**, reporting data regularly to Ministers and the public. (P/T, FG)
- Seek **voluntary company** safety policy development and quality assurance for their fleets, drivers and other employees. (P/T, FG)

## Implementation

### 7) Legislation

- Increase deterrence of unsafe behaviours through introduction of further **legislative instruments** and review of ineffective existing legislative instruments. (P/T, FG)
- Examine **minimum mandatory penalties** for certain offences and ease of enforceability for police and the courts. (P/T, FG)

### 8) Advertising of speed and acceleration of vehicles

- Request the automotive suppliers to establish a Committee to develop a **Voluntary Industry Advertising Code of Practice**, to restrict the focus on speed and power (acceleration) in advertising in electronic and print media. (P/T, FG)

### 9) Crash awareness

- Introduce ongoing crash factor **awareness raising programs** for road safety agencies and other key stakeholder groups such as the Swedish OLA program – (Objective data, List of Solutions and Addressed Action Plans) for rollout in all provinces/territories. (P/T, FG)

## Results

### 10) Performance measures

- Continue to measure free travel speeds, network safety quality and (through Transport Canada) vehicle fleet safety quality as **key performance indicators** of the effectiveness of programs. (P/T, FG)

## 6. CLOSING COMMENTS

Good practice road safety programs such as those found in Sweden, the UK and the State of Victoria, Australia have several things in common:

- They are the outcome of clear **political will** to ensure that road safety remains an important public priority
- They have established **lead agency and management and coordinating frameworks** of government and non-government agencies to oversee the development of **strategic, integrated and targeted** approaches
- Government agencies have a strong **results focus** upon achievement of target outcomes
- They have instituted the **legislative frameworks** that provide the foundation for the enforcement and deterrence of unsafe behaviours
- There is the provision of **adequate resources**, primarily dedicated funding for effective road safety programs, which provides the leverage for others to undertake worthwhile activities and the means to inform the public about actual risks
- A commitment to **monitoring and evaluation** of interventions impacts.

## **1 BACKGROUND**

### **1.1 STUDY OBJECTIVES**

Road Safety Vision 2010 is Canada's national road safety plan. It is the successor to the first national road safety initiative, Road Safety Vision 2001, which was officially launched in 1996. The goal of Road Safety Vision is to make Canada's roads the safest in the world. Its strategic objectives are:

- To raise public awareness of road safety issues
- To improve communication, cooperation and collaboration among road safety agencies
- To enhance enforcement measures
- To improve national road safety data quality and collection.

Road Safety Vision 2010 emphasizes the importance of partnerships and the use of a wide variety of initiatives that focus on road users, roadways and motor vehicles. The adoption of Road Safety Vision 2010 by the Canadian Council of Motor Transport Administrators (CCMTA), and the official endorsement of its stated targets by all ministers of transportation and highway safety in the fall of 2000, provided Canada's road safety stakeholders with targets against which to develop new strategies and measure intervention efforts.

Annual Road Safety Vision reports have:

- Introduced the program, described Canada's action plan
- Reviewed successful road safety initiatives implemented in Canada and internationally
- Outlined the benchmark data for the quantitative targets.

In June, 2006 the Canadian Traffic Safety Institute was retained by the Canadian Council of Motor Transport Administrators (CCMTA) to undertake a mid-term review of Road Safety Vision 2010. This review included:

- An assessment of the progress made by the provincial/territorial/federal governments towards achievement of the strategic objectives and targets of Road Safety Vision 2010
- Identification of what measures in the various strategies have been implemented in each jurisdiction
- Identification of areas where greater efforts are required to achieve the targets
- Recommending possible changes in the targets
- Identifying the expertise and resources that are required to achieve the quantitative targets
- Comparing programs and targets in the world's safest countries.

## 1.2 STUDY METHODOLOGY

The study methodology included three groups of activity, as a basis for developing the overall conclusions and recommendations.

### **Activity 1: Document review**

The first stage in the review was to review many documents. This included:

- CCMTA Overview and Terms of Reference (2006)
- Progress reports to the Council of Deputy Ministers for 2002, 2003, 2004 and 2005
- Strategy to Reduce Impaired Driving (STRID) 2010, dated November 2001 and Monitoring reports for progress in 2003 and 2004
- Strategy on Distracted Driving, dated June 2006
- Strategy to Reduce Impaired Driving by Fatigue, dated January 2005
- Drugs Among Fatally Injured Drivers – 2000-2003 – TIRF (Traffic Injury Research Foundation of Canada)
- Alcohol-Crash problem in Canada: 2003 – October 2005 – TIRF
- Speed and Intersection Safety Management Strategy – April 2004
- National Occupant Restraint Program 2010 Strategy – November 2001
- Strategy to Deal with the High Risk Driver – June 2001
- Rural Road Safety in Canada – May 2006
- Road Safety Vision 2010 Communications Strategy – May 2006.

During this task we asked ourselves 2 questions:

- How is progress overall across Canada compared to the aggregate target and sub-targets? Are they on track?
- How are individual provinces/territories progressing with aggregate targets and sub-targets?

This task set the scene for a review of where satisfactory progress is occurring and where it is not (to varying degrees) by sub area and by location across Canada.

### **Activity 2: Stakeholder consultation**

A series of telephone interviews was undertaken, not only with members of the Standing Committee on Road Safety Research and Policies, but also with a selection of other road safety/injury prevention agencies and associations.

In addition, a focus group of a selection of road safety/injury prevention stakeholders from the Greater Toronto area was held, to gain from them first hand information on how they perceived road safety was being undertaken in Canada, and specifically in Ontario. The results of this survey are included as Appendix B.

In November 2006 a half day workshop was held with members of the CCMTA's Standing Committees on Road Safety Research and Policies, Compliance and Regulatory Affairs and Drivers and Vehicles. The results of this survey are included as Appendix A.

The general findings from these activities, as applied in the formulation of the study recommendations, were:

- Road safety is not a high government priority
- There is no safety champion (federally or provincially/territorially)
- RSV 2010 was announced without support or additional resources
- Responsibility for road safety in the provinces/territories is fragmented
- Need to make road safety a public health issue, with closer links to the health community
- Governments generally want to do something but do not want to do things that require difficult decisions which might be seen as "more regulations"
- The targets set were unrealistic
- Since the number of fatalities has been somewhat stable, the general public does not view it as "a crisis".

***Activity 3: International good practice***

We also reviewed several road safety programs from countries that are described as best practice, particularly the UK, Sweden, New Zealand and the Australian States. This provided a base of knowledge from which recommended Canadian initiatives could be developed.

### **1.3 THE REPORT**

This report outlines the findings and recommendations of the review. It includes:

- **Chapter 2** reviews the progress towards the overall targets by all jurisdictions. This chapter includes charts identifying the progress across the provinces and territories addressing fatalities and serious injuries.
- **Chapter 3** describes the management processes adopted by countries with the safest driving conditions, and identifies related areas in which Canadian jurisdictions could achieve improvements.

- **Chapters 4 through 12** review each of the sub-targets and outline the progress towards the targets. This includes more detail on progress made by the jurisdictions, together with comments about good practice from other countries and areas requiring attention.

For most of the sub-targets, CCMTA's working groups established essential program elements and encouraged the provinces and territories to undertake some activities within those elements. Based on our discussions with representatives across the provinces and territories, and in reviewing the annual reports, we have assessed the progress in the program elements. We have then commented on the status of the progress towards the various sub-targets.

- **Chapter 13** summarizes the conclusions on where greater focus is required, and makes recommendations.

Throughout the report, in order to describe the status or level of progress associated with each of the targets and sub-targets, we have identified 5 separate phases in the development of an overall effective strategy for each. These are:

1. **Problem definition** – is the issue well defined?
2. **Program development** – have we developed results focused interventions?
3. **Program implementation** – are there appropriate implementation arrangements?
4. **Program sustainability** – is the program at such a stage that it is “on maintenance”?
5. **Evaluation** – has there been any formal program evaluation conducted?

## 2 OVERALL TARGETS

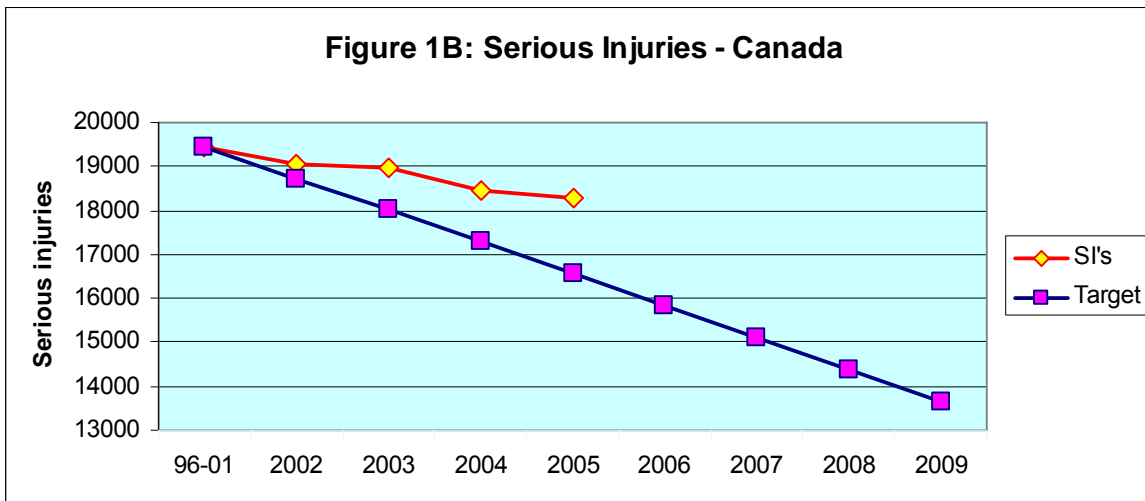
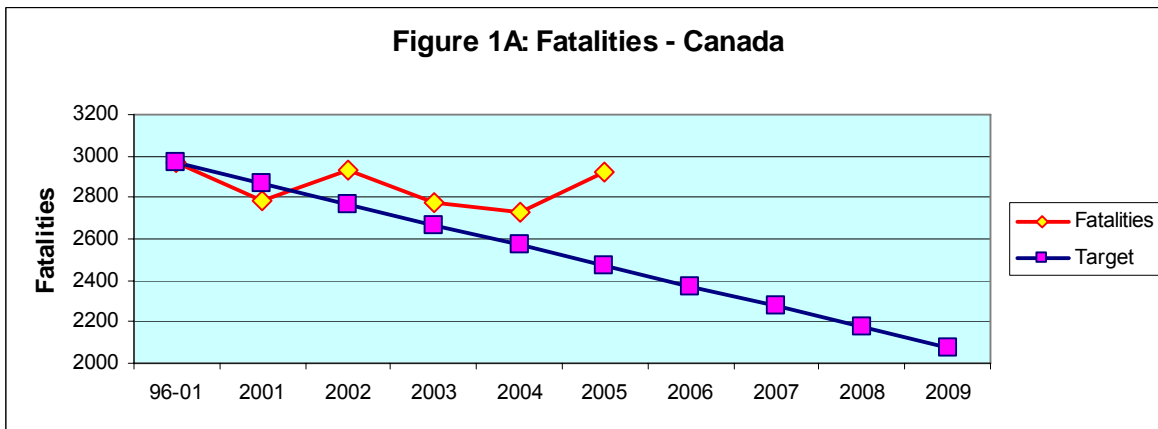
### 2.1 OVERALL TARGET

The national target is a 30% decrease in the average number of road users killed or seriously injured in traffic collisions during the 2008 – 2010 period compared to 1996 – 2001.

This target was set in order for Canada to have the safest roads in the world by the end of RSV 2010 based on a comparison of the fatality rate (deaths per 100 million kilometres travelled) among OECD member countries.

### 2.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS – FATALITIES AND SERIOUS INJURIES - CANADA

Figures 1A and 1B present the Canada fatality and serious injury statistics respectively:



Progress at the end of 2005 towards the RSV 2010 fatality and serious injury targets is disappointing. While some sub-target areas have responded to the rollout of effective interventions, and the serious injury levels continue to fall, (although at less than half the desired rate), fatalities have rebounded to levels last experienced in 2002.

From 2002 – 2004, the fatality trend for Canada was sufficiently close to the required trend to support the view that the target was readily achievable. Fatalities increased substantially in Canada in 2005, but the trend in serious injuries, the less volatile data set, continued to be in a downward direction. However, the rate of reduction for the 2004 and 2005 years is less than half the reduction required to match the required trend, without closing the gap between actual and target which stood at 1000 (5.6%) at the end of 2003.

It is important to remember that some provinces/territories are in fact meeting the required reduction in fatalities and serious injuries. But the overall position is unacceptable. Why is Canada in this position?

Other similar jurisdictions internationally have continued to lower their fatality levels. Much remains to be done if the target is to be reached by 2010.

Based upon the most recently available data (2005 for fatalities and serious injuries), actual performance in both fatalities and serious injuries is falling well short of the targeted reductions sought under RSV 2010. (See Figs. 1A & 1B). It is relevant when comparing performance to a base line set of indicators to also consider an objective absolute assessment of the performance of various provinces and territories.

### **2.3 FATALITY RATES - PROVINCES & TERRITORIES**

Comparison between the performance of all jurisdictions on the basis of fatalities/serious injuries per population, distance travelled and licensed drivers is presented in a Table 1. Also shown are some of the comparable statistics for countries with the safest driving conditions.

It can be seen from this table that some provinces have a low rate while some others have a high rate in comparison to good practice. For example, best practice countries such as the UK, Sweden and the Netherlands have a rate of 4.6 to 5.5 fatalities per 100,000 population.

Ontario has the second lowest population based rate, (assisted in part by a higher proportion of its population living in urban areas than most jurisdictions), with Nova Scotia and Newfoundland & Labrador also having good outcomes.

Jurisdiction	Fatalities per 100,000 pop (2005)	Fatalities per billion vehicle kms (2005)	Fatalities per 100,000 licensed drivers
Ontario	6.3	6.3	9.0
Quebec	9.3	10.6	14.7
British Columbia	10.8	13.9	15.8
Alberta	14.3	10.6	19.1
Saskatchewan	14.8	13.2	21.8
Manitoba	9.6	10.3	16.2
New Brunswick	14.1	13.6	20.0
Nova Scotia	7.7	7.1	11.0
Newfoundland & Labrador	8.3	9.8	12.7
Prince Edward Island	10.9	11.3	15.8
Northwest Territories	4.7	5.4	6.3
Yukon	19.4	12.3	25.5
Nunavut	6.7	n.a.	n.a.
<b>CANADA</b>	<b>9.1</b>	<b>9.3</b>	<b>13.3</b>
Sweden <sup>4</sup>	4.9	5.9	
Netherlands	4.6	8.5 (2004)	
United Kingdom	5.5	6.4	
Australia	8.1	7.9	

**Table1: Fatality Rates – 2005 (Transport Canada)**

Leaving aside the low population territories (where the data set is highly volatile each year for fatalities) the poorer performers are Saskatchewan, Alberta, New Brunswick and to a lesser extent Prince Edward Island and British Columbia, with the first three mentioned provinces having a rate more than twice the rate for Ontario.

Clearly, Saskatchewan, Alberta, New Brunswick, PEI, BC, Manitoba and Quebec face major challenges, not just to meet international good practice levels, but also to meet best Canadian provincial practice. This should be cause for thought for most provinces – solutions are in fact close at hand if there is willingness to examine these in detail, accept what the evidence indicates, take decisive policy action and implement necessary interventions.

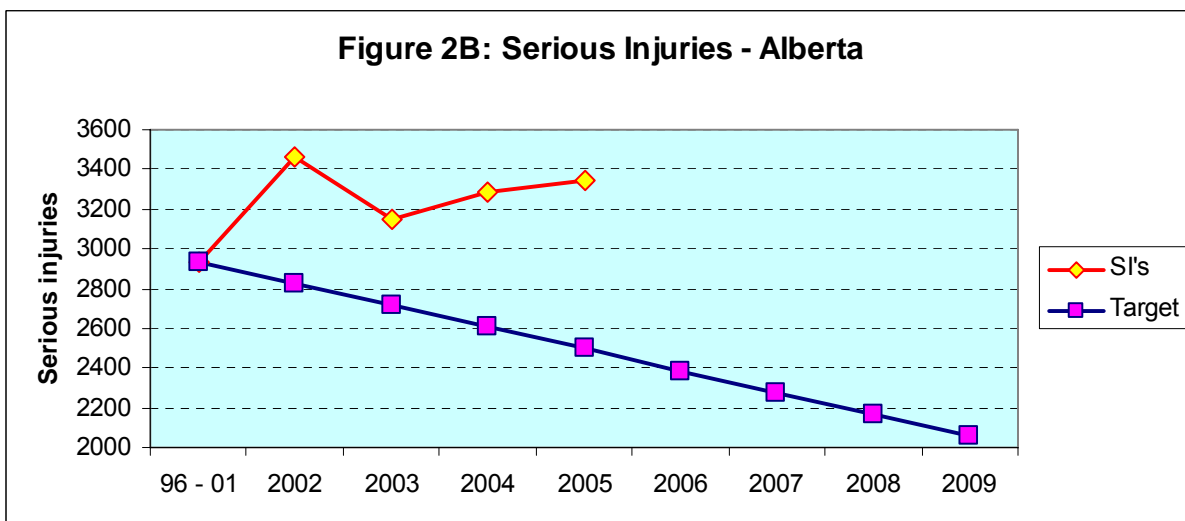
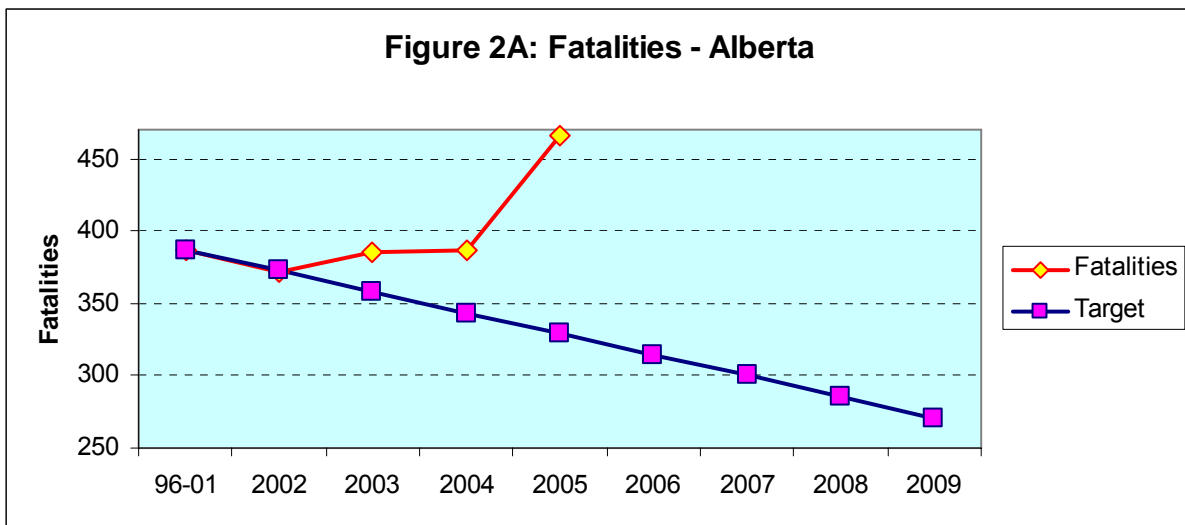
<sup>4</sup> From draft “OECD Achieving Ambitious Targets Report – 2007”

## 2.4 ACTUAL PERFORMANCE AND REQUIRED PROGRESS – FATALITIES AND SERIOUS INJURIES - PROVINCES & TERRITORIES

The graphs below enable the performance of each jurisdiction (both for fatalities and for serious injuries) from 2002-2005 to be compared with the baseline period (the point on the left hand side of the graphs in the 96 – 01 column).

### 2.4.1 ALBERTA

Figures 2A and 2B present the Alberta fatality and serious injury statistics respectively:



This is a quite serious deterioration in the fatality and serious injury trends in Alberta, which is now well above the baseline level of 96 – 01.

With a relatively high rate of fatalities per head of population (14.3 in 2005) and a rapidly growing population (and number of drivers/riders) Alberta faces major challenges in arresting its road safety situation and reducing road trauma.

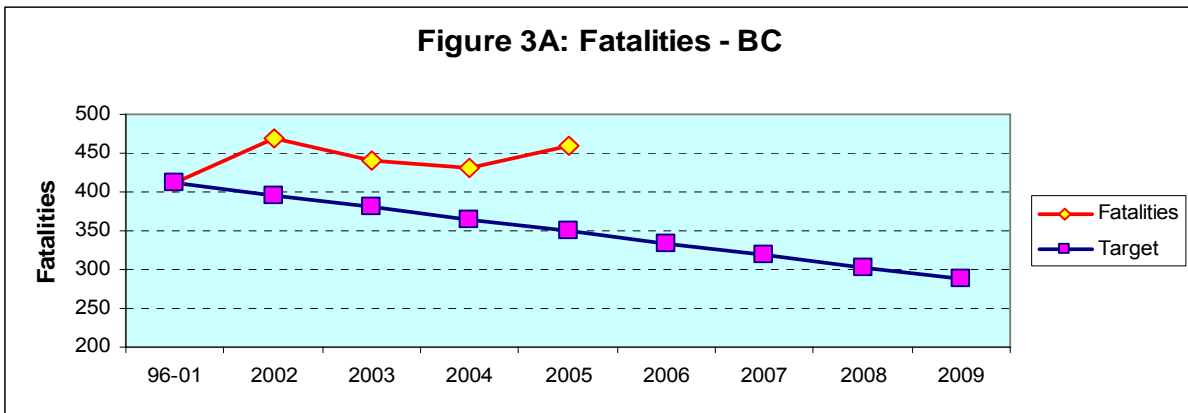
Alberta has made a good start by adopting a multi-sectoral road safety strategy (“Saving Lives on Alberta’s Roads”), but carry through will be required. Sixty-five million dollars in funding to support the strategy includes allocations for:

- Communications and Social Marketing (\$15M over 3 years)
- Infrastructure safety programs (\$42M. over 3 years)
- Traffic safety sheriffs (\$4.6M)
- Community mobilization – Regional Traffic Safety Coordinators - (\$3.4M over 3 years).

These are clear indicators of the Alberta governments’ support for the strategy and improved road safety outcomes.

### **2.4.2 BRITISH COLUMBIA**

Figure 3A presents the British Columbia fatality statistics:



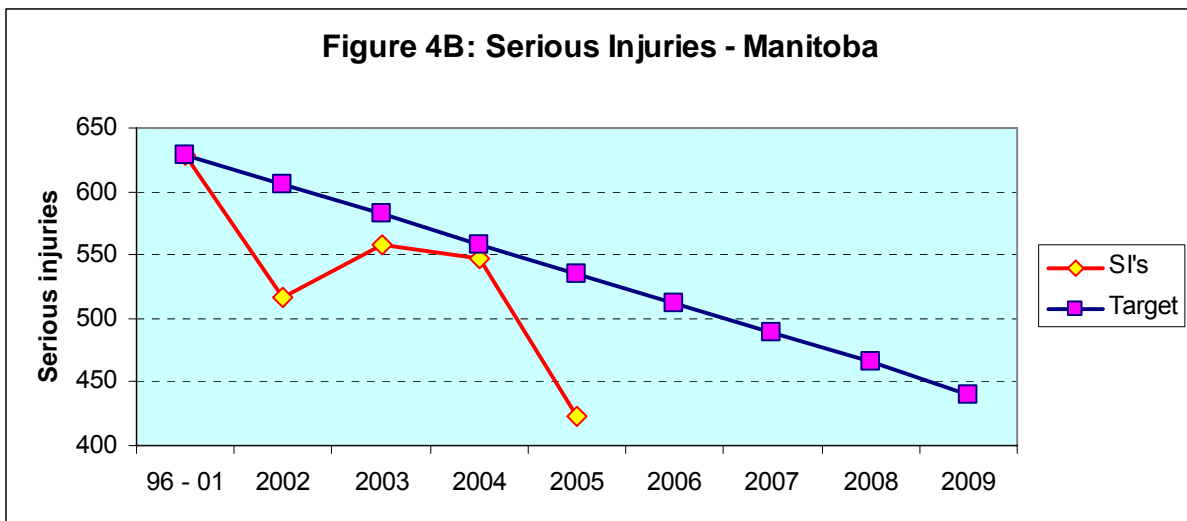
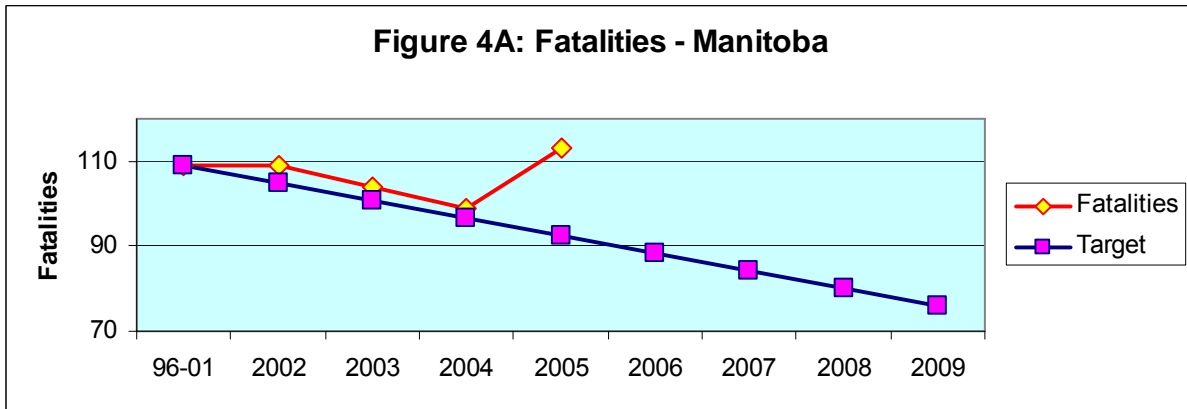
The picture for BC is not positive. The level of fatalities increased in 2005, is now well above the baseline level and has been so since 2002.

The rate of fatalities per 100,000 population is above the Canadian average (10.79 compared to 9.05) and is high by international good practice standards. (e.g. OECD Country Report). For example, the Netherlands and Sweden have respectively achieved a rate of 4.8 and 5.2 fatalities per 100,000 population in 2006.

Due to the fact that BC has only recently been able to identify serious injuries, it was not possible to show progress compared to the 1996-2001 baseline. It should be stated that there is a significant underreporting in the baseline data, which leads to substantial over estimation of the increase in fatalities.

2.4.3 MANITOBA

Figures 4A and 4B present the Manitoba fatality and serious injury statistics respectively:

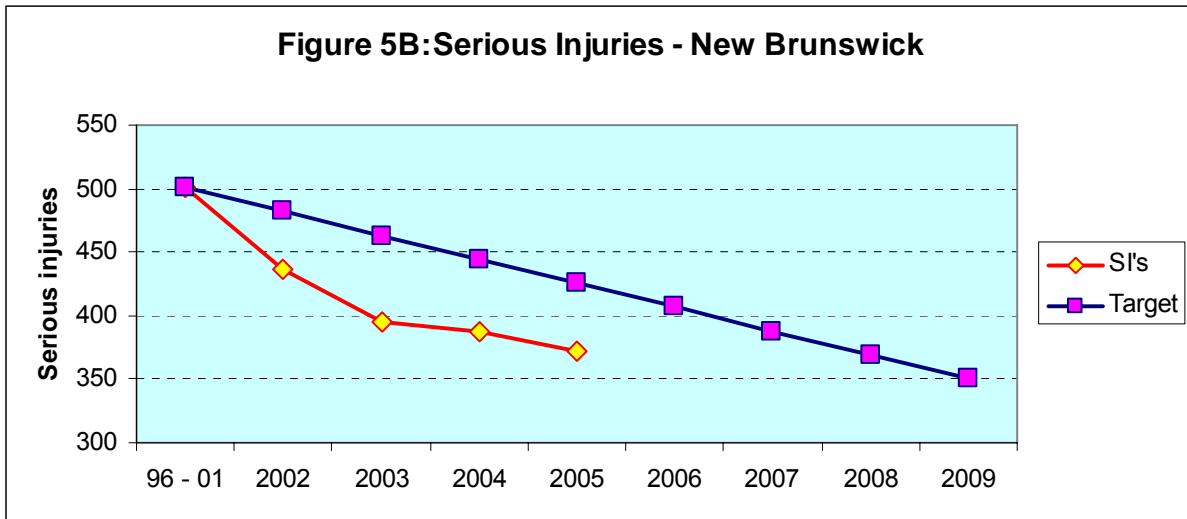
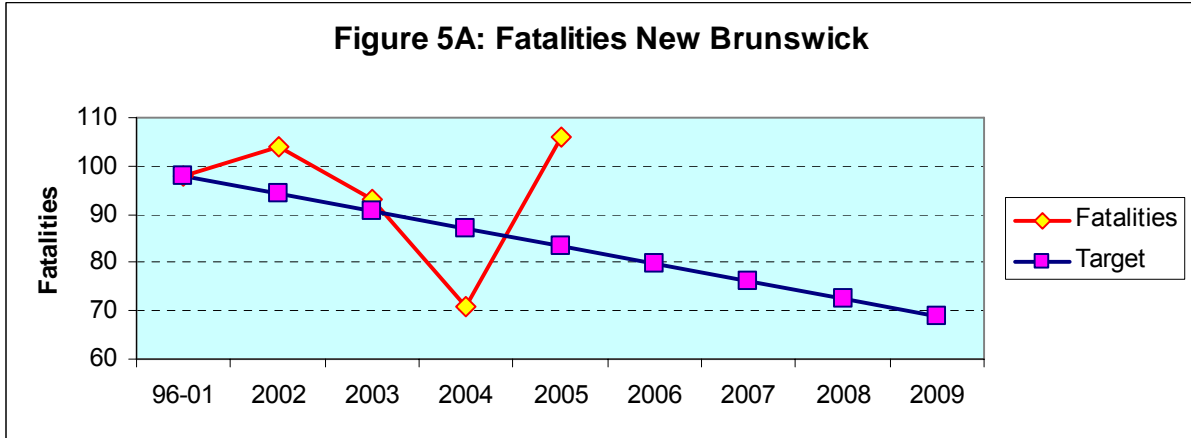


While Manitoba has experienced a substantial increase in fatalities in 2005, the trend from 2002 to 2004 was quite good and the current serious injury trend is positive. The population-based fatality rate is marginally above the Canadian figure, even after a year of sharp increase in fatalities.

Manitoba has performed well in fatalities and serious injures sub-target areas, except for speed, drinking driving and commercial vehicle involved crashes (discussed later in the report).

2.4.4 NEW BRUNSWICK

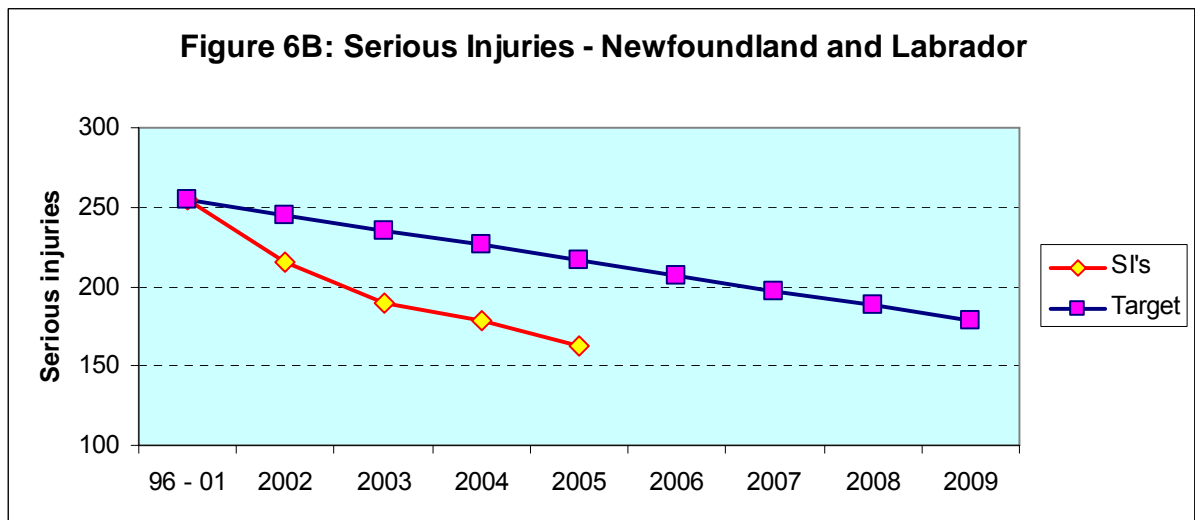
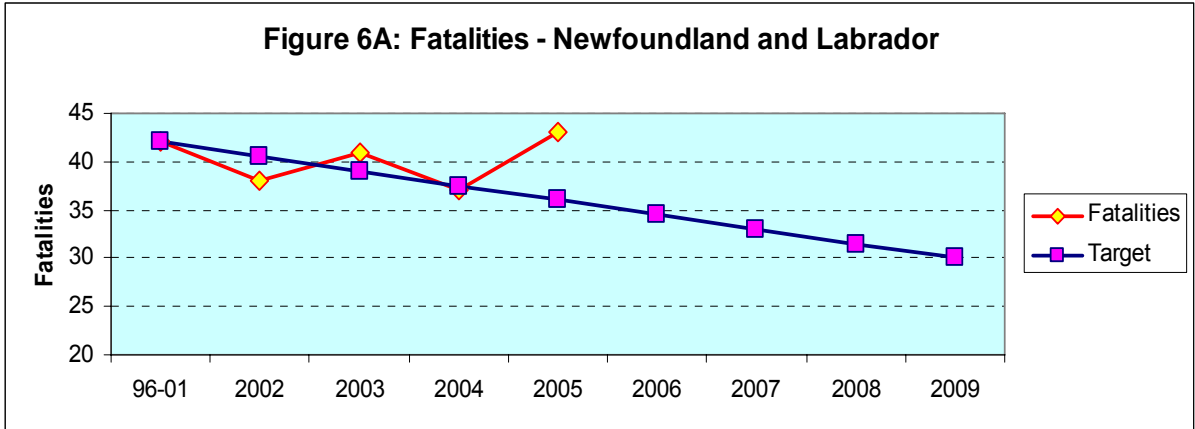
Figures 5A and 5B present the New Brunswick fatality and serious Injury statistics respectively:



The serious injury data for New Brunswick is trending down (and probably the trend in fatalities is also generally downwards) although the fatality rate is at quite high levels (14.10 per 100,000 population cf. the Canadian average of 9.05)

2.4.5 NEWFOUNDLAND AND LABRADOR

Figures 6A and 6B present the Newfoundland and Labrador fatality and serious injury statistics respectively:

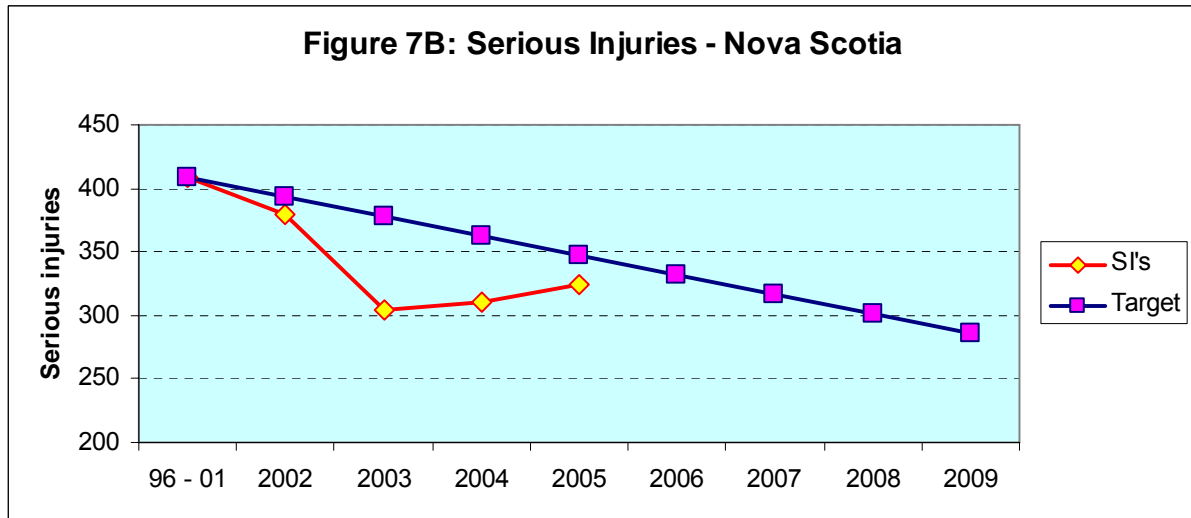
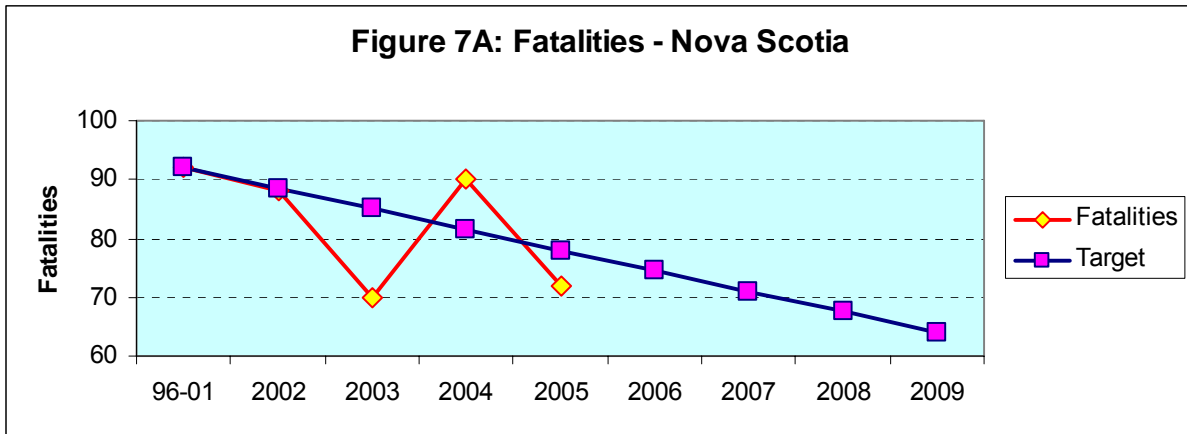


Despite the year- to- year fluctuation given the small numbers, the fatality trend in Newfoundland and Labrador was generally downward. However the 2005 level of fatalities is above the baseline figure for the first time. The province has the third lowest fatality rate on a population basis in Canada.

The serious injury trend in Newfoundland and Labrador is quite pronounced and positive.

2.4.6 NOVA SCOTIA

Figures 7A and 7B present the Nova Scotia fatality and serious injury statistics respectively:

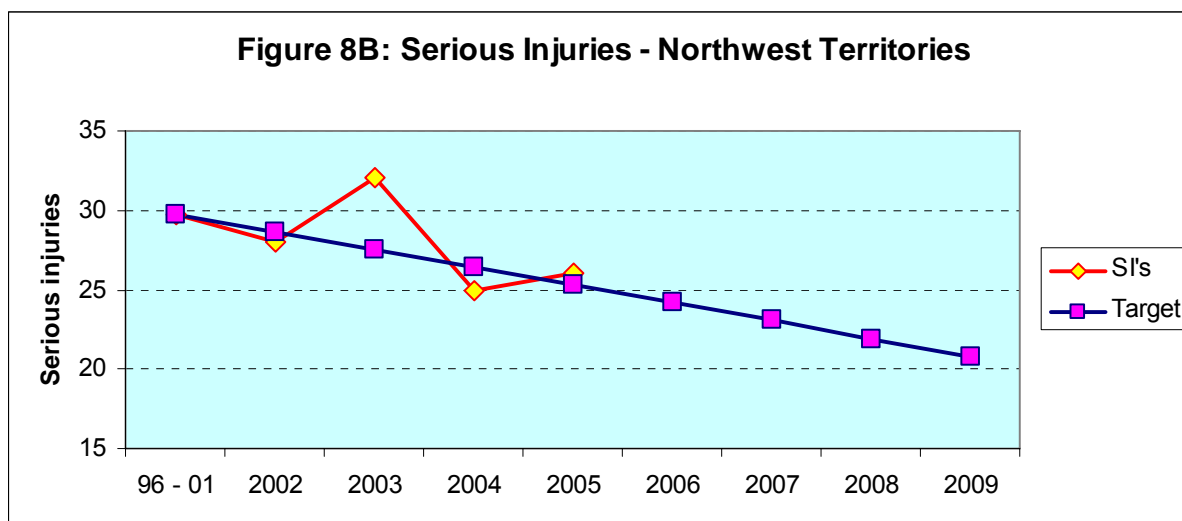
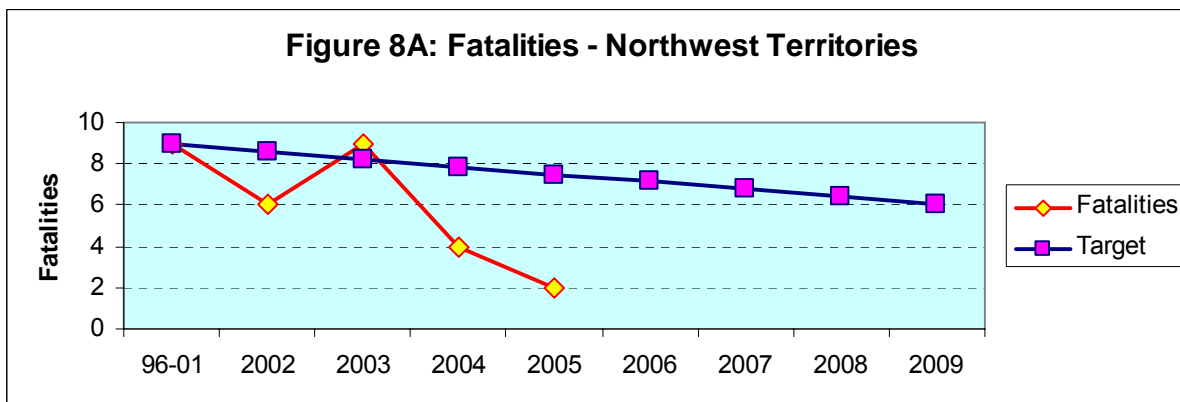


Nova Scotia has a fatality rate per 100,000 population of 7.7 in 2005. That is lower than all but 2 jurisdictions, Ontario and the Northwest Territories/Nunavut and is superior to the Canadian average. Both fatalities and serious injuries are below the required trend line to meet the RSV 2010 target.

Nova Scotia has management and coordination arrangements between the road safety agencies in place and a road safety committee that coordinates road safety activity.

### 2.4.7 NORTHWEST TERRITORIES

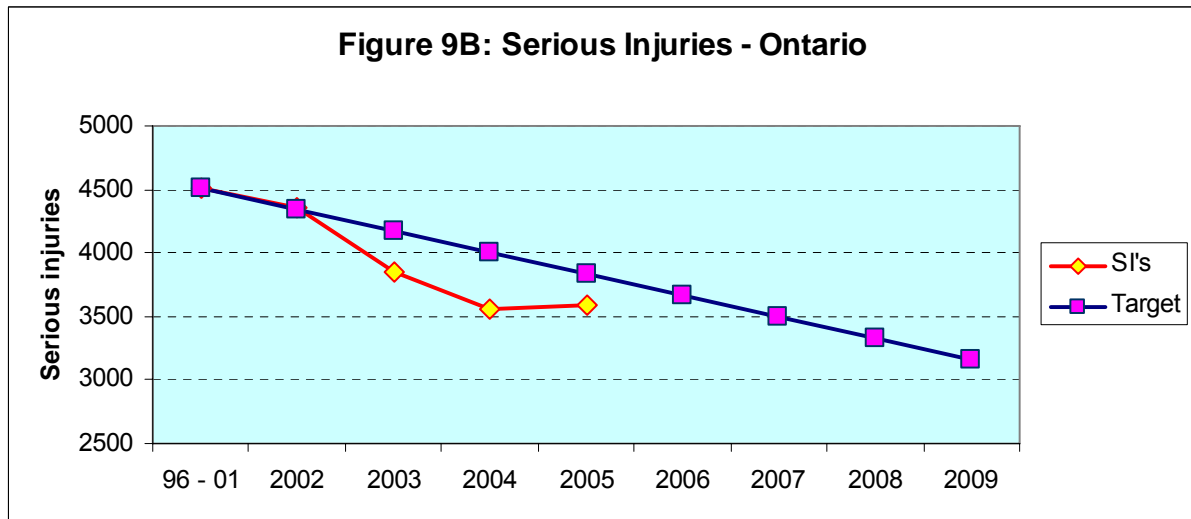
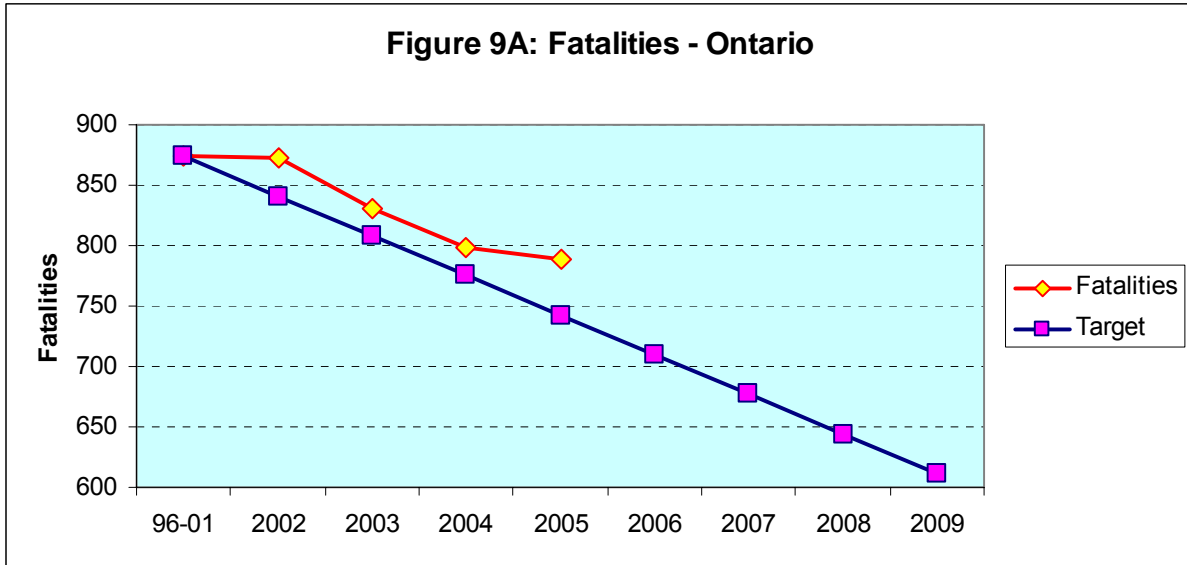
Figures 8A and 8B present the Northwest Territories fatality and serious injury statistics respectively:



The numbers of fatalities in the Northwest Territories is below the required trend as at 2005, with serious injuries around the required trend. Nunavut data are included with Northwest Territories because Nunavut did not exist during the baseline period.

