

CANADA'S
ROAD SAFETY
STRATEGY 2025

Towards Zero: The Safest Roads in the World

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**RETHINK
ROAD SAFETY**

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Canadian Council of Motor Transport Administrators
Conseil canadien des administrateurs en transport motorisé

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY	3
2 INTRODUCTION	3
3 ROAD SAFETY STRATEGY 2025.....	4
3.1 The Vision	5
3.2 Strategic Objectives	5
3.3 Principles.....	5
4 RISK GROUPS, CONTRIBUTING FACTORS AND INTERVENTIONS	7
4.1 Key Risk Groups.....	7
4.2 Key Contributing Factors.....	8
4.3 Road Safety Interventions.....	9
4.3.1 Road User Initiatives	10
4.3.2 Road Infrastructure Initiatives	10
4.3.3 Vehicle Initiatives	10
4.3.4 Assessment Tool	10
5 MANAGEMENT AND GOVERNANCE OF THE STRATEGY.....	11
5.1 Updating and ownership.....	11
5.2 Ten year timeframe	11
5.3 Reporting	11
6. REFERENCES	12
APPENDIX A: ASSESSMENT TOOL FOR IDENTIFYING BEST PRACTICES.....	13

1 EXECUTIVE SUMMARY

Road Safety Strategy (RSS) 2025 is similar to its predecessors in a number of ways. It retains the long-term vision of *Making Canada's roads the safest in the world* but combines this with the vision of *Towards Zero*. As well, a number of principles key to the strategy's success have been aligned with international best practices in road safety. These principles include adopting the Safe System Approach, having a 10-year strategy and providing an inventory of proven and promising best practices to address key risk groups and contributing factors. RSS 2025 continues with a flexible approach to allow for jurisdictions to implement road safety programs that meet their own specific needs.

The RSS 2025 strategy is intended to encourage road safety stakeholders from all levels of government as well as private sector and non-governmental stakeholders to collaborate in making Canada's roads the safest in the world and unite efforts to reach our long-term vision of zero fatalities and serious injuries on our roads.

2 INTRODUCTION

Each year in Canada, about 2,000 people are killed and 165,000 are injured, (10,000 seriously), while using our road transportation system and costs society \$37 billion (2.2% of Canadian GDP) annually (1). Addressing road crash casualties is a challenge that each country in the world is facing. Making improvements to our road system of users, infrastructure and vehicles can reduce the number of Canadians that will die or be injured on our roads.

Canada is one of the first countries in the world to adopt a national road safety strategy and to date, three national strategies have been implemented. Road Safety Vision (RSV) 2001, was Canada's inaugural national road safety strategy adopted by the Council of Ministers Responsible for Transportation and Highway Safety in 1996. The progress made during RSV 2001 can be measured by the 10% decrease in fatalities and 16% decline in serious injuries despite steady increases in the road user population (2).

In 2001, the second strategy, Road Safety Vision (RSV) 2010 was approved by the Council of Ministers. The vision and strategic objectives of this second road safety strategy were based on RSV 2001 and a decision was made to include an overall national target and sub-targets. The quantitative targets were intended to provide road safety stakeholders with key road safety indicators, against which the impact of intervention efforts could be measured. The national target called for a 30% decrease in the average number of road users killed and seriously injured during the 2008-2010 period compared to 1996-2001 baseline figures. The proposed reductions in sub-targets ranged from 20% to 40% and addressed the specific areas of occupant protection, impaired driving, commercial vehicle safety, vulnerable road users, speed and intersection safety, rural roadways, young drivers and high-risk drivers. It was expected that the achievement of these sub-targets would further reduce Canada's road fatality total to fewer than 2,100 by 2010. Although the 30% reduction in fatalities and serious injuries was not achieved by 2010, it was achieved soon after in 2011 (3).

Road Safety Strategy (RSS) 2015 was launched in 2011 as Canada's third national strategy and built upon the previous road safety vision and strategic objectives. RSS 2015 approached road safety in a different way introducing the safer systems concept as a holistic way to tackle road user, vehicle and road infrastructure issues and moved away from having established numerical targets.