2.4.8 ONTARIO

Figures 9A and 9B present the Ontario fatality and serious injury statistics respectively:

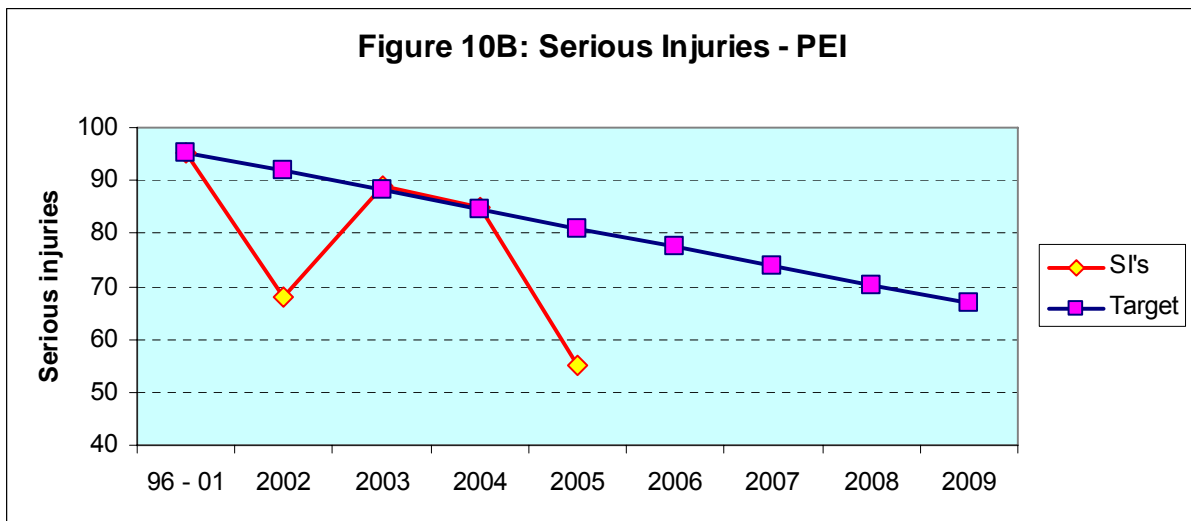
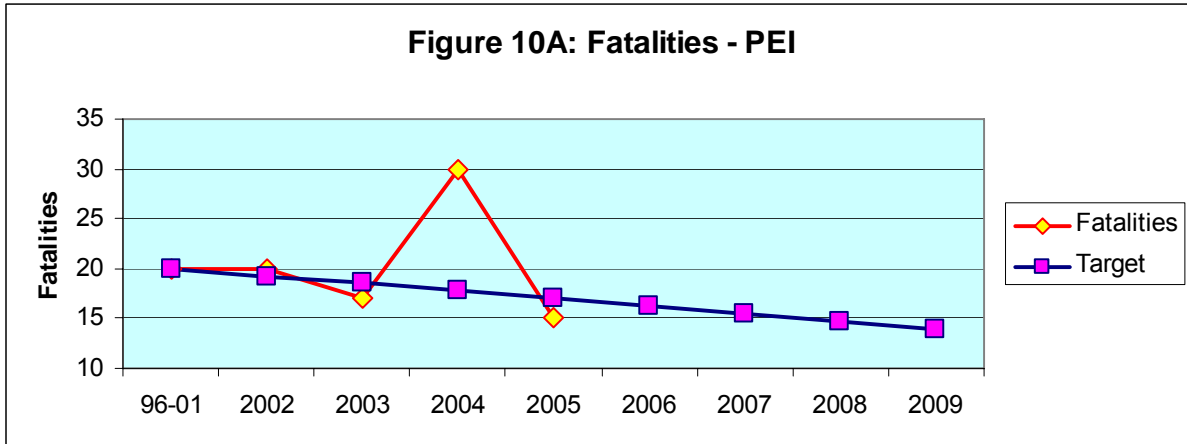


While the Ontario fatality outcome is above the trend sought, it needs to be acknowledged that Ontario seems to be moving positively towards the targets for serious injuries.

Ontario has the second lowest population based fatality rate of all jurisdictions in Canada of 6.28 per 100,000 population (2005). This needs to be acknowledged and of course the challenge is to maintain this position into the future.

2.4.9 PRINCE EDWARD ISLAND

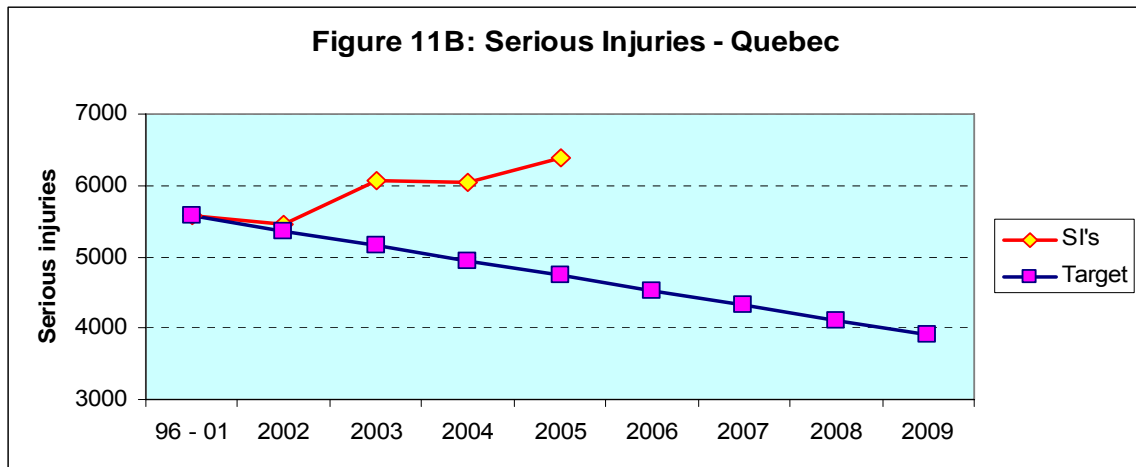
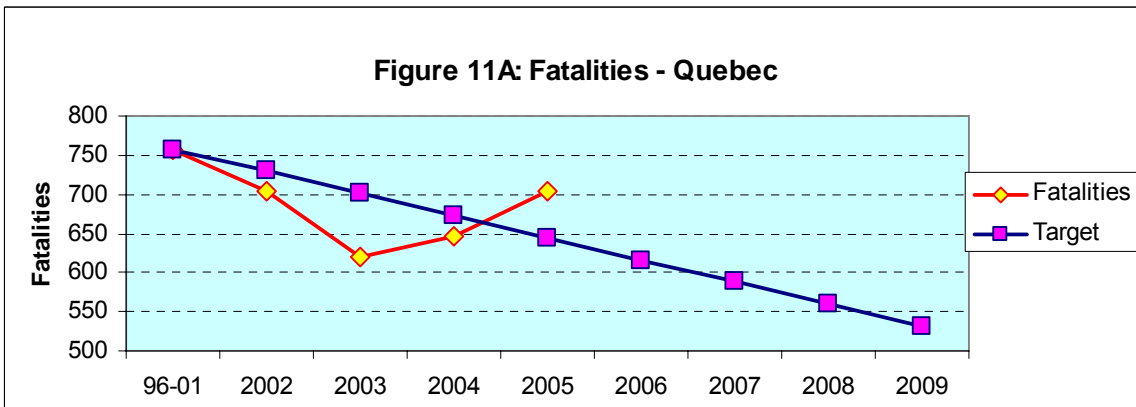
Figures 10A and 10B present the Prince Edward Island fatality and serious injury statistics respectively:



Both the fatality and serious injury trends are encouraging, except for the spike in fatalities in 2004. PEI fatalities are at their lowest level since the baseline figure. It has a fatality rate on a population basis slightly greater than the average for Canada, but appears to be matching or exceeding the required trend.

2.4.10 QUEBEC

Figures 11A and 11B present the Quebec fatality and serious injury statistics respectively:



As the second most populous province, Quebec’s performance has a major impact upon Canada’s overall level of road safety achievement. The number of fatalities were below baseline for 2002 and 2003 but rose by 13% during 2004 and 2005.

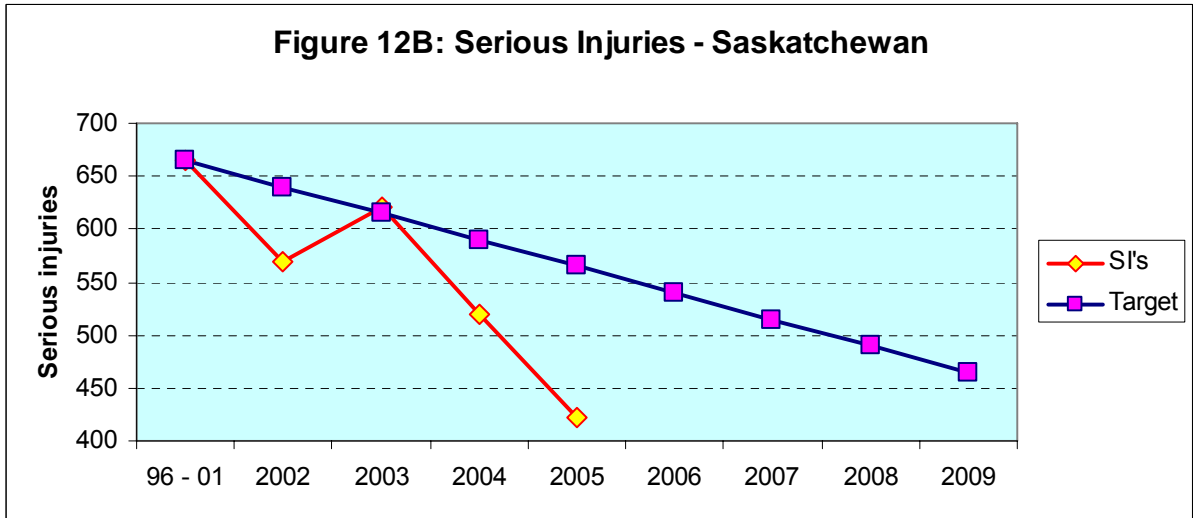
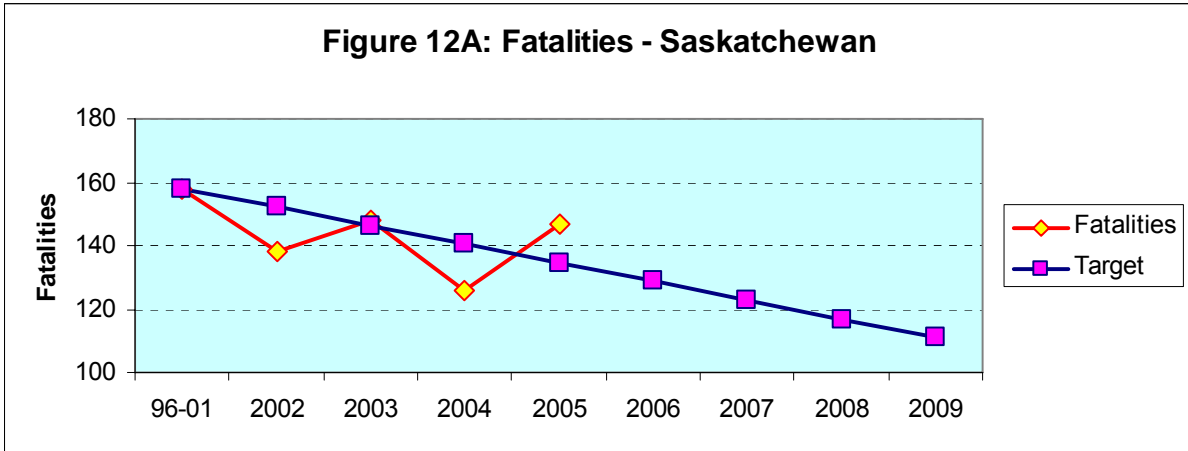
The serious injury trend in Quebec is a concern. Quebec’s serious injury performance has deteriorated by about 20% since RSV 2010 commenced.

The province experienced a police limitation on traffic services from 2004 to 2006, leading to a public perception that enforcement was not widespread. This may have reduced the deterrence effect.

However, this is not the case in 2007. It is noted that additional money for police enforcement has been announced and a multi-stakeholder road safety round table has been established to provide the Minister of Transportation with advice regarding the improvement of road safety. It is anticipated that the results from the Comprehensive Road Safety Plan for 2007 will have positive results.

2.4.11 SASKATCHEWAN

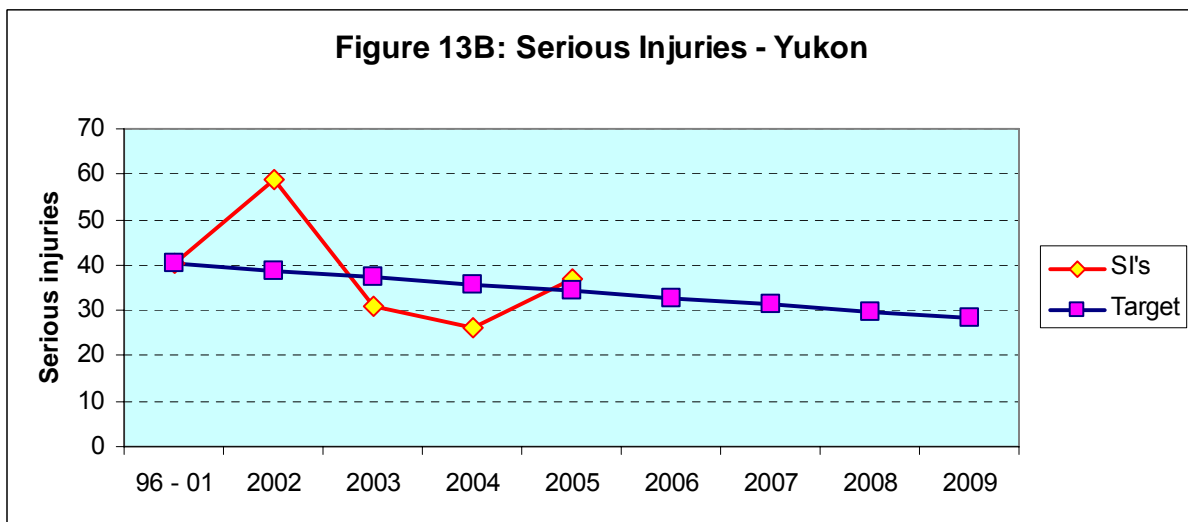
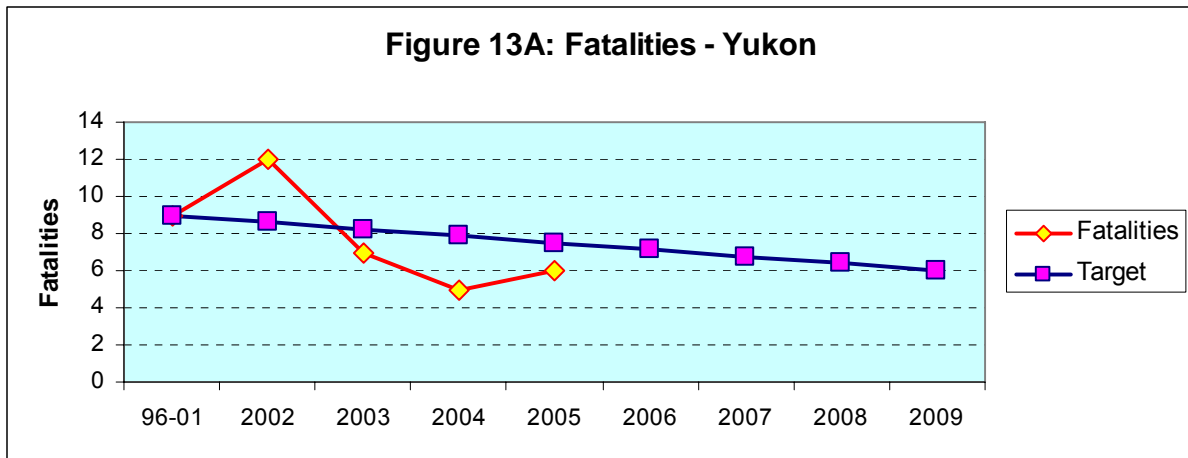
Figures 12A and 12B present the Saskatchewan fatality and serious injury statistics respectively:



Saskatchewan has experienced an increase in fatality levels in 2005 to the highest population based rate in Canada. The trend in fatalities is generally downwards but the trend in serious injuries is positively downwards with a decrease of some 30% since 2003.

2.4.12 YUKON






Figures 13A and 13B present the Yukon fatality and serious injury statistics respectively:



The Yukon is performing well in fatality and serious injury reductions and is on or below the required trend to achieve its RSV 2010 Targets. However the rate of fatalities and serious injuries remains the highest across the country.

## 2.5 STATUS OF OVERALL PROGRAM

The following table summarizes the status of the program with respect to the previously defined phases of development, with further discussion provided below:

Item	Problem definition	Program development	Program implementation	Program sustainability	Evaluation
Overall target					

Legend:  - No progress  - about 50% developed  - Fully developed

### 1) *Problem definition – is the issue well defined?*

While the target outcomes are quite clear, there are serious weaknesses. A detailed methodology was not used to prepare estimated outcomes matching the target, based upon specific inputs. Accordingly, there is not a quantified link between initiatives and outcomes.

Future targets should relate input interventions to quantified impacts on fatalities and serious injuries. This planning tool or modeling is most useful for determining the likely outcome of strategy options, but it is also a basis for a dialogue between the practitioners and the political level to agree on implementation arrangements and interventions, including levels of funding, required legislative change, and the performance required on an annual basis to move towards the target.

### 2) *Program development – have we developed results focused interventions?*

With delays in the release of data by jurisdictions and no day to day focus on the rolling data, there is a strong likelihood that a “rear vision mirror” view of road safety issues will continue, leading to little focus on operational actions or to prompt strategy reviews in order to respond quickly to any emerging trends or sustained issues.

Having said that, there are some good examples of weekly reporting through local police departments who provide more current data to transportation departments and other key stakeholders. This is an important issue within provinces/territories to ensure up to date data is available and senior officers and Ministers are aware of the current status of road trauma. Early reaction to unfavourable trends would be an important response by government agencies.

It is understood that the CCMTA Board has agreed on several occasions that:

- Summary fatality and serious injury data are to be provided by jurisdictions to Transport Canada by June 30 each year for the previous year so that a collisions statistics pamphlet can be produced

- The complete electronic collision database for each jurisdiction is to be provided to Transport Canada by August 31 for the previous year so that a detailed analysis can be conducted on performance against the targets.

The consultants understand that these deadlines have never been met by all jurisdictions. Quarterly reports on fatalities were received in the past (but usually not from the larger jurisdictions) so it was not useful. For that reason the process was discontinued. It is recommended that CCMTA address this as a priority.

It is a poor reflection upon the provinces/ territories that monthly or even quarterly reporting of data, even if it is provisional in nature, to the federal level does not take place. CCMTA needs to address this as an immediate and highly important measure.

Provisional fatality data could be collected from police each week with later periodic adjustment as police crash files are closed and some deaths are determined to not be road deaths.

Efforts are being made at the national level to develop a Fatal Accident Reporting System (FARS) although this would be in-depth investigations of a sample of fatal crashes across the country rather than a census.

Performance indicators appear to be rarely used to measure performance for all agencies, from achieving agreed reductions in illegal behaviours, to lower free speeds, to reductions in particular crash types. For example, the number of drivers screened at sobriety checkpoints should be agreed upon on an annual basis by a multi-sectoral road safety management group from the agencies, which meets regularly, is convened by a nominated lead agency and reports to, and obtains endorsement from, the chief executives or secretaries of the relevant agencies which also meet as a group 3 or 4 times each year. Police would report against that target to the regular multi-sectoral road safety committees at manager and executive levels and to Ministerial meetings. There is a current and urgent need to establish the level of enforcement activity being applied to the various sub-targets across the country.

There appears to be limited acceptance at the municipal level of the need to achieve a percentage reduction in overall fatalities in that municipality to contribute to the national RSV 2010 targets. However, there are some notable exceptions including Edmonton, and to a certain extent Ottawa and others.

**3) Program implementation – are there appropriate implementation arrangements?**

Accountability for achievement of the targets, or activities within the target areas within jurisdictions, has not been identified or confirmed.

While there are some exceptions (notably Quebec, Alberta, Nova Scotia and possibly New Brunswick and Newfoundland), co-ordination between government agencies is not widespread within jurisdictions, as demonstrated by the lack of executive/ management committees across the road safety agencies and the absence of reference/advisory groups of external stakeholders. This also inhibits those critical intervention areas where multi-disciplinary activity is necessary for success.

Very few jurisdictions have a strategy to guide their road safety efforts and to relate RSV 2010 to their situation.

There is no clear champion, nor evidence of widespread government leadership for road safety improvement. The issue does not as yet appear to have sufficient political traction for governments in most provinces, nor at the federal level.

From the stakeholder interviews that were conducted as part of this review, there is a sense that it is a federal/provincial/territorial government problem with the community (and local governments as mentioned above) not participating adequately.

There is a high degree of concern about road trauma among Canadians as evidenced in the 2006 Traffic Injury Research Foundation Road Safety Monitor survey.

**4) Program sustainability – is the program at a stage that it is “on maintenance”?**

To be sustainable, the program should be achieving its objectives with sufficient resources (within the usual environment of constrained resource availability) and strategies to enable this effectiveness to continue. This is definitely not so.

**5) Evaluation – has there been any formal program evaluation?**

There have been some evaluations of various specific strategies over the years (e.g. GDL, ignition interlock, speed cameras, red light cameras etc.). This review is part of an overall assessment of what is needed.

### 3 EFFECTIVE MANAGEMENT PROCESSES FOR ROAD SAFETY

As stated previously, actual performance in both fatalities and serious injuries is falling well short of the targeted reductions sought under RSV 2010. As other similar jurisdictions internationally have continued to improve their levels of road safety, the question is what are the lessons that can be learnt from the way that they address road safety. The responses to the individual sub-targets are presented in Chapters 4 through 12. This Chapter describes an overall road safety management approach adopted by these jurisdictions, and identifies areas in which Canadian agencies could introduce improved processes.

This information is based on the World Bank Transport Note TRN-1 – “Implementing the Recommendations of the World Report on Road Traffic Injury Prevention” prepared by Tony Bliss, Senior Road Safety Specialist at the World Bank, which set out the key elements to be considered in assessing the road safety management capacity within any jurisdiction. (The full report is available at <http://www.worldbank.org/transport/publicat/tr-notes.htm>.)

#### 3.1 THE SAFE SYSTEM APPROACH

Road safety is an undeniably complex system, but the road safety capacity of a country (or province/ territory) to achieve effective long-term sustainable road trauma reductions can usefully be assessed around three good practice dimensions. These are:

1. The presence of a results focus
2. The existence of adequate institutional, management and coordination arrangements across government agencies (referred to in this report as implementation arrangements)
3. The scope and quality of interventions and their rollout.

The Safe System Approach which has been introduced in Sweden and the Netherlands and is currently under development in the State of Victoria, Australia seems to be showing great promise as a comprehensive approach to traffic safety.

##### ***What is the Safe System approach?***

As road users are human, crashes are always likely to happen even though there is a continuing focus on prevention. The safe system approach recognizes that there are limits to the capacity of the human body to survive various crash types above certain speeds of impact. It places a priority on systematically addressing major factors involved in specific crash types to achieve substantial road trauma reduction benefits over time.

The safe system approach aims to minimize the severity of injury and is based on the premise that road users should not die because of system failings.

The basic premise for survivability is that when a five star driver (obeying the law), is driving a five star vehicle on a five star road and road side with a five star speed limit for the crash risk on that section of road, then any road user in or outside the vehicle should not - if they or the driver make a simple mistake or error of judgement - be subjected to a crash of such severity that they lose their life.

It assumes that:

- Crash analysis and ongoing development of better understanding of crash causes is a mainstream and continuing activity of road safety agencies
- Adequate road rules to provide safe travel and the necessary enforcement of those rules to achieve high levels of road user compliance are in place ( both areas of great opportunity)
- That an adequate driver licensing system exists
- That an informed and aware community is supportive of the settings required to achieve and maintain an increasingly safe road transport system.

It challenges “system designers” to achieve a balance in the 3 key factors on the physical network – the road and roadside safety, the travel speed as influenced by speed limits and the primary and secondary safety features of vehicles in order to achieve safe conditions, which result in non-fatal crash outcomes.

However, it also anticipates that there are many other “system designers”, beyond the road and vehicle engineers, who impact on safe use of the network and who also carry a major responsibility for safer, survivable outcomes.

Further assessment of these matters follows and includes comparisons with international good practice. Discussion of particular interventions occurs in the later chapters of this Report under each sub-target heading.

## **3.2 RESULTS FOCUS**

***Successful approaches to road safety improvement require a results focus (WB Transport Note TRN-1).***

An effective results focus depends upon all agencies accepting the performance objective of a lower road toll. Experience in Victoria, Australia has shown “the benefits of a published comprehensive Strategy, with Targets which stretch the efforts of the government and agencies and are based upon quantified outcomes of proposed measures” (Howard and Sweatman, 2007)

RSV 2010 sets a clear target and provides a focus for performance management towards achievement of that target. The RSV 2010 document, produced by CCMTA together with Transport Canada as the responsible Federal Government Department is consistent with good international practice.

However, as pointed out in the December progress report, the sub-targets in RSV 2010 were not based upon a quantified estimate of outcomes arising from specific inputs. Therefore, while the targets reflect an aspiration based upon suggested and for the most part highly relevant interventions, none the less they cannot be considered to be fully quantified.

International best practice among OECD countries in the area of target setting is practised in a number of countries including New Zealand, Australian States and the UK.

### ***United Kingdom***

According to the Department for Transport's three-year review, February 2007, it is stated that the overall progress towards the targets is good. Using 2005 data they reported that:

- There has been a reported reduction in killed or seriously injured (KSI) casualties on Britain's roads: now 33% below the 1994-1998 baseline, against a 40% target by 2010
- There has been even better progress on reported child KSIs: now 49% below this baseline, against a 50% target by 2010.

In England, they have achieved greater reported progress in deprived areas, so meeting the target set in 2002 for 2005. (The strategy can be accessed at [www.dft.gov.uk](http://www.dft.gov.uk))

### ***State of Victoria, Australia***

Monash University Accident Research Centre has undertaken several studies that examine the target setting and progress towards the targets established in the State of Victoria's "Arrive Alive" Road Safety Strategy. These include:

- Review and development of strategic directions for the Road User Safety Program – May 1999 – Haworth/Tingvall/Vulcan)
- Future directions 2000-2005 Safety First – Performance Targets and Costs/Benefits – March 1999
- Road Safety Strategy 01-06 Update of estimates of possible reductions.

### ***New Zealand***

The Land Transport Safety Authority (now named Land Transport New Zealand) of New Zealand developed procedures for predicting and costing road safety outcomes in 2000 in order to set and cost the targets set out in New Zealand's Road Safety Strategy to 2010.

(Details are contained in Working Paper No.6 at [www.landtransport.govt.nz](http://www.landtransport.govt.nz).)

### **3.3 IMPLEMENTATION ARRANGEMENTS (INSTITUTIONAL ARRANGEMENTS AND MANAGEMENT AND CO-ORDINATION FRAMEWORK)**

Good international practice in this area calls for effective arrangements in the following areas:

1. A framework for review of performance
2. Identifying a lead agency
3. Developing an effective strategy with robust targets
4. Effective multi-sectoral coordination and management
5. Appropriate Legislative framework
6. Strategic linkages between countermeasure programs and agencies
7. Road safety advocacy, promotion and publicity
8. Monitoring and evaluation.

What follows is a further description of these.

#### **3.3.1 A framework for review of performance**

The mid-term review itself is evidence of the existence of a performance review approach. This is to be commended.

#### **3.3.2 Lead Agency Role**

While a lead agency does appear to operate in most jurisdictions, no memoranda of understanding between participating partners and ministries or similar protocols for this purpose are known to exist.

The formal identification of a lead agency role in each jurisdiction has in general not taken place and identification of specific departmental accountabilities and measurement of performance for road safety achievement is also considered to be lacking.

It is understood that in some situations there is not a clear alignment of accountabilities from CCMTA through to the Council of Ministers. For example, in some cases, the Board member does not report to the Deputy Minister or the Minister on the Councils Responsible for Road Safety (e.g. some of the public auto insurers).

Mechanisms need to be identified that maintain the strengths of the CCMTA approaches, augmented with greater multi-sectoral involvement of other professional groups, but ensure that reporting (and associated briefing) to the relevant Minister with responsibility for road safety can occur effectively and not at arms length. This is a matter for the CCMTA Board to consider and determine a solution.

### 3.3.3 An effective strategy with robust targets

There are a few examples of jurisdictions at the provincial and municipal level that have developed a formal strategy to guide their efforts.

Development of road safety strategies should include modelled targets that relate required decisions and resource inputs to the required components of the overall target outcomes. Community consultation should be an integral component of this planning process.

There are few provincial or territorial road safety strategies in place that reflect a whole of government response to the road safety challenge and even fewer examples of adopted provincial targets other than agreement in general terms to the RSV 2010 vision targets. Jurisdictions should have produced such a document that set “stretching”, i.e., attainable but ambitious targets, reflect the objectives of RSV 2010 in a regional context and represent a public commitment by Government at the political and bureaucratic level. An accompanying and more detailed Action Plan to guide specific roll out of interventions is also best practice. This failure in most jurisdictions needs to be promptly addressed in a comprehensive and well-focused manner if Canada is to adequately progress its road safety agenda and move closer to the RSV 2010 target.

#### **GOOD PRACTICE – TARGET SETTING**

In best practice countries (and it must be said that there are few Canadian jurisdictions using this approach) target outcomes are adopted on the basis of the estimated outcome effects of specific inputs needed to deliver the Strategy and associated target.

The Land Transport Safety Authority of New Zealand developed procedures for predicting and costing road safety outcomes in 2000 in order to set and cost the targets set out in New Zealand’s Road Safety Strategy to 2010.

Details are contained in Working Paper No. 6, accessible at <http://www.landtransport.govt.nz/publications/docs/sdwp6.pdf>

The working paper, “Safety Directions, Predicting and Costing Road Safety Outcomes” is linked to others in a series which include discussion of the safety funding cycle; the theory underlying the setting of road safety targets; how the theory was developed and put into practice; how specific interventions affect road safety outcomes and the development of the road safety model.

### **GOOD PRACTICE – DEVELOPING/ PUBLISHING A STRATEGY**

Strategies are extremely important tools for implementation and indicators of planning and commitment to achieving road safety progress.

A comprehensive multi-sectoral Strategy (typically for a five to ten year period), prepared as a coordinated document by the key road safety agencies - supported by action plans for 2 to 3 years and with allocated responsibilities for delivery and achievement - is a fundamental requirement for realising improved road safety outcomes.

Provinces / Territories need to promptly develop their own strategy if there is to be co-ordinated and focused progress toward achieving the RSV 2010 target in each jurisdiction.

Some good examples of these documents are as follows:

**The UK Road Safety Strategy** – “Tomorrows’ Roads, Safer for Everyone”, published in 2000 for the 10 year period to 2010, sets out a comprehensive range of interventions to be pursued by the road safety agencies. The Department of Transport tracks progress of these strategies with comprehensive three-year reviews.

**The Province of Alberta** published its Traffic Safety Plan “Saving Lives on Alberta’s Roads” in October 2006, representing a coordinated attempt to tackle road trauma in a multi-sectoral and comprehensive manner and providing for the establishment of an Office of Traffic Safety.

#### **3.3.4 Co-ordination and Management**

Coordination and management arrangements within jurisdictions between government agencies and the identification of departments’ accountabilities for results are fundamental steps in building effective road safety capacity.

There appears to be little strategic co-ordination for road safety purposes across government at provincial or territory level (with some notable exceptions) and limited co-ordination vertically between federal, provincial and municipal levels to identify crash injury risk, understand road safety problems, or develop multi-sectoral road safety strategies to achieve results. Strong and effective delivery partnerships between different stakeholders in order to achieve results are not commonplace.

Through CCMTA’s Standing Committee on Road Safety Research and Policies, there are a number of task forces and working groups addressing the various RSV 2010 targets and strategies. It is debatable whether these bodies are effective given everyone involved is doing this work on a volunteer basis (i.e. in addition to their substantive job). However, these groups play an important information- sharing role and provide professional support to practitioners across the country.

Effective jurisdictional structures/arrangements to develop and deliver road safety policy are needed as a priority. An urgent review of co-ordination arrangements within provinces is needed if road safety results are to be improved. An improved co-ordination framework is essential if multi-sectoral policy development and decision-making and effective multi-sectoral delivery is to occur.

Co-ordination and management arrangements within each province or territory between relevant road safety agencies are not at good practice level. (Exceptions, to different extents, are Alberta, Nova Scotia and Quebec). Alberta has not only developed a Traffic Safety Plan Ministers' Steering Committee and a Deputy Ministers' Coordination Committee, but consulted with over 35 stakeholder groups in developing their Traffic Safety Plan, "Saving Lives on Alberta's Roads 2005-2010".

They are now in the process of developing a 3-yr Action Plan. Nova Scotia also has a Minister's Steering Committee ensuring the participation of all the appropriate ministries. The Province of Quebec has also formed a province wide steering committee consisting the Ministry of Transportation, Quebec Police and SAAQ. As well, they have the Quebec Road Safety Roundtable which reports to the Minister of Transportation. This group is leading the 2007 Year of Road Safety integrated traffic safety strategy.

There are few multi-sectoral committees of agency representatives working together across government to improve road safety and there are few provinces where adequate decision-making structures across agencies - from senior managers to chief executives to Ministers – formally exist for road safety purposes.

At the national level there appears to be some disconnect between the Transportation Association of Canada (TAC) and CCMTA. Sub-targets such as Vulnerable Road Users, Rural Road Safety and Speed and Intersection Management could be significantly improved if both organizations participated in joint, and integrated, initiatives.

Funding and resource allocation is variable across all levels of government in terms of adequacy and the poorer performing provinces/territories as well as the federal government need to reconsider the level of resources they are providing for road safety.

There is no shortage of organizations and agencies active in traffic safety and injury prevention in Canada, as indicated in Appendix C. The challenge is therefore to establish cooperative and collaborative arrangements between these organizations to maximize the effort and eliminate duplication of effort.

## **GOOD PRACTICE – INSTITUTIONAL FRAMEWORKS, CO-ORDINATION, MANAGEMENT**

### ***Decision making hierarchies (See Figure 15 below)***

Good practice in decision-making hierarchies is evident in a number of countries. In the State of Victoria, Australia, a Council of Ministers responsible for Transport, Police and the publicly owned motor vehicle injury Insurer, (Transport Accident Commission-TAC) meet quarterly to consider advice and recommendations from the chief executives of those three agencies who, in turn, are supported by senior managers in the road safety area in each agency:

- **Policy advice:** This group of senior managers meets monthly and prepares policy advice for government, which is based on a whole of government approach
- **Performance monitoring:** Ministers also receive from this group, through the chief executives, quarterly reports on progress against implementation of actions arising from the adopted government strategy. The adopted targets in the strategy are the estimated outcomes from the previously agreed (and amended from time to time) specific inputs.

One consolidated report goes to the meeting of Ministers covering the performance of all the agencies in delivering the program. This is in addition to the day to day reporting to Ministers from their department - about relevant departmental responsibilities and related issues.

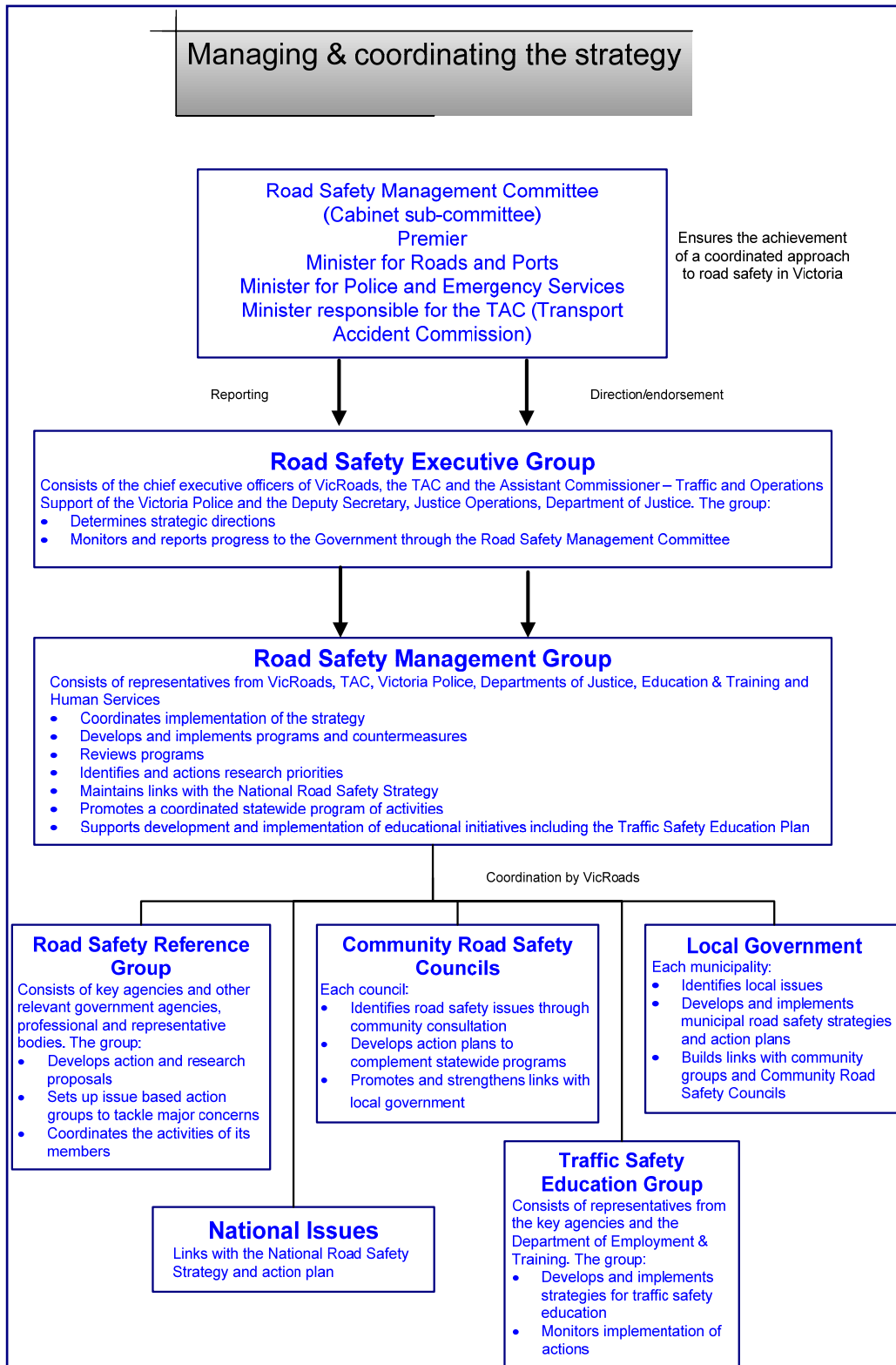
### ***Partnerships***

- **With the broader community:** This decision making hierarchy outlined above has proved to be highly effective and is supported at the senior management level by a large Reference Group of key stakeholders who meet some three times each year with the senior management group. They meet to be informed, to provide feedback to government on current and potential future programs and any other relevant road safety matters. Separate local government interaction also occurs through other frameworks at this level, as does interaction with other community road safety groups.
- **Across government:** Health and educational linkages across government are at this level. When legislation is being contemplated or drafted the linkages across government in particular are highly important and have proven to be a most effective mechanism to ensure externalities are addressed as early as possible in the legislative process.

### ***Role of All-party Parliamentary committees***

It is noted that all party parliamentary road safety committees do not appear to be a feature of the Canadian parliamentary committee system. Best practice internationally would indicate that committees of this nature have a vital role to play in focusing community attention upon a particular road safety issue, enabling the matter to be publicly debated and reviewed and in due course providing specific written advice to the Parliament about recommended ways forward. Quebec's National Assembly (the provincial legislature) has or had a committee looking at road safety in that province. Such an approach is also recommended for introduction within provincial and territorial parliaments as well as within the federal parliament.

A suitable recommendation to the federal/provincial/territorial Transport Ministers to take the matter to Cabinet would be the most efficient approach, requiring the usual extensive discussions with other Ministers' offices and departments.



**Figure 14: Management and Coordination Arrangements for Road Safety in Victoria, Australia**

### **3.3.5 Legislative frameworks**

This implementation measure is the highly important introduction of new, and the review and adjustment of ineffective, legislative instruments, including examination of minimum mandatory penalties for certain offences and ease of enforceability to increase deterrence to make the laws work in a better manner.

Legislative frameworks in general in Canada are considered to be good practice. However, an exception is impaired driving legislation for offences below the enforced criminal code limit of 0.10 BAC for drivers. (While Criminal Code charges are possible from a BAC reading of 0.08, in practice Police are reluctant to enforce these provisions we understand, below a BAC reading of 0.10). Arrangements are quite varied across the country and do not appear to be providing adequate deterrence for drinking driving between the 0.05 to 0.10 BAC levels. (See impaired driving sub-target)

In addition, data from Victoria, Australia (2005) indicates that up to 40% of driver fatalities have tested positive to impairing drugs-of-concern. Since 2002, the percentage of drivers killed who test positive for these drugs has been rising rapidly from 26% to 40%. The Canadian data shows that the problem is lower in Canada (i.e. 25%)

Driving while impaired by drugs is a concern and saliva based random roadside testing is a feasible deterrent and has been implemented in the State of Victoria, Australia since December 2004.

### **3.3.6 Linkage between countermeasure programs and agencies**

Stronger linkages between infrastructure, vehicle safety and behavioural program practitioners are necessary to develop well-integrated safety programs and optimize potential benefits.

At the federal level in particular, there is a need for a stronger linkage between infrastructure and vehicle related road safety programs on one hand, and the behavioural programs which are CCMTA's particular focus. More effective outcomes will be possible when all elements of the road safety picture are considered together in a system-wide manner rather than in separate groupings. International good practice in this area in Sweden, Finland, Norway, Netherlands and Victoria, Australia among others is instructive.

### **GOOD PRACTICE – LINKAGES BETWEEN AGENCIES**

#### **'The Safe System' Approach To Integrated Policy and Intervention**

The Swedish "Vision Zero" and the Dutch "Sustainable Safety" models, together with the 'Safe System' model adopted in Australia and some European countries, focuses attention on the interaction between vehicle safety, road and roadside safety standards and the relevant speed limit to assist understanding of crash causation and injury risk resulting from crashes and options for countermeasures to reduce that risk. It assumes alert, compliant road users are using the system, having been achieved through strong legislative settings and effectively focused enforcement, backed up by good practice licensing systems that ensure that only adequately prepared drivers are entering the network. It also assumes that strong community support is achieved and in place for road safety programs. This is all underpinned by a focus on better understanding crash causation and injury? risk.

It is clear that at a certain speed of impact in a crash, fatality thresholds will be reached. The intention of a safe system approach is to ensure that fatal crash outcomes do not occur for drivers who are not impaired and are abiding by the road rules (i.e. ,not speeding, wearing seat belts, etc.) but make a simple mistake. Humans beings are not machines and do make errors from time to time. For example, a driver on a two-lane, two-way road can be observing all road rules, but a driver in a vehicle travelling in the opposite direction can make an error of judgement while negotiating a bend, cross the center line and collide head on into the other vehicle. Median barrier treatments and appropriate speed limits can lessen the risks of these specific crash outcomes.

While this approach and the objective of avoidance of fatal and serious injury crash outcomes is aspirational in the short term for road safety in all countries around the world, the long-term direction that it sets provides a powerful basis for ongoing counter measure actions leading ultimately to eradication of most fatal crash outcome risk from road networks. The model is also powerful because it requires all of the risk factors to be considered and therefore requires all of the road safety agencies with relevant responsibilities to work together within a jurisdiction or nationally and to involve key stakeholders (in other parts of government and outside government) in the community. The approach has relevance at local government level, provincial government level and federal government level, and is strongly recommended for adoption formally as an outcome of this review and as an important foundation for Canada's future road safety programs.

While this is a medium term objective for road safety in all countries, the long-term direction that it sets provides a powerful basis for ongoing counter measure actions leading ultimately to eradication of most fatal crash outcome risk from those networks. The model is also powerful because it requires all of the risk factors to be considered and therefore requires all of the road safety agencies with relevant responsibilities to work together within a jurisdiction or nationally and to involve key stakeholders (in other parts of government and outside government) in the community. The approach has relevance at local government level, provincial government level and federal government level, and is strongly recommended for adoption formally as an outcome of this review and as an important foundation for Canada's future road safety programs.

The lead up period to the successor strategy to RSV 2010 (i.e. 2007-2010) should be used to further develop road safety thinking among researchers and practitioners across Canada, assess risk reduction opportunities, develop business cases for programs and projects and pilot some programs. Crash types to be addressed could include head-on, intersection side impact and run-off-road in rural areas?. Targeted run-off-road countermeasure programs have achieved Benefit to Cost Ratios in excess of 2 in Victoria, Australia.

The focus is upon reducing the risk of certain crash types happening in the first place and also reducing the severity of the outcomes for those that do occur.

### **3.3.7 Advocacy, Promotion and Publicity**

Promotion of the benefits of safer vehicles, of safer behaviours and safer roads, roadsides and speed limits is an important role for government and government agencies. While government funded messages about road safety are provided in most jurisdictions, there is little evidence of sustained campaigns to support enforcement activity and no evidence of the promotion of the benefits of safer vehicles to the community such as occurs in best practice countries, again such as Sweden and Australia. Encouraging consumers to demand safe features in their vehicles such as electronic stability control and head protecting curtain airbags are examples of ways in which governments can support arming the community with good information which will lead to lowered road trauma risks on the road network. The two technologies mentioned have each been shown to reduce fatality risk by more than 30% for occupants of those vehicles involved in the targeted major crash types. Indeed, Transport Canada has moved in recent months to promote these technologies through its website and this is a positive step for road safety outcomes. The provinces/ territories themselves need to do more to support these efforts. While BC is known to provide some promotion through the ICBC website, there appears to be little else in the way of vehicle safety material promoted in other jurisdictions at the provincial level. This opportunity is discussed further in the Section on Interventions.

In Victoria, Australia, information on safer vehicles is provided to the public by government through newspaper advertisements, television advertising and the well promoted government website, [www.howsafeisyourcar.com.au](http://www.howsafeisyourcar.com.au)

#### **GOOD PRACTICE - `Sweden's- promotion of vehicle technologies**

The Swedish Road Authority works closely with local manufacturers to encourage more rapid introduction of vehicle safety technology. Strong support for EuroNCAP (the crash testing program for new European vehicles) and for development of fleet safety policies (for vehicles and drivers) by employing organizations in Sweden are important elements of this activity. Sweden's efforts have influenced approaches in many other jurisdictions including Australia and other Scandinavian countries.

But promotion of road safety is more than specific campaigns. It requires a clear strategy and program and agreed upon resources to become an everyday part of the community's life. Again, in best practice countries, this is the case with strong print and television advertising on road safety issues and this can reinforce and also be supported by active, ongoing legislative reform programs that result in new legislative initiatives at least once (preferably twice) each year i.e. in each parliamentary session. This is indicative of the level of effort and intensity that will be needed to improve Canada's road safety performance.

Governments at the federal, and especially at provincial and territorial level have an obligation to educate the public through public information campaigns about road safety risks, and to promote enforcement campaigns being carried out by police in order to deter illegal, unsafe behaviours. Governments need to be made aware of the powerful impact that police enforcement supported by publicity can have in changing behaviours and the benefits this will provide in reduced road trauma. Practitioners such as those within federal/ provincial/ territorial governments, have a major responsibility to inform their Ministers and Parliaments about these matters in order that public information programs can proceed. Overcoming uninformed attitudes about road safety is a major challenge that needs to be addressed in a planned comprehensive way, with the active support of many external (to government) stakeholders.

### **3.3.8 Monitoring and Evaluation**

The delayed reporting of provincial and territorial traffic collision data to Transport Canada supports concern that a “rear view mirror” approach to road safety appears to be characteristic of much road safety in Canada. Early identification of trends is essential to enable road safety managers to provide government with timely and effective advice about the evaluation of interventions and policies. When data is delayed for so long, it is simply not possible for governments to respond in a timely manner and too easy for practitioners not to consider road safety as a hands-on real time operational activity, in addition to the strategic dimensions.

## **GOOD PRACTICE – MONITORING AND EVALUATION**

### **USING DATA TO ACHIEVE AWARENESS AND INSIGHTS**

#### ***Daily data sheet, Victoria, Australia***

Each weekday morning a summary of the road toll (year to date) compared to the previous year to date, and categorized by area (metropolitan or regional) and by road user category, is produced by the road authority, based upon police data reports for all fatalities up to midnight the previous evening and forwarded to government road safety practitioners, and the offices of relevant Ministers and the Premier.

#### ***OLA Systematic collaboration for improved safety - Sweden***

Every road fatality is a catastrophe, and everything must be done to try to prevent traffic accidents from happening again. In 2002, OLA was introduced at the Swedish Road Administration as a new working approach to accident prevention. OLA is an acronym that stands for Objective data, List of solutions and Addressed action plans and entails systematic collaboration between the different organizations, companies and authorities that have been designated as the designers of the road transport system. More information about OLA is contained in the brochure "[It must not happen again!](#)" available on the Swedish Road Administration website; [www.vv.se](http://www.vv.se)

Using available facts for the selected fatal crashes, potential solutions to one or more problems are discussed. With this approach, all parties are offered an opportunity to present desired measures that they are able to implement and as a result, to contribute to improved road safety. This working approach is used at both national and regional level.

- System designers have the final responsibility for the design, operation and use of the road transport system
- Road users are responsible for following traffic rules and showing due regard, judgement and responsibility on the roads.

If road users cannot, are incapable, or unwilling to take their share of this responsibility, then responsibility is returned to the system designers to make further efforts to ensure that people are not killed or seriously injured. They are therefore responsible for the level of safety in the entire system.

### **3.4 INTERVENTIONS**

With any assessment of program intervention elements, there are at least three important questions to be considered.

1. To what extent have the jurisdictions appropriately implemented the interventions identified by CCMTA in RSV 2010?
2. How effective are the recommended interventions likely to be in achieving the RSV 2010 sub-targets?
3. What are the recommended ways forward to address this?

Effective interventions generally include an integration of 3 important components: addressing the road infrastructure, the road user and vehicle design. (It should be noted that many interventions only address 1 or 2 of these components).

#### **3.4.1 Infrastructure**

While there are blackspot programs carried out across Canada, there is a major opportunity for targeted infrastructure safety programs funded at federal, provincial/territorial and municipal levels to reduce risk, particularly on the rural road network across the country. Good practice in this area is again available in Sweden, Finland and Norway, and in Victoria, Australia, where substantial retrofitting programs have resulted in risk reduction along the higher risk sections of the rural road networks. Again, this requires the infrastructure practitioners within the federal and provincial road and transport authorities to work more closely with the behavioural and enforcement practitioners within their jurisdictions to gain improved insights into crash causation and crash outcome severity risks. The current relationships - certainly from a federal viewpoint - are fragmented and impede the development of integrated solutions across sectors.

#### **3.4.2 Behavioural Programs and Enforcement**

Discussions with practitioners and the examination of information provided about enforcement outcomes suggest strongly that enforcement efforts generally across Canada, which would seek to deter unsafe behaviours and achieve greater compliance with the law, has fallen substantially in recent years, particularly in the areas of speed management and drinking driving.

One jurisdiction had documented evidence of a substantially reduced number of police-issued charges, which was inconsistent with the crash experience and other intermediate outcome data. This is disappointing (and will be reflected in current road trauma levels) and indicates that it is likely that many of the gains of previous years, hard won as they were, may have been lost.

It is understood, from our interview survey, that a variety of police organizational related issues and resourcing challenges have impacted on enforcement. While there are undoubtedly exceptions to this pattern in some provinces and local government areas, Canada needs to address this issue with all of its police services and seek government support for changes in priority for enforcement in order to achieve readily available short-term substantial road safety gains.

**GOOD PRACTICE - ENFORCEMENT**

In countries with good practice enforcement arrangements which have reduced road trauma substantially, such as New Zealand in recent years, the level of police enforcement resourcing is centred around the level of reduction in fatalities and serious injuries due to illegal behaviour such as speeding, drinking and driving and not wearing seat belts, which can be cost effectively achieved. While this depends upon the ability to link police effort to behaviour related crash outcomes and this cannot necessarily be generated in a short period, it does indicate what thoughtful resource allocation and targeted strategic and tactical effort by police forces can achieve. Canada is missing out on valuable trauma reduction opportunities through not making best use of police enforcement effort and this should be a priority for action by all governments.

The challenge for all the road safety agencies is to work in a coordinated multi-sectoral way to bring about improved enforcement.

The structures for this are as shown in Figure 15 - Management and Coordination Arrangements above.

### **GOOD PRACTICE: TRAFFIC SERVICES MANAGEMENT INFORMATION TOOL**

The Traffic Services Management Information Tool (TSMIT) is a software tool that provides police services with electronic information on crash characteristics (who, what where, when and why) and infractions that ultimately identifies the areas where increased traffic enforcement is needed, including the type of enforcement, to curtail specific road safety problems. The true power of the tool is the ability to quickly compare collision data with enforcement activities in a specific area. Once problems have been identified in specific areas, the appropriate type and level of enforcement is deployed to curb the problems. At the same time, community education and partnership building activities are developed. The road safety problems that are identified are shared with the communities in question and efforts are made to develop partnerships with public safety agencies in those communities to educate the public about these road safety concerns.

TSMIT was first developed and successfully implemented as a pilot project in the province of British Columbia by Canada's national police service, the Royal Canadian Mounted Police (RCMP). TSMIT clearly demonstrated to traffic services management in British Columbia that blanket speed enforcement was not effective in reducing traffic fatalities and serious injuries. An analysis of time series crash data, which is built into the TSMIT system, indicated that the most pressing road safety problems were drinking and driving and non-use of seat belts. The focus of traffic services resources was shifted to impaired drivers and seat belt use enforcement. The results of the shift in resources were positive. Between 2002 and 2004, impaired driver related charges increased by 300% while seat belt use increased from 83.2% to 91.6%. The number of traffic fatalities which involved impaired drivers decreased by 14%, while the number of unbelted motor vehicle occupant fatalities decreased by 31% during the same period. Overall fatalities decreased by 8% between 2002 and 2004. Senior traffic services management in British Columbia feel that TSMIT enables the force to be more strategic in its enforcement efforts as traffic units are being held accountable for ensuring that members are working in high-crash areas.

TSMIT is gradually being rolled out in the 11 provincial and territorial jurisdictions where the RCMP provides contract-policing services. TSMIT is expected to be fully deployed in RCMP-policed jurisdictions by the end of 2008.

While further opportunities in the behavioural area are discussed within specific chapters in the Report, there is a general category of behavioural measures, which will, through utilization of new technology, provide potential further road safety benefits, albeit beyond the life of RSV 2010.

This includes speed cameras, “time over-distance” cameras, red light cameras often combined with “speed on green” cameras, expanded mandatory requirements and voluntary fitment programs for alcohol interlocks, mandatory intelligent speed adaptation interlocks for speeding offenders, voluntary fitment of fatigue monitoring devices and a raft of emerging vehicle safety technologies including monitoring of the vehicles’ location within the running lane and the following distance to vehicles ahead.

CCMTA should, and intends to, focus on adjusting existing programs to improve their effectiveness in order to maximize the likelihood of meeting the RSV 2010 target. Support for new technologies to address behaviour will bring benefits in the medium term to begin with, and greater and widespread effectiveness beyond 2010.

However, the introduction of a range of these and other more traditional programs which will deliver a substantial benefit in the years beyond 2010 but have a significant lead-time for implementation, such as roadside saliva testing for certain drugs, should also be considered now.

### **3.4.3 Vehicle safety**

There is a broad range of safety benefits available to those countries that encourage the public to purchase safer vehicles and put pressure on manufacturers and suppliers to provide higher standards of safety in the vehicles they provide to the market. The following extract from the European Road Safety Observatory SafetyNet project website indicates the potential benefits.

However, it is the links between vehicle safety, road network safety and behavioural safety improvements for a particular crash type that offer the potential for substantial safety improvement as described above in the safe system discussion.

Canada should ensure that its Canada Motor Vehicle Safety Standards are at international best practice levels, that NCAP (New Car Assessment Programs – ranking safety levels of vehicles are financially supported by governments within Canada and that the results of international NCAP programs for vehicles sold into the Canadian market are widely promoted to the public.

**GOOD PRACTICE – VEHICLE SAFETY** (European Road Safety Observatory, SafetyNet,)  
**VEHICLE DESIGN AND ROAD SAFETY**

Improving vehicle safety is a key strategy used in addressing international and national road casualty reduction targets and in achieving a safer road traffic system. Vehicle safety addresses the safety of all road users and currently comprises measures to help avoid a crash (crash avoidance) or reduce injury in the event of a crash (crash protection). Substantial and evidence-based improvements have been made in the last 15 years and research has identified a large scope for enhancing vehicle safety further. The European Commission has stated that If all cars were designed to provide crash protection equivalent to that of the best cars in their class, half of all fatal and disabling injuries could be avoided. There is a large future promise of casualty reduction from crash avoidance and crashworthiness safety technologies if technology development is prioritized.

***Vehicle safety policy***

Improvements to vehicle safety results from legislation/regulation (much of which is now agreed in the European Union and internationally) consumer information, the initiatives of individual manufacturers and product liability considerations. EU legislation aims for a minimum but high level of protection across the product line; consumer information aims to encourage the highest possible levels of safety; and car industry policies increasingly promote safety as a marketable commodity. Countries active in safety engage in international legislative development work; carry out national research and monitoring of vehicle safety; support the European New Car Assessment Program; ensure that helmet and restraint usage laws are properly enforced and encourage local car industry to fast track key safety measures.

***Key issues for vehicle safety design***

- Addressing human limitations
- Car occupants comprise 56% of total EU (15 countries) road traffic deaths. Car to car collisions are the most common crash type. Different factors influence crash severity (e.g. speed, crashworthiness, belt use).
- The survival of pedestrians in traffic
- Motorized two-wheeler users sustain multiple injuries in crashes to the head, chest, legs
- Cyclists comprise around 5% of road user deaths across EU countries. Head injuries are the major cause of death.
- Minibus and bus occupant injury is a smaller but also a treatable vehicle safety problem
- Cost benefits and cost-effectiveness.

A range of crash avoidance and crash protection measures is outlined for the protection of cars occupants, pedestrians, motorcyclists, minibus and bus users is available at [www.erso.eu](http://www.erso.eu)

***Knowledge gaps***

Effective vehicle safety design relies upon continuing research and development, understanding of the source and mechanism of injury protection in a range of crash conditions, regular monitoring of performance in real world conditions, and confirmation that new technologies are used and accepted.

### 3.5 AREAS WHERE GREATER EFFORT IS REQUIRED

The following are the management areas that have been identified as requiring greater effort:

- **Greater multi-sectoral involvement** and reporting arrangements to government for CCMTA road safety Committees, specifically CCMTA's Standing Committee on Road Safety Research and Policies to CCMTA's Board of Directors to the Council of Deputy Ministers to the Council of Ministers
- Improved **road safety management capacity** arrangements within jurisdictions
- Development of road safety strategies including **modelled targets** that identify the necessary inputs to achieve the required target outcomes at the provincial (and municipal level)
- Greater deterrence of unsafe **road user behaviours**
- **More linkages** between infrastructure, vehicle safety and behavioural programs
- **More evaluation** of specific interventions
- **More public awareness** of vehicle safety benefits and risks of speeding and inappropriate speeds and other behavioural challenges
- **More infrastructure safety** programs which integrate road safety.

### 3.6 RECOMMENDATIONS

1. CCMTA to establish a program to encourage jurisdictions to:
  - Identify the **lead agency** for road safety within each jurisdiction (at federal and provincial/territorial levels)
  - Clearly identify **departments' accountabilities** for results and set output targets
  - Develop road safety strategies including modelled targets that relate required decisions and resource inputs to quantified components of the required target outcome. Community consultation should be an integral component of this process
2. CCMTA to increase the **multi-sectoral involvement** of agencies such as TAC, and others like health, particularly its road safety committee, to:
  - Obtain a broader perspective of the road safety management capacity issues for Canadian jurisdictions and to provide support to the jurisdictions to address these
  - Develop a range of highly effective focused interventions and
  - Work to obtain support within the provinces/territories and at federal level, for their implementation and delivery.

This is the major challenge for CCMTA in reassessing road safety activity in the immediate future. It will require an opening up of the various committees to infrastructure, speed limit setting, vehicle safety, justice, health, and enforcement specialists as an essential means of improving effectiveness.

3. Determine the means by which **reporting** (and associated briefing) to the relevant Deputy Minister and Minister (on the Council of Ministers) with responsibility for road safety can occur effectively and not at arms length.
4. Transport Canada and CCMTA should support jurisdictions to improve **business case development** and advocacy for interventions (within government) to improve funding priority.
5. CCMTA to work with jurisdictions to advocate **increased deterrence of unsafe behaviours** through:
  - Clear **promotion to the public** of road safety risks and potential measures to counter those risks. Promote the message that a small percentage of Canadians are a major threat to the on-road safety of more than 95% of road users and build a fresh understanding of everyone's social responsibility for road safety improvement.
  - Introduction of **new legislative instruments** to address known issues.
  - Review and adjustment of ineffective **existing legislative instruments** including examination of minimum mandatory penalties for certain offences and ease of enforceability by police and adjudication by the courts.
  - All levels of government should working with their counterparts to increase **resources for police enforcement**.
  - Obtaining police and government commitment to reducing acceptance of existing **lower level breaches** of current laws and regulations e.g. speeding up to 15km over the posted speed limit.
6. Work with other road safety groups to seek **expanded government programs** for vehicle safety and targeted infrastructure safety.
7. Build **stronger linkages** between infrastructure, vehicle safety and behavioural program practitioners to achieve integrated safety programs.
8. Jurisdictions to **prepare action plans** now to address key issues. Ensure speed, vulnerable road user, commercial vehicle involved, rural road crash and drinking and driving risks are targeted by all jurisdictions.
9. Adopt as CCMTA policy and promote to jurisdictions the **Safe System approach** to intervention development and responsibilities for elements in the system.

10. Obtain commitments from all jurisdictions to **provide crash data in a timely manner** to Transport Canada, no later than quarterly in arrears for fatality data and six-monthly in arrears for serious injury data.
11. Advocate for the introduction of ongoing **crash factor awareness raising programs** (such as the Swedish OLA program) to be funded by the federal government for rollout in all provinces/ territories. (Transport Canada is currently working toward a related outcome with the Causes of Fatal Collisions study, which is looking at vehicle, road and user characteristics associated with fatal crashes and suggesting potential countermeasures. However, there is insufficient funding to roll this study out nationally.)
12. Advocate strongly for increased promotion of **vehicle safety information** and benefits to the public and for behaviour control related technologies to be fitted to new vehicles.
13. Given the limited progress that has been achieved to date towards the national target as well as the majority of the sub-targets, consider **changing the overall date** for achieving the national target and sub-target objectives to 2010 instead of achieving the reductions in average deaths and serious injuries over the 2008-2010 period. This would allow stakeholders more time to develop and implement initiatives that may generate positive results and provide a greater likelihood of achieving the target objectives. Most countries with targets have picked a specific year as the target date.

## 4 OCCUPANT RESTRAINTS

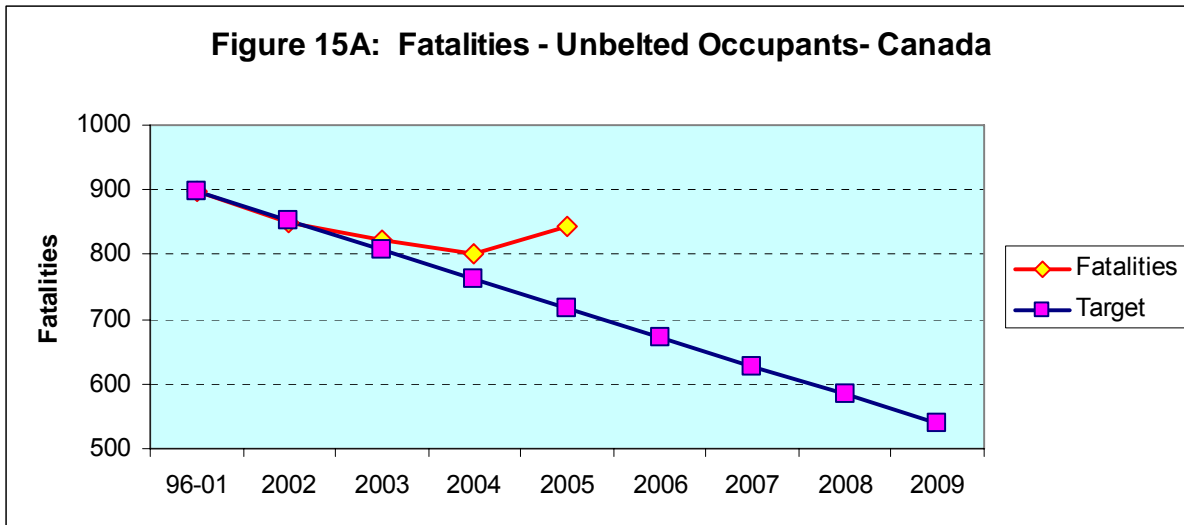
### 4.1 SUB-TARGET

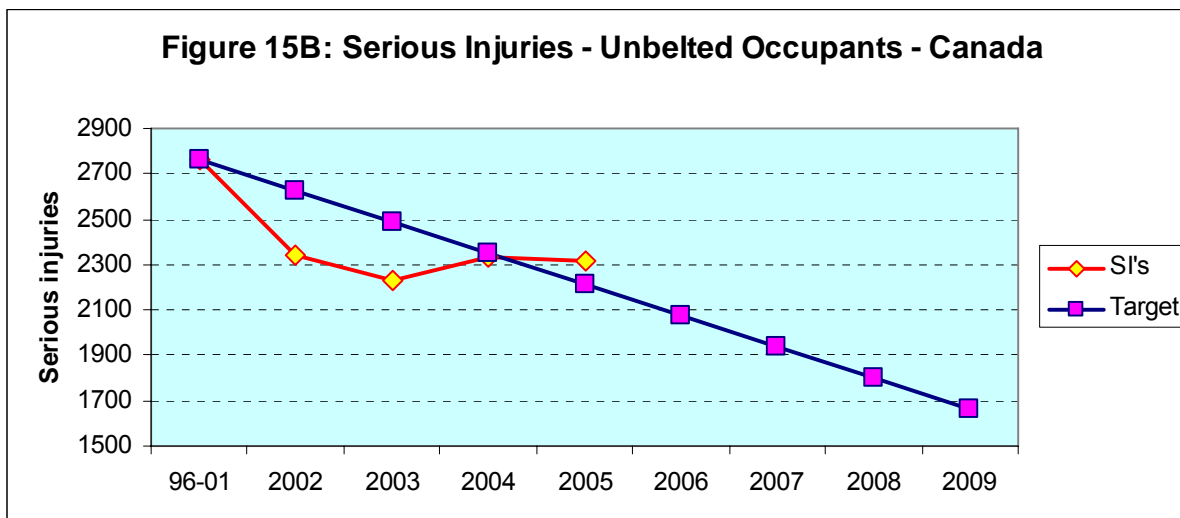
In October 1996, the Council of Ministers approved the National Occupant Restraint Program (NORP 2001) with the goal to achieve and maintain a **95% occupant restraint wearing rate** in light-duty vehicles (and properly restrain children) in each jurisdiction to the year 2001.

Since this target was not met within RSV 2001, it was included as one of the sub-targets for RSV 2010 and expanded to include all motor vehicle occupants (including continuing to properly restrain their children) and all seating positions. As collision data indicated that a large number of fatally and seriously injured occupants were not using restraints at the time of the collision, an additional target was introduced - to achieve a **40% reduction in the number of unbelted fatally and seriously injured vehicle occupants** by 2010.

### 4.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS – UNBELTED FATALITIES AND SERIOUS INJURIES

Figures 15A and 15B present the unbelted fatality and serious injury statistics respectively, with the progress of the individual provinces / territories shown in Figure 15C.

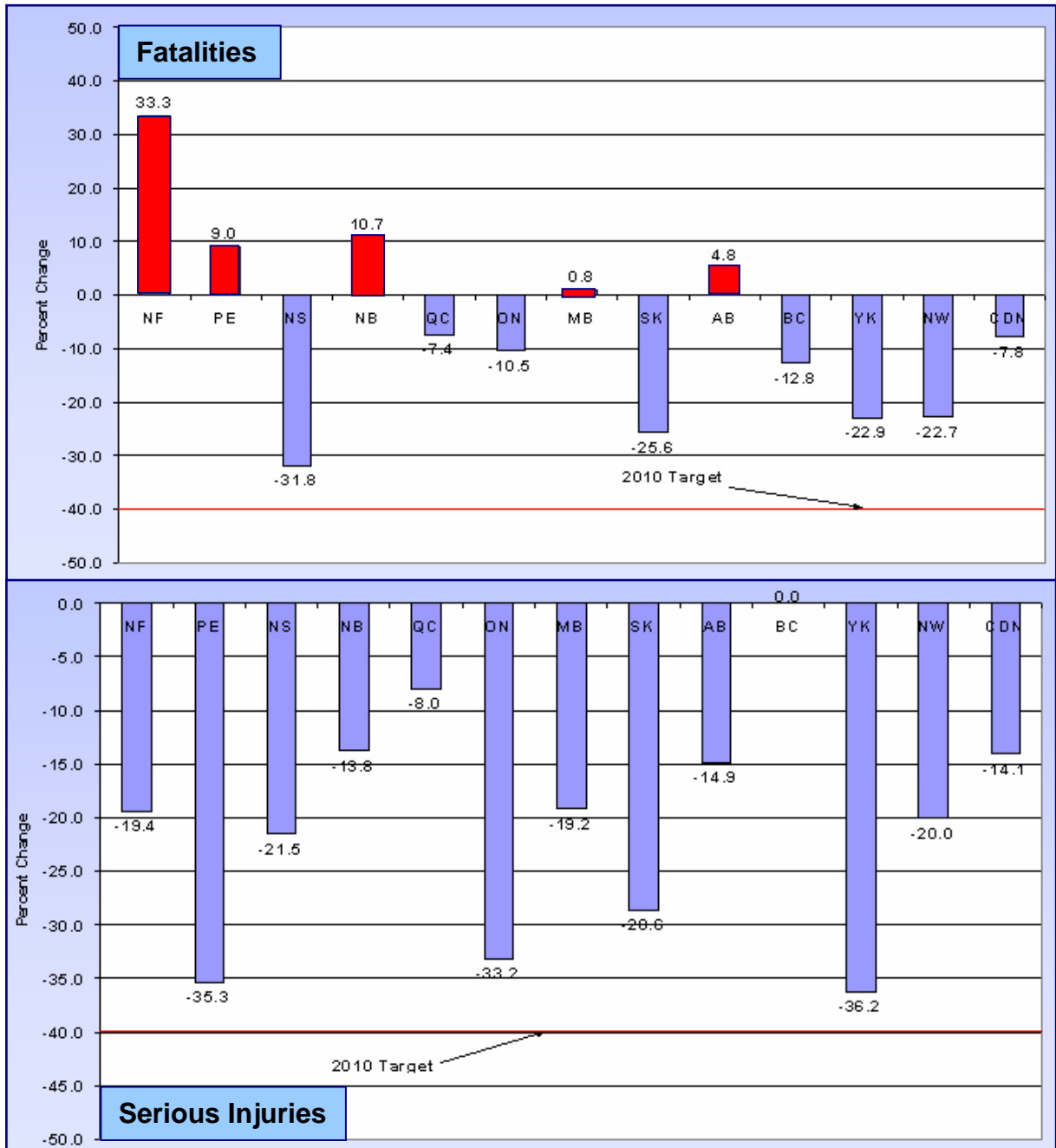




Progress in reducing fatalities was on a downward trend (but still above the trend required) prior to 2004 but deteriorated in 2005. This was reasonably consistent across the provinces/territories. Serious Injuries were trending downward initially but have not decreased since 2003, with variable performance across jurisdictions.

Progress by the individual provinces and territories is noted in Figure 15C.

**Figure 15C: Unbelted Occupants Sub-target (-40%)  
2003-2005 Ave. vs. 1996-2001 Baseline (Source: Transport Canada)**



### 4.3 NATIONAL OCCUPANT RESTRAINT PROGRAM (NORP) PROGRAM

The objectives and activities of each of the program elements are summarized below.

#### 1) *Seat Belt/ Child Restraint Wearing Survey*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Conduct annual surveys of drivers and passengers wearing seat belts</li> <li>▪ Conduct annual surveys of the use of child restraint systems</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Transport Canada conducts annual surveys by jurisdiction in rural and urban areas on alternating years. A National Child Restraint Survey was conducted in 2006, the first since 1997</li> <li>▪ Several jurisdictions have undertaken their own seat belt and child restraint surveys to determine usage rates, particularly in rural areas (e.g., BC and Alberta)</li> </ul>

#### 2) *Public Education/Marketing Objectives*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Sustained public education efforts re child safety seats, including:             <ul style="list-style-type: none"> <li>· ensuring the use of booster seats for children who have outgrown a child safety seat</li> <li>· ensuring children 12 years and under are seated in the back seat of the vehicle</li> </ul> </li> <li>▪ Implement education and enforcement activities in rural geographic locations that are high-risk (based on % use rate/fatalities)</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Substantial promotion of correct use and fitting of child safety seats</li> <li>▪ Extensive advertising and promotion of seat belt use (e.g. nationwide newspaper campaign during Canada Road Safety Week (May 14-21, 2007) to raise awareness about the importance of seat belt use)</li> </ul>

#### 3) *Legislation Objectives*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Remove all exemptions for the non-use of seat belts and child safety seats</li> <li>▪ Increase fines and introduce or increase demerit points for non-use of seat belts and child safety seats</li> <li>▪ Harmonize and simplify provincial laws and regulations with NORP's recommended model</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ All provinces have been successful in introducing seat belt and child safety seat use legislation</li> <li>▪ Several provinces have been successful in increasing fines and adding demerit points for seat belt offences</li> </ul>

4) *Enforcement/ Awareness Objectives*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Ensure that enforcement is undertaken in the most effective manner possible including in combination with other types of enforcement activity</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Widespread enforcement commitment and activity is reported across jurisdictions</li> </ul>

As mentioned in #3 above, all provinces/territories have introduced legislation and sanctions for occupant restraints. This table indicates the status of legislation and sanctions in each of the jurisdictions.

Province	Seat Belt Legislation	Child Restraint Legislation	Fine	Points
Newfoundland	1982	1982	\$45	2
Prince Edward Island	1987	1987	\$110	0
Nova Scotia	1985	1985	\$129	2
New Brunswick	1983	1984	\$84	1
Quebec	1976	1985	\$80	3
Ontario	1976	1982	\$110	2
Manitoba	1984	1984	\$100	0
Saskatchewan	1977	1983	\$105	3 new drivers only
Alberta	1987	1984	\$115	2 new drivers only
British Columbia	1977	1985	\$86	0
Yukon	1991	1987	\$75	4
Northwest Territories	1988	1988	\$100	2

**Table 2 – Year That Seat Belt and Child Restraint Legislation Commenced with Fines/Demerit Points**

#### 4.4 SEAT BELT SURVEYS

Transport Canada reports the following Seat Belts Survey results for 2006:

- Percentage of Occupants Using Seat Belts – summarized in Figure 16
- 2002-2004-2006 Rural Seat Belt Comparisons - summarized in Table 3A
- Comparison of the National Surveys - summarized in Table 3B.

To assist in interpreting this data, the following points are highlighted:

- The 2005 urban survey data was combined with the 2004 and the 2006 rural data to obtain an overall Canadian seat belt usage rate. It represents a weighted average of the urban and rural rates
- The seat belt usage rate has increased slightly between 2004-2005 and 2005-2006. Most jurisdictions have had an increase in seat belt usage rate except Ontario, Manitoba and Saskatchewan
- In 2005-2006, results show that the seat belt usage rate in the front seat is 91.0% and that in the back seat is 85.3%
- The 2002 rural seat belt survey gathered data only on front seat occupants while the 2004 survey gathered data on all occupants. As a result, the following comparison will be of front seat occupants only
- The 2004 survey comprised communities spread out in 69 geographical regions, while the 2002 survey included 63 regions
- Communities that have a population over 10,000 but are not classified as census agglomerations have been included in the 2004 and 2006 surveys
- Some population strata have been combined.

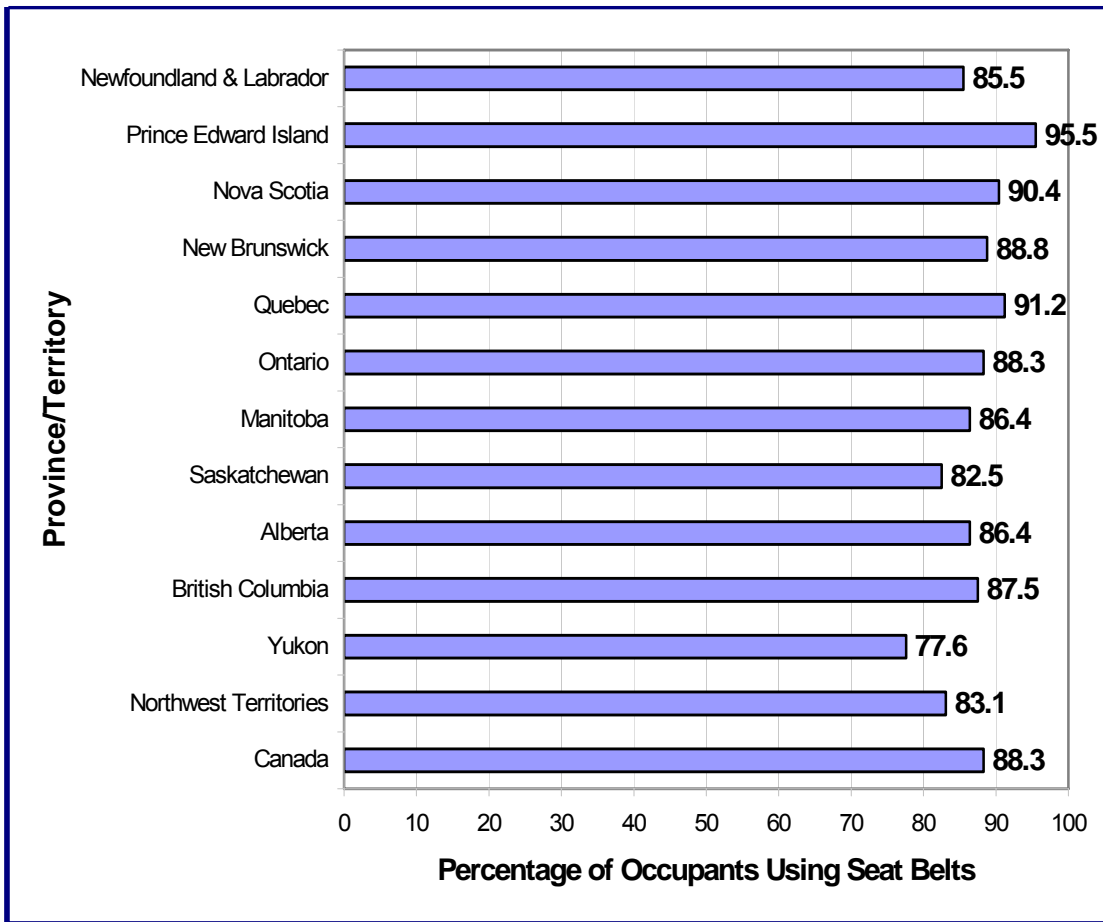


Figure 16 – Percentage of Occupants Using Seat Belts 2006

Jurisdiction	2002	2004	2006
Newfoundland and Labrador	86.3%	85.0%	85.4%
Prince Edward Island	76.7%	66.3%	95.3%
Nova Scotia	90.5%	83.6%	90.4%
New Brunswick	90.6%	86.5%	88.9%
Quebec	91.2%	89.3%	91.2%
Ontario	85.1%	87.9%	89.2%
Manitoba	80.8%	91.3%	86.9%
Saskatchewan	85.7%	88.3%	82.8%
Alberta	77.3%	82.5%	86.3%
British Columbia	79.7%	86.3%	87.4%
Yukon	53.9%	65.9%	77.9%
Northwest Territories	77.1%	66.4%	83.9%
Nunavut	22.9%	N/A	N/A
Rural Canada	<b>85.0%</b>	<b>87.1%</b>	<b>88.6%</b>

**Table 3A: 2002-2004-2006 Rural Seat Belt Comparisons**

Jurisdiction	2004-2005	2005- 2006
Newfoundland and Labrador	87.0%	87.2%
Prince Edward Island	81.4%	88.2%
Nova Scotia	88.7%	91.0%
New Brunswick	85.9%	87.2%
Quebec	90.9%	91.1%
Ontario	92.1%	92.1%
Manitoba	92.1%	91.3%
Saskatchewan	93.7%	92.9%
Alberta	82.9%	83.4%
British Columbia	91.6%	91.7%
Yukon	81.5%	86.9%
Northwest Territories	75.1%	80.2%
Nunavut	N/A	N/A
Canada	<b>90.5%</b>	<b>90.8%</b>

**Table 3B Comparison of the National Surveys**

## 4.5 STATUS OF PROGRAM

The following table summarizes the status of the program with respect to the previously defined phases of development, with further discussion provided below:

Item	Problem definition	Program development	Program implementation	Program sustainability	Evaluation
Overall target	●	◐	◐	◑	◐

Legend: ○ - No progress    ◐ - about 50% developed    ● - Fully developed

### 1) **Problem definition – is the issue well defined?**

- Yes. Extensive surveys of usage have been/ continue to be carried out. This also includes the identification, in most jurisdictions, of habitual non-wearers.

### 2) **Program development – have we developed results focused interventions?**

Most provinces/territories have developed interventions that include:

- Good and consistent survey and data analysis activity that should continue
- A focus on improving wearing rates in various sub – categories driven by on-going surveys, such as high-risk offenders and habitual non-wearers
- Enforcement responding appropriately to data from surveys.

### 3) **Program implementation – are there appropriate implementation arrangements?**

- Most provinces/territories have developed a co-ordinated approach by police services (targeted enforcement) and other stakeholders (public education/marketing)

### 4) **Program sustainability – is the program at a stage that it is “on maintenance”?**

- We believe the program is not yet sustainable. Jurisdictions need to focus on rural areas of the provinces and territories (although the gap between rural and urban use is narrowing) and with drivers and passengers who are deemed to be high-risk offenders of all vehicle types, but particularly for drivers and passengers of light trucks.

### 5) **Evaluation – has there been any formal program evaluation?**

- Surveys are giving clear feedback on progress.

## 4.6 EXAMPLES OF INTERNATIONAL GOOD PRACTICE

### **GOOD PRACTICE: SEAT BELT USE IN ALBERTA**

One of the best examples of the effect of enforcement on seat belt usage relates to the experience in the Province of Alberta. Seat belt laws were introduced and enforced in Alberta from the beginning of 1987. Usage rates increased from 28% in 1986 to 74% in 1987 and 83% in 1988. In 1989, as a result of a court decision, the seat belt law was no longer enforced and seat belt usage rates dropped to 45% (a drop of 38 percentage points). At the time that the extremely low seat belt usage rates were publicly announced, at the beginning of 1990, the court reversed its decision and enforcement activities were reinstated. By the end of 1990, seat belt usage rates had increased to 88% (an increase of 43 percentage points) which is a clear indication of the effectiveness of enforcement.

Source: Traffic Law Enforcement: A review of the literature – Monash University Accident Research Centre – 1994.

## 4.7 AREAS WHERE GREATER EFFORT IS REQUIRED

Based on the foregoing discussions, the following are the areas that have been identified as requiring greater effort in support of achieving the RSV 2010 targets:

- Increased **seat belt usage** generally but particularly for young drivers and by drivers and occupants of light trucks through co-ordinated public information and enforcement activities
- Correct fitting and usage of **child seat restraints** through public information campaigns, child restraint clinics, and enforcement
- Continued measures to achieve **tougher laws and sanctions** (including the elimination of exemptions) in all jurisdictions to attain NORP recommended level.

## 4.8 RECOMMENDATIONS

1. Each jurisdiction should aim to achieve and maintain:
  - A minimum seat belt **wearing rate of 95%** and proper use of child restraints by all motor vehicle occupants
  - **40% decrease** in number of unbelted fatally or seriously injured occupants.
2. Each jurisdiction should continue working towards the **removal of exemptions** for the non-use of seat belts.
3. Each jurisdiction should **target the high-risk driver** by increasing the monetary cost of an infraction and to introduce or increase the number of demerit points for non-use of seat belts and child car seats.
4. Each jurisdiction should harmonize and simplify provincial laws and regulations in accordance with NORP's recommended model, and include sustained public education efforts to reduce the opportunities for **misuse and non-use of child car seats**, including ensuring the use of booster seats for children who have outgrown a child car seat but an adult seat is still inappropriate.

It is also important to encourage the speedy adoption of seat belt reminders, interlocks or delay systems.

5. To increase the perceived risk of apprehension for the non-use of occupant restraints, jurisdictions should **refocus their enforcement efforts** to ensure that they are as effective as possible. High visibility seat belt checks by police, supported by public education such as news releases, media interviews and community outreach, can significantly enhance the public's perception of police efforts to increase occupant restraint compliance.

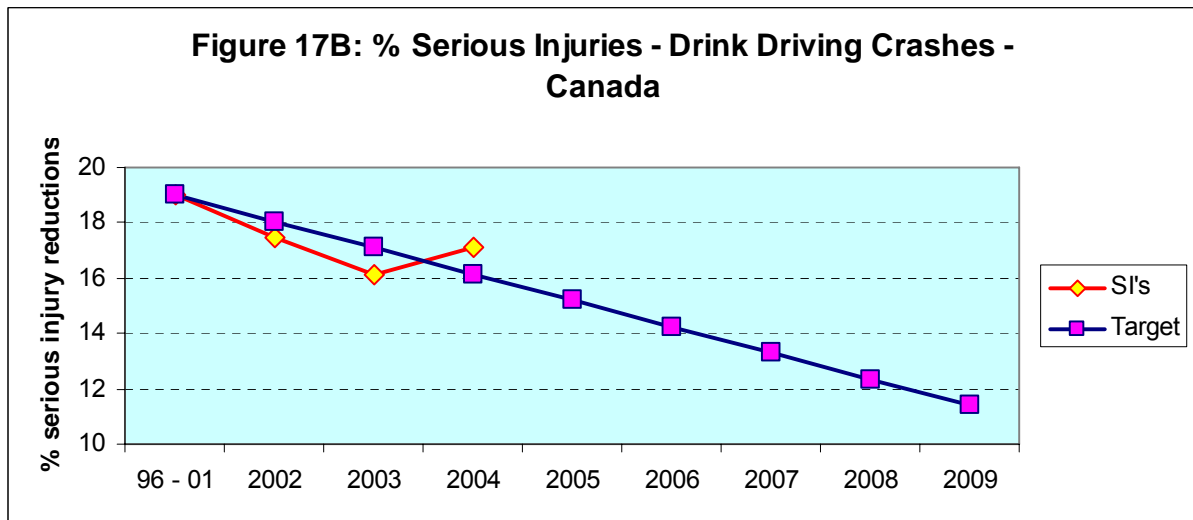
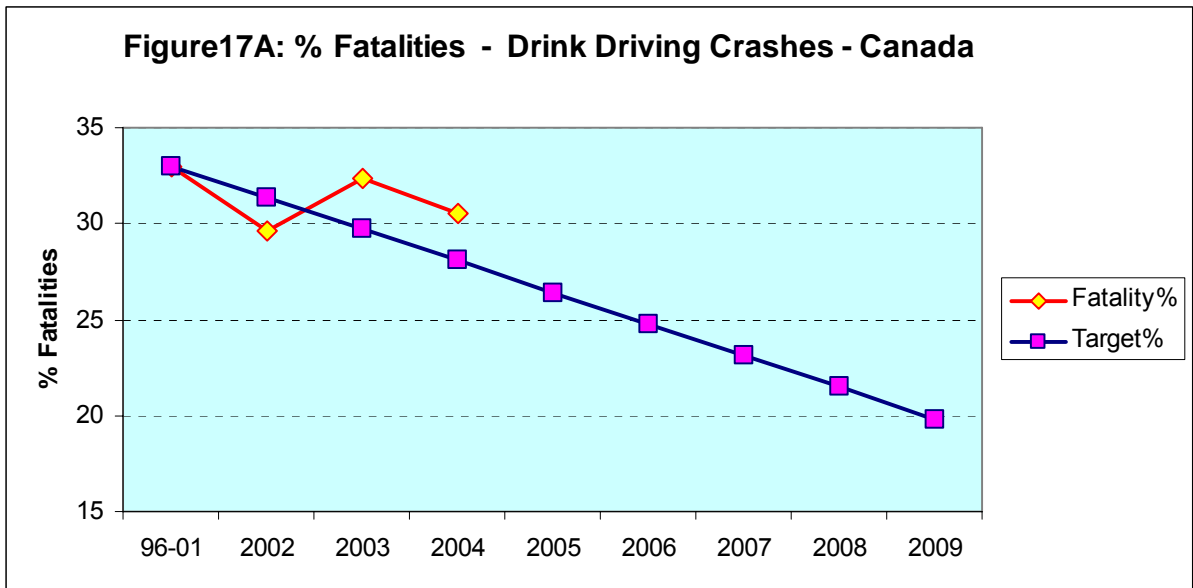
## 5 IMPAIRED DRIVING

### 5.1 SUB-TARGET

The RSV 2010 target is to achieve a **40% decrease** in the percentage of road users fatally or seriously injured in crashes involving drinking drivers.

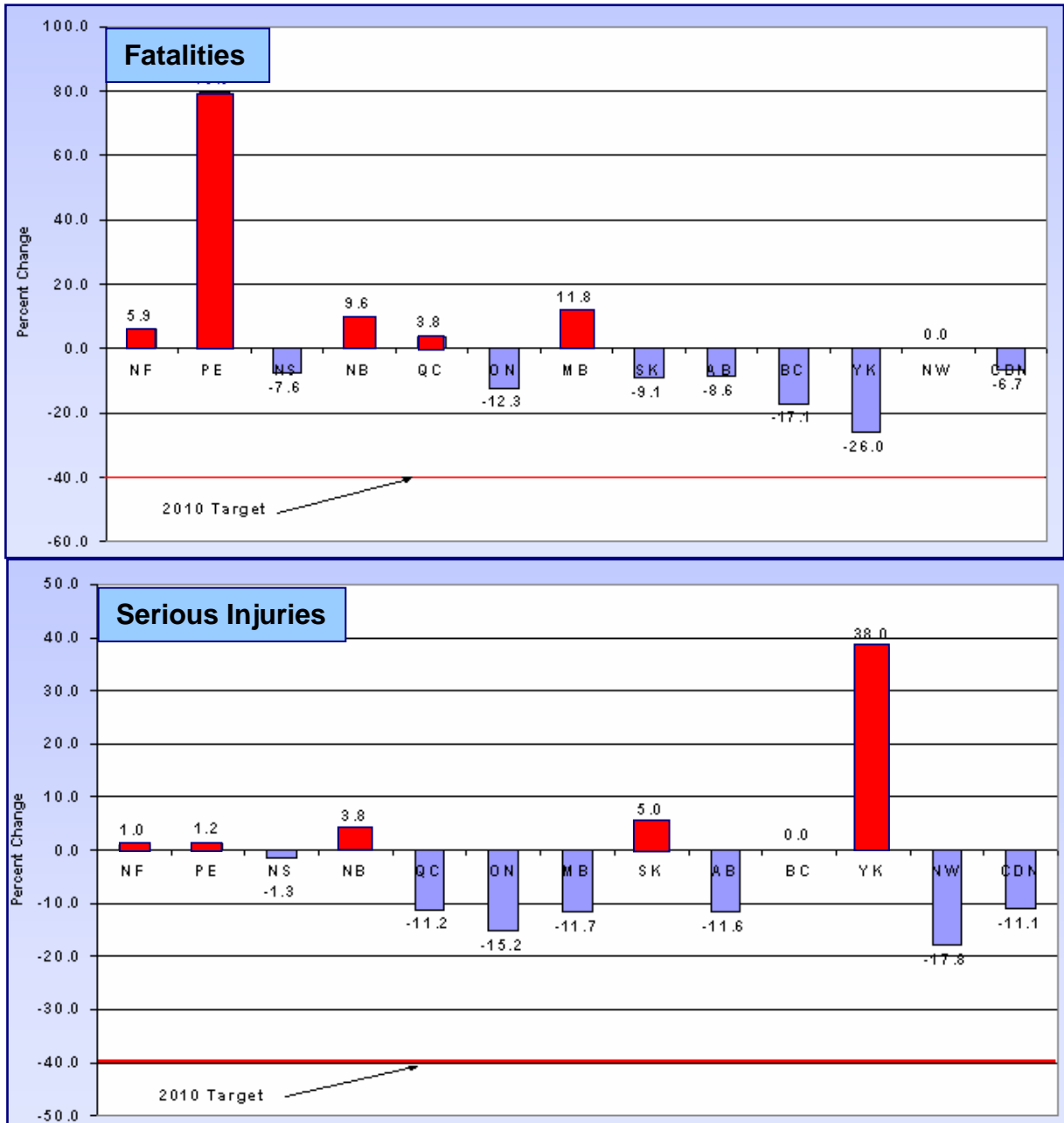
### 5.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS – IMPAIRED DRIVING FATALITIES AND SERIOUS INJURIES

Figures 17A and 17B present the impaired driving fatality and serious injury statistics respectively, with the progress of the individual provinces / territories shown in Figure 17C.



Fatality levels had fallen in 2004 and the serious injury levels were trending down reasonably satisfactorily. The 2005 data will be an important indicator of more recent progress.

**Figure 17C: Impaired Driving Sub-target (-40%)  
2003-2005 Ave. vs. 1996-2001 Baseline (Source: Transport Canada)**



Performance in British Columbia, Alberta, Ontario, Saskatchewan, Nova Scotia and Yukon has been ahead of the required trend of the National average of 7.6%.

### 5.3 STRATEGY TO REDUCE IMPAIRED DRIVING (STRID) PROGRAM ELEMENTS (includes the Strategy to Address Lower BAC Drinking Drivers)

The objectives and activities of each of the program elements are summarized below.

#### 1) Education and Awareness

<p><b>Objectives</b></p>	<ul style="list-style-type: none"> <li>▪ Educate police, justice departments and the judiciary on the nature and management of drinking and driving and its consequences</li> <li>▪ Implement and maintain awareness programs in schools from an early stage (i.e., kindergarten through Grade 12) with appropriately targeted messaging. These programs should be maintained as an on-going component. Messaging should highlight the costs associated with drinking and driving, e.g. its impact on families and the high financial costs to society</li> <li>▪ Target/personalize educational campaigns for different audiences e.g. messages, aimed at changing the behaviour of passengers of impaired drivers</li> </ul>
<p><b>Activities</b></p>	<p>A considerable amount of public awareness has been carried out over the life of the strategy:</p> <ul style="list-style-type: none"> <li>▪ Several jurisdictions have programs in place to educate the police, justice departments and the judiciary on the nature and management of drinking and driving and its consequences</li> <li>▪ Several jurisdictions have awareness programs in place, with appropriately targeted messaging that are aimed at children from kindergarten through to Grade 12. Ontario has developed a new public education program for young drivers about the risks of aggressive and unsafe driving practices including impaired driving</li> <li>▪ Several jurisdictions highlight the costs associated with drinking and driving in their programs</li> <li>▪ Several jurisdictions have programs in place for specific audiences, ongoing and seasonal campaigns and some encourage the public to plan alternate transportation (without driving) if they will be drinking</li> <li>▪ Substantial campaigns conducted by a number of NGO's, but particularly MADD Canada, have raised community awareness of the risks and unacceptability of drinking and driving</li> </ul>

**2) Enforcement (Role of Policing)**

<p><b>Objectives</b></p>	<ul style="list-style-type: none"> <li>▪ Train and encourage more police officers to develop Drug Recognition Experts (DREs) and more use of the Field Sobriety Tests (FSTs) to deal with impairment by drugs other than alcohol</li> <li>▪ Streamline procedures for processing drinking drivers</li> <li>▪ Encourage officers to lay more Criminal Code charges for impaired driving rather than laying 24-hour suspensions</li> <li>▪ Lobby for increased police resources to help increase the perceived risk of apprehension for drinking and driving</li> <li>▪ Encourage police to use passive sensors as an aid for identifying drinking drivers</li> <li>▪ Conduct combined enforcement and awareness campaigns during high risk times of the year focusing on drinking and driving</li> <li>▪ Participate each spring/summer in a nationally coordinated enforcement/awareness campaign, targeting the high-risk or persistent offender (This is Canada Road Safety Week in May)</li> </ul>
<p><b>Activities</b></p>	<ul style="list-style-type: none"> <li>▪ Insufficient police presence/ Checkstop (police organized roadblock activity) across all provinces/territories to provide more effective deterrence</li> <li>▪ Checkstop activity mainly limited to some specific higher risk periods (usually Christmas period), in addition to during the Spring and Summer</li> <li>▪ Some jurisdictions are either providing officers with training to become drug recognition experts or encouraging greater use of field sobriety tests</li> <li>▪ Some jurisdictions are encouraging officers to lay more Criminal Code charges rather than 24-hour suspensions. Some jurisdictions are streamlining procedures for dealing with drinking drivers</li> <li>▪ Some CCMTA members have indicated that in their opinion, traffic safety appears to not be a high policing priority. There is some evidence and widespread concern among the jurisdictions based upon comments received during the interview sessions and some data from one province that levels of enforcement effort have lessened in recent years. Lobbying for increased police resources to increase the perceived risk of apprehension has been pursued in many jurisdictions in recent years with little success</li> <li>▪ Some jurisdictions are reviewing the use of passive alcohol sensors</li> <li>▪ At least two jurisdictions expressed the desire for police to have the power to stop vehicles at random to test for alcohol for the deterrence benefits that would provide</li> </ul>

3) Policy/Legislation

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Create a new administrative licence suspension sanction for drivers in the 0.05 to 0.08 BAC range. The length of the suspension should be considerably longer than the current 4 to 24-hour suspensions to better reflect the seriousness of such conduct and the risks that it creates. An immediate roadside suspension of 7-14 days is sought if the driver registers a BAC of 0.05 or more on an approved screening device or instrument. The police should request the surrender of the driver's licence, and forward it to the Registrar of Motor Vehicles. The longer sanction will also increase the willingness of the police to apprehend and process such drivers</li> <li>▪ Record and track roadside administrative licence suspensions on driver record and use this information as a management tool. The Registrar to be informed of all 0.05 BAC suspensions and record them on driver records, and to print them on all driver abstracts for a period of 10 years from the date of suspension</li> <li>▪ A driver who receives a 0.05 BAC suspension should be required to pay a licence reinstatement fee in the \$150 to \$300 range. Drivers who incur a second, third or subsequent 0.05 BAC suspensions within three years should be required to pay increased licence reinstatement fees</li> <li>▪ While it may be appropriate to subsidize the true costs of apprehending, testing and processing first-time violators of the 0.05 BAC law, repeat violators should bear an increasing share of the full costs</li> <li>▪ Make it an offence to refuse a Field Sobriety Test (Bill-32 which is currently in the House of Commons would do this if passed)</li> <li>▪ If a driver incurs a second, third or subsequent 0.05 BAC infraction within three years, his or her licence to be suspended for 30, 45 and 60 days, respectively</li> <li>▪ Drivers who receive two or more suspensions for driving over 0.05 BAC or for failure or refusal of a field sobriety test within 3 years to be required to provide an impaired driver's assessment from a recognized agency</li> <li>▪ Drivers who receive three or more 0.05 BAC suspensions within three years to be required to install, at their own expense, an alcohol interlock on their vehicle for six months as a condition of licence reinstatement</li> <li>▪ Conduct ongoing education campaigns to inform the public re drinking and driving risks</li> <li>▪ Introduce escalating sanctions based on BAC level to provincial regulations</li> <li>▪ Widen the search (look-back) window for drinking and driving sanctions to 10 years</li> <li>▪ Introduce reduced BAC thresholds for drivers who have been convicted of a drinking and driving offence</li> <li>▪ Take advantage of any technological innovations for enforcing drinking and driving offences. For example, breath alcohol ignition interlock device with periodic monitoring, as part of a relicensing program</li> <li>▪ Jurisdictions should have an ignition interlock program operational, and be seeking to extend existing programs, with a number of jurisdictions considering extended programs</li> <li>▪ Administrative licence suspension of 90 days applied if driver is over legal limit of 0.08 or refuses a breath/blood test. (Most jurisdictions do this now.)</li> <li>▪ Use of vehicle-based sanctions such as vehicle impoundment, vehicle immobilization, licence plate tagging or confiscation for driving while suspended</li> <li>▪ Remove exemptions for work permits</li> <li>▪ Mandate server training programs as a condition of obtaining and maintaining a liquor licence</li> <li>▪ Implement minimum licence suspensions of 1, 3 and 5 years for first, second and third or subsequent convictions for impaired driving within a ten-year "look-back" window</li> </ul>
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<b>Activities</b>	<ul style="list-style-type: none"><li>▪ Most jurisdictions with short term roadside licence suspensions list such infractions on a driver's record</li><li>▪ All jurisdictions (except New Brunswick) have some form of administrative licence suspension for impaired drivers. The duration of such suspension is usually 90 days</li><li>▪ The duration of a suspension following a detected BAC of 0.05 to 0.08 for second, third or subsequent offences in the adopted look back period is 30, 45 and 60 days in the Northwest Territories, Saskatchewan and Newfoundland</li><li>▪ All jurisdictions with administrative licence suspensions (i.e. other than Quebec) purport to record these offences and others advise that the Registrar of Motor Vehicles is informed to enable the offence to be placed in a driver's record</li><li>▪ In a few jurisdictions, it is now an offence to refuse a field sobriety test under the highway traffic act</li><li>▪ Escalating sanctions based on BAC level exist in at least three jurisdictions. In Manitoba, vehicle impoundment durations are based on BAC readings and on whether the person is a repeat offender</li><li>▪ Most jurisdictions have now widened the search (look-back) window for drinking and driving sanctions to 10 years</li><li>▪ Reduced BAC thresholds for multiple offenders are in place in some jurisdictions</li><li>▪ Difficulty for police in processing impaired drivers under criminal code provisions at 0.08 and above due to workload requirement, leads to administrative provisions being used for offenders over 0.08 BAC</li><li>▪ Licence reinstatement fees now apply (\$100) following administrative licence suspensions in Newfoundland</li><li>▪ 5 yr zero BAC limit introduced in many provinces for novice drivers</li><li>▪ Vehicle impoundment provisions in place in Yukon, Newfoundland and Labrador and Prince Edward Island. Vehicle forfeiture provisions in one jurisdiction (Manitoba)</li><li>▪ Interlock provisions in most jurisdictions (except New Brunswick, Nova Scotia and Prince Edward Island) with Quebec, Yukon and Alberta having programs rated as good by MADD Canada</li></ul>
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**4) Health Promotion**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Implement mandatory assessment and rehabilitation programs for drinking driving offenders and provide a timely follow up.</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Well promoted by public health agencies</li> <li>▪ Identified as a public health priority</li> <li>▪ Alcohol dependency assessments now required before licence reinstatement in most provinces</li> </ul>

**5) Linkages to other agencies – Objectives**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Representatives from the health promotion, medical and injury prevention fields and other appropriate stakeholder agencies should be invited to work with the Task Force to develop and advance the model and to assist jurisdictions in implementation of the elements of STRID 2010</li> <li>▪ Linkages between the STRID Task Force, the enforcement and the justice communities should be strengthened</li> <li>▪ More efforts should be made to cost-share the implementation of countermeasures, where possible</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Representatives from the medical and injury prevention fields and other appropriate stakeholder agencies have been encouraged to become more involved in the STRID Task Force while linkages with the enforcement and justice communities have been strengthened in most jurisdictions</li> <li>▪ There are some good examples of agencies working effectively together, such as Alberta and Yukon</li> </ul>

6) *Research*

<p><b>Objectives</b></p>	<ul style="list-style-type: none"> <li>▪ Administration of Criminal Code DWI sections: a number of impaired driving charges are dismissed and accused persons are acquitted for a variety of legal reasons including inadmissibility of evidence, delays, breach of the right to counsel by an accused person. It is necessary to assess if this is a true picture of the administration of DWI under the Criminal Code? Is it pervasive across the country, why is it occurring, and what should be done to resolve it e.g., take non-injury producing DWI out of the Criminal Code, education of judges?</li> <li>▪ Investigate the profile of first offenders</li> <li>▪ Research the differences in the incidence of drinking and driving behaviour between rural and urban areas</li> <li>▪ Investigate the advantages and feasibility of random breath testing.</li> <li>▪ Summarize current best practices for managing the problem of drinking and driving</li> <li>▪ Assess the public perception of impaired driving</li> <li>▪ Continue to conduct night-time roadside surveys to monitor the magnitude of drinking and driving. Extend these surveys to rural areas</li> <li>▪ Obtain information on the use of designated drivers by binge and heavy drinkers</li> <li>▪ Research and develop enhanced measures and indicators for assessing and monitoring the performance and effectiveness of STRID 2010. Disseminate the results of these evaluations to all jurisdictions</li> </ul>
<p><b>Activities</b></p>	<ul style="list-style-type: none"> <li>▪ Some research has been conducted regarding profiling persons whose licences were suspended due to alcohol related offences, with particular emphasis on repeat offenders</li> <li>▪ Research into the role and effectiveness of designated driver programs has been conducted in Alberta</li> <li>▪ Transport Canada and CCMTA have commissioned TIRF to survey crown and defence lawyers across Canada to provide insights into the issue of the administration of the Criminal Code DWI sections</li> </ul>

7) **Monitoring and Evaluation Objectives**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Monitoring is the collection and reporting of data to assess the performance of the STRID program against the indicators identified below. The production of STRID monitoring reports should be continued</li> <li>▪ The primary gauge of the performance of STRID, in line with its principal objective, is the ratio of the number of fatalities involving a drinking driver to the total number of motor vehicle fatalities</li> <li>▪ Evaluations should be conducted for program elements such as the nationally coordinated enforcement/education campaign, server intervention, training for judges, lawyers and police, the use of 24 hour suspensions, and other vehicle immobilization measures such as plate impoundment or the use of a tire lock</li> <li>▪ The jurisdictions should examine ways of cost-sharing these evaluations. Transport Canada would disseminate the results of these evaluations to all jurisdictions</li> <li>▪ Evaluate the impact of zero BAC requirements for new drivers</li> </ul>
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5.4 STATUS OF PROGRAM




Figure 18, provided by Transport Canada, identifies some of the program elements that have been adopted by the jurisdictions as indicated.

<b>Implementation of STRID Initiatives</b>				
Jurisdiction	ALS	Impound	Interlocks	Assess/Rehab
Northwest Territories	2004	2004	2004	2004
Yukon	1998	1998	1998	----
British Columbia	1997	1997	2005	2005
Alberta	1999	2002	1991	1985
Saskatchewan	2001	1996	2001	1996
Manitoba	1989	1989	2001	1998
Ontario	1996	1998	1998	1998
Quebec	1997	1997	1997	1997
New Brunswick	----	----	----	1993
Nova Scotia	1995	----	----	1984
Prince Edward Island	1997	1997	----	1997
Newfoundland	2003	2003	2003	1995

Figure 18 – Summary of program elements

The following table summarizes the status of the program with respect to the previously defined phases of development, with further discussion provided below:

Item	Problem definition	Program development	Program implementation	Program sustainability	Evaluation
Overall target					

Legend:  - No progress     - about 50% developed     - Fully developed

**1) Problem definition – is the issue well defined?**

The issue is reasonably well defined in terms of knowledge of drinking and driving and fatality outcomes. However, data on the relative proportions of fatalities associated with a driver above 0.05 BAC for crashes in rural areas, compared to metropolitan areas for each jurisdiction would be a useful indicator. Often the drinking and driving problem is greater in rural areas (lack of alternative transport, cultural reasons, greater distances driven, etc.) and it would be helpful to review the data in that way to assist targeting of enforcement.

Without a random breath testing approach, obtaining accurate intermediate data about drinking and driving levels can be more difficult. It is important that extensive roadside surveys are conducted to establish and monitor impaired driving behaviour.

**2) Program development – have we developed results focused interventions?**

Not adequately. There is inadequate deterrence of driving at lower BAC impairment levels. The tough Criminal Code provisions (and demands on police) for offenders detected above 0.08 BAC, leading to criminal convictions, are arguably not appropriate to extend to lower BAC impairment levels.

However, it will be most important for Canada to introduce more stringent legislative or administrative measures to address driving while impaired with a BAC level (effectively) up to 0.10 This should include sanctions which increase in line with the BAC level detected with a suggested, more stringent regime for repeat drinking driving offenders. Sanctions need to be strengthened substantially compared with current levels.

Providing for on the spot ticketing for lower level offences rather than requiring court proceedings could reduce the complexity of enforcement activity. The STRID revision of June 2005 adopted a range of fresh proposals to respond to the issues and improve outcomes. These are to be welcomed but the level of penalties proposed are considered inadequate by international standards for responding to low level impaired driving, especially repeat drinking and driving offenders.

The high rate of drinking and driving involved fatalities calls for a greater deterrence approach than currently exists.

**3) Program implementation – are there appropriate implementation arrangements?**

No, the current Criminal Code arrangements are a disincentive for police to charge drivers detected at less than 0.10 BAC (and potentially some offenders over 0.10 BAC) and create difficulties for development and introduction of a logical progressive system of sanctions for offenders at lower BAC levels.

The current lower level administrative sanctions are a wholly inadequate response to the risks associated with driving while impaired with a BAC level of 0.05 BAC and above.

**4) Program sustainability – is the program at such a stage that it is “on maintenance”?**

Definitely not so. If we want to make serious progress in this program area we will need to adopt some of the good practice programs as experienced elsewhere.

**5) Evaluation – has there been any formal program evaluation?**

While this review is an evaluation of the program IT DOES NOT CONSTITUTE A FORMAL Evaluation of Impaired Driving countermeasures. Program evaluations have been completed by TIRF and also by MADD Canada.

## 5.5 EXAMPLES OF INTERNATIONAL GOOD PRACTICE

### **GOOD PRACTICE – VICTORIA, AUSTRALIA**

#### **PENALTIES FOR LOWER LEVEL BAC OFFENCES (imposed administratively)**

The penalties for offenders with a BAC of 0.05 up to 0.08 (0.10 in practice) are very low by good international practice standards. For example in Victoria, Australia, a first offender detected with a BAC of 0.05 to 0.07 is allocated 10 demerit points towards licence loss (12 points in 3 years results generally in licence suspension for 6 months) and fined \$AUD 322, thereby providing a second chance for those drivers who do not have more than one existing demerit point.

At a BAC of 0.07 or above there is mandatory loss of licence for 6 months, a fine of \$AUD322 - 451, with a sliding scale for loss of licence (for first offenders) up to 12 months at BAC of 0.12 and so on.

#### **PENALTIES FOR REPEAT OFFENDERS (Court imposed)**

It is in this area that the current system in Canada is quite ineffective. Good practice jurisdictions have good records of BAC offences on their licensing systems which enable repeat offenders to be readily identified. In Victoria, any repeat BAC offence in a 10 year window period results in a minimum mandatory licence suspension of 12 months (even for offences at BAC levels of 0.05) and a substantial fine.

#### **JUSTICE ADMINISTRATION**

The cumbersome nature and heavy penalty associated with a prosecution under the Criminal Code is likely to deter police from more active enforcement. Good practice jurisdictions have streamlined this process for other than the high-end offenders in the interests of enhanced deterrence.

In Victoria, Police can issue on the spot infringement notices under the provisions of the Road Safety Act to BAC offenders, based on evidential breath testing carried out on site, up to a BAC level of 0.15 for a first offender and to 0.10 for a second offender. Mandatory minimum licence cancellation periods apply together with substantial fines.

Offenders have the right to take any infringement notice to the court to be heard. Above these BAC offence levels Police must charge offenders and the matter must proceed to the courts. For convictions under the Road Safety Act, there are a range of prison options for the court in addition to fines and licence cancellations. Canada's system for higher BAC offenders is quite stringent.

#### **RANDOM BREATH TESTING**

In Victoria in 2005, 1.44 million drivers and riders were randomly breath tested for alcohol. This is equivalent to more than 41% of the driving population being tested over the year. 63 drivers or riders killed had a BAC above 0.05, representing 18.2% of total road fatalities in 2005.

#### **ALCOHOL INTERLOCKS**

Victoria has a comprehensive alcohol interlock program for higher level first offenders and for repeat offenders. It is about to introduce mandatory alcohol interlock conditions for **all** drinking and driving first offenders (over 0.0 for the first 4 years of driving and 0.05 for the subsequent - up to - 4 years of fully licensed driving) for drivers under 26 years of age. All second offenders must fit an interlock when the court permits them to return to driving (after serving their licence cancellation period) for the period specified by the court. The driver must apply to the court for removal of the interlock after the court imposed interlock condition period is served.

### **GOOD PRACTICE – RANDOM BREATH TESTING**

“The use of RBT enforcement is generally regarded as the most effective means of deterring drink driving behaviour. In particular the use of sustained and highly intensive random breath testing operations is the most effective means of drink drive enforcement”

#### ***STRATEGIC PRINCIPLES OF DRINK DRIVING ENFORCEMENT***

Monash University Accident Research Centre  
Cameron, M., Diamontopoulou, K., Delaney, A.,

July 2006

### **GOOD PRACTICE - BAC LIMITS**

Sweden has a level of 0.02 BAC as a limit for drivers generally – the experience when this limit was lowered from 0.05 was a fall in overall drinking and driving related fatalities.

## **5.6 AREAS WHERE GREATER EFFORT IS REQUIRED**

An overall reaction is that many individual initiatives could be introduced (such as public education, education in schools, extending interlocks, etc) but that these will achieve little without an overhaul within each jurisdiction of their frameworks for addressing drinking and driving, including legislation and enforcement procedures.

In addition, achieving an ongoing commitment by government and politicians will require the wholehearted acceptance by the general community that drinking and driving is life-threatening, is not a minor misdemeanour, is socially unacceptable and will not be tolerated.

### **5.6.1 Legislation**

The most important area for improvement is legislation. Concerns were expressed in the interview and survey processes that court penalties were not reflecting community standards in lower level alcohol impaired driving cases. Without a tightening of drinking and driving laws, it will continue to be difficult to encourage police to consistently and seriously enforce drinking and driving. Testing intensity, offences and penalties and their application (i.e. mandatory minimum penalties and licence loss) need to reflect the seriousness of drinking and driving. Loss of licence (that is, an inability to drive) is recognized universally as the most effective sanction, and should be a mandatory penalty for all but extremely low BAC offences. Political will is needed to tighten and strengthen laws (including closing off legislative loopholes), and the support of the judiciary, police, and administrative bodies will be required.

The impairing effect of relatively low levels of alcohol (below 0.08 BAC) is now known to be greater than previously understood. Greater deterrence of drinking and driving is required at lower BAC levels with a graduation of sanctions up to BAC offence levels under the Criminal Code legislation. A particular issue is detecting and adequately penalizing repeat lower level drinking and driving offenders. This is a complex issue and a specific recommendation for an enquiry has been developed and included in this report.

### **5.6.2 Record-keeping**

Accurate and reliable records of offences must be maintained and accessed by police to facilitate effective enforcement. At present, recidivists and their lawyers know they have a good chance, if caught, of being sanctioned or penalized as first time offenders.

The lack of comparability between jurisdictions in police traffic accident reports is an issue that should be rectified.

Given the consultants' understanding of the state of Canada's data collection and databases, the cited drinking and driving casualty rates could underestimate the true picture. Similarly, with the recidivism rates: if lower level offences (0.05 to 0.08.BAC) are not recorded consistently, there must be many more recidivists than acknowledged. Moreover, a limit on recidivism to a look back period of 3 years exacerbates this problem.

### **5.6.3 Enforcement**

Police need to be persuaded that drinking and driving is a serious offence and that deterrence of such behaviour saves lives. They must enforce the law systematically (preferably with some dedicated as well as general-duties police). Part of the role of enforcement is to persuade potential and actual drinking drivers that if they drink and drive, they will be caught and convicted and severely punished. The principles of certainty, severity and celerity are basic and Random Breath Testing (RBT) is the most effective and efficient means of achieving this, providing the legislative framework supports these aims. (see MUARC research report extract re RBT effectiveness above). While highly desirable, given apparent community reluctance to embrace tougher general deterrence measures to reduce drinking and driving, it is acknowledged that it will be difficult to introduce RBT in Canada. (If this were not to be introduced, a less preferred option substantially extended sobriety checks could be organized and conducted to achieve improved results.)

### **5.6.4 Penalties**

These need to be increased substantially to reflect the seriousness of drinking and driving. A tiered approach (where the penalties [loss of licence, monetary fines, immobilization of vehicle, interlocks] correspond to the detected BAC level with increases for recidivists) is best practice. The 3 year 'recidivism period' is far too short. Also, the penalty for test refusal needs to equal that of a high BAC, or drivers will continue to have an incentive to opt for refusal.

### **5.6.5 Target Groups**

The emphasis in the strategy of targeting specific groups of drink drivers with a range of countermeasures such as Administrative Licence Suspension is noted. Assessment and rehabilitation, ignition interlocks etc. are generally supported. However it is considered that the practice of targeting specific groups in different public education campaigns should be re-evaluated.

In Victoria, Australia, it has been demonstrated that drinking and driving publicity campaigns aimed at the general community have also impacted on high-risk drinking drivers (fewer crash-involved drinking drivers with BACs above 0.15) and contributed to achieving greater reductions in numbers of drink drivers with BACs between 0.1 and 0.15.

Targeting the general community has changed the attitudes to drinking and driving, making it unacceptable behaviour. While heavy drinkers may not themselves be persuaded that drinking and driving is unacceptable, they have become aware of the social stigma. It is believed that this group has declined through death, illness, and voluntarily giving up driving – probably prompted by their difficulty in obtaining a new licence after cancellation.

RBT in Victoria also targets the general community – few high-BAC drinking drivers are apprehended via this procedure. The greatest reductions in alcohol-related casualties are achieved by persuading potential drink drivers not to do so – because these comprise by far the largest population.

### **5.6.6 Research**

Continue to conduct night-time roadside surveys to monitor the magnitude of drinking and driving. Extend these surveys to rural areas wherever possible.

Obtain information on the use of designated drivers by binge and heavy drinkers.

## **5.7 RECOMMENDATIONS**

CCMTA recommendations contained within STRID 2010 and the STRID 2005 strategy to address lower BAC Drinking Drivers are supported. There is an urgent need for further action to be taken by the STRID task Force and the CCMTA RSRP Committee in relation to drinking and driving.

**Further recommendations are as follows:**

1. **Strengthen co-ordination** between government funding agencies and police.
2. Request the Federal Minister for Transport to request the government to establish a **Federal Parliamentary Committee of Inquiry** into drinking and driving in Canada with wide ranging terms of reference to examine legislation, enforcement (including random roadside breath testing), penalties and rehabilitation. Seek cooperation and involvement of provinces/territories in the Inquiry with the Committee to report to the Parliament by the end of 2008.
3. **Alcohol interlock programs** should be carefully considered for further expansion in their application. Canada has established programs for convicted drinking drivers in all but 3 jurisdictions. Increasing participation rates should be a high priority and this will lead to unit cost reductions in operation of the program - for example for lease of interlocks by offenders. The interlock usage data should be used optimally (for example in Victoria, Australia, summarized usage data is scrutinized by the Court when the driver applies for a licence restoration order.)
4. Examples of **good practice requirements for interlocks** include mandatory use for a mandatory minimum period for all novice driver drinking driving offenders detected with a BAC level above a zero, a requirement for all young drivers under the age of 26 committing a drinking driving offence over 0.05 BAC to fit interlocks for a mandatory minimum period and requirements for all drinking driving offenders over 0.07 BAC to fit interlocks for a mandatory minimum period.
5. Assess the feasibility of introduction of tying **future federal road funding allocations** to the provinces/territories to the introduction of specific measures (e.g. strengthened provisions for lower level BAC (0.05 to 0.08) sanctions and expanded interlock programs) in the provinces/territories.

**Recommended variations to current CCMTA positions are as follows:**

**5.7.1 Policy / Legislation**

6. Make all **test refusals** a serious offence equivalent to a BAC reading of 0.2+
7. Reduce the **legal BAC thresholds** for all offenders to less than 0.05 BAC, and to 0.00 for:
  - novice drivers and drivers of public transport vehicles
  - re-licensed serious and multiple offenders.
8. Move to **close legislative loopholes** to prevent technical defences, delays, plea-bargaining, etc. It is important that penalties are imposed on offenders as quickly as possible after commission of an offence.

9. Maintain **licence suspension** for low-level offences, but consider **licence cancellation** (involving applying for a new licence when eligible) for more serious offences because this facilitates completion of relicensing programs such as assessment, rehabilitation and education.
10. As an urgent first step, **review legislative arrangements** for lower level Back's (below 0.10 BAC) and introduce comprehensive measures to deter this activity. Strengthen suspensions and penalties at these lower levels substantially to more adequately reflect risk to human life, e.g.,
  - A 30-day licence suspension program for driving with a BAC of 0.05 or 0.06 for a first offence in the past 10 years
  - A 180 day licence suspension program for drivers who have a BAC of 0.06 to 0.08, and a 12 month suspension for those who have a higher BAC level (and have no previous drinking and driving offences in the past 10 years).

#### 5.7.2 Enforcement

11. Further **train officers**, specifically in the aims and procedures of deterrence.
12. **Increase extent** of, and review strategies for, drinking and driving enforcement.

#### 5.7.3 Education and Awareness Objectives

13. Public education campaigns should be **on-going, with blitzes** at Christmas and also prior to and during all holiday periods.

#### 5.7.4 Research - Potential Questions

14. Is there opportunity for government to impose **levies on alcohol** to fund programs to alleviate the harms caused by alcohol? Could governments **subsidize low alcohol drinks** through excise arrangements, providing pricing signals to encourage consumption of lower strength beverages in preference to higher strength?
15. Investigate the **drinking venues** associated with drinking and driving. Ensure police record drinking drivers' last drinking venue, and use this information to target enforcement efforts, enforcement of liquor licensing laws and anti-drinking and driving public education.

#### 5.7.5 Other

16. It is further recommended that strong advocacy to the **proposed Parliamentary Inquiry** recommended above be pursued by CCMTA seeking incorporation of the measures outlined above and the following measures within Inquiry considerations and outcomes.

17. Introduce **random roadside breath - testing** as a national priority with any necessary federal or provincial legislative change required given priority. The legislative change should be based on acceptance of random breath testing and testing after a crash as a condition of licensing.
18. Statutory authority for police to demand documentation and breath testing to enforce the graduated licensing program.
19. Statutory authority for police to stop vehicles at random, demand documentation and establish sobriety checkpoints.
20. Statutory authority for police to demand preliminary breath testing (and saliva testing for specific drugs) from drivers stopped at sobriety checkpoints.
21. Statutory authority for police to demand that drivers suspected of drug use submit to a drug evaluation and classification test.
22. Statutory authority for police to demand blood or urine testing from drivers who are reasonably believed to be impaired by drugs.
23. Statutory authority for police to demand a breath test and saliva test from drivers suspected of involvement in a fatal or personal injury crash.
24. A comprehensive **alcohol interlock program** be introduced for all impaired driving offenders under 26 (or other higher age levels based upon crash records and political will):
  - For all first offenders (in the past 10 years) when relicensed - for a minimum of 1 year
  - For repeat offenders, up to 0.08 BAC - a minimum of 2 years when relicensed
  - For all criminal code convictions – a court decision with a minimum of 3 years interlock condition for first offenders.
25. A **vehicle impoundment program** for uninsured, unlicensed, suspended, or prohibited drivers.
26. A **vehicle forfeiture program** for drivers responsible for multiple impoundments and for drivers with multiple impaired driving convictions.
27. A comprehensive **remedial program for alcoholism** that includes mandatory assessment and treatment.

***In the event that an Inquiry is not achieved, CCMTA should commission a full review of drinking and driving in Canada with a view to publishing the review by the end of 2008.***

### 5.7.6 Other Impairments

While the focus of this Chapter is on drinking and driving, there are a number of other issues related to the overall problem of impaired driving. These are:

- Impairment by drugs
- Impairment by fatigue
- Impairment due to driver distraction.

These are certainly recognized as contributing factors to collisions but more research needs to be undertaken on these issues not only on the extent of these but in defining effective and successful countermeasures.

To initiate this process, three sub-groups have been formed under the STRID 2010 Task Force to focus on the areas of drugs, fatigue and distractions (including cell phones) as potential sources of impairment to driving. The goal of this effort will be to develop strategies under STRID to assist jurisdictions in managing the safety impacts of these issues.

Data collected by the Traffic Injury Research Foundation on behalf of CCMTA and Transport Canada to detect the presence of drugs other than alcohol among fatally injured drivers has shown that provinces with high testing rates found that approximately 25% of fatally injured drivers tested positive for drugs other than alcohol, while provinces with lower testing rates, based on suspicion of drug use, found that approximately 40% of dead drivers had drugs in their system. Some evaluation has already been undertaken that identifies the percent of fatally injured drivers who tested positive to legal/illegal drugs. This is shown in Figure 19.

### Percent of Fatally Injured Drivers Who Tested Positive for Legal/Illegal Drugs

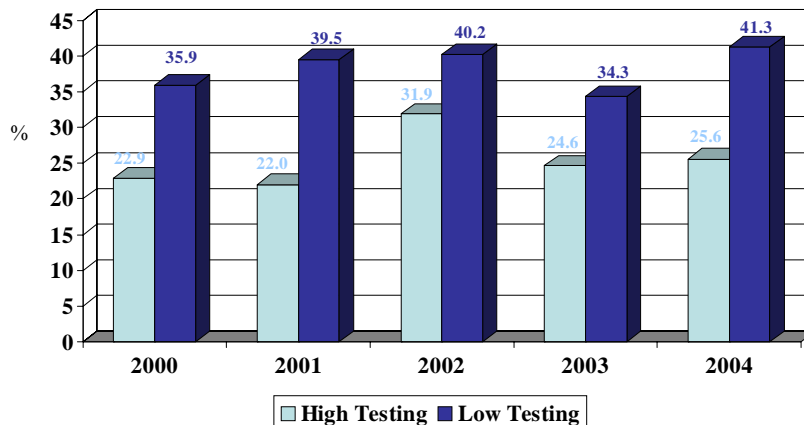


Figure 19: Fatally injured drivers testing positive for drugs

The issues of fatigue and drugs and driving are discussed further in the Chapter 11 coverage of commercial vehicle collisions.

Measures to address driving while under the influence of drugs will be an important issue in the lead up to and development of any successor strategy to RSV 2010.

***However, the top priority in this field over the next four years is considered to be the ongoing battle against drinking and driving.***

**GOOD PRACTICE - RANDOM ROADSIDE SALIVA TESTING FOR DRUGS - VICTORIA:**

Under laws that came into effect on December 1, 2004, Victoria Police have the power to conduct random roadside saliva testing to detect drivers travelling while affected by illicit drugs. Drug driving is a major contributor to road fatalities in Victoria. In 2003, a total of 31 per cent of drivers killed in Victoria tested positive to drugs other than alcohol.

Many drivers appear unaware of the effects that drugs can have on their alertness, vigilance and ability to react rapidly to unexpected events. Some drugs can also increase the impairing effects of alcohol and fatigue. The random roadside saliva testing is aimed at making Victoria's roads safer for everyone by reducing the incidence of drug driving.

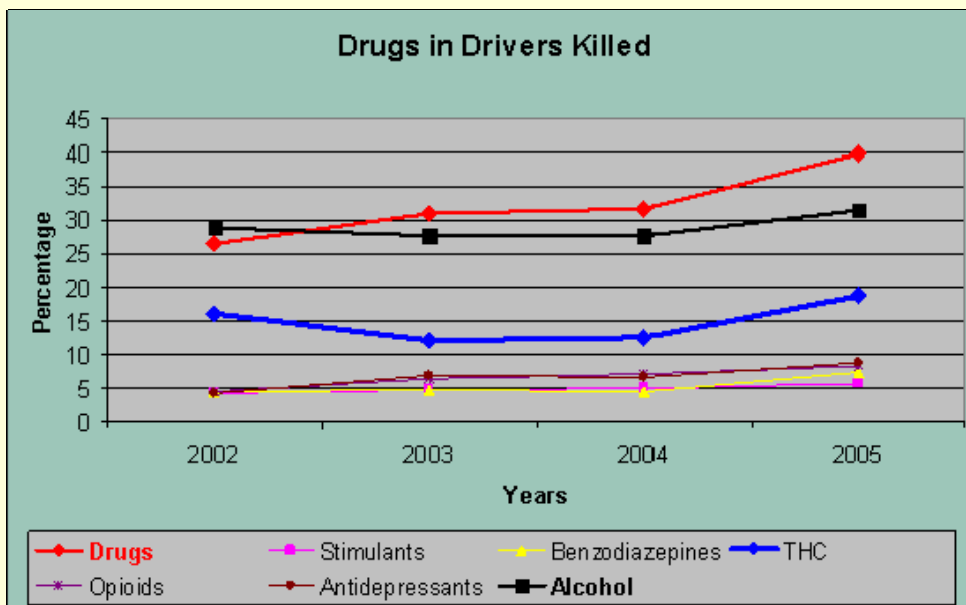
Drug driving is a major contributor to road fatalities in Victoria. Police conduct random roadside testing and there are strong penalties for those caught driving while affected by drugs. In 2006, ecstasy was included as a prescribed illicit drug. Ecstasy was included as a prescribed illicit drug because this substance is now a significant factor associated with dangerous drug driving and is internationally recognised by experts as being capable of impairing driving ability and increasing the risks taken by drivers.

**What's the law?**

- It is illegal to drive while affected by an illicit drug, such as cannabis, ecstasy, ice or speed
- It is also illegal to drive while impaired by any drug whether that drug is legal or illegal
- Drug driving offences are not limited to public roads. They can be committed on private property
- It's also an offence to:
  - Refuse to provide a saliva sample, or stop at a Random Drug Test station
  - Be affected by illicit drugs while accompanying a learner driver
  - Refuse to undergo an assessment for drug impairment.

'Arrivealive' website, see: [www.arrivealive.vic.gov.au](http://www.arrivealive.vic.gov.au)

Recent results of tests for the presence of drugs in drivers killed in Victoria are:



## 6 RURAL ROAD SAFETY

### 6.1 SUB-TARGET

The RSV 2010 target for rural roadways is to achieve a **40% decrease** in the number of road users fatally or seriously injured on rural roads compared with the baseline period.

(Initially the Rural Road Safety Strategy was a subset of the National Occupant Restraint Program and the Strategy to Reduce Impaired Driving, but more recently there has been a greater focus on improving rural road safety so that a separate strategy was developed by CCMTA.)

### 6.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS – RURAL ROAD FATALITIES AND SERIOUS INJURIES

Figures 20A and 20B present the rural fatality and serious injury statistics respectively, with the progress of the individual provinces / territories shown in Figure 20C.

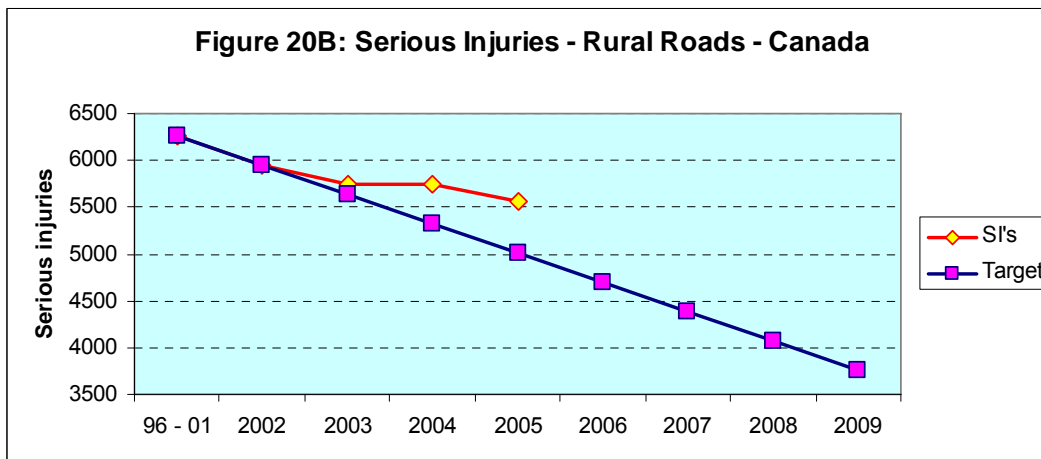
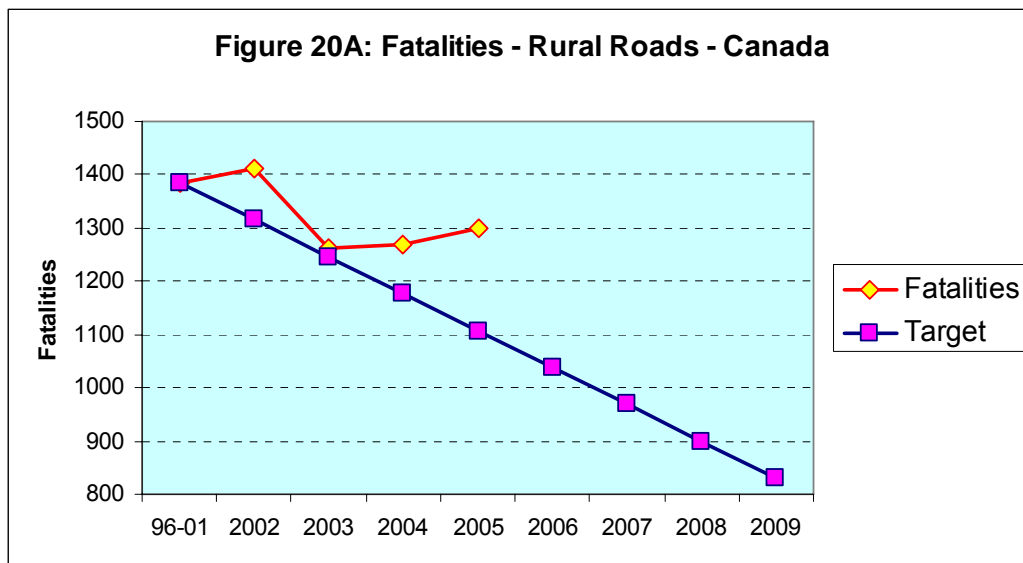
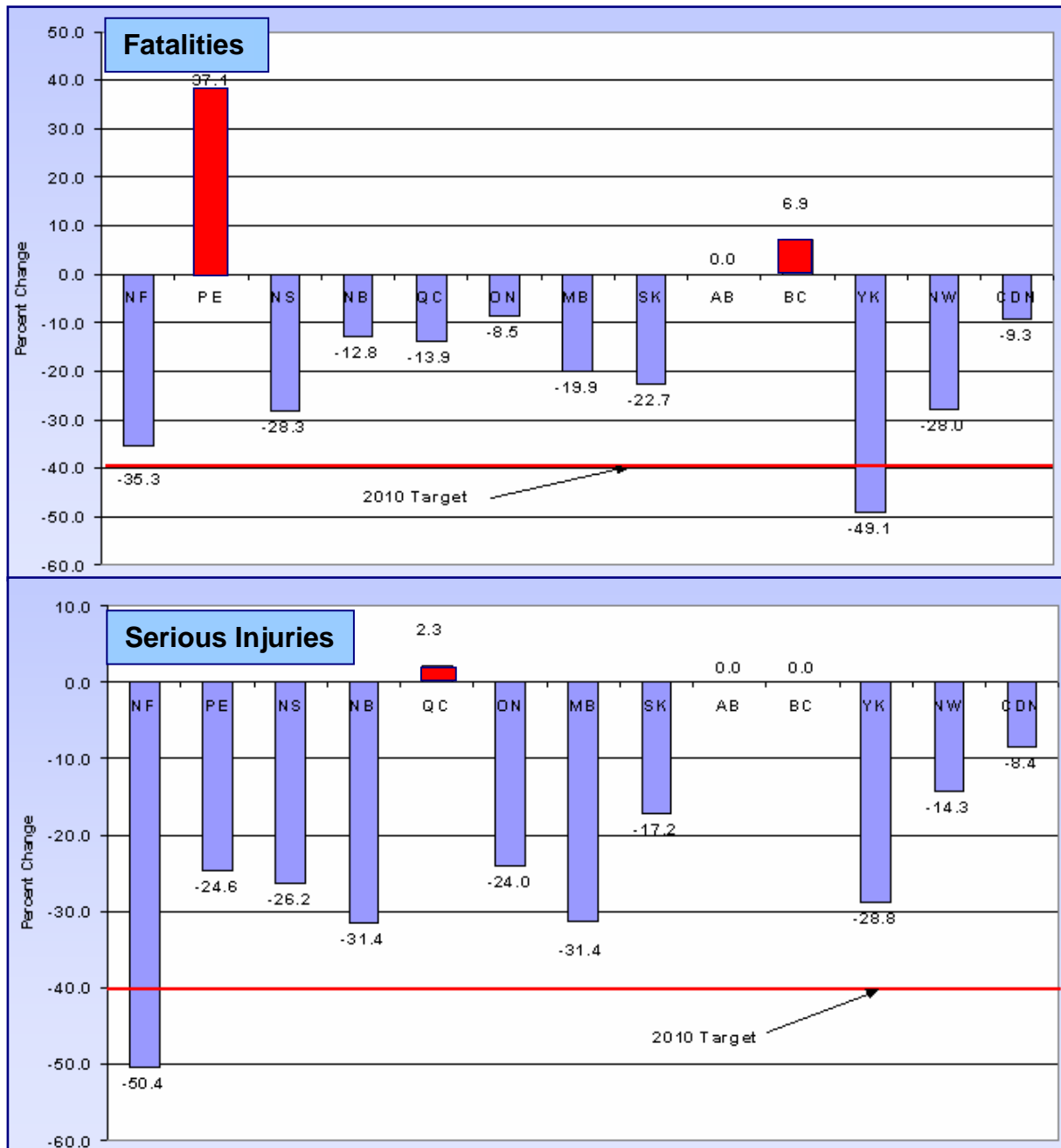


Figure 20C: Rural Roads Sub-target (-40%)  
2003-2005 Ave. vs. 1996-2001 Baseline (Source: Transport Canada)



Almost half (47%) of all road users that are killed in collisions and one third of those seriously injured are victims of crashes on undivided rural roadways where the posted speed limits are 80-90 km/h. Many of these victims were engaging in high-risk road user behaviour. The most recent collision data (2005) show that in single-vehicle crashes on rural roads, 60% of those fatally injured were unrestrained at the time of the collision. Excessive or inappropriate speed and the presence of alcohol and/or drugs are also frequently cited factors in rural road collisions. In fact in single-vehicle night-time crashes, unrestrained drinking drivers contributed to 78% fatally injured and 74% seriously injured. (RSV 2005 Annual Report)

CCMTA's Rural Road Safety Task Force recently completed a report on collision trends and recommended strategies to reduce the large number of fatalities and serious injuries on rural roadways. The task force is currently completing a survey whose principal objective is to identify and report on successful regional and municipal initiatives that could be implemented on a national scale. The survey was distributed to respondents in mid April 2007 and currently the results are in a Draft Report format. Early findings are:

- Some municipalities do not yet realize they have “rural roads” within their jurisdiction
- Response to the survey from the enforcement community was very low
- Should such a survey become an annual benchmarking activity, it needs to be quite explicit and streamlined
- Academic institutions need to be included in the survey.

### **6.3 RURAL ROAD SAFETY PROGRAM ELEMENTS**

The objectives and activities of each of the program elements are summarized below.

#### **1) *Improved data***

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Automatic data collection</li> <li>▪ Expanded use of Geographic Information Systems (GIS)</li> <li>▪ Improved linkages among safety-related databases</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ This strategy is still in the development stage</li> </ul>

**2) Better identification of safety problems**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Establish local black-spot (identification and prioritization) programs</li> <li>▪ Develop methodologies for network screening</li> <li>▪ Establish a national black-spot investment program</li> <li>▪ Conduct in service road safety reviews and road safety audits where appropriate</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Some jurisdictions have province-wide “black-spot” programs. Others are putting in place programs that identify high crash locations and high crash segments of rural roadways</li> <li>▪ Most provinces undertake road safety audits and in-service reviews of “black-spots” or high risk corridors</li> </ul>

**3) Improved safety of road design and operation**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Introduce continuous shoulder/centreline and transverse rumble strips</li> <li>▪ Implement improved traffic control devices</li> <li>▪ Introduce or continue modern roundabout intersection design</li> <li>▪ Develop access management programs</li> <li>▪ Review and enhance intersection lighting where necessary</li> <li>▪ Review and establish consistent “passing lane” programs</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ TAC’s Road Safety Standing Committee and the Geometric Design Standing Committee have now taken a keen interest in the design elements of rural roadways. Some research projects have been undertaken on the Design Consistency of Rural roads</li> <li>▪ Some roundabouts have been installed at rural intersection locations</li> </ul>

**4) Enforcement strategies and public education**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Undertake rural seat belt surveys and education</li> <li>▪ Implement rural seat belt advertising and awareness campaign</li> <li>▪ Undertake child restraint surveys</li> <li>▪ Conduct rural road impaired driving enforcement</li> <li>▪ Where appropriate involve local communities</li> </ul>
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<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Police services across Canada, particularly those that provide contract services to rural communities, such as the RCMP, OPP and the Surete du Quebec, are actively involved in public education and enforcement initiatives in rural areas aimed at increasing the use of seat belts and proper child restraints, discouraging drinking and driving and reducing speeding and red light running</li> <li>▪ STEP campaigns have been initiated in several jurisdictions, particularly in increasing the seat belt usage and child restraint use in aboriginal communities, on and off reserves</li> </ul>
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**5) Speed management program**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Ensure uniform application of speed limits for similar conditions through a speed management expert system</li> <li>▪ Identify high risk drivers who drive at excessive speeds above the posted speed limits</li> <li>▪ Implement strategic enforcement programs</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ STEP campaigns to address speeding, inappropriate speed and aggressive driving have been initiated in some provinces</li> </ul>

**6) Intelligent transportation system measures**






<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Introduce electronic speed advisory signs where appropriate</li> <li>▪ Research and introduce road weather information systems</li> <li>▪ Research and implement on-board vehicle systems</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Alberta and BC have both pilot tested real-time weather information systems</li> <li>▪ BC has pilot tested a real-time wildlife advisory program</li> </ul>




**7) Trauma management system**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Implement improved location identification</li> <li>▪ Establish improved emergency medical services</li> <li>▪ Consider and where appropriate introduce in-vehicle GPS locators in emergency vehicles</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ The Alberta Traffic Safety Plan calls for the Fire Service and Ambulance Paramedics to be involved as partners in regional and community traffic safety plans</li> </ul>

## 6.4 STATUS OF PROGRAM

The following table summarizes the status of the program with respect to the previously defined phases of development, with further discussion provided below:

Item	Problem definition	Program development	Program implementation	Program sustainability	Evaluation
Overall target					

Legend:  - No progress  - about 50% developed  - Fully developed

### 1) **Problem definition – is the issue well defined?**

Yes. Extensive analysis of crash types has been carried out.

### 2) **Program development – have we developed results focused interventions?**

There appears to be good data analysis and this should continue.

While infrastructure countermeasure proposals appear well targeted and the range is comprehensive, the 2005 report to Deputy Ministers noted that “... among drivers killed in single vehicle crashes: almost 45% had been drinking; more than 35% were speeding; and more than 50% were unbelted (70% among light truck drivers). Among drivers killed in head-on crashes: almost 75% committed driving infractions; more than half were unbelted; more than 25% had been drinking; and more than one-third occurred on curved sections of rural roadways.”

While this information underlines the importance of increasing enforcement efforts to tackle speed, drinking and driving and not wearing seat belts, the high proportion of run off road, intersection and head-on crashes suggests that specific countermeasures to address, for example, run off road crashes through targeted network wide programs of shoulder paving, tactile edge lining and flexible barrier installation to shield higher risk hazards on the roadside, such as trees, within 10 metres of the road on higher volume routes, are highly likely to be cost effective.

Enforcement challenges associated with long distances of road to be monitored and low volumes of traffic are well known. Automated enforcement such as point to point cameras, which allow the police to know when a driver left one point and arrived at another and hence to calculate the driver’s average speed, on the major routes can assist speed and “driving hours” enforcement in a cost effective manner.

Speed management proposals tend to contain too great an emphasis on “setting limits consistently across the country” - reinforcing to drivers the message that speed limits are fair (consistent) and rational. This overlooks the need to reduce limits in higher risk areas and to then rigorously enforce those limits if free speeds remain above the limits.

What is 'consistent' in risk terms to the speed limit setting authorities, will not necessarily be seen as 'consistent' visually by each motorist. This is a difficult task that requires authorities to change, over time, a driver's perception of a safe speed and to convince drivers to accept reasonable variability in limits (requiring overt and frequent signage) to reflect changing risk.

The concept of self-explaining roads developed by SWOV in the Netherlands provides that the predictability and consistency of roads, together with road form that is compatible with function, should lead to the appropriate driving behaviour, e.g. providing for narrower driving lanes which would indicate that drivers should slow down.

Similarly the introduction of self-enforcing roads, also developed by SWOV includes the introduction of physical measures that prevent a driver from breaking the law, such as speed humps.

**3) *Program implementation – are there appropriate implementation arrangements?***

There appears to be no evidence of a co-ordinated overall approach by stakeholders in each jurisdiction to better identify safety problems or pursue countermeasure funding.

There is no clear evidence at this stage of stronger enforcement activity by police to support this strategy.

There are no specific funding commitments for targeted infrastructure programs at the national or provincial/territorial levels other than for limited blackspot treatments. British Columbia has established a sustainable blackspot improvement program through the Insurance Corporation of British Columbia and its road authority partners.

**4) *Program sustainability – is the program at such a stage that it is “on maintenance”?***

The program is definitely not sustainable at this time.

**5) *Evaluation – has there been any formal program evaluation?***

It is too early for any evaluation as the national strategy has just been adopted. There have been some evaluations of rumble strips. Also the Insurance Corporation of British Columbia has undertaken formal evaluation of its blackspot improvement program.

## 6.5 EXAMPLES OF INTERNATIONAL GOOD PRACTICE

A number of international programs have innovatively combined both higher and lower cost treatments on long sections of rural roads. These treatments aim to reduce the types of crashes commonly occurring on rural roads including single-vehicle crashes (run-off-road and hitting a fixed object) and multi-vehicle crashes (including head-on, rear-end and sideswipe crashes). The treatments range from provision of visible traffic signs, edge-line and centre-line treatments, signing on curves, provision of overtaking lanes, realignment improvements at curves (including narrow painted medians), paving and widening of shoulders and pavements, installation of roundabouts and reductions in speed limits where necessary.

Many multi-vehicle crashes on the rural road network occur at intersections because of the increased potential for conflicts. Treatments that have been introduced to reduce the frequency and severity of crashes at these locations include the provision of grade-separated intersections, the provision of appropriate traffic control at at-grade intersections (including roundabouts) and the provision of adequate sight distance on approaches to and entering intersections. In the UK, the use of dynamic message signs on the approaches to rural intersections has led to reduced crashes at these locations.

### **GOOD PRACTICE: SWEDEN – VISION ZERO**

Sweden's 'Vision Zero' calls for speed limits that should be determined by the technical standard (that is the crashworthiness) of the vehicles and roads so as not to exceed the level of violence that the human body can tolerate. The safer the roads and vehicles, the higher the speed that can be accepted. Forgiving roadsides are provided, and where appropriate wire-rope barrier has been installed to lessen the consequences of run-off-road collisions. Opposing traffic is separated through central medians and where appropriate wire-rope barrier is installed to prevent head-on-collisions. Otherwise speed limits are 70km/hr which is the speed above which occupants of two vehicles colliding head on are unlikely to survive.

### **GOOD PRACTICE- THE NETHERLANDS –SUSTAINABLE SAFETY**

The Netherlands 'Sustainable Safety' calls for important measures along rural roads, including a clear classification of each road as to function and then a range of measures, depending on that function. For open rural non – motorway roads these measures seek to achieve separation of driving directions ( i.e. duplication) in combination with a speed limit of 80kmh creating a more homogenous driving speed and eliminating overtaking manoeuvres, together with improvements to roadside safety by creating obstacle free zones. Where this duplication cannot be achieved, speed limits on rural roads can be as low as 60km/hr.

**GOOD PRACTICE- RISK ASSESSMENT ON RURAL ROADS AND  
INFRASTRUCTURE COUNTERMEASURE PROGRAMS – VICTORIA, AUSTRALIA**

Measurement and ongoing monitoring should also include detailed assessment of vehicle safety levels and the presence of safety features in the fleet plus road-network risk levels across the whole network for various categories of roads.

Sophisticated tools are now available to cost-effectively produce risk ratings along a road based upon physical and traffic data inputs. For example, ARRB Transport Research has developed “NetRisk”—a road network safety assessment tool. It is designed to enable road authorities to rapidly assess the safety condition of any section of the road network. It involves a network level assessment, based on collection and analysis of extensive physical road environment data—utilizing intelligent video data capture—to identify high-risk sections of the network followed by a detailed investigation of the high-risk sites within those sections to develop specific cost-effective treatments. This approach is being used in Victoria by VicRoads, the State road authority and by other road authorities in Australia.(3)

(3) Howard & Sweatman, 2007(AAA Foundation for Traffic Safety)

**GOOD PRACTICE - EuroRAP**

EuroRAP is the European Road Assessment Programme for rating road-related crash risk in an attempt to mobilize government action through community demand. It systematically tests risk on roads, awards star safety ratings and identifies problems that can be addressed by practical road improvement measures. EuroRAP shows the safety performance of routes in relation to the amount of traffic they carry, not just the number of crashes that occur on any given stretch.

USRAP is currently under development under the auspices of the AAA Traffic Safety Foundation in the US. A pilot project has been undertaken in the US with a possible pilot in Canada in the near future.

IRAP is the extension of this program internationally. The RAP programs should not be confused with the more detailed risk assessment processes which should be carried out by road authorities as an ongoing responsibility to regularly re-assess crash risk on their networks.

## 6.6 AREAS WHERE GREATER EFFORT IS REQUIRED

- Speed and speeding are major underlying factors in crash and injury risk on rural roads and need to be addressed effectively if there is to be any reduction in crash and injury risk on the rural road system. Even small reductions in travel speeds can result in significant crash and injury reductions
- Provinces and territories need to undertake a network wide risk assessment on their rural road networks by major crash type
- A major commitment to enhanced enforcement (and funding for police) by governments - in the areas of drinking and driving, speed management and seat belt wearing needs to be established
- Resourcing of public education programs by government in the areas of behavioural risks to seek to inform the public and assist behavioural change need to be introduced
- Government and the insurance industry should support (financially) the public promotion of the benefits of safer vehicles, particularly features such as head protection measures
- The introduction (and promotion) of side curtain air bags and electronic stability control (ESC) which can assist in reducing the severity of run-off-road crashes should be supported
- Although a liaison person from the Transportation Association of Canada (TAC) has joined the CCMTA Rural Road Safety Task Force, a stronger relationship between the TAC and CCMTA is required.

## 6.7 RECOMMENDATIONS

1. Assess **network wide risks** by major crash type and identify cost-effective prioritized and innovative **infrastructure interventions** which present a strong business case as a necessary foundation for approved large scale cost-effective infrastructure programs funded by insurers or government. These would be substantial contributors to single-vehicle fatal crash reduction and to side impact fatal crash at rural intersections.
2. Provide advice to governments to adopt a major commitment to **enhanced enforcement** (and funding for police) - in the areas of drinking and driving, speed management and seat belt wearing on rural roads.
3. Resource appropriate **public education programs** in the areas of behavioural risks on rural roads.
4. Encourage governments at all levels and the insurance industry, to work together to resource the public promotion of the **benefits of safer vehicles**, particularly features such as head protecting curtain air bags (for intersection crash outcome severity reduction) and electronic stability control (ESC) (to reduce run off road crash likelihood).

5. Pursue and develop a ***stronger ongoing relationship*** between the Transportation Association of Canada (TAC) and the project team for the CCMTA Rural Road Safety Strategy to develop and lobby for adoption of targeted enhanced infrastructure safety programs at a network level. A communication has been made between the President of CCMTA and the Council of Deputy Ministers encouraging them to establish an Engineering Research Committee.

## 7 VULNERABLE ROAD USERS

### 7.1 SUB-TARGET

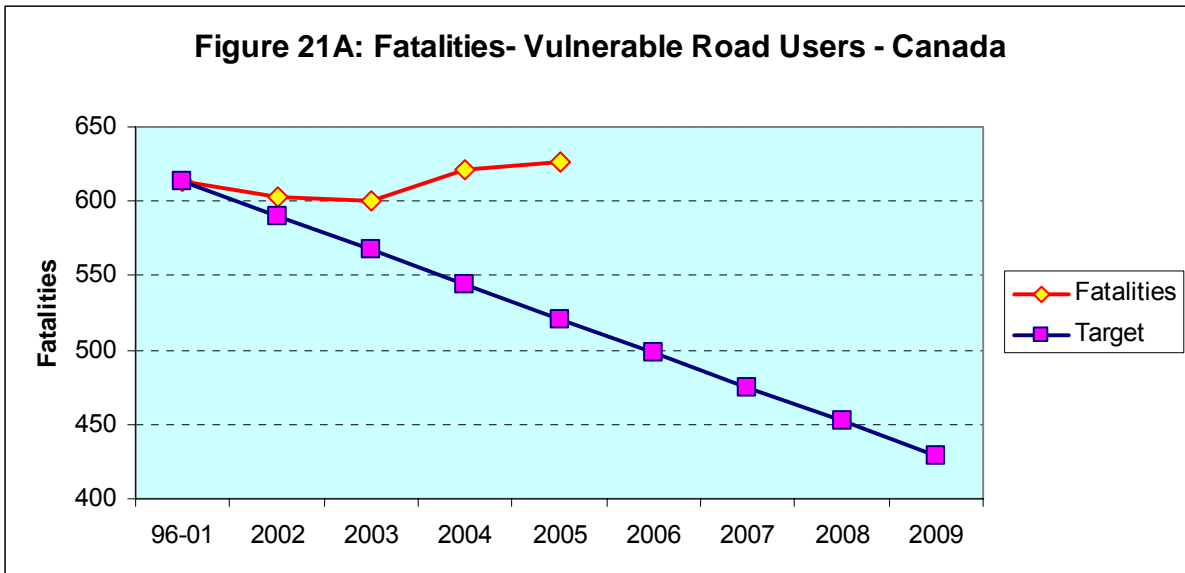
The RSV 2010 target is to achieve a **30% decrease** in the number of fatally or seriously injured vulnerable road users.

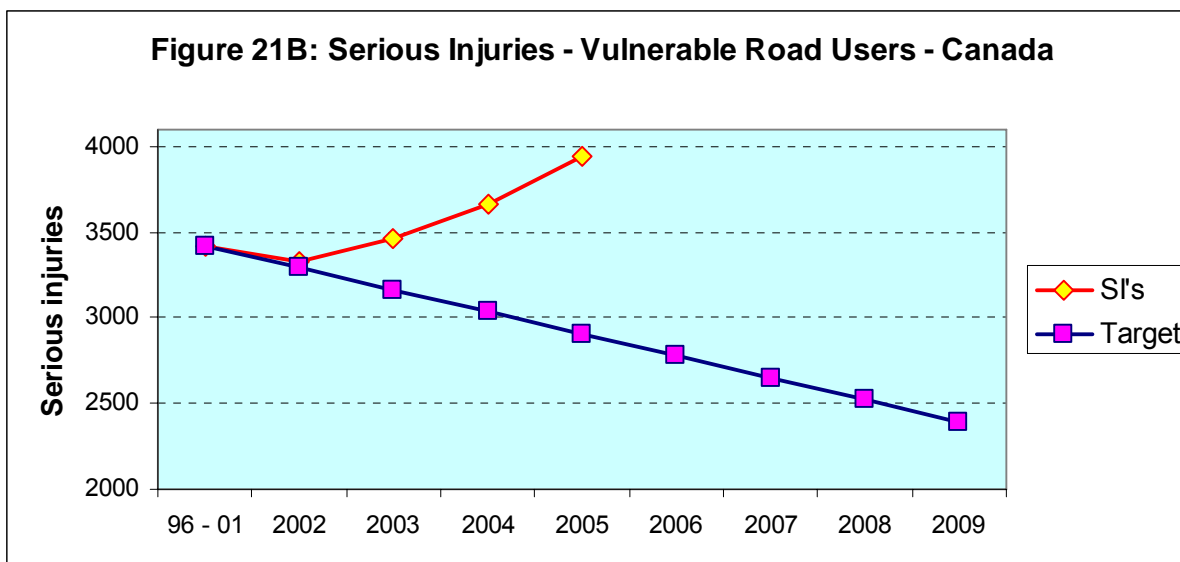
Collectively, vulnerable road users (pedestrians, motorcyclists and cyclists) account for about 20% of annual traffic fatalities and serious injuries. These include several high-risk pedestrian groups – old, young and impaired. The numbers of motorcyclists killed in crashes is increasing significantly in recent years.

The CCMTA's Vulnerable Road User Task Force was formed in 2005 to develop strategies that could be adopted jurisdictionally or nationally to help achieve the Road Safety Vision 2010 objective.

### 7.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS – VULNERABLE ROAD USERS FATALITIES AND SERIOUS INJURIES

Figures 21A and 21B present the vulnerable road user fatality and serious injury statistics respectively, with the progress of the individual provinces / territories shown in Figure 21C.





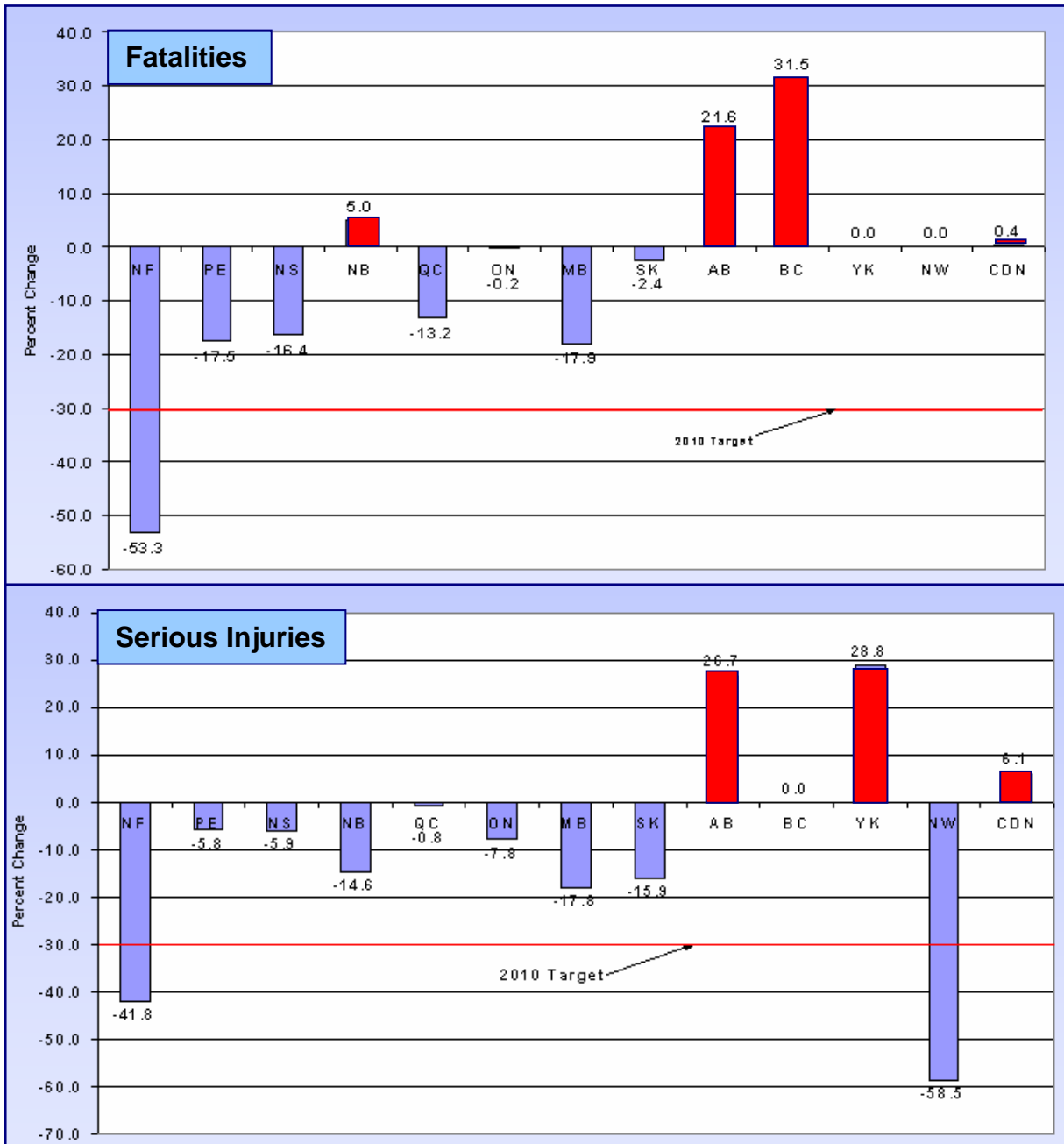
These trends are most concerning. There have been substantial underlying deteriorations in pedestrian safety and motorcyclist safety. However, the picture is highly varied across Canada. While most of the deterioration to 2004 had occurred in Alberta and BC, there was some slight improvement in both provinces in 2005.

Deterioration in Ontario and New Brunswick in 2005 has offset improvements in most other jurisdictions. The growth in serious injury levels in 2005 is a major cause for concern, with the substantial increases since 2004 occurring mainly in Ontario and Quebec.

**Table 4: Fatalities by Road User Class – 2001-2005**

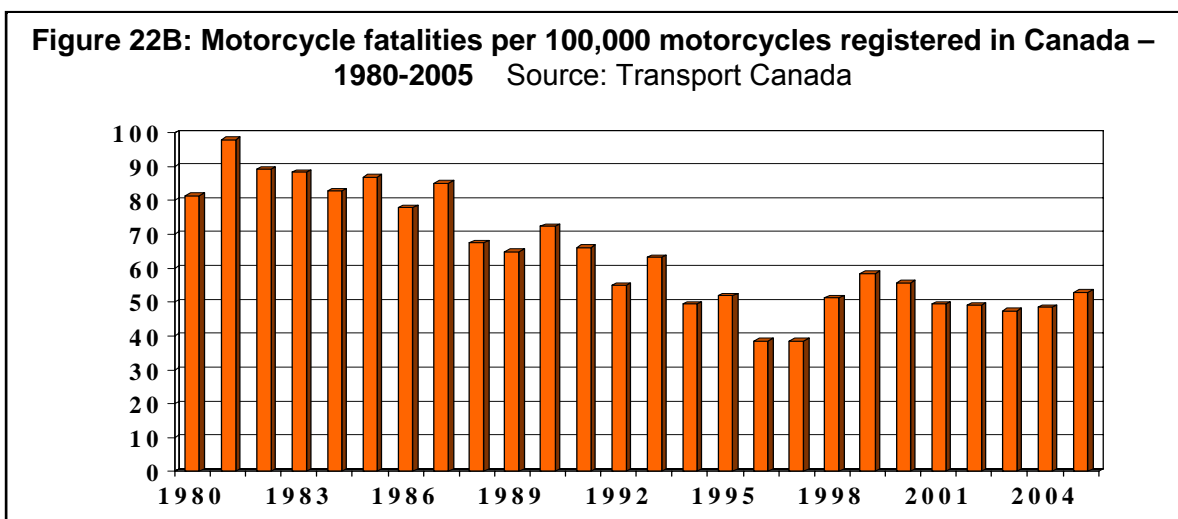
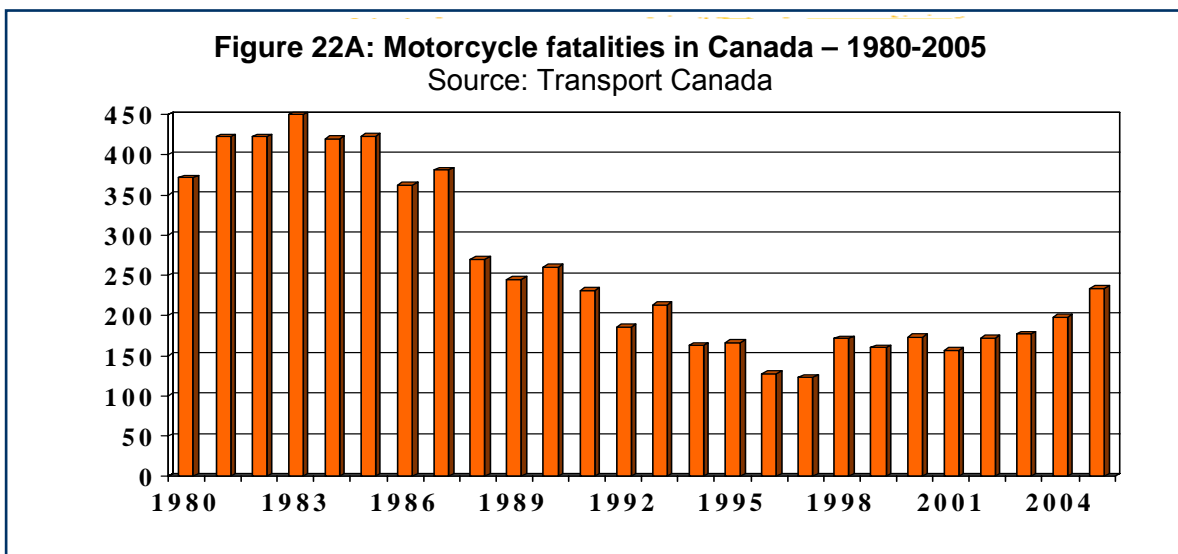
Road User Class		2001	2002	2003	2004	2005
Pedestrians	number	334	368	379	367	344
	%	12.0	12.6	13.7	13.5	11.8
Bicyclists	number	60	63	44	56	52
	%	2.2	2.1	1.6	2.0	1.8
Motorcyclists (including mopeds)	number	157	172	177	198	234
	%	5.6	5.9	6.4	7.3	8.0

Figure 21C: Vulnerable Road User Sub-target (-30%)  
2003-2005 Ave. vs. 1996-2001 Baseline (Source: Transport Canada)



As mentioned above the substantial deterioration in vulnerable road user serious injuries in 2005 has occurred largely in Prince Edward Island, Alberta, Quebec and Ontario.

While there is concern about the rising number of motorcycle fatalities across Canada, the picture looks a little different when one takes into account the increase of motorcycles registered. Clearly, much of the increase in these fatalities is the result of more motorcycles being registered, as can be seen in Figures 22A and 22B.



### 7.3 VULNERABLE ROAD USER PROGRAM ELEMENTS

Although no vulnerable road user strategy has yet been developed it is recommended that the following program elements should be introduced:

#### 1) *Research*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Research the use of bicycle helmets</li> <li>▪ Develop crash profiles of vulnerable road users</li> <li>▪ Investigate the primary causes of crashes involving motorcyclists</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Analysis of helmet wearing rates has been undertaken among cyclists in Quebec</li> <li>▪ Extensive analysis of collisions involving pedestrians has been undertaken in Ontario from 1988 to 2002</li> </ul>

#### 2) *Education/Awareness objectives*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Undertake public awareness campaigns for all road users on the need to “share the road”</li> <li>▪ Develop and implement effective training programs (and testing) for new motorcyclists</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ A broad range of information materials and publicity was introduced across most jurisdictions to improve pedestrian, cyclist and motorcyclist safety</li> <li>▪ Motorcycle training courses have been offered in communities outside of cities</li> <li>▪ Alberta is currently developing a new on-road test for motorcyclists</li> </ul>

#### 3) *Enforcement*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Enforcement campaigns should address all road users, reminding each road user of their respective responsibilities</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Enforcement programs for pedestrians and cyclists pursued in some jurisdictions (Ontario, Manitoba and New Brunswick)</li> </ul>

**4) Road Infrastructure/Standards - objectives**

<b>Objectives</b>	<ul style="list-style-type: none"><li>▪ Jurisdictions should provide for a safer road environment for vulnerable road users</li></ul>
<b>Activities</b>	<ul style="list-style-type: none"><li>▪ Ontario (Toronto) is implementing safer infrastructure for cyclists and the Yukon is including the safe provision for cycling in their road project planning. This (including pedestrian and motorcycling safety) is an important area for safe system thinking to be applied in a comprehensive way</li><li>▪ Some jurisdictions, e.g. Ontario, have adopted new legislation that imposes tougher fines on motorists who do not slow down when passing emergency vehicles that are stopped with their lights flashing or when driving in construction zones when workers are present</li><li>▪ Some jurisdictions have introduced driver licence suspensions for repeat offenders who speed in school zones and at pedestrian crossings</li><li>▪ Many municipalities have installed audible indicators on traffic signals</li></ul>

## 7.4 STATUS OF PROGRAM

The following table summarizes the status of the program with respect to the previously defined phases of development, with further discussion provided below:

Item	Problem definition	Program development	Program implementation	Program sustainability	Evaluation
Overall target	○	◐	○	○	○

Legend: ○ - No progress    ◐ - about 50% developed    ● - Fully developed

### 1) **Problem definition – is the issue well defined?**

The topic is not yet well defined.. The existing collision reporting system in some provinces does not adequately capture all the data involving pedestrians and cyclists, particularly in urban areas where the pedestrian or cyclist goes to the hospital on their own, rather than via an emergency vehicle.

### 2) **Program development – have we developed results focused interventions?**

Interventions have not been adequately developed. The increasing numbers of fatally injured vulnerable road users calls for more focused interventions specifically with respect to the growing number of collisions involving motorcycles. Safe system approaches can certainly assist and a strategy for vulnerable road users is needed.

### 3) **Program implementation – are there appropriate implementation arrangements?**

Unfortunately, the topic is not yet recognized as a sufficiently high priority.

### 4) **Program sustainability – is the program at such a stage that it is “on maintenance”?**

Any interventions that have been developed are still in their infancy and by no means sustainable.

### 4) **Evaluation – has there been any formal program evaluation?**

There have been no formal evaluations of programs addressing any of the road user groups that comprise vulnerable road users.

## 7.5 EXAMPLES OF INTERNATIONAL GOOD PRACTICE

### **GOOD PRACTICE: EUROPEAN TRANSPORT SAFETY COUNCIL (ETSC)**

The ETSC has noted five key strategies for achieving a safe traffic system for pedestrians and cyclists that encompass both behavioural and engineering countermeasures:

- Managing the traffic mix by separating different kinds of road users
- Creating safe conditions elsewhere for integrated use of road space, for example, through speed and traffic management, increased user and vehicle conspicuity and vehicle engineering and technology
- Modifying the attitudes and behaviour of drivers of motor vehicles and riders of motorcycles through information, training and the enforcement of traffic law
- Consulting and informing pedestrians and cyclists about the changes being made for their benefit and encouraging them to take steps to reduce their own risk
- Mitigating the consequences of crashes through crash protective designs and encouraging the use of protective equipment.

### **GOOD PRACTICE: UK – MOTORCYCLING**

Motorcycling safety remains a top priority in the UK Road Safety Plan. In February 2005, the Government published the first fully fledged national Motorcycling Strategy which demonstrated the benefits of a close working relationship with key partners, including the motorcycle industry and other user groups. The principal aim of the strategy is to mainstream motorcycling so that all organizations involved in the development and implementation of transport policy recognize that motorcycling can be a modern, practical and economical way of getting about. The strategy, being overseen by the National Motorcycle Council, has four broad areas for action:

- Road safety and publicity
- Traffic management and planning
- Training, testing and licensing
- Technical, engineering and environmental issues.

### **GOOD PRACTICE: UK – PEDESTRIAN COLLISIONS**

The implementation of 20mph limits and 20mph zones in urban areas and 30mph speed limits in rural villages is encouraged. In the City of Hull, 120 zones, covering 26% of the city's roads are subject to 20mph speed restrictions. These restrictions contributed to a 90% reduction in fatal and serious injury collisions.

## 7.6 AREAS WHERE GREATER EFFORT IS REQUIRED

- Jurisdictions need to implement safer infrastructure and appropriately lower speed limits
- A relationship between the CCMTA Vulnerable Road Users Task Force and the TAC Road Safety Standing Committee and the Geometric Design Standing Committee needs to be established
- The provinces and territories, and their municipalities, need to introduce more enforcement regarding pedestrian rules, for drivers and pedestrians
- Jurisdictions need to provide additional enforcement for cyclists who disregard the rules of the road
- Research should be undertaken that identifies a clearer understanding of impaired pedestrian issues
- A comprehensive and collaborative initiative to address motorcycle safety needs to be developed and implemented.

## 7.7 RECOMMENDATIONS

1. CCMTA should **develop a strategy** for Vulnerable Road Users as a priority.
2. Road authorities need to provide safer (or separated) **infrastructure for pedestrians and cyclists** and where crash risks cannot be adequately reduced, to provide precincts where speed limits are lowered to achieve reduced risk.
3. Develop a **more formal relationship** between the CCMTA Vulnerable Road Users Task force and the TAC Road Safety Standing Committee and the Geometric Design Committee (both have ongoing projects addressing vulnerable road users). The combination of infrastructure measures, speed limit reviews and behavioural modification challenges are the solution to many of the vulnerable road user risks. The key players need to work together using a safe system approach in order to achieve maximum road safety benefit.
4. Apply **safe system thinking** to develop cooperative interventions and deliver them.
5. Reduce **speed limits in higher pedestrian risk areas** and actively enforce those limits.
6. Introduce **more enforcement** regarding pedestrian rules, for drivers and pedestrians.
7. **Impaired pedestrian issues** need to be further researched and appropriate interventions developed.

8. **Actively engage** the pedestrian, cycling and motorcycling communities (separately) to develop greater mutual understanding of risks and to develop and deliver a range of interventions.
9. Develop a comprehensive and collaborative strategy and action plan in association with motorcycle representatives to address **motorcycle safety** that is broader than just motorcycle training programs.
10. Introduce **targeted enforcement** for cyclists and motorcyclists.
11. Introduce **helmet use laws** for all bicyclists regardless of age.
12. Review **speed limits on winding routes** with a limit of 80 km/h or higher which are popular with motorcyclists. These routes often have a higher crash risk and are locations where (unlike four wheeled vehicles) motorcyclists can travel around curves at speeds that are unsafe, but remain within the speed limit.

## 8 YOUNG DRIVERS

### 8.1 SUB-TARGET

The RSV 2010 target is to achieve a **20% decrease** in the number of young drivers/riders (those aged 16-19 years) killed or seriously injured in collisions.

### 8.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS – YOUNG DRIVER FATALITIES AND SERIOUS INJURIES

Figures 23A and 23B present the young driver fatality and serious injury statistics respectively, with the progress of the individual provinces / territories shown in Figure 23C.

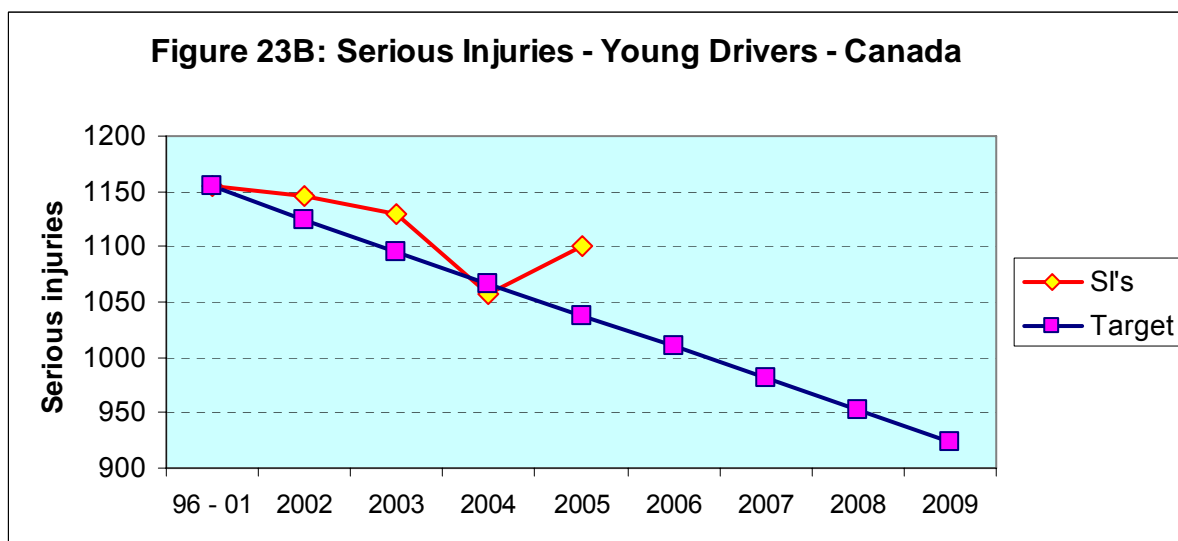
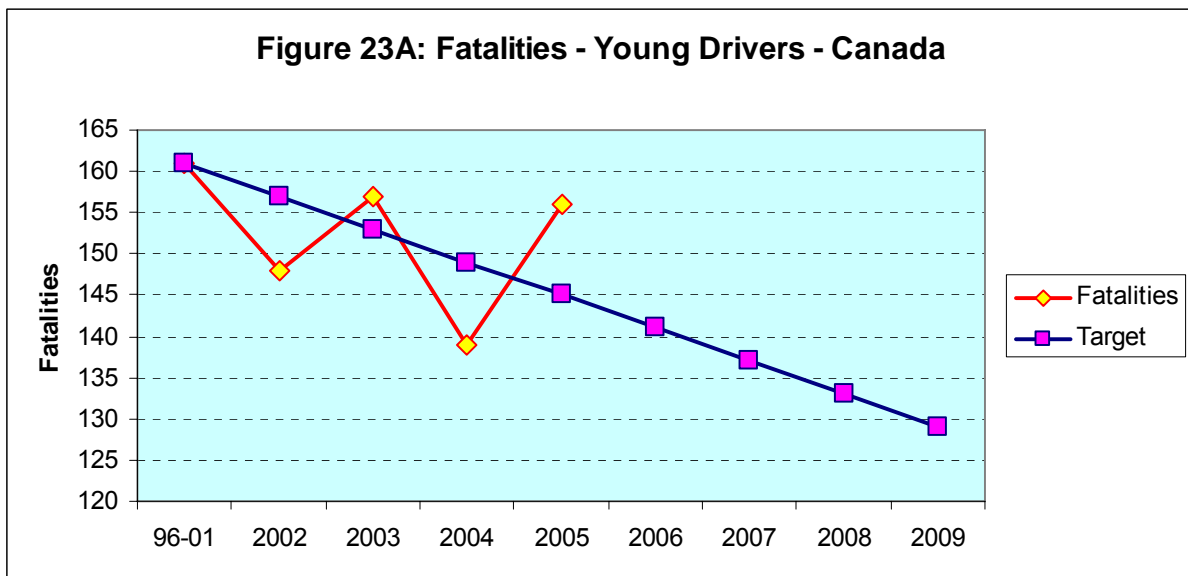
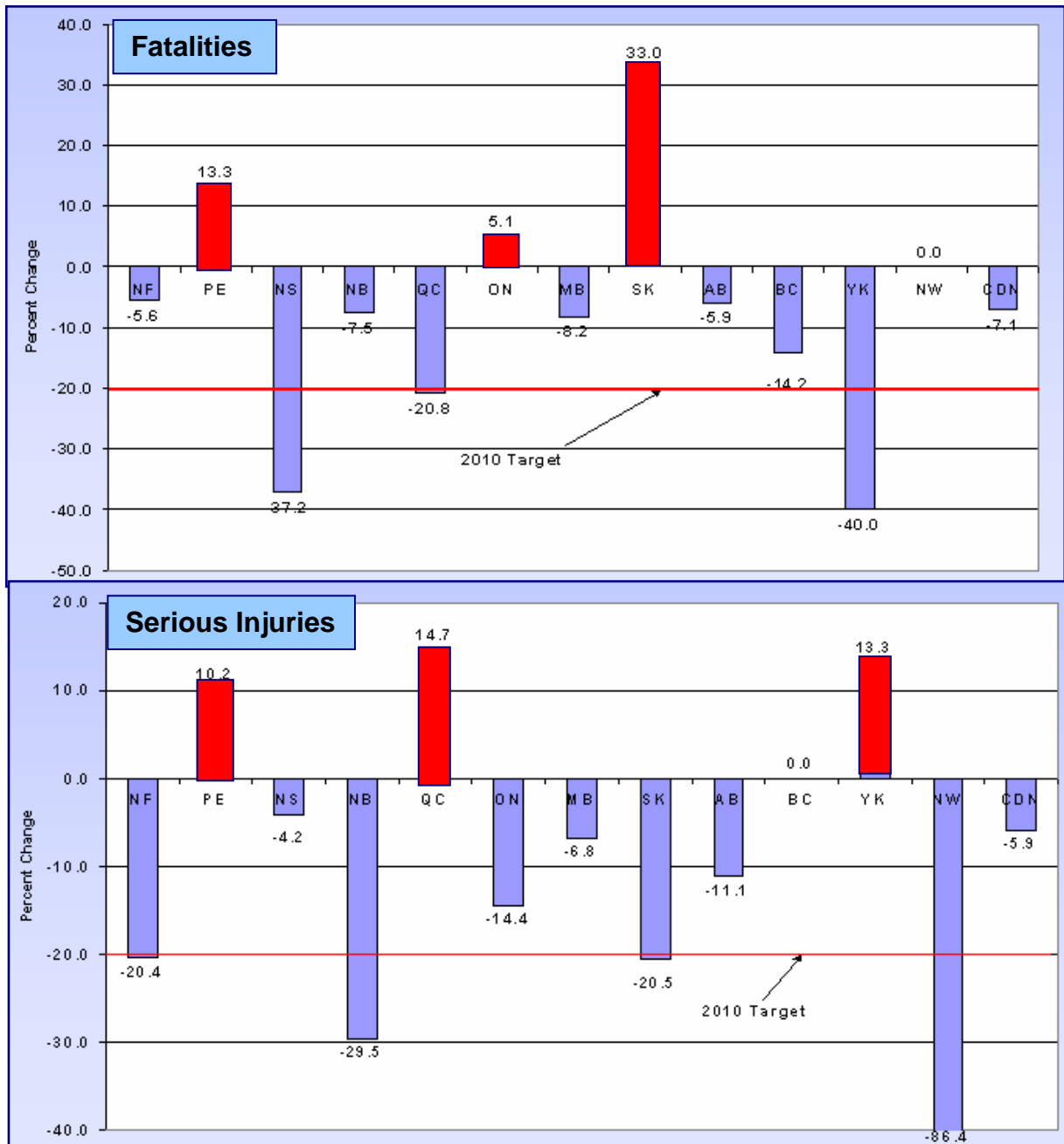


Figure 23C: Young Driver Sub-target (-20%)  
2003-2005 Ave. vs. 1996-2001 Baseline (Source: Transport Canada)



While the trend is still encouraging, the change in 2005 represents a disappointing rebound from the outcomes achieved in 2004 for this sub-target. Canada is one of the leading jurisdictions internationally in relation to graduated licensing systems and in addressing young driver risk generally. Much more remains to be done to re-establish the benefits achieved up to 2004 and to achieve further benefits.

The continued progress achieved up to 2004 was experienced in most jurisdictions in 2005, but especially in British Columbia, Prince Edward Island and Saskatchewan. The exceptions were Quebec and Ontario.

This slight overall deterioration reflects a mixed result for 2005 with a number of jurisdictions reducing their serious injury levels, with a similar number experiencing increases.

The principal strategy adopted in most jurisdictions to reduce young drivers risk and increase the likelihood of safe vehicle operation is the Graduated Driver Licensing Program.

**Figure 24: Graduated Licensing in Canada**

Source: Transport Canada

Jurisdictions	Begun	Entry	Duration	Supervisor	Passenger	Curfew
Northwest Territories	2005	15	12/12	2 yr lic	Super only	11-6am
Yukon	2000	15	6/18	2 yr lic	Super + 1	12-5 am
British Columbia	1998	16	12/24	25 + lic	Super +1	12-5 am
Alberta	1998	14	12/24	18 + lic	# SB	12-5 am
Saskatchewan <sup>1</sup>	2005	15	9/6/12	1 yr lic	At night	None
Manitoba	2003	15.5	9/15	3 yr lic**	Super+ SB	None
Ontario	1994	16	12/12	4 yr lic**	Super+SB	12-5 am
Quebec	1997	16	12/24#	2 yr lic**	None	None
New Brunswick	1996	16	12/12	1 yr lic	Super only	None
Nova Scotia	1994	16	6/24	Full lic	Super only	12 am Super
Prince Edward Island	2000	15.5	3/24	4 yr lic**	Family only	None
Newfoundland	1999	16	12/12	5 yr lic**	Super only	12-5 am

\*All programs have 0 BAC

# up to age 25

Best Practices for graduated driver licensing in Canada, Traffic Injury Foundation

\*\*Alcohol restriction for supervisor

<sup>1</sup>Saskatchewan is the only jurisdiction where DE is mandatory

*(An excellent summary of Graduated Licensing Programs in Canada can be found in “Best practices for graduated driver licensing in Canada”, October 2005, Traffic Injury Research Foundation)*

### 8.3 YOUNG DRIVERS PROGRAM ELEMENTS

The objectives and activities of each of the program elements are summarized below.

#### 1) *Enforcement/Awareness*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Development of sustained public awareness campaigns, combined with targeted enforcement programs focused on the dangers and consequences to young drivers and others of driving at unsafe speeds, impaired driving and non-use of seat belts</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Public awareness campaigns targeting youth that focus on the dangers and consequences to young drivers and others of driving at unsafe speeds, drinking and driving and non-use of seat belts were conducted by most jurisdictions</li> </ul>

#### 2) *Legislation*






<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Introduction of a comprehensive Graduated Driver Licensing Program</li> <li>▪ Implement further driver restrictions as per best practice jurisdictions</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ There are now 11 Canadian jurisdictions that require young or novice drivers to adhere to a number of restrictions before they receive full driving privileges</li> <li>▪ In jurisdictions that already have GDL, some are toughening the restrictions within the program, such as Ontario where they have a restriction on the number of passengers</li> </ul>




#### 3) *Public education and marketing*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ A variety of programs should be introduced into Junior and High Schools as part of the school curriculum</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ There has been an abundance of awareness-raising events at high schools that focus on the perils of drinking and driving at graduation parties; these include the HEROES program from the SmartRisk Foundation and the PARTY program which is active in several provinces and territories</li> <li>▪ Some jurisdictions have curriculum based materials in Junior and Senior High Schools, particularly in the CAPP (Career and Personal Planning) program</li> </ul>

## 8.4 STATUS OF PROGRAM

The following table summarizes the status of the program with respect to the previously defined phases of development, with further discussion provided below:

Item	Problem definition	Program development	Program implementation	Program sustainability	Evaluation
Overall target					

Legend:  - No progress     - about 50% developed     - Fully developed

### 1) *Problem definition – is the issue well defined?*

Yes. Extensive research in best practice particularly regarding graduated licensing programs has been and continues to be carried out.

### 2) *Program development – have we developed results focused interventions?*

Yes. Young drivers are generally well controlled and monitored when entering the “system”.

### 3) *Program implementation – are there appropriate implementation arrangements?*

There appear to be, although more could be done in the pre-licensing stage.

### 4) *Program sustainability – is the program at such a stage that it is “on maintenance”?*

The graduated licensing programs in most jurisdictions continue to be enhanced.

### 5) *Evaluation – has there been any formal program evaluation?*

Some of the provinces have undertaken formal evaluations of their graduated licensing programs (e.g. Nova Scotia and Ontario).

## 8.5 EXAMPLES OF INTERNATIONAL GOOD PRACTICE

### 1.1 GOOD PRACTICE: CANADA

In the literature, Canada is often cited as having one of the best practice Graduated Driver Licensing Programs in the world. However, continued adjustment and enhancement will be necessary to reduce the unacceptably high crash risks faced by novice drivers, particularly first year drivers.

Other best practice measures in other jurisdictions include extended novice driver periods (four years or more) before full licensing, increasing licensing age to 18 years, requiring a learner permit to be held for 2 years before a licence test, introducing increasingly effective hazard perception testing as a prerequisite before licence testing, requiring 120 hours of supervised practice as a learner before licence testing, developing programs for novice drivers to undertake in the first 3 to 6 months of driving solo to reduce their crash involvement in the first two years of driving, banning all mobile phone use for novice drivers, (including hands free), requiring all drinking driving offenders under 26 years of age to fit an alcohol interlock for a mandatory minimum period upon relicensing and introducing power/weight ratio restrictions for vehicles able to be driven by novice drivers.

### GOOD PRACTICE: GERMANY

Germany's Graduated Driver Licensing Program has 2 components:

#### ***Pre-licensing:***

- Minimum age for theory and practical training is: light motorcycle – 15 years; unrestricted motorcycle – 24 years; and standard passenger vehicles – 17years
- Declaration of medical fitness or full medical examination
- Attend a driving school (between 28-60 theory and 5-25 practical lessons – depending on license type)
- Typical student takes 24 hours of theory and 30 hours of practical training
- At least 4 hours of motorway and 3 hours of night-time driving required
- Restrictions exist while practising.

#### ***Post-Licensing:***

- Minimum age for license issuance increases to 16 years (light motorcycle), 25 years (unrestricted motorcycle) and 18 years (standard passenger vehicle). Staged access to an unrestricted motorcycle license takes 2 years or the attainment of age 24
- Probationary period for the first license is 2 years.

## 8.6 AREAS WHERE GREATER EFFORT IS REQUIRED

- For Canada to go beyond the effectiveness of GDL we need a clearer understanding of risk perception by young drivers and develop appropriate interventions
- Licence testing regimes need to be reviewed and improved
- Licensing age should be reviewed in some jurisdictions, particularly if under 16
- Those jurisdictions that are lagging behind on the restrictions in GDL should be encouraged to adopting “best practice” in GDL
- Extended novice driver licensing phase.

## 8.7 RECOMMENDATIONS

1. Further research to develop **improved awareness of risk perception** among young drivers, including development and introduction of advanced hazard perception testing needs to be undertaken.
2. Analyze aberrant behaviours e.g. speeding, aggressive driving, impaired driving, the effects of distraction and the combination of fatigue and other impairment upon young driver crash outcomes and **develop interventions to reduce that risk**, including exposure restriction.
3. Pilot different content of **driver education courses** (including on road and classroom/ focus group activity) for novice drivers (i.e. those with some months of licensed driving experience) to assess any measurable effect upon later (following 12 months) crash involvement.
4. Encouraging those provinces and territories that are lagging behind **best practice GDL** to adopt “best Canadian practice”, and to examine any further measures from international good practice.
5. Introduce tougher **alcohol ignition interlock** provisions for novice driver drinking and driving offenders upon relicensing.
6. Increase the **licensing age** to 18 years.
7. Require 120 hours of **supervised practice** for all learner drivers before they are eligible to apply for a licence test.

## 9 SPEED-RELATED COLLISIONS

### 9.1 SUB-TARGET

The RSV 2010 target is to achieve a **20% decrease** in the number of road users killed or seriously injured in speed-related crashes.

### 9.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS – SPEED-RELATED FATALITIES AND SERIOUS INJURIES

Figures 25A and 25B present the speed-related fatality and serious injury statistics respectively, with the progress of the individual provinces / territories shown in Figure 25C.

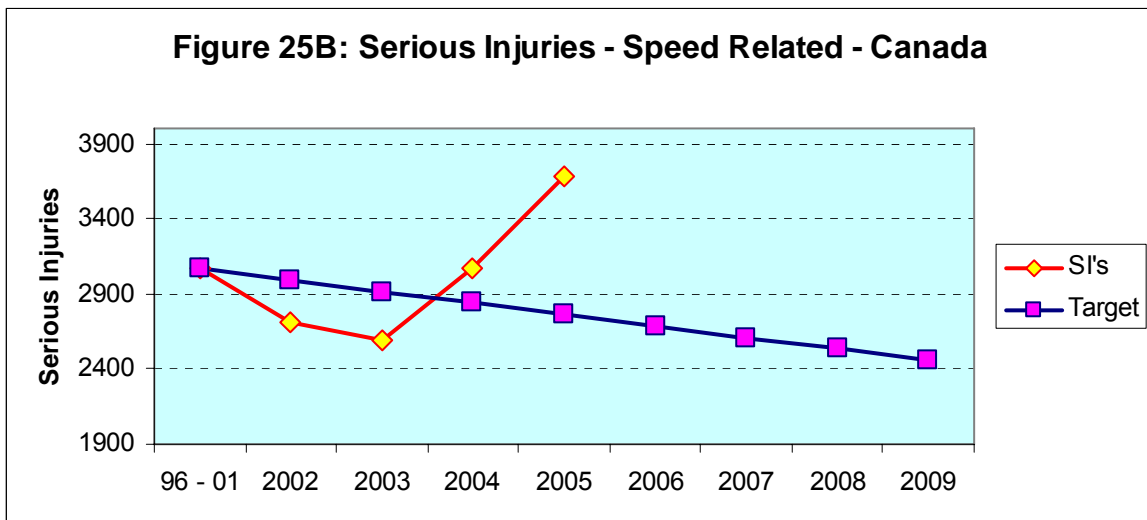
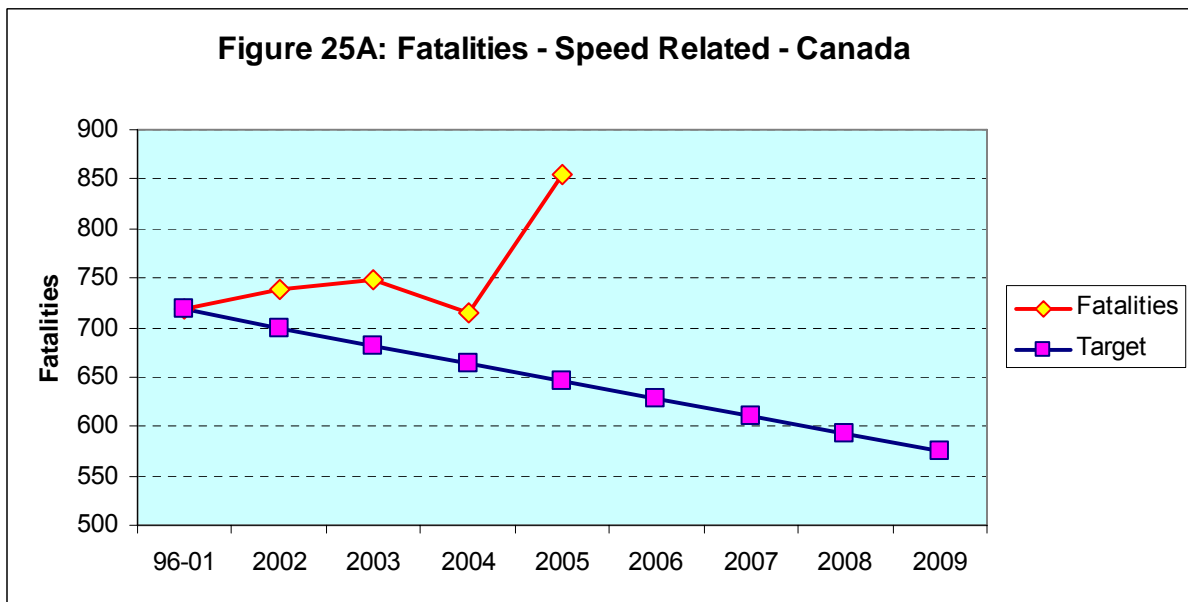
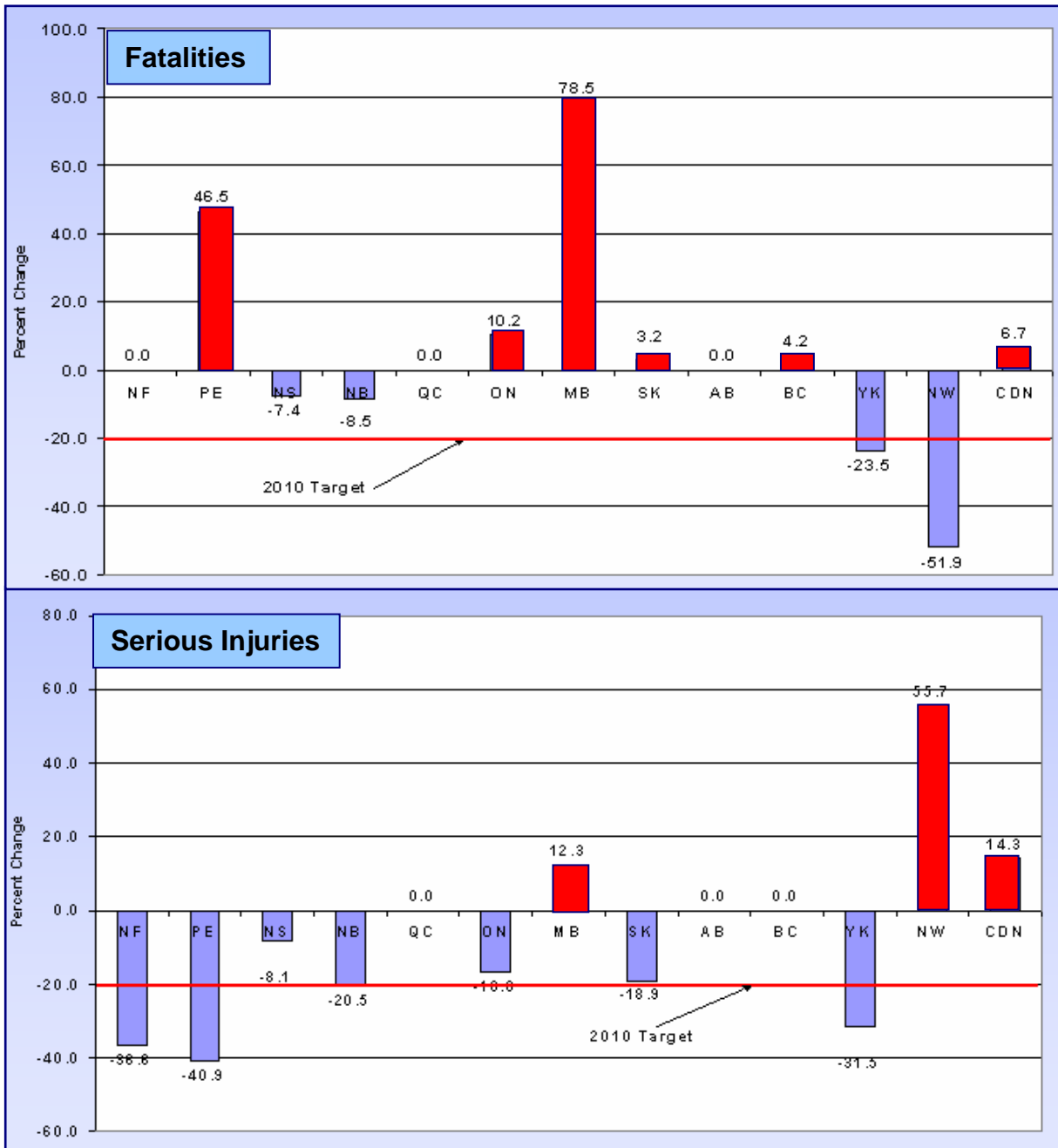


Figure 25C: Speed-related Sub-target (-20%)  
2003-2005 Ave. vs. 1996-2001 Baseline (Source: Transport Canada)



The trend in speed-related fatal and serious injury collisions calls for immediate action, particularly public awareness raising and prompt, effective interventions. Speed-related fatalities are well above the trend line needed to reach the target by 2010. (Speed-related crashes are defined as those where the police have indicated on the collision report form that “speed over the limit” or “too fast for conditions” were checked off as driver actions.)

The serious injury trend has deteriorated further from 2004. It remains concerning, as it is well above the baseline. It is however noted that, due to the following factors, there are concerns about overall reliability of data purporting to measure speed involvement in serious casualty crashes for all Canada:

- Only some provinces record the proportion of all injury crashes that are serious injuries
- In the case of some provinces, this assessment is not provided for fatal or serious injury crashes
- The average value of those provinces that do record these statistics is applied to those provinces who do not
- It is sometimes difficult to assess accurately from attendance at a crash scene whether speed has been a major factor in a crash.

In the Report to Deputy Ministers for the 2004 years results, only New Brunswick and Manitoba reported serious injury levels in 2004 above the 1996 – 2001 base levels. Quebec, Alberta and BC did not report speed-related serious injury levels. Estimates for Canada overall were drawn from known ratios of serious to total injuries and applied to that total in proportion to the speed-related serious injuries known from most provinces/territories. Hence the estimated serious injury increase for Canada overall of 20%, which does appear at face value to be at odds with the reported picture from individual jurisdictions. Alberta and Quebec do not report speed-related fatalities. Newfoundland, Saskatchewan and British Columbia have experienced large percentage increases in 2005. The overall estimated speed – related fatality trend for Canada is well up, (with a percentage increase over the baseline matching the required reduction by 2010). The data is compromised by the absence of actual figures (and inclusion of associated estimated figures to cover this) from two of the larger provinces (Alberta & Quebec).

That is why the overall Canadian figure shows an increase while most jurisdictions have shown a decrease in speed-related serious injuries in Figure 24D. Despite these limitations, as the fatality data and these data show, early action is clearly called for.

There has been a widespread deterioration across jurisdictions with the post 2005 level above the baseline in percentage terms. This is a most unsatisfactory position given the increasing fatality levels and with the actual level now above the baseline, it will be extremely difficult to achieve the sub-target reduction by 2010.

### 9.3 SPEED AND INTERSECTION SAFETY MANAGEMENT (SISM) PROGRAM

The SISM Task Force developed a strategy which addresses a number of elements addressing speed-related collisions. . The objectives and activities of each of the program elements are summarized below

#### 1) *Research*

<p><b>Objectives</b></p>	<ul style="list-style-type: none"> <li>▪ Jurisdictions should have a mechanism in place for identifying high-risk roads</li> <li>▪ Undertake additional research concerning public perception of speed</li> <li>▪ Develop a profile of speeder target groups</li> <li>▪ Undertake research on the motivation of excessive speeders</li> <li>▪ Undertake research on the effect of targeted speed reduction programs</li> <li>▪ Undertake research on the effect of road infrastructure initiatives</li> </ul>
<p><b>Activities</b></p>	<ul style="list-style-type: none"> <li>▪ Some research has been undertaken focused on the use of technology to enforce speed, including speed on green evaluations in Alberta</li> <li>▪ Very little evidence of collection of free speed data by jurisdictions and no evidence of active use to assess speed risks on sections (all) of the network</li> <li>▪ Transport Canada has conducted a survey on speeding and motivations for it</li> </ul>

**2) Education/ Awareness**

<p><b>Objectives</b></p>	<ul style="list-style-type: none"> <li>▪ Ensure links between educational system (both public education and driver education systems) and road safety agencies to ensure that lifelong learning safety messages are integrated</li> <li>▪ Transport Canada to develop material/publications relating to Speed</li> <li>▪ Consolidate and share best cross-jurisdictional practices for speed educational activities</li> <li>▪ Develop a mechanism for identifying high risk locations and segments of roadways</li> <li>▪ Develop a mechanism to identify high-risk and habitual offenders</li> <li>▪ Implement Speed Management Committees to undertake strategies on a jurisdictional basis with a variety of stakeholders including enforcement agencies (to reinforce safety messages with stakeholders, conduct media scans, promote social cost issues, implement local programs, etc.)</li> <li>▪ Consolidate and share best cross-jurisdictional practices for speed awareness activities</li> </ul>
<p><b>Activities</b></p>	<ul style="list-style-type: none"> <li>▪ Some levels of awareness/education activity including advertising initiatives have been undertaken in about half of the jurisdictions. (CCMTA promoted Speeding during Canada Road Safety Week, May 14-20)</li> <li>▪ There has been limited research activity</li> <li>▪ There has been some additional enforcement driven initiatives, but not a major emphasis</li> </ul>

**3) Speed/Road infrastructure/standards**

<p><b>Objectives</b></p>	<ul style="list-style-type: none"> <li>▪ Jurisdictions will put a mechanism in place to ensure that safety considerations are evident during all reviews of roadway speed limits</li> <li>▪ Support engineering practices geared toward traffic calming and continuous monitoring</li> <li>▪ Consider increasing severity of sanctions when any review of sanctions within a jurisdiction are considered (i.e.: escalation for repeat and more high risk offences)</li> <li>▪ Encourage the development of technology, which assists in speed management (i.e.: speed limiters/cruise control, etc.)</li> <li>▪ Develop road infrastructure/standards and protocols for the use of technology for enforcement (i.e.: speed cameras) to ensure that its use is perceived as safety related</li> <li>▪ Consolidate and share best cross-jurisdictional practices for speed-related road infrastructure/standards</li> </ul>
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<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Limited initiatives have been introduced and, generally these are related to major highway upgrades</li> </ul>
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**4) Enforcement**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ SISM Task Force to review research and practices within jurisdictions which have determined optimal levels of enforcement</li> <li>▪ Determine optimal levels of enforcement and support enforcement efforts at the jurisdictional level to reinforce the perceived risk of apprehension</li> <li>▪ Enforcement plans to emphasize high risk locations</li> <li>▪ Initiate speed-related STEP campaigns in conjunction with community stakeholders</li> <li>▪ Coordinate public education and awareness activity with enforcement programs to maximize the perceived risk of apprehension</li> <li>▪ Consolidate and share best practices for speed-related enforcement activities</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ There has been concern from jurisdictions that enforcement efforts has fallen away, including speed enforcement</li> <li>▪ Resistance at the political level to adopting general deterrence programs for speed management (with the associated change in speed selection behaviours – and short term unfavourable reactions it would bring) is a major barrier in jurisdictions. Other developed countries have faced this situation and it is time for Canadians to receive the benefits that comprehensive speed management would bring</li> <li>▪ There have been some initiatives implemented in some jurisdictions, including automated speed camera operation in Alberta and a doubling of fines for road traffic offences (generally) in New Brunswick</li> <li>▪ Automated speed enforcement has been discontinued in British Columbia and Ontario – a step that is inconsistent with international best practice and highly likely, based on extensive research, to lead to increased fatalities and serious injuries. This is a major ethical issue for the jurisdictions who are not introducing this life saving technology and especially for those jurisdictions which have removed the technology</li> <li>▪ One jurisdiction noted that occasional charging of speeding drivers without automated enforcement is unlikely to have much general deterrence effect.</li> </ul>

## 9.4 STATUS OF PROGRAM

The following table summarizes the status of the program with respect to the previously defined phases of development, with further discussion provided below:

Item	Problem definition	Program development	Program implementation	Program sustainability	Evaluation
Overall target					

Legend:  - No progress  - about 50% developed  - Fully developed

### ***Problem definition – is the issue well defined?***

Not yet. There remains scope for measurement and a greater awareness and use of free speed levels by the jurisdictions and their public.

### ***Program development – have we developed results focused interventions?***

Limited hard-edged and focused enforcement initiatives have been implemented. Effective solutions do exist (automated enforcement) and are widely applied in other developed countries.

### ***Program implementation – are there appropriate implementation arrangements?***

There is room for improvement in the co-ordination of speed management. Also the accountability for results is not best practice.

### ***Program sustainability – is the program at such a stage that it is “on maintenance”?***

Assuredly not. The program will not become sustainable until Canada makes use of available technology.

### ***Evaluation – has there been any formal program evaluation?***

There were evaluations of speed camera programs in Ontario and British Columbia which showed that speeds decreased with the cameras in place.

## 9.5 EXAMPLES OF INTERNATIONAL GOOD PRACTICE

### **GOOD PRACTICE: FRANCE - INTENSIFYING ENFORCEMENT AND PENALTIES TO IMPROVE RULE COMPLIANCE**

The intensification of enforcement and penalties was achieved through introduction of automatic enforcement and penalty systems for speed violations. In November, 2003, the first speed cameras were installed. At the end of 2004, there were 400 speed cameras (232 fixed and 168 mobile) and by the end of 2007, there are to be 1500 cameras in operation (includes fixed and mobile cameras). Some 75% of cameras are in rural areas and 25% in urban areas.

The enforcement process is now fully automated. The penalty system was modified: the penalties for the lighter offences have fixed amounts, the penalties for the more serious offences are increased, detection has become better, sanctions are more severe for recidivists.

The results have been very positive. Fatal and injury crashes decreased in the vicinity (6 km) of fixed cameras by 40 to 65%.

Average speed on French roads decreased by 5 km/h over 3 years. The rate of excessive speeding (more than 30km/h over the limit) was reduced by a factor of 5.

Between 2002 and 2005, fatalities decreased by over 30% in France – an unprecedented result. These substantial decreases are not entirely due to the implementation of automatic speed controls, but it is estimated that the decrease in speed, in which automatic speed control played the major role, accounted for roughly 75% of this decrease.

Based Upon OECD/ECMT "SPEED MANAGEMENT" 2006

### **GOOD PRACTICE NEW ENFORCEMENT POLICY IN THE STATE OF VICTORIA (AUSTRALIA)**

In 2002, a Ministerial forum was held in response to the Victorian road toll of 444 deaths in 2001, the highest for 10 years. The forum identified that radical actions needed to be implemented immediately and the *arrive alive!* Strategy was launched, with a strong focus given to behavioural change programmes, such as speed enforcement. Key initiatives for the speed enforcement component of *arrive alive!* included:

- Increased attention to “lower level speeding” (i.e. reduced tolerance threshold)
- Intensifying enforcement efforts – more hours for the mobile camera programme, more
- fixed cameras with a trial of section control
- Making enforcement more unpredictable – including implementing “flash less” mobile
- cameras and a mix of marked and unmarked vehicle
- Reviewing the speed camera strategy.

The Victorian Auditor-General’s 2006 review of Victoria’s speed enforcement programme considered inter-alia, whether the speed enforcement programme had been effective in reducing speed and road trauma; and whether the programme was focussed on reducing risks rather than raising revenue.

The review concluded the programme had been very effective. In 2005, for the first time, average travel speeds in metropolitan Melbourne’s 60, 70 and 80 km/h speed zones were below legal speed limits. However, in 100 and 110 km/h speed zones across the State, compliance with speed limits had not improved. In each of these zones, around 15% of motorists still travelled at speeds above the speed limit.

The review noted that, in common with all fine-based enforcement programs, the speed enforcement programme undoubtedly raises revenue. However, the report demonstrated that revenue raised through speed infringements is still significantly lower than expenditure on road safety. Speed enforcement activities were underpinned by strong evidence and primarily directed at reducing road trauma, rather than raising revenue. One of the strategies adopted was to make enforcement more unpredictable.

*arrive alive!* sets ambitious targets aiming for a 20% reduction in deaths and serious injuries by 2007. During the first four years of the strategy (2002-2005), there has been a reduction of around 16% in fatalities. In August 2006, Victoria reached its lowest fatality level ever over a 12 month rolling period.

Road crashes have multiple causes; it is therefore difficult to conclude that the reduction in road trauma is solely due to improved compliance with speed limits. However, the greatest reductions in trauma have been in the lower speed zones, which are the most intensively enforced. There have also been significant reductions in pedestrian trauma and severity of serious injuries – two measures sensitive to changes in travel speeds. These factors suggest that improved compliance with speed limits has been a major contributor to trauma reductions.

OECD/ECMT “SPEED MANAGEMENT” 2006

**GOOD PRACTICE: NINTH REPORT OF THE TRANSPORT, LOCAL GOVERNMENT  
AND THE REGIONS COMMITTEE (UK) ON ROAD TRAFFIC SPEED**

**Conclusions and Recommendations**

Speeding is endemic. Excessive and inappropriate speed is the largest single contributor to deaths and serious injuries on our roads and significantly reduces the quality of life in many urban and rural areas. The failure to tackle the consequences of speed affects Government policies on the welfare of children, social inclusion, urban regeneration, health and integrated transport.

We know what to do to reduce the casualties. The Government has commissioned research and funded the pilot projects which show what should be done. It also monitors best practice from the Netherlands and other European countries, particularly in how to reduce pedestrian casualties. In those places in England where many of the right measures have been taken, such as York, Gloucester, Hull, Northamptonshire and Nottingham, there have been significant reductions in casualties and improvements in the quality of life.

A major reason why too little has been done is that road casualties are a forgotten story which receives far too little national attention. If any disease killed as many people, as die on the roads, there would be an outcry. There would be national campaigns to insist that the Government do something about it. In its reporting of speed, however, the media too often does the reverse, implying that drivers are the best judge of the right speed, and that attempts to get them to observe speed limits in built-up areas are an unacceptable infringement on their liberty. Press reporting too often focuses on the inconvenience to drivers, ignoring the potentially fatal consequences of their attitudes.

The Government's principal task now is ensure that all local and police authorities give reducing road traffic speed the same priority as the best. It must insist that they do so because saving lives is not a matter of discretion. It will also need to provide the funds to enable it to be done.

**GOOD PRACTICE: A REGIONAL SPEED ENFORCEMENT PROJECT WITH MOBILE CAMERAS IN THE NETHERLANDS**

The enforcement activities in the Netherlands was directed at rural non-motorway roads with a high number of injury accidents based on the police collision registrations from 1992 to 1996. A total of 28 road sections with a total length of 116 km were identified as having a high collision level and were subjected to the targeted enforcement. The speed enforcement was undertaken with mobile radar equipment from an inconspicuous car. On average, there were one to two hours of speed checks weekly on each of the selected roads. On each of the enforced roads a special, posted road sign warned drivers that speed camera enforcement was possible, independent of the actual presence of enforcement. There were no signs to inform the driver that he/she had actually been exposed to speed enforcement. The roads where enforcement took place were also repeatedly mentioned in the local press and intensive information and publicity supported the enforcement activities.

An evaluation study was undertaken covering 5 years of enforcement and including speed and accident data on both the enforced roads and similar non-enforced roads. The speed data showed a significant decrease in mean speed and the percentage of speed limit violators over time. The largest decrease was found in the first year of the enforcement project (1998) and in the fourth year of the project, when the enforcement effort was further intensified (2001). There were also indications of spill-over effects: the speed also decreased at the nearby comparison roads that were not subjected to the targeted speed enforcement project. The best estimate for the safety effect of the enforcement project is a reduction of 21% in both the number of injury collisions and the number of serious casualties. This was based on comparisons between the number of collisions during the enforcement project (5 years) and the 8 preceding years on the enforced roads and at all other roads outside in areas in the same region.

OECD/ECMT "SPEED MANAGEMENT" 2006

**GOOD PRACTICE: Victoria, Australia - penalties for different speed offences at 2004 levels compared to penalties in Yukon Territory, Canada for similar speeding offences**

**Victoria, Australia**

Offence	Fine AUD	Demerit points
Speed Less than 10 KM/H	\$134.00	1 Demerit Point
Speed by 10 KM/H or more but Less than 25 KM/H	\$215.00	3 Demerit Points
Speed by 25 KM/H or more but Less than 35 KM/H	\$285.00	4 Demerit Points Plus 1 Month Licence Suspension
Speed by 35 KM/H or more but Less than 45 KM/H	\$387.00	6 Demerit Points Plus 6 Month Licence Suspension
Speed by 45 KM/H or more	\$462.00	8 Demerit Points Plus 12 Month Licence Suspension

**Yukon Territory - Canada**

Speed by up to 15 km/h over speed limit	<b>\$CDN 25</b>	2 Demerit Points
Speed by 16km/h or more but less than 30km/h	\$CDN 40	4 Demerit Points

## 9.6 AREAS WHERE GREATER EFFORT IS REQUIRED

- Increased public awareness of the role of small increases in speed (beyond safe system limits) in increasing fatalities and serious injuries
- Introduction or expansion of automated speed camera enforcement
- Strengthened fines and lower demerit point and suspension thresholds, increased demerit points for speeding offences
- Reduced enforcement tolerance levels (to bring mean speeds below or at least to speed limits)
- Appropriateness of speed limits in higher risk locations
- Detecting and warning drivers when travel speeds are above limits
- Intelligent speed adaptation technology for repeat offenders
- Limits to top speeds in vehicles, including heavy commercial vehicles
- Incentives for vehicle owners to fit black boxes to monitor driving compliance
- The measurement of intermediate measures such as free travel speeds would provide an accurate assessment of free speeds compared to speed limits and indicate:
  - the scope for enforcement to lower mean speeds to limits or below limits
  - the potential fatality and serious injury reductions available to each jurisdiction through a commitment by the road safety partners and governments to more stringent speed management
- Addressing the speed culture in vehicle advertising by manufacturers.

## 9.7 RECOMMENDATIONS

1. Plan and resource a substantial program to **increase public awareness** of the role of small increases in speed beyond safe system limits in dramatically increasing fatalities and serious injuries. Inform the public of the safety and environmental consequences of higher speeds.
2. Establish immediately the mean free travel speeds on urban and rural networks across each province/territory. Where data indicates speeds are above speed limits, use stringent enforcement, including reduced enforcement “tolerance” levels, to bring mean free travel speeds down to speed limits within 18 months of implementation.

3. Substantially expand **automated camera enforcement** in urban and rural areas and police mobile moving mode radar enforcement in rural areas. This is an opportunity to achieve prompt serious casualty reductions that is dependent only on political and bureaucratic will. It is currently, especially in urban areas, a major lost opportunity for achieving rapid road trauma reductions across Canada.
4. The limited introduction of this technology reflects poorly upon Canada's legislatures and the public deserves an **explanation of this policy** and associated management failure.
5. Strengthen **finest** and lower **demerit point** and suspension thresholds, and increase demerit points for speeding.
6. Review **speed limits** on roads and streets in higher crash risk locations and apply safe system thinking to the issue.
7. Expand **electronic signage** - detecting and warning drivers where travel speeds are above limits or are inappropriate e.g., on tight curves in selected locations.
8. Introduce intelligent **speed adaptation in vehicles** of repeat offenders with the necessary infrastructure and legislative arrangements to support such a program.
9. Work with manufacturers and international road safety agencies to achieve a limit to the **top speeds of vehicles** of 120km/h.
10. Encourage insurers to provide incentives for vehicle owners to **fit black boxes** to monitor driving compliance.
11. Adopt the use of intermediate measures such as free travel speeds as a **key performance measure** of the effectiveness of speed management programs.
12. Request the Federal government, with strong support from the provincial and territorial representatives (through CCMTA), to request the vehicle manufacturers to establish, with Transport Canada involvement, a Committee to develop a **Voluntary Industry Advertising Code of Practice**, utilizing the UK and Australian models as a starting point in order to restrict the focus on speed and power (acceleration) in advertisements in electronic and print media. The committee should agree how the Code will be applied, make provision for its review and agree arrangements with the advertising assessment body for actions to be taken on receipt of public complaint.

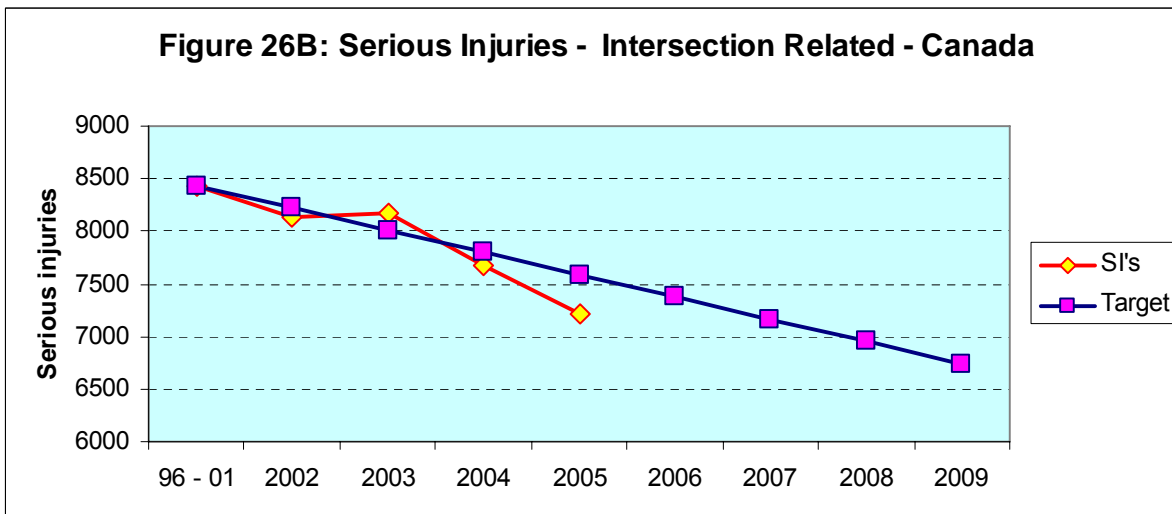
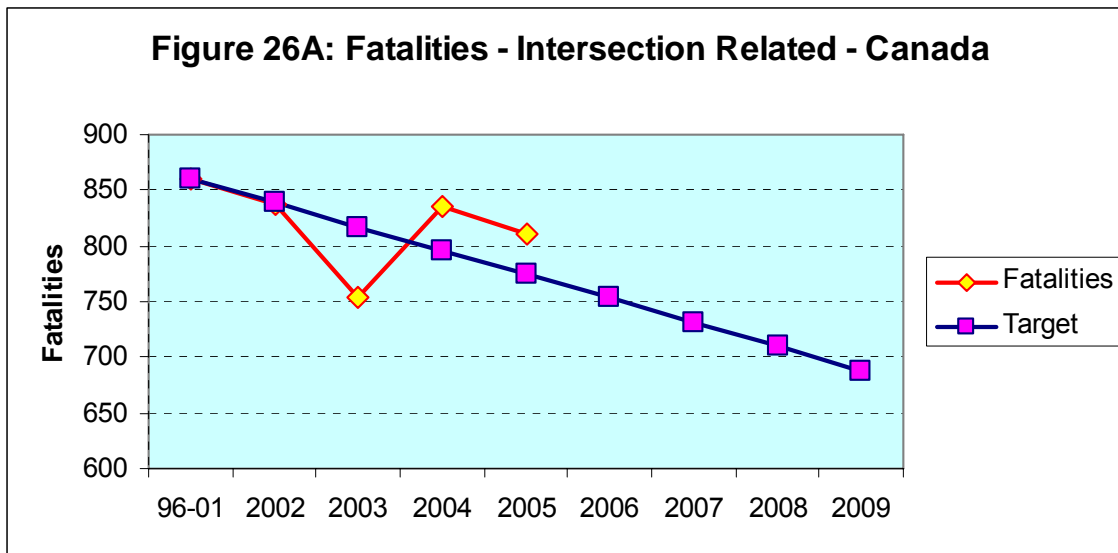
## 10 INTERSECTION-RELATED COLLISIONS

### 10.1 SUB-TARGET

The RSV 2010 target is to achieve a **20% decrease** in the number of road users killed or seriously injured in intersection related crashes.

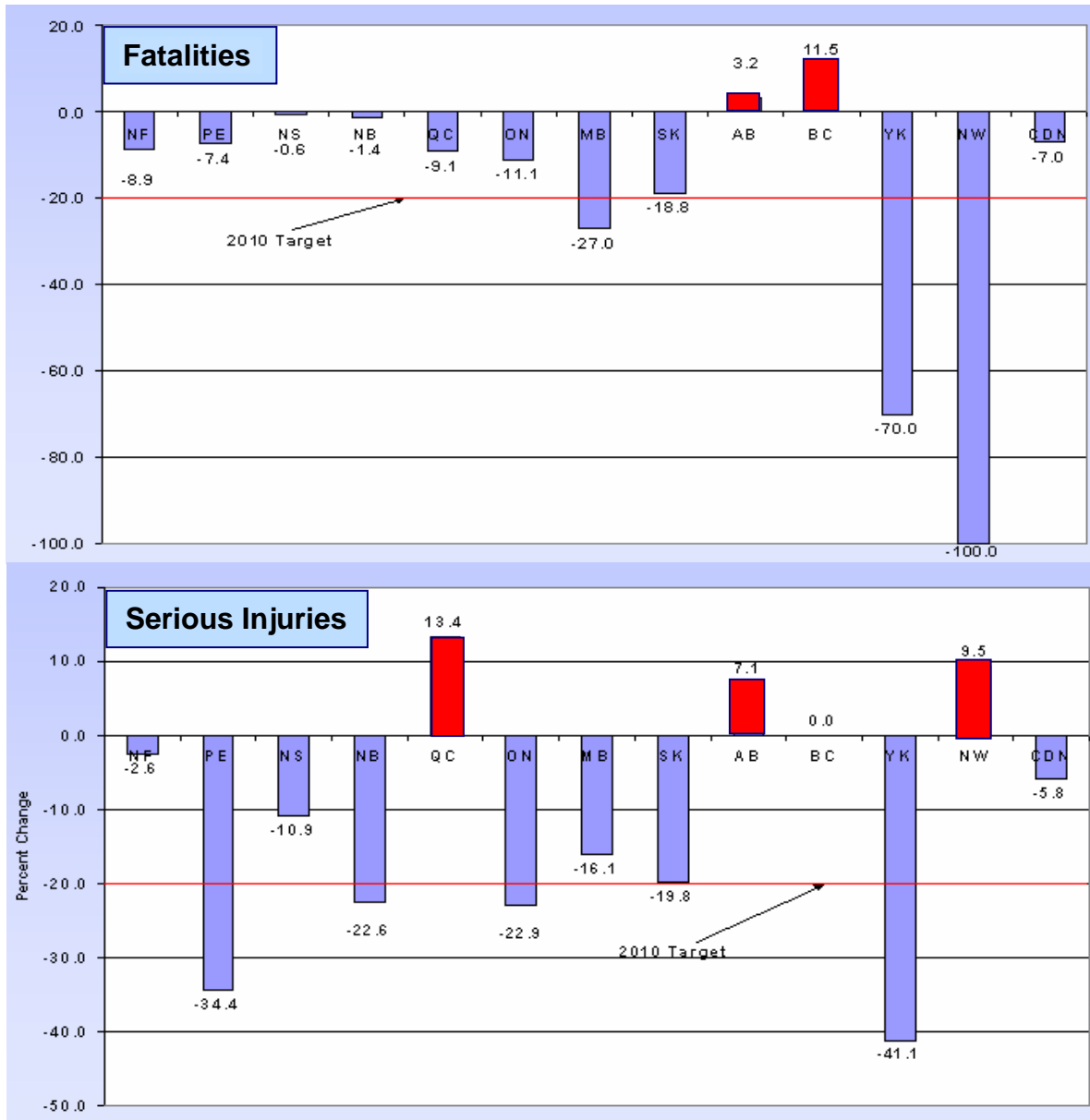
### 10.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS

Figures 26A and 26B present the intersection-related fatality and serious injury statistics respectively, with the progress of the individual provinces / territories shown in Figure 26C.



This indicates that progress is being achieved, but not at the rate necessary to deliver the target reductions by 2010.

**Figure 26C: Intersection-related Sub-target (-20%)  
2003-2005 Ave. vs. 1996-2001 Baseline (Source: Transport Canada)**



Good progress is being made in a number of provinces/ territories. However, Quebec and Alberta are not performing well. BC is now providing serious injury figures for intersection related crashes and it is now possible to assess performance there. However Alberta & BC among the 5 larger provinces, have the poorest record in terms of progress with reductions in fatalities at intersections

### 10.3 SPEED AND INTERSECTION SAFETY MANAGEMENT (SISM) PROGRAM ELEMENTS

The SISM Task Force developed a strategy which addresses a number of elements addressing intersection-related collisions. The objectives and activities of each of the program elements are summarized below

#### 1) *Research*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Undertake research that determines factors that can influence behaviour including social tolerance, perceived risk, time pressures and habits</li> <li>▪ A baseline survey regarding public awareness of the issue</li> <li>▪ Jurisdictions to develop a mechanism for identifying high risk intersections</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Right Turn on Red rules has been under review in Quebec. It is permitted everywhere in Quebec except the Island of Montreal</li> <li>▪ Gaps in research need to be identified</li> <li>▪ Some jurisdictions have undertaken intersection safety studies. Transport Canada presented an analysis of intersection collisions CCMTA's RSRP in 2006</li> <li>▪ Little has been done to research the link between enforcement and levels of safety at intersections</li> <li>▪ Transport Canada has conducted research with TAC on roundabouts as an alternative to signalized intersections</li> </ul>

#### 2) *Education/ Awareness*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Ensure links between educational system (both public education and driver education systems) and road safety agencies to ensure that lifelong learning safety messages are integrated</li> <li>▪ Transport Canada to develop material/publications relating to Intersection safety</li> <li>▪ Consolidate and share best cross-jurisdictional practices for intersection educational activities</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Intersection safety campaigns have been conducted in many jurisdictions</li> <li>▪ Only in a few jurisdictions have any links to school education for intersection safety been developed</li> <li>▪ There has been little in the way of public education programs or materials developed on intersection safety</li> </ul>

**3) Intersection/Road infrastructure/standards**






<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Jurisdictions to encourage the development of technology that assists in intersection safety management</li> <li>▪ Jurisdictions should support engineering practices geared toward eliminating traffic hazards and more fully informing road users</li> <li>▪ Consolidate and share best cross-jurisdictional best practices for intersection related infrastructure/standards</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Some jurisdictions have introduced engineering changes to high collision locations and have formal processes in place to identify them on an annual basis</li> <li>▪ There has been some introduction of Roundabouts in many jurisdictions</li> </ul>




**4) Enforcement – Objectives**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Jurisdictions should develop standards and protocols for the use of technology for enforcement (i.e. red light cameras)</li> <li>▪ A task force should be formed to review research and practices within jurisdictions that have determined optimal levels of enforcement</li> <li>▪ Share research on optimal levels of enforcement with law enforcement stakeholders</li> <li>▪ Enforcement plans to emphasize high risk locations</li> <li>▪ Initiate STEP campaigns together with enforcement stakeholders</li> <li>▪ Consolidate and share best cross-jurisdictional practices for intersection related enforcement activities</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Some STEP campaigns have been undertaken, particularly focused on Intersection safety (driver behaviour)</li> <li>▪ There is still limited use of red light/Intersection Safety Cameras</li> <li>▪ Some provinces/territories have developed policies and guidelines for the use of enforcement technology</li> </ul>

## 10.4 STATUS OF PROGRAM

The following table summarizes the status of the program with respect to the previously defined phases of development, with further discussion provided below:

Item	Problem definition	Program development	Program implementation	Program sustainability	Evaluation
Overall target					

Legend:  - No progress  - about 50% developed  - Fully developed

### 1) **Problem definition – is the issue well defined?**

It would appear so.

### 2) **Program development – have we developed results focused interventions?**

The range of interventions is extensive in total across Canada, but only some initiatives appear to have been picked up in most jurisdictions as can be seen in the summary of program elements above.

Intersection safety improvements require extensive engineering activity including roundabout construction, traffic signal installation and upgrade, realignment of approaches (rural areas), improvement of signage and pavement markings and skid resistant surfacing.

These measures can be supplemented by safer vehicles (with head protecting side curtain air bags being introduced to the fleet) and by introduction of lower speed limits on approaches to intersections, especially in urban areas, which are stringently enforced by combined speed/red light cameras installed at intersections.

It is necessary to not only deter drivers from deliberately speeding through intersections and running red lights, but also to reduce the likelihood that running a red light in error will lead to death. This latter category of risk is difficult to address without using a safe system multi-sectoral approach.

### 3) **Program implementation – are there appropriate implementation arrangements?**

There is a requirement for a closer relationship between enforcement and road engineering and planning and publicity. There is a need for greater involvement of road infrastructure community in improvements to intersection safety.

### 4) **Program sustainability – is the program at such a stage that it is “on maintenance”?**

Not yet.

### 5) **Evaluation – has there been any formal program evaluation?**

Not at this time. There have, however, been some evaluations of Red Light Camera programs.

## 10.5 EXAMPLES OF INTERNATIONAL GOOD PRACTICE

### **GOOD PRACTICE: “EUROPEAN STRATEGIES FOR IMPROVING SIGNALIZED INTERSECTION SAFETY”**

#### **Germany**

To help address safety problems at high-speed intersections, the Germans place traffic signals at intersections with approach speed limits only less than 70 km/hr. On facilities with higher speed limits, either the crossings are grade-separated or the speed limit is lowered in advance of the intersections. Lowering the speed limit requires effective enforcement, and in many cases photo enforcement techniques have been used to successfully control approach speeds.

#### **Netherlands**

On roadways with speeds greater than 50 km/h, the Dutch use variable message signs to warn drivers if they are speeding as they approach an intersection. In addition, speed tables are often located just beyond the stop bar, as additional encouragement to reduce speeds. These speed tables are not used in areas with bus or heavy-truck traffic, but they are designed for passenger cars to be able to travel over them comfortably at low speeds.

Traffic signals in the Netherlands are set to dwell in the all-red mode when traffic is not present at an intersection. This practice has been shown to slow vehicles that are approaching intersections at high speed and is consistent with the overall safety practice and philosophy of reducing speed in potential conflict areas.

#### **USA Study Tour**

The Federal Highways Administration and the American Association of State Highway and Transportation Officials conducted a scanning tour of several European countries in 2002. The purpose of the tour was to gather information about innovative practices for improving intersection safety and to evaluate the applicability of these practices for use in the United States. This material is from “Signalized Intersections : Appendix 4, US FHWA and AASHTO Scanning tour , 2002

### **GOOD PRACTICE: SINGLE LANE ROUNDABOUTS**

Roundabouts are a common intersection type in Europe, and the scanning tour team recommended they be considered as alternatives to signalized intersections as a way to reduce the severity of crashes.

#### **Sweden**

Sweden has replaced some conventional signalized intersections with roundabouts in locations where accident severity is high. It is recognized that the overall accident rates may increase and sight distance be degraded, but the accident severity will decrease. Roundabouts often have a negative impact on the system because it is difficult to manage traffic systematically with roundabouts. Replacing signals with roundabouts seems to be motivated by political and police pressure.

In some cases, traffic signals have been installed at roundabouts. Signalizing roundabouts is not a preferred approach and is done on a very limited basis to improve pedestrian and bicyclist safety.

#### **Germany**

Germany uses roundabouts as an alternative to signalized intersections to reduce overall delay when approach volumes are balanced among all approaches. Single-lane roundabouts are preferred over multilane approaches and configurations, which are strongly discouraged. Mini-roundabouts are used in low-speed urban locations. The inner radius is 13 to 25 meters, and there is one lane, 4 to 4.5 meters wide. A raised island with a 4-meter radius is used. This intersection type has been shown to experience 60 percent less accidents than signalized intersections.

Roundabouts are typically not signalized in Germany. Signalizing roundabouts is considered a last resort and is used only in special circumstances to improve traffic flow, accommodate special pedestrian conditions, accommodate a trolley system, etc.

#### **Netherlands**

Only when there are no other options for addressing severe crashes at signalized intersections will the Dutch consider converting the intersection to a roundabout. Both single-lane and dual-lane roundabouts have been successfully implemented. Studies have shown a 60 percent increase in intersection safety performance. Roundabouts limit the ability to control traffic flow and maintain platoons in a network. Typically, upstream and downstream signals are used to control/meter traffic flow and improve the efficiency of the roundabout and the overall traffic network. Pedestrian and bicycle safety issues at roundabouts have been addressed by providing clearly delineated bicycle and pedestrian crossings.

#### **United Kingdom**

The U.K. uses roundabouts extensively. Roundabouts with high volumes are frequently signalized. To address capacity issues, the U.K. uses several modified roundabout designs that provide for one or both through movements to travel through the middle of the roundabout. These modified designs have not yet been shown to impact safety.

**GOOD PRACTICE: COMBINED SPEED AND REDLIGHT CAMERAS IN VICTORIA, AUSTRALIA**

Victoria has introduced new safety cameras that will pick up motorists who speed or run red lights or both. The 'red light, speed cameras' were progressively rolled out from the end of 2003 across Victoria. The intersections chosen have been selected due to the high incidence of crashes causing serious injury and death.

Penalty Disobey Red Traffic Control Light - \$215 and 3 demerit points

**GOOD PRACTICE: RED LIGHT CAMERA EFFECTIVENESS IN THE USA**

Many drivers routinely run red lights, placing themselves and other road users at risk for crashes and serious injuries. Two principal methods used to reduce red light running involve lengthening the duration of yellow change intervals and automated red light enforcement. The present study evaluated the incremental effects on red light running of first lengthening yellow signal timing, followed by the introduction of red light cameras.

Results showed that yellow timing changes reduce red light violations by 36%. The addition of red light camera enforcement further reduced red light violations by 96% beyond levels achieved by the longer yellow timing. This study shows that the provision of adequate yellow signal timing reduce red light running, but longer yellow timing alone does not eliminate the need for better enforcement, which can be provided effectively by red light cameras

Source: Reduced Red Light Running Through Longer Yellow Signal Timing And Red Light Camera Enforcement: Results Of A Field Investigation

Retting, R.A., Ferguson, S.A., Farmer, C.M., IIHS, January 2007

## 10.6 AREAS WHERE GREATER EFFORT IS REQUIRED

- Increased speed and red light running enforcement
- New (and improved) warning of approaching intersections on rural roads
- Identifying and prioritizing high crash locations and treating these. For example, older drivers tend to be vulnerable in their gap selection decision- making when entering or leaving the traffic stream. Dedicated left-turn signal phases can assist
- Install roundabouts wherever appropriate and upgrading of traffic signals
- Greater liaison between CCMTA Task Forces and TAC Standing Committees.

## 10.7 RECOMMENDATIONS

1. Substantial expansion of **automated cameras** for enforcement of red light running and speed compliance at intersections.
2. Expand **electronic signage** and use of dynamic warning signs - detecting and warning of upcoming intersections on rural roads.
3. Jurisdictions to establish formal processes for identifying and prioritizing **high crash locations** and treating these with a range of engineering measures and speed limit reviews on the approaches.
4. Conversion of signalized intersections to **roundabouts** wherever appropriate and upgrading and installation of traffic signals at intersections.
5. Installation of more **left-turn only** lanes and signal phases.
6. Establish **greater liaison** between CCMTA's Speed and Intersection Management Task Force (SISM) and TAC's Road Safety Standing Committee (RSSC), Traffic Operations and Management Committee (TOMSC) and Geometric Design Standing Committee (GDSC) to apply safe system thinking to the issue, including engineering solutions, surface treatments, innovative raised treatments, safety cameras, safer vehicle feature promotion (and purchase by governments for their fleets) and conduct of supporting publicity.
7. Continue to seek **innovative solutions** from international experience, utilizing for example, some of the European thinking outlined in the US FHWA scan team tour report above.

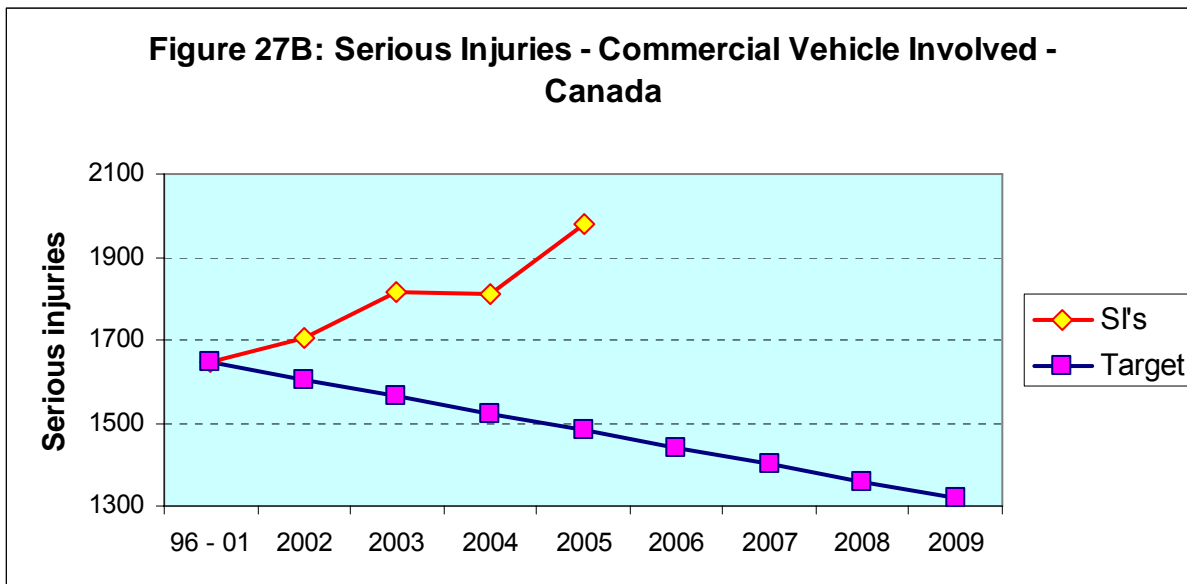
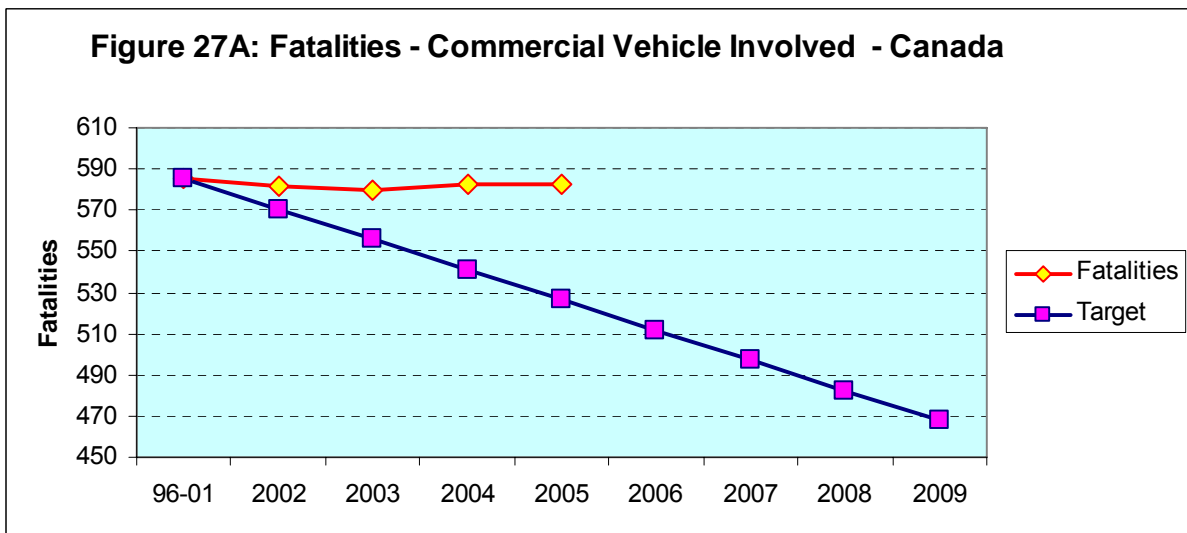
## 11 COMMERCIAL VEHICLE COLLISIONS

### 11.1 SUB-TARGET

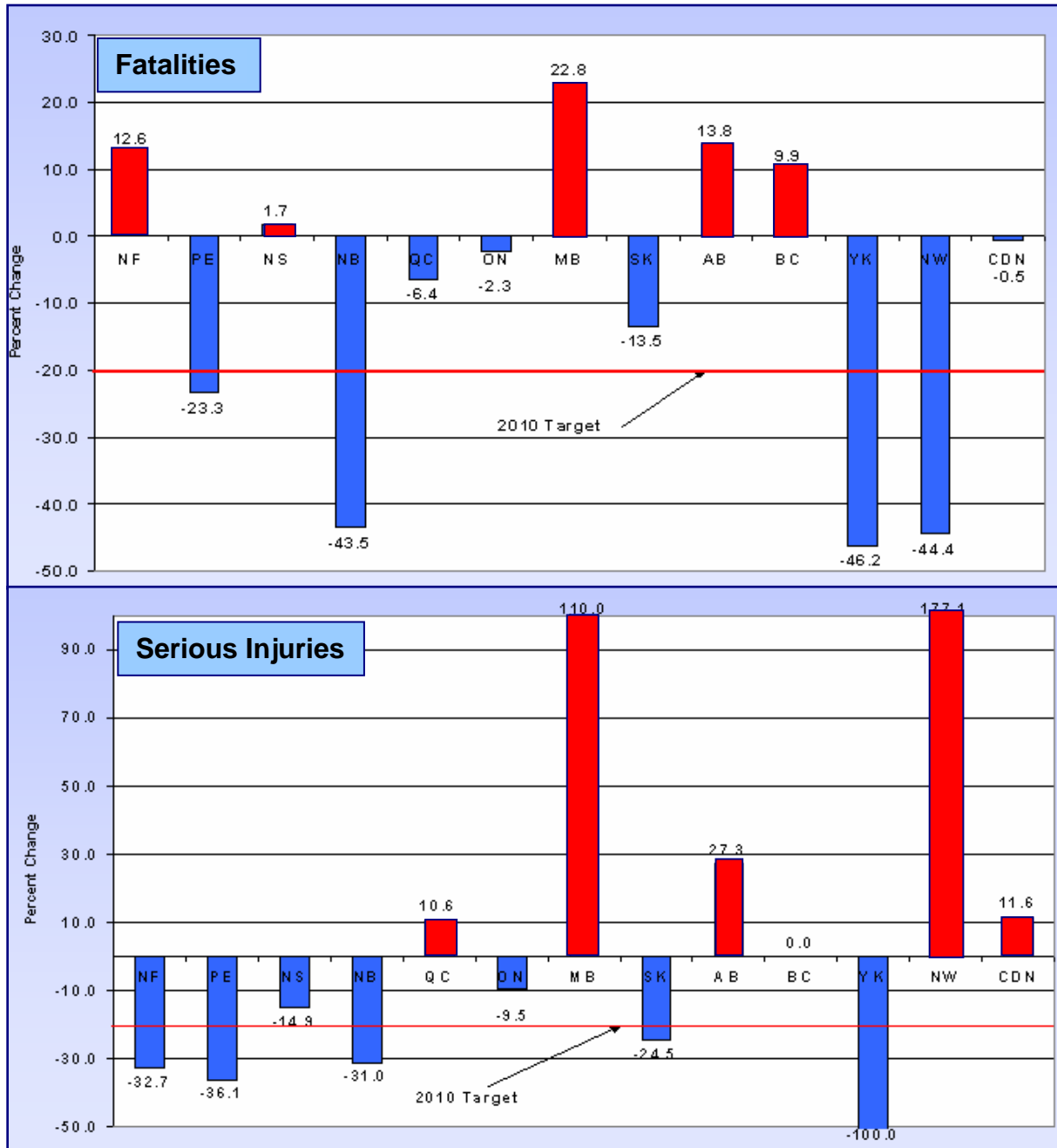
The RSV 2010 target is to achieve a **20% decrease** in the number of road users killed or seriously injured in crashes involving commercial vehicles.

### 11.2 ACTUAL PERFORMANCE AND REQUIRED PROGRESS – COMMERCIAL VEHICLE FATALITIES AND SERIOUS INJURIES

Figures 27A and 27B present the commercial vehicle fatality and serious injury statistics respectively, with the progress of the individual provinces / territories shown in Figure 27C.



**Figure 27C: Commercial Vehicle Sub-target (-20%)  
2003-2005 Ave. vs. 1996-2001 Baseline (Source: Transport Canada)**



There has been a large increase in serious injuries for this category of crash in 2005. The trend in serious injuries in particular and in fatalities is concerning. Although there is substantial growth in the freight task, more effective interventions are clearly required to arrest the increase in serious injury crashes let alone meet the RSV 2010 target.

### 11.3 COMMERCIAL VEHICLE SAFETY PROGRAM ELEMENTS

The objectives and activities relating to each program element are summarized in the following tables.

#### 1) *National Safety Rating System*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>To ensure that all jurisdictions fully implement the requirements of the National Safety Rating System</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>The new federal regulations came into effect January 2007</li> </ul>

#### 2) *Hours of Service Regime*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>To ensure that all jurisdictions enforce the new Federal Commercial Vehicle Drivers Hours of Service Regulations</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>Not all jurisdictions have adopted their regulations in harmony with Federal Regulations</li> </ul>

#### 3) *Load Securement*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>To ensure that all jurisdictions enforce the cargo securement regulations</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>Seems to be reasonable compliance, although Nova Scotia and Quebec do not appear to be in compliance</li> </ul>

#### 4) *NSC Threshold*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>To ensure that all jurisdictions enforce the National Safety Code threshold</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>Seems to be reasonable compliance in major provinces, except for BC and Ontario</li> </ul>

#### 5) *Trip Inspection*

<b>Objectives</b>	<ul style="list-style-type: none"> <li>To ensure that all jurisdictions have legislation that requires pre and post trip inspections</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>Regulations have or are being adopted in most jurisdictions, although BC, Manitoba and Newfoundland appear to not yet be compliant</li> </ul>

**6) Education and awareness**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Educate and train commercial vehicle drivers and enforcement personnel</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Some provinces/territories have introduced driver awareness programs raising the importance of staying “out of the blind spot” and “Share the Road”</li> <li>▪ Some programs have been directed at drivers and their responsibility</li> <li>▪ New federal Commercial Vehicle Driver’s Hours of Service Regulations were introduced in January 2007. Provincial jurisdictions are responsible for promoting this. A brochure is currently being prepared to inform drivers about the new regulations.</li> <li>▪ Some provinces/territories have established partnership programs with industry to develop curriculum programs</li> </ul>

**7) Enforcement**






<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ To continue to enforce federal and provincial regulations, ensuring that carriers and industry are demonstrating responsible and safe operations</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Most enforcement programs continue to be focused on the vehicle, such as commercial vehicle enforcement programs and CVSA inspections, rather than on the driver and moving violations</li> <li>▪ Nationally coordinated enforcement blitzes (road checks) continue to take place, but these are primarily focused on the condition of the vehicle, rather than driver condition or behaviour</li> <li>▪ There do also appear to be some jurisdictions that either have not conducted (or reported) enforcement activities. Jurisdictions are all supposed to provide Transport Canada with a report on enforcement activity or they will not receive funding from Transport Canada</li> </ul>

**8) Legislation/Regulation**

<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ To ensure that provincial/territorial regulations support any federal regulations</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Most jurisdictions seem to have adopted regulations that support federal legislation although problems seem to exist between federal regulations and provincial/territorial regulations</li> </ul>

## 11.4 STATUS OF PROGRAM

The following table summarizes the status of the program with respect to the previously defined phases of development, with further discussion provided below:

Item	Problem definition	Program development	Program implementation	Program sustainability	Evaluation
Overall target					

Legend:  - No progress     - about 50% developed     - Fully developed

### 1) **Problem definition – is the issue well defined?**

There seems to be a clear understanding of the problems associated with commercial vehicle related collisions, yet most of the activity continues to revolve around the safety of the vehicle, with the exception of Hours of Service and Safety Ratings that involve the driver.

### 2) **Program development – have we developed results focused interventions?**

There seems to have been a lot of discussion about the quality of commercial driver training and licensing yet little has been achieved in establishing a standardized commercial driver apprenticeship program. There has been little activity in developing speed and fatigue management programs for commercial vehicle operators.

### 3) **Program implementation – are there appropriate implementation arrangements?**

There is still a need for greater collaboration between jurisdictions to share information about drivers.

### 4) **Program sustainability – is the program at such a stage that it is “on maintenance”?**

Not yet.

### 5) **Evaluation – has there been any formal program evaluation?**

No, not at this stage.

## 11.5 EXAMPLES OF INTERNATIONAL GOOD PRACTICE

The major risks usually associated with commercial vehicle crash involvement include fatigue, drug taking prevent fatigue and speeding.

### **GOOD PRACTICE: COMMERCIAL VEHICLE SAFETY - VICTORIA, AUSTRALIA**

#### **Reduced Fatigue Crashes.**

Sleep disorders have been identified as a major factor in increasing the risk of a fatigue related crash. Many people are unaware of the effects these disorders can have on their ability to drive safely. Programs will be developed to identify and treat groups in the community who are at high risk of sleep disorders.

An effective short-term measure for drivers who feel sleepy while driving is a power nap - which is a short nap of a minimum of 10 minutes duration. Public education campaigns will be developed promoting the benefits of getting adequate sleep and the benefits of a power nap.

#### **Drugs and Commercial vehicle drivers**

The negative result ratio for drug testing of commercial vehicle drivers in Victoria is currently 1 in 69 drivers tested by Police

### **GOOD PRACTICE: COMMERCIAL VEHICLE SAFETY – EUROPEAN UNION**

#### **Speed limiters**

In November 2002 the European Parliament and the Council adopted legislation on the installation and the use of speed limitation devices for all vehicles over 3.5 tonnes and for all vehicles carrying eight or more passengers.

#### **Drinking and driving**

In a trial running from 1999 to 2002 in Sweden, 300 alcolocks were installed in commercial passenger and goods transport. Manufacturers such as Volvo and Toyota have also started offering systematically the installation of alcohol interlocks in trucks as a dealer option.

#### **Blind spot mirrors**

The European Commission has estimated that the benefits of retrofitting lateral blind spot mirrors to existing goods vehicles over 3.5 tonnes are approximately four times higher than the costs.

## 11.6 AREAS WHERE GREATER EFFORT IS REQUIRED

- CCMTA Standing Committee on Compliance and Regulatory Affairs (CRA) needs to accept accountability for attaining the 20% reduction sub-target
- Training and education of new commercial vehicle drivers including apprenticeship programs for professional drivers
- Programs need to be developed and implemented alerting the public to issues around sharing the road system with heavy vehicles
- Greater collaboration between enforcement and education
- Addressing the issues of speeding and fatigue through improved enforcement and the use of in-vehicle technology
- Increased use of Intelligent Vehicle strategies, including maximum speed management, fatigue monitoring and alerting equipment and lane tracking technologies
- Designation of commercial vehicle routes, particularly in urban environments to minimize the risk of collisions between heavy vehicles and vulnerable road users
- Establish drug testing protocols.

## 11.7 RECOMMENDATIONS

1. **National training standards** should be developed to train and educate new commercial vehicle drivers.
2. Provinces should develop **apprenticeship programs** for professional drivers.
3. A national “**Share the Road**” strategy should be developed and implemented;
4. Collaboration between **enforcement and education** of heavy vehicle drivers should be enhanced.
5. Voluntary company **safety policy** development and **quality assurance** for their fleets, drivers and other employees should be sought.
6. Speeding and fatigue should receive special attention through the use of **in-vehicle technology** such as black box devices, event data recorders and speed adapters, which is currently being studied by CCMTA.
7. Expanded use of **Intelligent Vehicle strategies** for speed and fatigue monitoring and alerting purposes should be considered.
8. **Commercial vehicle routes** should be carefully selected and designated, particularly in urban environments, to minimize the risk of collisions between heavy vehicles and vulnerable road users.
9. Random **roadside saliva testing** for drugs (methamphetamine) should be introduced to address illegal use.

## 12 HIGH RISK DRIVERS

Motorists who exhibit the most dangerous behaviours, often in combination, are deemed high-risk drivers. They include those who drink and drive, do not wear seat belts, drive at unsafe speeds or run red lights or stop signs.

The Road Safety Vision 2010 sub-target for high-risk drivers originally called for a 20% reduction in the number of road users fatally or seriously injured in crashes involving this group. The CCMTA's High-Risk Driving Task Force developed a uniform definition of high-risk drivers, so that all jurisdictions could more easily identify these individuals in their databases. They were defined as drivers that had been involved in three or more distinct events (a traffic violation, a first impaired driving Criminal Code conviction, or a collision) within a two-year period; or drivers convicted of a first offence for refusal to provide a breath sample or having two or more Criminal Code convictions within a 5-year period (including driving while prohibited or disqualified). However, most jurisdictions were unable to identify high-risk drivers under their existing information systems using this definition. Consequently, the new sub-target pertaining to this target group is that all jurisdictions' driver/collision information systems be capable of identifying high-risk drivers by 2010.

### 12.1 PROGRESS REPORT

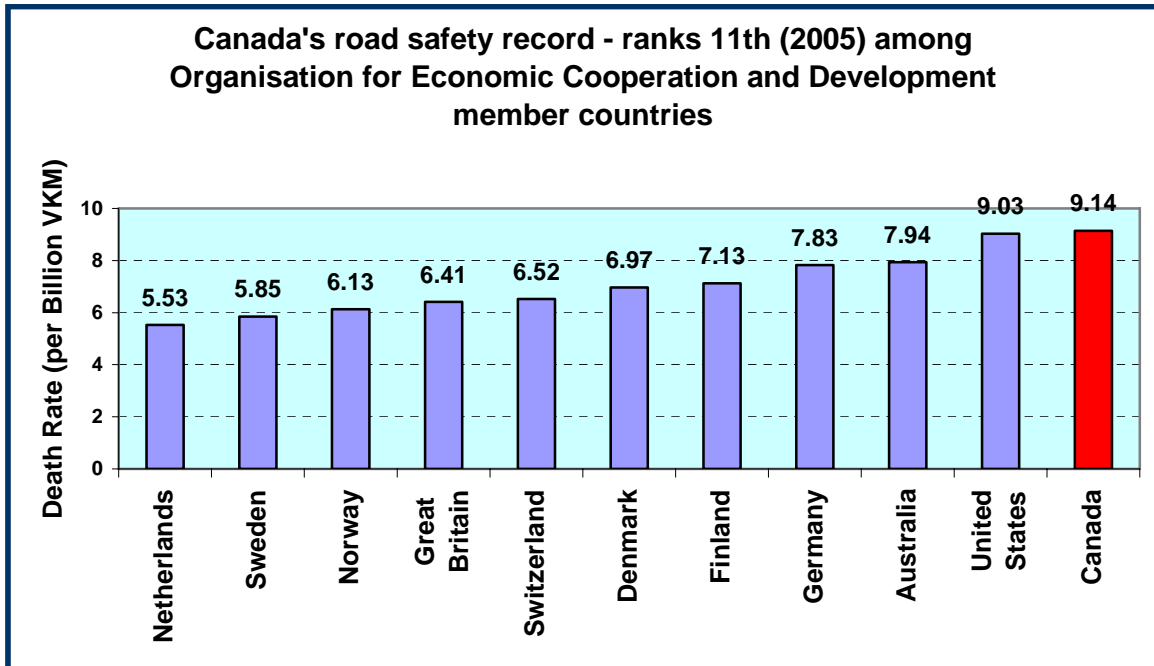
CCMTA's Standing Committee on Road Safety Research and Policies reported in their December 2005 report to the Board of Directors that:

- British Columbia, Ontario, the Northwest Territories, Prince Edward Island, Newfoundland and Labrador and Quebec are the jurisdictions that had identified their High Risk Drivers population between 2001 and 2004
- Alberta is working on systems modifications to obtain these data in the near future
- Manitoba, Yukon, Saskatchewan, Nova Scotia, New Brunswick and Nunavut are not currently able to identify their High Risk Driver population, nor will they be able to do so in the near future.

## 13 CONCLUSIONS AND RECOMMENDATIONS

### 13.1 INTERNATIONAL COMPARISONS

The road safety comparisons among Organization for Economic Development and Cooperation (OECD) member countries in the following chart are based on deaths per billion kilometres travelled.



**Figure 28: Fatalities Per Billion Vehicle Kilometres Travelled – Selected OECD Member Countries, 2005**

In 2000, Canada's road safety performance was superior to that of Australia, Norway, Switzerland and Germany, on a fatalities per distance of travel basis. By 2004 Canada's performance was poorer than these countries and deteriorated even more in 2005.

### 13.2 CONCLUSIONS

Progress at the end of 2005 towards the RSV 2010 fatality and serious injury targets is disappointing. While some sub-target areas have responded to the rollout of effective interventions, and the serious injury levels continue to fall, (although at less than half the desired rate), fatalities have rebounded to levels last experienced in 2002. It is important to remember that some provinces/ territories are in fact meeting the required reduction in fatalities and serious injuries. But the overall position is unacceptable in terms of meeting the adopted national target.

### **13.2.1 Institutionalisation**

Most of the emphasis in the RSV 2010 program is on achieving results (the target) and implementing the series of interventions that jurisdictions were encouraged to adopt. There is little in the area of improved road safety institutional, management and coordination arrangements (implementation arrangements) proposed in the RSV 2010 Actions.

While there has been a considerable level of research into interventions over the years, little research has been carried out into the implementation/ management/ framework area. In recent years, the awareness of the importance of this framework – how we organize ourselves to tackle road safety effectively - has developed and a number of papers have begun to seriously address it.

The current World Bank Transport Note – TRN-1 emphasizes the importance of implementation/management/coordination activity as underpinning the attainment of effective road safety outcomes, together with the need for an approach targeting results outcomes and utilizing a series of worthwhile and effective interventions.

Canadian provinces/territories - to varying degrees - have embraced the results outcomes and interventions but the implementation approaches (i.e., the institutional frameworks and management and coordination arrangements) in most provinces/territories are, not of good practice standard. Much could be done at the provincial/territorial level to improve road safety management capacity. At the national level, the fragmentation of practitioner groupings between behavioural, enforcement and infrastructure/speed limit issues in particular, limits development of comprehensive responses to road trauma and does not provide an optimum model for multi-sectoral management arrangements at provincial/territorial level, limiting identification of integrated solutions.

It also must be said that interventions are not proving as effective as planned or are not being adequately delivered for some sub-target areas. This is especially the case for speed, drinking and driving, commercial vehicle, and vulnerable road users. New policy initiatives and improved delivery mechanisms are required.

Road safety policy is constantly evolving. Cross-government and cross-sector partnerships are essential to maximize advantage from potential synergies and to minimize potential conflicts. A more effective institutional and management framework is required, including:

- Lead agency designation
- Good coordination and management arrangements
- Clear individual agency accountabilities
- Development of effective strategies with targets modelled on a range of estimated outcomes of specific proposed interventions
- The use of a range of promotion and legislative support mechanisms
- Adequate funding.

With such an approach, we would expect the development and implementation of fresh, innovative and challenging interventions, approved by government together with focused enforcement measures would result in positive progress being achieved over the next 5-10 years.

But this is not a trivial task and new approaches are called for.

### **13.2.2 A Safe System Approach**

There would be substantial benefit in adopting a Safe System approach to road safety, to bring about an improved intervention focus, but also to encourage the closer working arrangements that this approach would require. A good example is enforcement. This cannot just be left to police to do their best. Strong partnerships require all agencies to agree to the inputs necessary, the intermediate outcomes to be achieved (such as percentage of fatally injured drivers who had been drinking, free speeds, seat belt wearing rates and so on) and the final road trauma reductions to be achieved. A demonstrated partnership approach to governments would not only recognize the primary police role but, for example, support them fully in advocacy (within and outside government). The combined production of public information materials and involvement in media appearances to support their enforcement efforts (well prior to, and during implementation) are important examples of activities required from a genuine partnership. This is starting to happen within the Road Safety Vision Communications task force. Without this support, change is much less likely to be successfully introduced.

Most of all however, Canadian jurisdictions need to adjust their way of addressing road safety by building effective institutional and management arrangements that should include.

- Establishing a lead agency in each jurisdiction
- Working across government - vertically (i.e. levels of government) and horizontally (departments/ agencies within a level of government) - in a coordinated way, and not as separate groups in behavioural, enforcement, infrastructure and vehicle safety activities who communicate infrequently
- Obtaining and analyzing road crash data from police in a more timely manner
- Working collaboratively to continuously analyze, understand and then address the crash problems
- Constantly reviewing the adequacy and enforceability (for police) of legislation
- Seeking government support for tougher and more extensive police enforcement
- Pursuing improved funding and resource allocation
- Monitoring and evaluating activities and having a day to day results focus at the provincial/territorial level – always looking to reduce road trauma.

Working together offers the promise of substantial benefits and provides a stronger basis for approaches to government to support programs.

### **13.2.3 Role for CCMTA**

A major priority and challenge for CCMTA is to reassess its road safety activity in the immediate future. It will require an expansion of the various committees to infrastructure, speed limit setting, vehicle safety, justice, health community, and enforcement specialists as an essential means to obtain a broader perspective not only of the intervention related issues, but also the management capacity issues. Additionally the challenge will be to support the jurisdictions in addressing these matters, provide guidance about highly effective, focused interventions and to work together in a multi-sectoral way to obtain support within the provinces/territories and at federal level, for their implementation and delivery.

The role of CCMTA standing committees in providing professional and policy development and strengthening leadership nationally is vital while the critical work of the introduction of change and the detailed development, advocacy and negotiation of those changes will continue to occur at the provincial/territorial level.

### **13.2.4 Role for provinces/territories**

At the provincial/territory level, there is a requirement to become more effective advocates within government - seeking to convince senior executive management in the first instance about the merits of your case, to gain their commitment to improved outcomes and then to engage the political level through them.

### **13.2.5 Data reporting**

The use of data-led approaches is vital in developing and implementing effective road safety programs. Therefore, the importance of timely, accurate and consistent data collection cannot be overstated. There is much that can be done.

While the federal, provincial/territorial and municipal governments play a key role in delivering Road Safety Vision 2010, there is a need for stronger and broader partnerships.

In a developed country such as Canada, with a highly educated population, which is concerned about road safety, there is a need to inform the community of the actual risks they face on the road network, based on objective data, as a means of gaining their support over time for some tough measures and for improved funding in order to lessen road trauma. It is contended that the Canadian public should be given more information about road safety risks and available solutions. This leadership is unlikely to come from the political level alone, but it can certainly be enhanced from a public that demands road safety be seen as a higher priority.

### **13.2.6 The next generation of Canada's Road Safety Vision**

Finally, while it is unlikely that the established targets in RSV 2010 will be met, it is encouraging that in the past couple of years, some jurisdictions have in fact begun to develop a more strategic and collaborative approach to managing road safety. Together with the increased public awareness of road safety issues we are hopeful that in the latter part of the RSV 2010 (i.e., 2007-2010) greater progress will be made towards the targets.

Planning for the next version of Canada's Road Safety Plan should commence within this time frame looking towards greater progress in the next 5-10 years and should have a more robust target setting mechanism, set out to comprehensively address the management implementation issues and of course, set and achieve the targets through the roll out of challenging interventions.

## **13.3 RECOMMENDED PRIORITY ACTIONS - SUMMARY**

Tables 5 and 6 summarize respectively the identified priority areas for effort in the short term (immediately) and the medium term (1 to 2 years). These are categorized by the elements of the implementation, intervention and results framework recommended as the basis of assessment of road safety activity in this report, and includes the suggested organization/s (federal or provincial/ territorial government or CCMTA) responsible for each action.

In the full report, recommendations (actions) are identified in detail following each of the individual chapters, responding to current performance against the overall Canadian targets and the individual Canadian sub-targets.

To facilitate prioritization of effort by CCMTA and jurisdictions and the marketing of proposals to governments by practitioners, a more focused summary of recommended priority actions is presented in the Executive Summary, drawing upon those included in more detail throughout the report.

**Table 5: Short term (immediate) priority areas of effort**

Focus Area	Provincial / Territorial Governments	Federal Government	CCMTA	Transport Canada
<b>IMPLEMENTATION</b>				
<b>1. Results Focus</b>	Action plans to address RSV 2010 expectation		Influencing jurisdictions to implement specific changes to management arrangements and interventions	Action plans to address RSV 2010 expectation
<b>2. Co-ordination</b>	Road safety coordination & management and lead agency Accountability of agencies Reporting performance to government & public Involve local governments		Integrated efforts with TAC, justice and police practitioners & others Reporting performance to government Involve local governments	Support for CCMTA and provinces Reporting performance to government & public
<b>3. Legislation</b>	Sanctions for lower level drinking and driving offences, particularly repeat lower level offenders Scope of interlock provisions	Effectiveness of criminal code drinking and driving provisions and integration with provincial admin. provisions Encourage lower strength alcohol consumption through tax differentials	Strengthen STRID 2005 provisions Adoption by provinces	
<b>4. Funding and Resource Allocation</b>	Adequate enforcement resources Adequate funding	Adequate federal funding including support to provinces/territories	Assistance to provinces/territories in developing business case for funding Combined efforts with TAC to achieve funding for targeted infrastructure program	Business case development/ submission to federal govt. for increased program funding
<b>5. Advocacy &amp; Promotion</b>	Advising public of road safety performance & risks, including low level speeding & impaired driving Need to change community acceptance of existing risks	Advising public of road safety performance & risks, including low level speeding & impaired driving	Influencing governments to lead public debate on problem issues, including speeding	Public awareness of vehicle safety opportunities Influencing governments to lead public debate on problem issues Support for expanded interlock application
<b>6. Monitoring and Evaluation</b>	Data currency and analysis			Data currency and analysis
<b>7. Research and Knowledge Transfer</b>	Awareness of international good practice Funds for priority research	Funds for priority research	Identify national research needs	Guide national research program

Table 5 Continued

Focus Area	Provincial / Territorial Governments	Federal Government	CCMTA	Transport Canada
<b>INTERVENTIONS (with sub-target areas)</b>				
<b>1. Design / operation of Network</b>	Protection of vulnerable road users Network wide risk assessment	Encouragement of network wide risk assessment by all jurisdictions and TC	VRU strategic issues identification Review of risks and speed limits in pedestrian areas	Advocacy for network wide risk assessment across Canada
<b>2. Entry and exit conditions for users and vehicles</b>	GDL measures Promotion of international NCAP results for vehicles sold into the Canadian market Promotion of key vehicle safety features Govt. fleet safety features leadership	Promotion of international NCAP results for vehicles sold into the Canadian market Promotion of key vehicle safety features Govt. fleet safety features leadership	GDL measures	Promotion of international NCAP results for vehicles sold into the Canadian market Promotion of key vehicle safety features in association with insurance industry Govt. fleet safety features leadership
<b>3. Compliance with safety standards / rules</b>	Speed, impaired driving, VRU's & commercial vehicle involved risks		Support for provinces/territories	Support for provinces/territories
<b>4. Speed (see also 1 and Implementation – Legislation)</b>	Enforcement - extent and "tolerance" levels Review of free speeds			
<b>5. Impaired driving (see also Implementation - Legislation)</b>	Enforcement – extent Strategy/ tactical training for police enforcement Identified drinking and driving venues		Strengthen ongoing STRID strategies and achieve provincial adoption	Contribute to strengthening STRID strategies Influence on provinces/territories
<b>6. Vulnerable Road Users</b>	See also 1. and 4, especially for pedestrians Early M/Cycling safety actions (for BC and AB in particular)		VRU strategic issues identification input for action by provinces/territories	M/Cycle strategies & actions
<b>6. Commercial Vehicles</b>	Driving hours/fatigue Speed - see 4 above Drug deterrence			Establish why trend so poor
<b>RESULTS</b>				
<b>1. Final safety outcomes</b>	Data currency & public advice		Data currency	Data currency & public advice
<b>2. Intermediate safety outcomes</b>	Mean free speeds, network safety quality, vehicle fleet safety quality		Support introduction of intermediate outcome measurement	Vehicle fleet safety quality
<b>3. Safety program outputs</b>	Agency output targets		Support for agency output targets	Agency output targets

**Table 6: Medium term (1-2 years) priority areas of effort**

Focus Area	Provincial / Territorial Governments	Federal Government	CCMTA	Transport Canada
<b>IMPLEMENTATION</b>				
<b>1. Results Focus</b>	Strategy plan and action plans with modelled target outcomes in place for each jurisdiction		Influencing jurisdictions to implement specific changes to management arrangements and interventions	Strategy plan and action plans with modelled target outcomes in place for Canada (i.e. each jurisdiction)
<b>2. Co-ordination</b>	Road safety coordination & management and lead agency Accountability of agencies Reporting performance to government & public Involve local governments		Integrated efforts with TAC, justice and police practitioners & others Reporting performance to government Involve local governments	Support for CCMTA and provinces
<b>3. Legislation</b>	Drugs Strengthen testing regimes for alcohol and drugs	Effectiveness of criminal code drinking and driving provisions and integration with provincial admin. provisions Encourage lower strength alcohol consumption through tax differentials	Identifying safe system opportunities that build upon infrastructure proposals	
<b>4. Funding and Resource Allocation</b>	Adequate enforcement resources Targeted infrastructure safety risk reduction program funding Other program funding	Adequate federal funding including support to provinces/ territories Targeted infrastructure safety risk reduction program funding	Making the case for funding for practitioners in the provinces & territories/TC	Business case development/ submission to federal govt. for increased program funding
<b>5. Advocacy and Promotion</b>	Advising public of road safety performance & risks, including low level speeding & impaired driving	Advising public of road safety performance & risks, including low level speeding & impaired driving Support for expanded interlock application	Influencing governments to lead public debate on problem issues, including speeding	Address speed content in vehicle advertising Limits to top speed of vehicles Voluntary fitting of black box recorders to vehicles with insurance incentives & mandatory use by recidivist speeders
<b>6. Monitoring and Evaluation</b>	Evaluation of key interventions			
<b>7. Research and Knowledge Transfer</b>	Crash factor awareness raising		Identify national research needs	Crash factor awareness raising

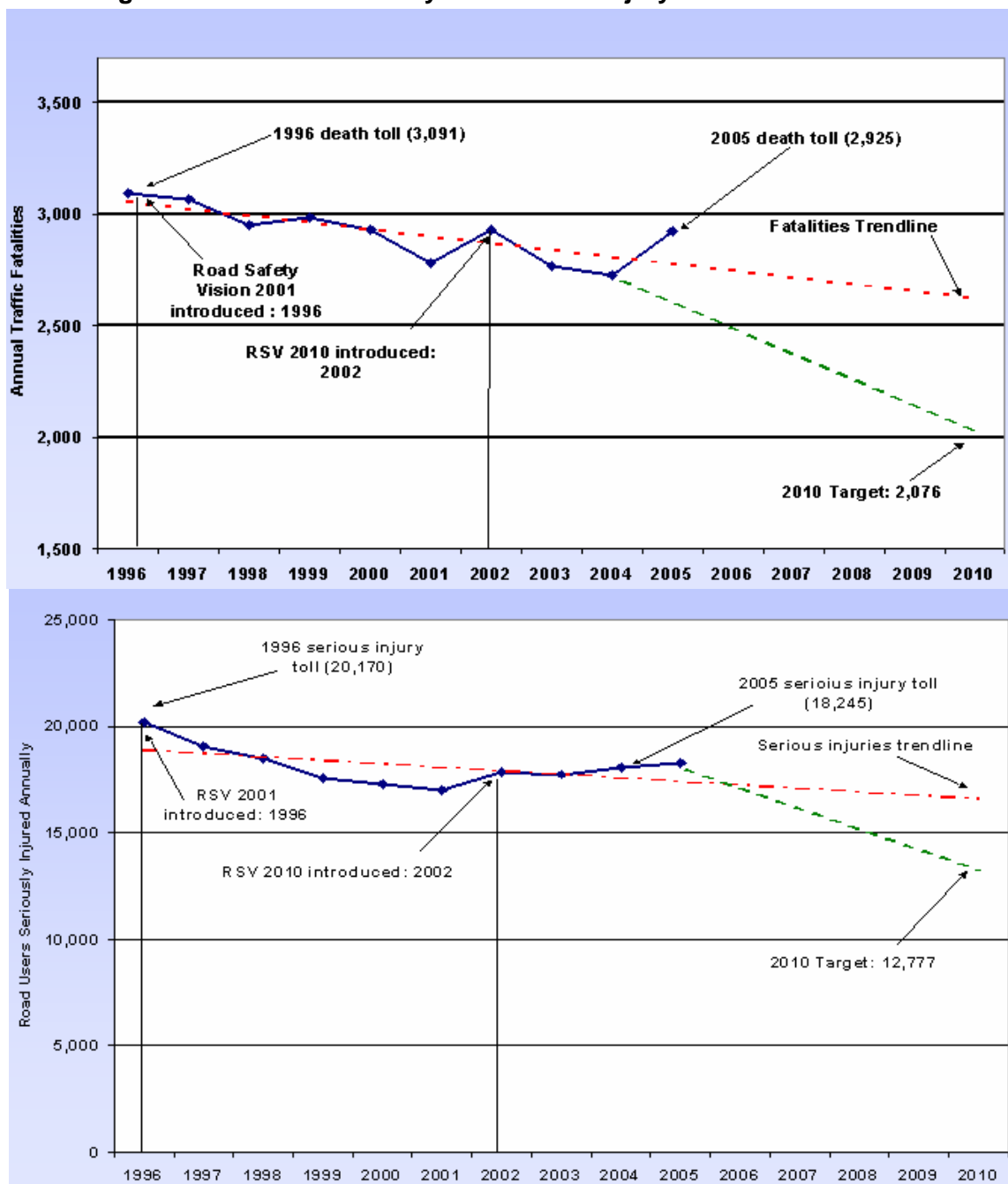
Table 6 Continued

Focus Area	Provincial / Territorial Governments	Federal Government	CCMTA	Transport Canada
<b>INTERVENTIONS (with sub-target areas)</b>				
<b>1. Design / operation of Network</b>	Review of speed limits (See also (3))			
<b>2. Entry and exit conditions for users and vehicles</b>	GDL measures Promotion of international NCAP results for vehicles sold into the Canadian market Promotion of key vehicle safety features Govt. fleet safety features leadership	Promotion of international NCAP results for vehicles sold into the Canadian market Promotion of key vehicle safety features Govt. fleet safety features leadership	GDL measures	Design Rule Standards at international best practice levels Promotion of international NCAP results for vehicles sold into the Canadian market Promotion of key vehicle safety features Govt. fleet safety features leadership
<b>3. Compliance with safety standards / road rules</b>			Support for provinces/territories	Support for provinces/territories
<b>4. Speed (see also 1 and Implementation / Legislation)</b>	Review of speed limits			
<b>5. Impaired driving (See also Implementation - Legislation)</b>	Enforcement - strategies Strategy/ tactical training for Police enforcement Identified drinking and driving venues		Strengthen ongoing STRID strategies and achieve provincial adoption	Contribute to strengthening STRID strategies
<b>6. Vulnerable Road Users</b>	Pedestrian & M/Cycle strategies & actions			M/Cycle strategies & actions
<b>7. Commercial Vehicles</b>	Implementation of national safety code threshold			Adequacy of hours of service regime CRA agreement to support RSV 2010
<b>RESULTS</b>				
<b>1. Intermediate safety outcomes</b>	Monitoring of mean free speeds and network safety quality by local governments			Vehicle fleet safety quality
<b>2. Safety program outputs</b>	Agency output targets			Agency output targets

### 13.4 THE CHALLENGE – MEETING THE TARGET

The trend lines for fatalities and serious injuries (the red broken lines) and the RSV 2010 targets (the green broken lines) are shown in Figure 29. The diversion between these trend and target lines highlight that it is unlikely that the established targets will be met. The challenge we face is to close the gap, where we can, between now and 2010 and begin the planning and development of the next phase, perhaps Road Safety Vision 2020.

**Figure 29: Canada's Fatality and Serious Injury Trend Lines To 2010**





**Appendix A**  
**Road Safety Vision 2010 Workshop**



On 7<sup>th</sup> November 2006 a workshop was held with representatives of the Road Safety Research and Policies, Drivers & Vehicles and Compliance and Regulatory Affairs Standing Committees of CCMTA in addition to a selection of other road safety/injury prevention stakeholders. The purpose of the workshop was:

- To present the progress made to date, including the general findings from the telephone surveys
- To explore the key elements of effective road safety programs, being a focus on results rather than activities, interventions and implementation arrangements
- To present the concept of a “Safe System Approach”
- To provide some suggestions as to where we go from here.

## **BREAKOUT GROUP FINDINGS**

### **Road Safety Management Capacity**

As previously discussed, safety management systems are undeniably complex, but their capacity can be readily reviewed across three best practice dimensions: their focus on results, the safety interventions in place and the overall implementation agreements.

The breakout sessions further explored the elements of these three components which are considered relevant to Canada’s current situation:

#### **Results Focus**

1. **How can we achieve more timely (i.e.: monthly) availability of fatality data to support earlier trend analysis?**

*There seems to be some delay in receiving the data from the police in the first place. This is compounded by the fact that there isn’t a clear agreement on which agency in each province/territory is responsible for managing the data. In some instances there is some delay in the provincial government giving approval to release the data. In reviewing the benefits and costs of collecting timely data it is important to consider the value of the data, what the data could/will be used for and how accurate is it. There did seem to be agreement on the importance of providing timely feedback on the collision trends and issues in order that early action can be taken by agencies particularly the Police. It was also recommended that technology could be better utilized for more efficient data collection but this is a separate issue to making better use of what exists now.*

2. **How can we routinely provide this information to the senior government, politicians/heads of departments/media and ultimately -- the public?**

*We need to convince decision makers of the value of the data which would in turn generate support for the strategy. We need to keep it as simple as possible with a fast turn around time and carry out trend-based analysis to guide early action. In contrast, more detailed data, which is available in a longer timeframe, should be used for research and program evaluation purposes.*

3. **What further data could we readily collect/use to assist the goal of improved performance?**

*The following data would be useful – exposure data, data on convictions/administrative suspensions and charges linked to drivers, data about input effort into enforcement and insurance claims data.*

4. Should we be reviewing hospitalization data from time to time to obtain a clearer understanding of collisions involving vulnerable road users, especially pedestrians, motorcyclists and cyclists?

*We should collect hospitalization data and compare it regularly with Police collected data.*

### **Implementation**

1. How can we educate the public about the burden of injury from traffic collisions and improve road safety awareness in the community?

*We need marketing campaigns that contain personal messages and target specific road user groups and behaviours. We have not spent time identifying priorities. We should stop “sugar-coating” safety messages. We need to target specific user groups with educational messages and enforcement. We need to achieve leadership from the top to enable the breaking down of barriers. There is a need for Provincial/ Territorial advisory committees of key stakeholders to drive efforts and push for improvement in a coordinated manner. We need to develop injury prevention strategies province-wide. A key issue for effective road safety strategies and actions is seeking a balance between vehicle safety measures, compliant user behaviours through enforcement and education and improving the safety of road designs and road and roadside features. Participation in national committees such as CCMTA should be promoted. We need better, more-timely communication about strategy progress and possible successful initiatives in addition to the timely collection and distribution of data. We need to establish funding levels and priorities. We require identification of potential modifications to legislation that would streamline enforcement procedures and improve enforceability. We need a “political” road safety champion who can ensure road safety is placed squarely on the public agenda and is treated as an important public/government priority. The public needs to understand that risky behaviours can affect one’s health and impact health care costs. Just communicating the numbers to the public is not working. We need to provide messages with a more personal meaning. Education and legislation must go hand in hand. We should pursue the issues that will provide the highest return on investment, that also have good public support, such as impaired driving.*

2. How can road safety co-ordination and management between/by the responsible agencies be strengthened?

*We need to foster improved cross Ministry initiatives where actions become the focus of many Ministries and stakeholders working together. Road safety needs to be the focus of a specific group within government to coordinate, not a side issue or a subset of another activity. Provinces and territories act independently. They tend to move to the direction of their own jurisdiction, not necessarily in the direction of the National vision.*

3. How can we address impediments to strengthening our deterrence settings?

*All too often it is a tragedy that brings forward an issue for consideration and provides an opportunity for action. When this does happen we should be ready and have the data, evidence and messages and countermeasures ready to be used. We should educate government leaders based on good data and evidence driven approaches.*

## Interventions

1. What measures can be identified/introduced to reduce drinking and driving related risks/fatalities?

*There was some discussion on the importance on better targeting of drivers (21-24 year olds) and the timing of the interventions with greater emphasis on the summertime, long weekends and holidays. Also the location and time of the enforcement and public awareness (bars-critical). "Operation Red Nose" should be expanded. Need increased visible enforcement (vital). Need better education (like smoking) of the drink/driving pariahs. We need to resolve the challenges under the "Charter of Rights" with respect to random breath-testing. We should review the BAC limit – recommend 50mg. and increase enforcement. We need to seek more effective measures in dealing with repeat offenders. We need to expand Ignition Interlock and Server Liability programs. Short-term roadside suspensions should be increased for alcohol impairment and they should also be used for drug impairments. There should be better marketing and public education programs (victim intervention, liquor vendor supplying information, etc.) Also it is important to understand the demographics of drinking drivers (particularly of concern are males 25-44). Vehicle impoundment and forfeiture as countermeasures (consequences) should be expanded. The medical problems associated with repeat offenders need to be addressed. The seriousness of the problem of impaired driving needs to be recognized by the court system.*

2. What measures can be identified/introduced to reduce speed-related risks/ fatalities?

It is vital that public awareness is raised on the role of speed in fatal and serious injury collisions. The effects of speed and road conditions on vehicle control should be included in driver training and driver experience. A "Vehicle Advertising Code of Practice" might be an effective means of changing attitudes to speed by restricting inappropriate advertising based on power and speed (no zoom-zoom advertising). The role of speed cameras needs to be expanded and this should be linked to strengthening or increasing demerit point penalties/fines.

*There needs to be greater reporting of aggressive driving. We should investigate speed displays such as "In-vehicle speeding warnings", "Keep your distance" displays, "Adaptive Cruise Control" and speeding vehicle activated road signs that display travel speed and warn drivers to slow down. Intelligent speed adaptation should be considered in vehicles of repeat offenders. Auto manufacturers should create slower vehicles or limit speedometers to a maximum of 120kph. We need to convince the public that speeding is a safety risk and an environmental risk. We should use more speed boards and traffic calming devices. Vehicle owners should be encouraged (enticed) into fitting electronic on board data recorders (black boxes). Good driving records should be rewarded through discounts on insurance premiums (this is the case in some Insurance companies).*

*We should encourage corporate responsibility from work related drivers through corporate programs (fleets) including couriers and pizza delivery vehicle drivers in addition to heavy vehicle drivers. It is interesting to note that fear of "zero-tolerance" under photo radar is in the mind of the driver.*

3. What can we do to introduce and promote discussion about 'safe system' thinking among Canadian road safety agencies?

*The current focus tends to remain on the driver and the vehicle. We do need to expand and include the important role of safer infrastructure. We need holistic involvement and responsibility. We need, and would benefit from having a figurehead – or a media champion. We need a strong marketing plan. We should hold focus groups to find out what type of information is more likely to impact the public opinion. There is a need for multi-sectoral centres of activity working together, not just government departments and agencies. We need to use highway funding to push for required safety performance. There needs to be a clearer understanding of benefit/cost analysis for countermeasures/interventions. It needs to be recognized and acknowledged that the problem is multi-dimensional and the solutions are multi-dimensional (highways, health, urban planners, DMVs). Industry/stakeholder involvement is essential.*

**Where do we go from here?**

In the first session we discussed the importance of having interventions that are focused on results, rather than activities; we reviewed the importance of good practice interventions and the quality of implementation arrangements. Building on that discussion we now would like to take a look at some processes and “organizational capacities” that are vital to support the implementation of road safety improvements. These are:

- Leadership
- Partnerships/Linkages
- Agency support

**Leadership**

4. Who should be the lead agency in government to guide the national road safety effort? Can we identify a road safety champion? Is there political will for the national road safety plan?

*Transport Canada? Department of Road or Public Safety (each jurisdiction with a parallel agency)? Perhaps a new non-governmental coordinating body is required which includes federal, jurisdictional, stakeholders, etc. Could this be CCMTA? We definitely need a champion a “Czar of Road Safety”. This person needs celebrity status, possibly the Governor General or the Lieutenant Governor. (Like the Governor’s Committee on Highway Safety in the US). We need media coverage and good marketing. Road Safety does not appear to have the political will needed to progress more rapidly.*

5. How should this be manifested (continued) at the provincial level? Are there any examples of leadership being demonstrated by any of the provinces/territories?

*Alberta, good example, have developed their multi disciplinary Traffic Safety Plan. Round tables or Councils on road safety involving working experts with the involvement of the aforementioned political influences may be needed. This is happening in Quebec, Alberta and Nova Scotia.*

6. Are the lead agencies adequately funded?

*There is not adequate funding in relation to the costs of traffic collisions and casualties to society.*

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**Partnerships/Linkages**

1. Are their existing partnerships and linkages at the Federal and Provincial/territorial levels? Do you feel that they are adequate? If not, what could be done to make them more relevant/useful?

*The partnerships and linkages between CCMTA, the Federal and Provincial/territorial levels of government have been deemed – NOT ADEQUATE. Different ministries sign some directives and there is not appropriate accountability. As well, there are competing priorities within ministries. What is needed is a better balance of interests at the political level. Broader horizontal linkages between CCMTA and the government are essential. We need to improve the effectiveness of enforcement through the training of police and by ensuring police have available the necessary applicable information. Whoever holds the purse strings needs to be involved with the process on an accountable level. In review, empowerment needs to be supported through education campaigns aimed at the public and political arenas. They need to “buy into” the programs.*

2. Do the linkages include those involved in injury prevention?

*They do in some program areas, specifically seat belts and child passenger safety.*

3. Are there linkages to the road infrastructure (planning & design) agencies?

*TAC needs to strengthen its role/partnership. It needs to engage local resources such as urban and community planners, engineers, politicians, etc. Road infrastructure changes must be “warranted”. Road safety audit findings and funding priorities should be linked.*

4. Are there funding partnerships established?

*Not generally. Funding (or lack of) is a political decision. Formal funding priorities should be subject to benefit/cost analysis. Additional expenditure for improved safety features in government vehicles requires approval by the Treasury Board.*

**Agency Support**

1. Are there supporting arrangements (perhaps Memorandum of Understanding) in place that are tied to accountabilities for results?
2. Is there adequate support for multi-disciplinary programs such as strategic speed management programs in communities and/or at the provincial/territorial level?
3. What formal processes are in place to ensure that agencies conduct benefit/cost analyses in advance of traffic safety interventions – and follow up selected programs with an evaluation?

*Generally support for multi disciplinary programs is lacking. Speed control should be risk driven rather than revenue driven. Speed management appears to be driven from the bottom up on the municipal and local levels. Extreme levels of speeding force action to be taken. Provincial and Municipal legislation for a formal traffic safety group is under development in Nova Scotia.*



**Appendix B**

**SURVEY OF CCMTA ROAD SAFETY RESEARCH  
AND POLICIES STANDING COMMITTEE**



A key component of the Mid-Term review of Road Safety Vision 2010 was to consult with CCMTA representatives in addition to other road safety stakeholders and injury prevention professionals, from a variety of agencies and disciplines, across the country. The purpose of this exercise was to obtain a clearer understanding of what measures have been implemented, and where, and to identify any impediments to implementation.

As stated in several “best practice” road safety management reviews carried out around the world, the effectiveness and capacity for achievement of road safety improvement within a jurisdiction can be usefully reviewed across three dimensions, which are:

- Is there a focus on results?
- What safety interventions are in place?
- How effective are the implementation arrangements?

These principles formed the foundation for the questions.

### ***Results Focus***

1. Are you aware of the 2004 Fatal & Seriously Injured results - for your province/territory?  
- for Canada?
2. Having reviewed results/progress towards targets for Province/Canada – What’s good, fair, bad in your view?
3. Do you provide a daily/weekly/monthly fatality update to Govt./Premier/media?
4. What is your 2005 data showing?
5. Could your Fatal & Seriously Injured data for the previous year be made available earlier? (to Central Govt.)
6. From your perspective, who do you believe is accountable for the success of RSV 2010?

### ***Interventions and Targets***

In your province/territory which activities have contributed most towards achievement of RSV 2010 targets/sub-targets?

1. How have you determined that?
2. Do you do any modeling to estimate input – output effects of interventions?
3. What is missing/what are the challenges you face in developing and gaining support for interventions?
4. Is the legislation for alcohol, speed and drugs adequate?
5. Do you consider your enforcement arrangements adequate in the areas of alcohol, speed and drugs?
6. Public awareness campaigns undertaken to support enforcement efforts?
7. In your opinion, what (if any) new thinking on interventions is needed?
8. Are you aware of current interventions in the roads infrastructure area?

**Implementation**

1. How are the development, advocacy for and implementation of road safety interventions managed between stakeholders in your province/ territory? Are they aware of RSV 2010? Is it useful in encouraging cooperative effort?
2. Has a formal multi – disciplinary co-ordinating committee for road safety been established in your province/territory?
3. Are you aware of the safe system approach to road safety?
4. Are there linkages between safe system element implementation in your province, e.g. with roads infrastructure and promotion of vehicle safety?
5. How could further linkages be established?
6. .Is there political will in your province/ territory and at the Federal level to seek improved road safety outcomes?
7. Who is the public face of road safety in your province? How well are they doing in communicating with the public, setting agendas, seeking Community attitudinal change?
8. Are your funding mechanisms comparable to other best practice jurisdictions? Do you produce persuasive business cases for investment in road safety interventions?
9. What degree of support do you provide to the political level on a day to day basis?
10. What are the major gaps/ challenges you face in implementation?

**RESPONSES**

**Question 1**

*Most participants were aware of the crash results for 2004 and some were aware of 2005 data for their jurisdictions. However, there were some provinces/territories that did not have a detailed knowledge of the total Canadian picture. Some, but not all, provinces and territories indicated their interest in comparing performance in their jurisdiction with that of other jurisdictions.*

**Question 2**

*Participants had a realistic understanding of progress in their province, including comments from those provinces/territories where progress was poor (which seemed to be fully recognized). A couple of participants talked of the benefit of the RSV 2010 as being good for the jurisdictions as it provided a focus and a basis to bring road safety partners together. A criticism of the vision however was that no additional financial or human resources were brought to bear to address the problem following the ministerial decision in the fall of 2000. Another jurisdiction made the comment that across Canada there is difficulty in meeting the targets and they were unsure how the Ministers came up with the targets that were adopted for reductions in 2000.*

*The impact of booming economies in the western provinces was cited as a challenge to road safety progress as population growth, economic activity and therefore exposure to risk were increasing substantially in those provinces. There was concern that Ontario as the largest province was not moving forward rapidly enough and issues about commitment to improvement were raised. Vulnerable road users were identified as an increasing issue right across Canada and some jurisdictions considered that the only really good news was the reduction in young driver fatalities and serious injuries which has been substantial, particularly through the introduction and strengthening of graduated licensing programs.*

**Question 3**

*All jurisdictions with the exception of one indicated that there was no immediate reporting of fatalities other than for selected long weekends at the instigation of the media. Fatality data collection and publication did lag behind the current date. Other jurisdictions indicated that while not providing regular material they were trying to create a stronger interest in traffic safety in their province/territory as they saw this was vitally important to gaining public commitment and support for new initiatives. One jurisdiction does produce a weekly table/graph for fatalities for the year to date and compares that to the previous year to date figure and the best and worst years in the last five. This data is compartmentalized by road user and indicates percentage changes. The overwhelming conclusion seemed to be that, in most cases, by the time the data is available, it is out of date.*

**Question 4**

*Responses varied here with some provinces having a good understanding of 2005 information and others indicating that the fatality data for 2005 had not yet been released by the relevant Minister. A common response was that publication of the data within most jurisdictions relied upon the Transport Canada material being published late in the year after the particular year for fatalities i.e. around October/November in the following year. In many jurisdictions, they already seemed to be aware that the number of fatalities was continuing to increase.*

**Question 5**

*Responses were interesting as they covered the full range of possibilities. One province indicated that the data could be made available at an earlier in the year while another indicated that many fatalities are still under investigation some months after crashes and therefore police cannot close off the file. They indicated that police are moving towards electronic means of data capture and their jurisdiction always meets the June 30 deadline for forwarding data to Transport Canada. Others indicated that the data was compiled in another department and due to lack of resources this usually took until the middle of the following year to produce the details. One province, at least, was quite active in following up police reports of fatal crashes and did contact the investigating police officer to determine details. This particular province provides a fatal report for the previous year in the spring and a full crash report in August.*

*There was also a feeling amongst some officers interviewed that the data was “out of sight and out of mind” and there was little stimulus or incentive for jurisdictions to compile the data more quickly, publish it and forward it to Transport Canada. Another issue that arose was the inaccuracy of the data being forwarded to Transport Canada. In at least one province there seems to be some inconsistency with the fatality figures that are used and those confirmed with that provinces Coroner’s Office.*

**Question 6**

*Responses here were reasonably consistent with most jurisdictions nominating provincial/territorial and federal ministers who had signed the memorandum of understanding for RSV 2010 back in 2000. It is interesting to note though, that the responsibility for road safety is often shared between several Ministries within a province/territory and the Ministers who put their signature to the original Road Safety Vision (Ministers responsible for Highway Safety) have in some cases not communicated support to the Vision to their peers. Interestingly though, there was a view that at a practical level the Board of Directors for CCMTA and the Council of Deputy Ministers was accountable for delivery of the program. This is an interesting issue for CCMTA to consider. Another interesting perspective was that it was a shared responsibility by all levels of government; including local government and that efforts have been made to promote this to local communities in some jurisdictions. Further the view was expressed that the Canadian public should be accountable for the result and that the public has to play its part, as it is everybody’s problem.*

**INTERVENTIONS AND TARGETS**

**Question 1**

*This question drew a variety of responses depending on the jurisdiction, as would be expected. The graduated licensing program was highly regarded and considered as one of the few programs that has been fully and systematically evaluated. For seat belt wearing, there was a belief that enforcement has helped in various jurisdictions particularly in the rural areas that has led to increased usage, observed in regional surveys. Road checks to address drinking and driving were also seen as vitally important and having an impact on drinking and driving depending upon the frequency and strategic location of those checks. And while alcohol interlocks were in widespread use as a drink-driving countermeasure, there was a feeling that, in recent years, further progress in tackling drinking and driving had lagged behind good practice internationally. In some jurisdictions the options for impoundment of vehicles, increased fines and the introduction of demerit point systems, and longer term licence suspensions/disqualification were seen as important contributors. One jurisdiction interestingly advanced the view that the activity which has contributed most towards their achievement was the existence of a Road*

*Safety Advisory Committee which enabled partnering, leveraging of the alliances, including the Insurance Bureau of Canada and Departments of Health Promotion, which made it difficult for government to ignore their recommendations coming from a group of public agencies and the private sector rather than just a recommendation from one agency. While this is an implementation characteristic rather than an intervention it is none the less an important observation. This same province made the point that it was difficult to differentiate between the impacts of activities, as separate evaluations were difficult to undertake in a climate of multi-intervention activity. One province indicated that their radar program had been important in addressing road trauma, but this was not based on a particular evaluation.*

**Question 2**

*Responses included a clear message that most provinces did not have the resources in-house to prepare such models but one province referred to the categorization of highways on the basis of crash rates and the use of comparative analysis of rates to determine which sections of highways have risk difficulties. At one least jurisdiction does do some modeling but not for the purpose of setting targets, more in order to establish trends particularly when the province was operating photo radar to look at its impact.*

**Question 3**

*There were many (and different) responses in relation to this question but one theme that was consistent was that responsibility for road safety in many of the provinces and territories is fragmented. Comments ranged from “there is no single agency with responsibility for all aspects”, “selecting the person to be responsible for road safety research and policy for a province is a difficult task”, “high level political support and buy-in does not exist”, “people should be allowed to be independent and make their own decisions so regulation should be, light”. There is an absence of high-level champions who can speak well to the media and they need to be identified and promoted and again links need to be developed between the road safety agencies to a far greater extent than is currently the case. There is fierce opposition in some jurisdictions to any new interventions that might restrict individual freedoms. Another theme was the view that policing resources had been restricted due to restructuring across the RCMP in 2005. This was suggested as so substantial that the resources for road safety were no longer adequate and that this was a major challenge to maintaining, let alone improving road trauma levels. Yet another important issue identified was that there was resistance to automated enforcement in some provinces and there was reluctance by senior bureaucrats and politicians to be the first to implement an initiative. It was also suggested that there was not a robust analytical method for assessing road safety needs across the engineering profession within the road authorities and safety investments had to compete with pavement widening and pavement maintenance without an adequate basis of expertise and knowledge to support that. The lack of a national centre of excellence for road safety was also cited as a particular weakness in assisting improved knowledge among practitioners and the bureaucracy and governments, and also in improving public awareness and knowledge of road safety risks.*

**Question 4**

*There was not an overwhelmingly negative response to this question. However, one response was that these settings were probably not adequate particularly for drug testing at the roadside. Another province suggested that legislation was not adequate and that their province was really lagging behind in this area. But they had little choice as they had been directed to back off from implementation of any new legislation. Another jurisdiction believed that the legislative settings were not the major problem, but that there were considerable difficulties with court and legal issues impacting upon enforcement. Attempts need to be made to address this as a priority.*

**Question 5**

*One submission did not want to be too critical of the enforcement arrangements but made the point that speed enforcement, unless it is intensive, does not have much deterrence effect if it is spread over geographic location and time at a light level. Another submission was that a province was weak in enforcement due to downsizing but there is now some attempt to re-establish. Another jurisdiction considered that the enforcement arrangements could be better; that there had been a strong relationship over a ten-year period until two years ago but since then relationships had fallen back with impacts upon enforcement effectiveness. The same pressures occurred across all provinces. There was also a suggestion that for some police forces, there had not been development of enforcement programs in support of Road Safety Vision 2010. Important exceptions were the RCMP and Ontario Provincial Police.*

**Question 6**

*The overwhelming response was “yes” with various partnerships operating in association with other groups to achieve maximum benefit for all these publicity programs. One province at least uses a model enforcement calendar and then dedicates dollars to campaigns to support that enforcement as planned throughout the year.*

**Question 7**

*An analysis of success in other countries that may, or may not, be transferable should be undertaken. There also needs to be a more critical assessment about where funds are spent. For example, evaluating the impact of public education and looking at the risks of spreading public education too thinly over too many targeted behaviours. There was a suggestion that any new initiative should be focus tested with citizens before final consideration by governments. In other words more polling of the public. On the enforcement front, it was also suggested that enforcement was too limited and that there should be an examination of alternatives to traditional enforcement. One example is in the area of drugs and alcohol, where vehicles and drivers cannot be stopped for testing at random. It was suggested that tougher legislation to achieve greater deterrence was also required. Other suggestions included the benefits of making road safety a public health issue; promoting a technological approach to achieving improved behaviour control for example through interlocks in all vehicles; and the introduction of smart licence cards to control driving while suspended.*

## IMPLEMENTATION

### Question 1

*Responses to this question varied but it was considered that while there was co-ordinated management between stakeholders in some provinces, it was certainly not the case in all provinces and territories. One province referred to its road safety advisory committee, which has strong links between its main committee and various sub-groups for alcohol, strategic communications, vehicle occupant safety and vulnerable road users. Consensus was gained for advancing ideas and this was done by the four or five agencies that supported the ideas. Another jurisdiction indicated that they were trying to create more of these effective linkages but had lost some momentum a few years ago when a restructure of the public sector had occurred. Memoranda of understanding, however, were being created over the past year to rebuild these relationships. Some jurisdictions were also endeavouring to link with cities in their province or territory and expressed a view that links with the federal government could be improved. In one of the smaller territories the point was made that there was strong informal networks at territory/government level and these were effective in achieving consensus and coordination. Another province indicated there were strong interactions between stakeholders and a feeling of accomplishment in having established these relationships which were quite strong and enabled policy recommendations to government to be put forward with a unified front from the agencies.*

### Question 1A

*Responses here were varied but ranged from a 'not sure' based upon there not having been any real follow up to workshops held two years ago on the strategy, to agreement that stakeholders were aware of Road Safety Vision 2010 and that it is the guiding document for moving forward. All the committees of CCMTA have Road Safety Vision 2010 as one of their priorities.*

### Question 2

It appears that there are three provinces where such a committee is in fact in operation and one province where such a committee was abandoned some time ago.

### Question 3

*There was limited understanding of the safe system approach. Vehicle safety promotion was not a priority in the RSV 2010 plan and needed to be strengthened.*

### Question 4

*Comments varied in relation to this but some jurisdiction indicated that these links did exist between and within government departments but indicated that vehicle regulation was a Federal matter. Another response saw this area as an under-utilized opportunity. Elsewhere, people felt that linkages between elements would assist on the basis that the things that have served us well in the past are no longer adequate and new approaches are needed.*

**Question 5**

*There were few suggestions in this area except for two important points. Firstly, the opportunities to link with the health community about the economic costs of crashes and the benefits to the health system that were achieved through reduced road trauma as a means of leveraging government investment in prevention rather than spending money on treatment. In addition issues associated with manufacturers and their advertising of vehicles need to be addressed.*

**Question 6**

*Jurisdictions indicated that there was political will to do something but it was hard to say that there was political will to do the right things that would require some difficult decisions to be made, and this was a fairly consistent theme among the responses. It was suggested that road safety, in a number of the less populated jurisdictions was not a prominent issue due in part to the relatively low numbers of fatalities each year. However, there was always uproar when a death occurred but this tended to fade quite quickly. It was also suggested that this was an important role at the federal level for the road safety agenda to be driven in the lesser-populated provinces and indeed in all provinces and territories.*

**Question 7**

*Most provinces indicated that their Minister for Transportation or Minister for Police was seen to be the person responsible. It was suggested that in order for road safety advisory committees to be effective and to have a public profile, a high profile person was required to head them up and to advocate improvement to the public on an ongoing basis.*

**Question 8**

*There were few responses to this question and it was considered that really most provinces probably had a similar level of achievement in this area through their ministers and it was interesting that there were few suggestions as to how this could be improved.*

## **OTHER KEY STAKEHOLDERS**

A selection of other stakeholders was interviewed. The agencies and organizations came from different geographic locations. Some represented a specific driving group while others promoted a specific road safety or injury prevention topic. This list included:

- CRA standing committee of CCMTA
- Road Safety Standing Committee of TAC
- Canadian Association of Chiefs of Police
- Canada Safety Council
- SmartRisk foundation
- Canadian Automobile Assoc.
- Alberta Motor Association
- Traffic Injury Research Foundation
- SafeKids Canada
- Auto 21
- Mother Against Drunk Drivers
- Public Health Agency of Canada
- Canadian Vehicle Manufacturers Assoc.
- Assoc. of International Automotive Manufacturers of Canada
- Canadian Trucking Alliance
- Canadian Institute of Transportation Engineers.

These questions were slightly different than those posed to the CCMTA RSRP committee.

## **RESPONSES**

### **RESULTS FOCUS**

*In response to the issue of awareness of fatal and serious injury results, this was a mixed response with some claiming they were aware of it but others saying they were not and making the point that there is a serious lack of awareness across Canada of Road Safety Vision 2010 and lack of awareness of the level of road trauma. One comment was if the public were asked "Are you aware the Government has a major thrust in Road Safety Vision 2010?" the guess is that nobody would know about it and that is tending to be the overriding characteristic about the program. It was suggested that some resources need to be spent on publicizing the program.*

*At least two respondents were critical of data quality and delays in data availability, claiming that one province does its own thing with data and does not allow any independent group to analyze it and that the period of time for including fatalities where they occur in hospital after a crash is different in one province compared to the balance of Canada. There was strong criticism of the delays in releasing the fatal and serious injury results for the previous year and (unfavourable) comparison was made with the situation in the United States.*

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*Some suggested that because the collision data was unreliable, inaccurate and inconsistent, it was difficult to present solid business cases for funding.*

*There was also some criticism that the lack of evaluation of specific interventions is a problem and that resources are not always made available for evaluation. The comment was made "we do much, but learn little from doing".*

*Responses ranged from a view that the federal government in particular and provincial/territorial governments as well, were accountable for the success of the vision to the view that the various agencies that are putting it in place and have responsibilities such as Transport Canada and the provincial authorities making up CCMTA's membership together with other various stakeholders are responsible. Further support for the view that the federal government was responsible suggested that there was no attention from members of Federal Parliament on the day-to-day activity of road safety. It was argued that it is a project buried within the bureaucracy and should usefully be compared to the debate about the environment in terms of public awareness and political interest.*

*The more common response was that it was a shared responsibility of Transport Canada, provincial agencies, other agencies like CCMTA and TAC, industry and consumers, (both in the way they purchase and the way they behave).*

*A balancing comment about public awareness of Road Safety Vision 2010 was the comment that there was a high degree of concern among Canadians about road safety, but there is uncertainty about how salient that concern is. TIRF have just published their latest road safety monitor and within that study there were clear high levels of concern about road safety evident within the community.*

### **INTERVENTIONS AND TARGETS**

*In terms of the establishment of targets, there was clear support for preparation of models to support target estimation and to provide some reality to decisions, by the political system, to adopt various target levels. There was concern expressed that there is little scientific input into the setting of targets and this needs to be addressed. The point was also made that the data is not available to set reasonable planning tools in place because the data needs to be more timely than at present. There was a general sense of a lack of awareness of how the targets were determined for Road Safety Vision 2010. Comments included the following - "no idea how they came up with these targets," - "don't know where the targets came from".*

*In terms of activities that have contributed most towards achievement of the targets the following factors were mentioned:*

- The engineering activity on the highway network where research has shown long lasting benefits
- There could in fact be more focus on road safety funding for targeted safety interventions on the network
- Seat belt use rates were improving with over 90% wearing belts and this was seen as a positive development

- Stepped up awareness, and publicity and penalties around drinking and driving. A zero BAC level for novice drivers for five years was considered a important initiative, which apparently Manitoba has now introduced.
- It was suggested that the level of safety technology in the fleet is making a difference
- While police enforcement clearly works, it was considered it was severely lacking currently in that levels of enforcement had fallen away and were now poor
- It was considered that a good legislative framework with enforcement and publicity is a powerful tool. However, the comment was made that the justice system is often the tail wagging the dog in terms of winning change to legislation and enforcement
- There seems to be a disconnect between the federal legislation and the provincial implementation particularly with respect to commercial vehicle regulations
- There also still appears little cooperation between the provinces with respect to commercial vehicle operations

*In responding to the question about what is missing, what are the challenges your province or territory faces in developing and gaining support, comments ranged from "no funding support for coordinated action, a cultural belief that these things are unavoidable (for example, news reports saying that the car left the road), the focus of transport being more on traffic flow from A to B and on freight interests rather than safety. In addition there was mention that the departments who can implement changes to reduce road trauma are not the real beneficiaries of improvement as the benefits fall to the health system.*

*Another respondent suggested one of the key challenges was finding a way between concerns about limitations on rights and freedoms, and community benefit, and how tactics could be put in place to address this. It was suggested that political support was needed and this was a major challenge - not so much public support. Groups across Canada have not fully embraced Road Safety Vision 2010. Public education is needed but politicians do not like spending money on publicity or funding safety improvements to the road infrastructure. It is critical to get their support in changing attitudes.*

*In relation to questions about whether the legislation for alcohol, speed and drugs was adequate and whether enforcement arrangements in those areas were adequate it was again a fairly consistent pattern of responses. These range from believing there was scope for further improvement in both legislation and in its enforcement to the view that legislation was probably adequate but there were real concerns about the stringency of enforcement and a suggestion that it was now far less effective than it used to be. Indeed there was a suggestion that generally, there needs to be a shift away from making new laws to making the current systems for implementation and delivery more effective. There was talk about problems with the current drinking and driving administrative laws as they are often seen as an alternative to laying changes under the criminal code. The point was made that there may not be a need to change the law, just improve it.*

*In the alcohol area there was a strong view though that not enough was being done in a legislative sense. It was considered that there was limited access to Deputy Ministers and there was no “passion” for reducing the .08 level to a lower limit. Concern was expressed that alcohol enforcement or alcohol legislation was more about public relations rather than about saving lives. Reference is made to the MADD report card, which has been published recently for each province.*

*In response to the issue of what new thinking on interventions might be needed, responses included the views that the most important issue is a shift in attitudes of the public through social marketing, and making the point that road safety is manageable through active engagement and it is not just something that happens. People make choices every day at a neighbourhood level. It is a voluntary choice and they should be able to do the same with their behaviours to improve road safety outcomes.*

*Within the commercial vehicle industry much could be achieved through a comprehensive driver training apprenticeship program.*

*One respondent referred back again to the need to estimate outcomes or targets on a more scientific and precise basis before they are introduced in the future.*

*Another respondent reiterated that if you can shift peoples thinking you can change outcomes, and discussed the drinking and boating issue where on-road vehicle licence sanctions were brought in to control drinking and boating. The point was made that enforcement and legislation need to be coupled in a way that helps people to understand the risks of certain behaviours.*

*In response to questions about awareness of current interventions in the road infrastructure area there was a sense that not enough investment was occurring and not enough had been made in recent years.*

*Another respondent believes that the lack of national leadership for road infrastructure investments leads to fractured activity across the country and that Transport Canada could usefully move to withhold money from certain provinces for normal road investment unless commitments were made to improve safe targeted safety investments and the approach used by NHTSA in the United States was quoted as good practice in this regard.*

*In the area of Commercial Vehicle Safety it was suggested that too much time and effort continues to be devoted to vehicles and inspections rather than focus on the driver and their behaviours which is crucial.*

## **IMPLEMENTATION**

*In response to questions about how well development, advocacy for and implementation of interventions is managed between stakeholders across Canada, or within provinces and their awareness of Road Safety Vision 2010 the following comments were received:*

*Most stakeholders outside government have some awareness of government activity but there are many different groups that exist in the road safety arena and they believed coordination is not occurring.*

*Another response suggested little cooperative effort or management of interventions between stakeholders was going on and a lack of funding was regarded as a major contributor to this problem.*

*Yet another comment suggested that TAC and CCMTA could work together more closely. The TAC has explored opportunities and while the mandates are different, and there are different reporting structures there is considered to be considerable opportunity to work together more closely even though the TAC do not have the same accountability as CCMTA.*

*There was some awareness of safe system thinking and some saw it as an opportunity and a potential to create linkages and bring the various disciplines and active agencies closer together. The point was made that while one respondent was not sure about the focus on reduced severity rather than reducing crashes, its focus on the three major pillars of vehicles, speeds and roads and roadsides, against a background of compliant road users was considered to be useful to be put forward into the debate.*

*In response to a question about the presence of any political will in the provinces or territories, or at the Federal level, to seek improved road safety outcomes, responses varied from agreement that there was (but it was not top of the mind in the political environment) to a view that politicians respond to what the public want and they are drawn to whatever the higher public demand issues of the day are. It was considered that the attitude in Canada that road accidents are fatalistic events that happen to others serves to undermine any sense of personal vulnerability to road crash outcomes except for drinking and driving risks.*

*Another respondent saw the lack of political will as a major obstacle. "The primary problem is that road safety is not way up there in priority. Road Safety Vision 2010, in fairness to those who put it together, did not have many resources put into it in its development or its monitoring. Jurisdictional efforts are fractured; people agree at meetings but go back to their own jurisdictions and do whatever they want." Two other respondents said there was no political will to improve road safety outcomes and they were highly skeptical that this could be readily developed.*

*In examining the major gaps and challenges that government agencies in Canada face, there were a range of suggestions. One was the need to educate the public. A champion was needed to lead the charge, to recommend action and to point out successes. The point was again made that half the municipalities in Canada do not know about Road Safety Vision 2010, it needs to be better promoted. Some regional governments are doing well with their blackspots and their road safety audit treatments, and good practice models exist within Ontario - however much more remains to be done.*

*It was suggested that the Federation of Canadian Municipalities (FCM) should be included in the plan since they do represent the Mayors and Councils from across Canada since it is in these municipalities where the majority of the interventions are taking place.*

*Another respondent felt that concern by government agencies about public opposition and a history of fear of public resistance to measures has led to a lack of preparedness to “test the water” by arguing the case politically and publicly and this timidity undermined a lot of potential opportunity. Politically it was easier to beat up on industry. Another respondent felt enforcement has been declining and that police resources had been steadily diverted across to security activities especially since September 11. Better general deterrence arrangements were urgently needed. More resourcing, better coordination, less fractured working arrangements between agencies were seen as priorities.*

*Better coordination of vehicle safety promotion and increased targeted infrastructure improvement were both seen as critical opportunities.*

*One respondent felt that provinces needed help in developing their own strategies and action plans and targets which built upon Road Safety Vision 2010 but gave effect within that province to the actions that would achieve the Road Safety Vision 2010 desired outcomes. Political will, funding, true strategic approaches and changes in societal attitudes were considered highly important. There was a suggestion that too often goals or action plans are dressed up as strategies, when in fact a fundamental review of road safety principles is needed and this debate would not only inform any adopted strategies and actions but would bring the public alongside about the true opportunities that exist to improve outcomes.*

*Other comments referred to insufficient resources being devoted to road safety, that there is a lack of public awareness, that what to do is known, what has worked in other countries is known, but an impression needs to be made on the public through applying resource and knowledge.*

*It was suggested that “the only places Canadians are not nice to others is on the hockey field or the battlefield. It is not the Canadian way to get in people's faces and make them do something. This was seen as a major impediment to change in community attitudes.”*

**Appendix C**

**ROAD SAFETY ORGANIZATIONS AND  
AGENCIES IN CANADA**



<b>Name of Organization</b>	<b>Website address (all preceded by www.)</b>
Action Sudbury	normie.ca/action_Sudbury.htm
Addictions Foundation of Manitoba	afm.mb.ca
Alberta Centre for Injury Control and Research	acicr.ualberta.ca
Alberta Infrastructure and Transportation	infratrans.gov.ab.ca
Alberta Motor Association	ama.ab.ca
Alberta Motor Transport Association	amta.ca
Alberta Safety Council	safetycouncil.ab.ca
Alberta Snowmobile Association	altasnowmobile.ab.ca
Alcohol Policy Network	apolnet.ca
L'Association du camionnage du Quebec	carrefour-acg.org.
L'Association du Transport ecolier du Quebec	atcg.go.ca
Association of Canadian Distillers	canadiandistillers.com
Association of Canadian Ergonomists	ace-ergocanada.ca
Association of Automobile Manufacturers of Canada	aiamc.com
Association Quebecoise du transport et des routes	aqtr.qc.ca
Atlantic Provinces Trucking Association	apta.ca
Auto 21	auto21.ca
Automobile Journalists Association of Canada	ajac.ca
Automobile Protection Association	apa.ca
Bacchus Canada	bacchus.Canada
Better Safe Than Sorry Child Safety Journal	voicesforchildren.ca
Bicycle Newfoundland and Labrador	bnl.hf.ca
Bikers Down	bikersdown.ca
Biokinetics and Associates Ltd.	biokinetics.com
BCAA Traffic Safety Foundation	tsf-bcaa.com
BC Injury Research and Prevention Unit	injuryresearch.bc.ca
BC Ministry of Transportation	gov.bc.ca/tran
BC Safety Council	safetycouncil.bc.ca
BC Trucking Association	bctrucking.com
CAA Quebec	caaquebec.com
Canada Safety Council	safety-council.org
Canadian Association of Chiefs of Police	cacp.ca
Canadian Association of Road Safety Professionals	carsp.ca
Canadian Association of Technical Accident	catair.net

Investigators and Reconstructionists	
Canadian Automobile Association	caa.ca
Canadian Bus Exchange	busexchange.com
Canadian Centre for Occupational Health and Safety	ccohs.ca
Canadian Centre on Substance Abuse	ccsa.ca
Canadian Coalition on Child Passenger Safety	car-safety.org
Coalition canadienne pour la securite des enfants a bord d'une automobile	parl.gc.ca
Canadian Council of Motor Transport Administrators	ccmta.ca
Canadian Council of Snowmobile Organizations	ccso-com.ca
Canadian Driver	canadiandriver.com
Canadian Health Network – Injury Prevention	canadian-health-network.ca
Canadian Hospitals Injury Reporting and Prevention Program	phac-aspc.gc.ca
Canadian Motor Vehicle Arbitration Plan	camvap.ca
Canadian Vehicle Manufacturers Association	cvma.ca
Canadian Motorcycle Association	canmocycle.com
Canadians for Safe and Sober Driving/ADD	occid.org
Canadians for Responsible and Safe Highways	web.net/crash
Canadian Institute for Health Information	cihi.ca
Canadian Institute of Transportation Engineers	cite7.org
Canadian Street Rod Association	csra.ca
Canadian Traffic Education Centre	ctec.ab.ca
Canadian Traffic Safety Institute	ctsinstitute.com
Canadian Transportation Equipment Association	ctea.ca
Canadian Trucking Human Resources Council	cthrc.com
Canadian Youth Against Impaired Driving	sadalberta.com
CanDrive, The Canadian Driving Research Institute for Vehicular Safety in the Elderly	candrive.ca
CANUTEC, Canadian Transport Emergency Centre	tc.gc.ca
Centre for Transportation Engineering and Planning, University of Calgary	engcalgary.ca
CHIRPP Injury Reports	phac-aspc.go.ca
Citizens for Safe Cycling	safecycling.ca
Commercial Vehicle Safety Alliance	cvsa.org
Commission des transports du Quebec	ctq.gov.qc.ca

Compendium de donnees sur la mobile automobile/Automobile Mobility Compendium	<a href="http://carsp.ca/links_ca.htm-71k">carsp.ca/links_ca.htm-71k</a>
CSA International	<a href="http://csa-international.org">csa-international.org</a>
Cycling BC	<a href="http://cycling.bc.ca">cycling.bc.ca</a>
Dalhousie University DalTech, Vehicle Safety Research Team	<a href="http://canadianencyclopedia.ca">canadianencyclopedia.ca</a>
Dangerous Goods, Transport Canada	<a href="http://tc.gc.ca/tdg/menu.htm">tc.gc.ca/tdg/menu.htm</a>
Direction 2006	<a href="http://direction2006.com">direction2006.com</a>
Discovery.ca Car Safety	<a href="http://cxn.ca/stories">cxn.ca/stories</a>
Driver Competency Assessment Protocols	<a href="http://dca.ca">dca.ca</a>
Drivers.com	<a href="http://drivers.com">drivers.com</a>
Driver Training in British Columbia	<a href="http://dtcbc.com">dtcbc.com</a>
Driver School Association of Canada	<a href="http://dsao.com">dsao.com</a>
The Driving School Association of the Americas	<a href="http://thedsaa.org">thedsaa.org</a>
Ecole Polytechnique de Montreal, Epiq de Securite Routiere	<a href="http://securiter.routiere-polyntl.ca">securiter.routiere-polyntl.ca</a>
Edmonton Bicycle Commuters Society	<a href="http://edmontonbicyclecommuters.ca">edmontonbicyclecommuters.ca</a>
Electric Vehicle Association of Canada	<a href="http://vcva.bc.ca">vcva.bc.ca</a>
Environment Canada	<a href="http://weatheroffice.ec.gc.ca">weatheroffice.ec.gc.ca</a>
Extreme Attitudes Against Drinking and Driving	<a href="http://extreme.netc.net">extreme.netc.net</a>
Fifty-Five Alive/Mature Driving	<a href="http://crm.mb.ca/55alive/index.html">crm.mb.ca/55alive/index.html</a>
Free2drive	<a href="http://free2drive.com">free2drive.com</a>
Haliburton County Snowmobile Association	<a href="http://hsca.on.ca">hsca.on.ca</a>
Health Canada Child Injury Division	<a href="http://phac-aspc.gc.ca/injury">phac-aspc.gc.ca/injury</a>
Health in Action	<a href="http://health-in-action.org">health-in-action.org</a>
Heavy Duty Distributor Council	<a href="http://hddc.on.ca">hddc.on.ca</a>
Highway Star Magazine	<a href="http://highwaystar.ca">highwaystar.ca</a>
Human Factors North Inc.	<a href="http://hfn.ca">hfn.ca</a>
I promise program	<a href="http://ipromiseprogram.com">ipromiseprogram.com</a>
IMPACT Injury Prevention Centre of the Children's Hospital, Winnipeg	<a href="http://hsc.mb.ca/impact">hsc.mb.ca/impact</a>
L'institut de la securite routiere	<a href="http://preventia.org">preventia.org</a>
Industry Canada, Automotive and Transportation Branch	<a href="http://ic.gc.ca">ic.gc.ca</a>
Injuryfreezone	<a href="http://injuryfreezone.com">injuryfreezone.com</a>
Insurance Bureau of Canada	<a href="http://ibc.com">ibc.com</a>
Insurance Corporation of British Columbia	<a href="http://icbc.com">icbc.com</a>
ITRANS Consulting	<a href="http://itransconsulting.com">itransconsulting.com</a>

ITS Canada	itscanada.ca
Joint Program in Transportation, University of Toronto	jpint.utoronto.ca
Kelowna and District Safety Council	kdsc.bc.ca
KidSafe Connection	capitalhealth.ca/kidsafe
Macinnis Engineering Associates	meaforensic.com
Manitoba Highways and Transportation	gov.mb.ca/tgs
Manitoba Cycling Association	cycling.mb.ca
Manitoba Public Insurance	mpi.mb.ca
Manitoba Safety Council	mbsafety.org
Manitoba Trucking Association	trucking.mb.ca
Mothers Against Drunk Driving	madd.org
Motoring 2000	fixingcars.com
National Research Centre, Centre for Surface Transportation Technology	cstt-ctts.nrc-cnrc.gc.ca/en/main.html
New Brunswick Department of Transportation	gnb.ca
New Brunswick Federation of Snowmobile Clubs	nbfc.com
Newfoundland and Labrador Works, Services and Transportation	tw.gov.nl.ca
Newfoundland Safety Council	safetycouncil.net
Normie's S.T.O.P. Scrap Book	normie.ca
Northwest Territories Transportation	gov.nt.ca/transportation
Nova Scotia Registry of Motor Vehicles	gov.ns.ca/sns
Nova Scotia Safety Council	safety.ns.ca
Nova Scotia Transportation and Public Works	gov.ns.ca/tran
Nunavut Community Government and Transportation	gov.nv.ca/cgt
Ontario Association of Chiefs of Police	oacp.on.ca
Ontario Coalition for Better Cycling	canadiancyclist.com
Ontario Community Council on Impaired Driving	occid.org
Ontario Cycling Association	ontariocycling.org
Ontario Federation of Snowmobile Clubs	ofsc.on.ca
Ontario Good Roads Association	ogra.org
Ontario Public Health Association	opha.on.ca
Ontario Ministry of Health and Long-Term Care	health.gov.on.ca
Ontario Ministry of Transportation	mto.gov.on.ca/English
Ontario Traffic Conference	otc.org
Ontario Trauma Registry	secure.chi.ca/cihiweb/dispage

Ontario Trucking Association	ontruck.org
Ontario Safety League	osl.org
Ontario Students Against Impaired Driving	osaid.org
Operation Lifesaver/Operation Gareautrain	oli.org
Operation Lookout	operationlookout.org
Operation Nez Rouge	operationnezrouge.com
Ottawa Safe Communities Network	ottawasafecommunities.org
Ottawa Safety Council Motorcycle Courses	ottawamotorcycle.ca
City of Ottawa Transportation	ottawa.ca/city_services/traffic
Public Infant/Child Restraint Advisory Committee	vancouver.ca/police/operations
Pacific Traffic Education Centre	jibc.bc.ca/ptec/default.htm
Population & Community Health Unit	uwa.ca/famed.pchu/
Prince Edward Island Transportation and Public Works	gov.pe.ca/tpw
Private Motor Truck Council of Canada	pmtc.ca
Project Earth Risk Identification Lifeline (PERIL)	vogue.ca
Quebec Ministere des Transports	mtq.gouv.qc.ca
Racing Against Drugs, Durham	6.autonet.ca/rad/whatisrad
Race Against Impaired Driving Team	racing.bacon.org/pitstop
Rail Safety, Transport Canada	tc.gc.ca/railways/en/menu.html
Railway Association of Canada	railcan.ca
Rid Roads of Impaired Drivers	rrid.org
Road safety, Transport Canada	tc.gc.ca/roadsafety
Road Safety Educators Association	rsea.nf.ca
Road Watch	roadwatch.ca
Royal Canadian Mounted Police	rcmp-grc.gc.ca
Ryerson Polytechnic University, Vehicle Safety Research Centre	ryerson.ca
Safe Grad Manitoba/Teens Against Drinking and Driving	mast.mb.ca
Safe Kids Canada	safekids.Canada.ca
Safe Start	safestart-safetrack.com
Safe Streets	safestreets.org
Saskatchewan Government Insurance	sgi.sk.ca
Saskatchewan Highways and Transportation	highways.gov.sk.ca
Saskatchewan Institute on Prevention of Handicaps	preventionstrute.sk.ca
Saskatchewan Cycling Association	saskcycling.ca

Saskatchewan Safety Council	sasksafety.org
School Safety Patrol in Alberta	saferoads.com/safety/community
Scott Bus Lines Limited	en.wikipedia.org/wiki/list
SECURE School Bus Safety Program	mto.gov.on.ca/English
Skid Control School	skidcontrolschool.com
Smart Risk Foundation	smartrisk.ca
Snap, Buckle, Drive	avdha.nshealth.ca/snapbuckledrive/ menu.html
SNOMAN (Snowmobilers of Manitoba) Inc.	snoman.mb.ca
Snowmobile Trail Officer Patrol	normie.ca
Snowmobilers Association of Nova Scotia	snowmobilersns.com
Societe de l'assurance automobile du Quebec	saaq.gouv.qc.ca
Standard Council of Canada	scc.ca
Standards Senate Committee on Transport and Communications	parl.gov.ca/common/committee
Street Legal, Edmonton Police Service	edmonton.ab.ca/pages/streetLegal/ default.asp
Students Against Drinking and Driving, Alberta	saddalberta.com
Sunnybrook Health Science Centre Trauma Program	sunnybrook.ca
Surete du Quebec	suretequebec.gouv.qc.ca
Target Risk	psyc.queensu.ca/target
Thinking Driver	thinkingdriver.com
Today's Trucking	todaytrucking.com
Toronto Against Impaired Driving	mto.gov.on.ca/English/
Traffic Injury Research Foundation	trafficinjuryresearch.com
Traffic Safety in Alberta	saferoads.com
Traffic Safety Information Village	drivers.com
Transport Canada	tc.gc.ca
Transportation Association of Canada	tac-atc.ca
Transportation Development Centre	tc.gc.ca/tdc/menu.html
Transportation Health and Safety Association of Ontario	wsib.on.ca/wisb/website.nsf/public/ partnershealthand safety
TRIMAP Communications Inc.	trimap.com
Truck News	trucknews.com
Universite de Montreal, Centre de recherché sur les transports	umontreal.ca/transports
University of Manitoba Transportation Information Group	umtig.mgmt.umanitoba.ca

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University of New Brunswick Transportation Group	<a href="http://unb.ca/transpo/">unb.ca/transpo/</a>
University of Saskatchewan Transportation Centre	<a href="http://usask.ca/communications.ca">usask.ca/communications.ca</a>
University of Western Ontario, Multi-Disciplinary Accident Research Team	<a href="http://eng.uwo.ca/research/dmart/problems.Html">eng.uwo.ca/research/dmart/problems.Html</a>
Vancouver Island Safety Council	<a href="http://visafetycouncil.com">visafetycouncil.com</a>
Vehicle Information Centre of Canada	<a href="http://gdsourcing.com/works">gdsourcing.com/works</a>
Velo New Brunswick Cycling Information	<a href="http://velo.mb.ca">velo.mb.ca</a>
Velo Quebec	<a href="http://velo.gc.ca">velo.gc.ca</a>
Victoria Transport Policy Institute	<a href="http://vtpi.org">vtpi.org</a>
WAY TO GO! School Program	<a href="http://waytogo.icbc.com">waytogo.icbc.com</a>
World of Wheels	<a href="http://wheels.ca">wheels.ca</a>
Young Drivers of Canada	<a href="http://yd.com">yd.com</a>
Yukon Community and Transportation Services	<a href="http://community.gov.yk.ca/labour/index.html">community.gov.yk.ca/labour/index.html</a>