A significant shift in this strategy was the introduction of a framework of best practices, consisting of a multi-cell matrix of key risk groups and contributing factors, along with an inventory of road safety initiatives that jurisdictions could adopt to address their specific jurisdictional priorities. Canadian jurisdictions were encouraged to develop their own road safety plans and to adopt interventions from the inventory to reduce fatalities and serious injuries, to meet their individual needs depending on their suitability, feasibility and acceptability.

In 2013, the number of fatalities and serious injuries on Canada's roads both decreased by 21% when compared to the 2006-2010 baseline period. When vehicle kilometres travelled are factored in, the reduction in fatality and serious injury rates are similar. According to the United Nations' World Health Organization, "the best-performing countries have road fatality rates of around 5-7 killed per 100,000 population" (4). In 2012, Canada had a rate of 6.0 fatalities per 100,000 population (5). In 2012, Canada's ranking among Organization for Economic Cooperation and Development (OECD) member countries was 13th based on fatalities per billion vehicle kilometres traveled (6).

Canada continues to see progress and the downward trends in fatalities and serious injuries during the 2011 to 2013 period are promising but there is a need to remain diligent and strive to remain focussed on making greater gains in improving Canada's level of road safety.

3 ROAD SAFETY STRATEGY 2025

Road Safety Strategy (RSS) 2025 is Canada's fourth national road safety strategy. The updated strategy is guided by the principles outlined in the report entitled: *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach*. (7) Many of the Organization for Economic Cooperation and Development (OECD) countries with leading road safety records have modeled their road safety performance on this multidisciplinary approach and it has come to be recognized as an international best practice in road safety.

The purpose of the strategy is to continue our national effort in addressing important road safety issues in Canada by providing a framework for governments and other road safety stakeholders to establish their own road safety plans, objectives, and interventions to eliminate road crashes which result in serious injuries or fatalities.

3.1 The Vision

The vision for Road Safety Strategy 2025 is “Towards Zero: Having the safest roads in the world”. This towards zero approach is coupled with Canada’s long standing goal of “Having the safest roads in the world”. It is based on an international best practice first adopted by Sweden in 1997, where Vision Zero was approved by their parliament and has permeated their approach to transportation ever since. This highly effective and innovative approach by Sweden has resulted in one of the lowest traffic-related fatality rates world-wide and its proven track record has resulted in other countries and municipal governments initiating similar approaches.

The Towards Zero vision is not a target to be achieved by a certain date but rather it is aspirational in nature. This vision will continue beyond the RSS 2025’s timelines and highlights the desire for the best road safety outcomes for all Canadian jurisdictions, provincial, territorial or municipal.

3.2 Strategic Objectives

The following strategic objectives form the cornerstone of RSS 2025 and focus on safer road users, road infrastructure and vehicles:

- Raising public awareness and commitment to road safety,
- Improving communication, cooperation and collaboration among stakeholders,
- Enhancing legislation and enforcement,
- Improving road safety information in support of research and evaluation,
- Improving the safety of vehicles and road infrastructure, and
- Leveraging technology and innovation.

3.3 Principles

The development of the strategy is based on the following key guiding principles:

Adopt a safe system approach

The Safe System Approach (SSA) is a means by which many countries leading in road safety are achieving their visions of eliminating deaths and serious injuries. SSA has the following principles:

- Ethics: human life and health are paramount and take priority over mobility and other objectives of the road traffic system (i.e., life and health can never be exchanged for other benefits within the society);
- Responsibility: providers and regulators of the road traffic system share responsibility with users;
- Safety: road traffic systems should take account of human fallibility and minimize both the opportunities for errors and the harm done when they occur; and
- Mechanisms for change: providers and regulators must do their utmost to guarantee the safety of all citizens; they must cooperate with road users; and all three must be ready to change to achieve safety.

It is recognized that Canadian jurisdictions will implement the SSA in a manner that is appropriate to their environment.

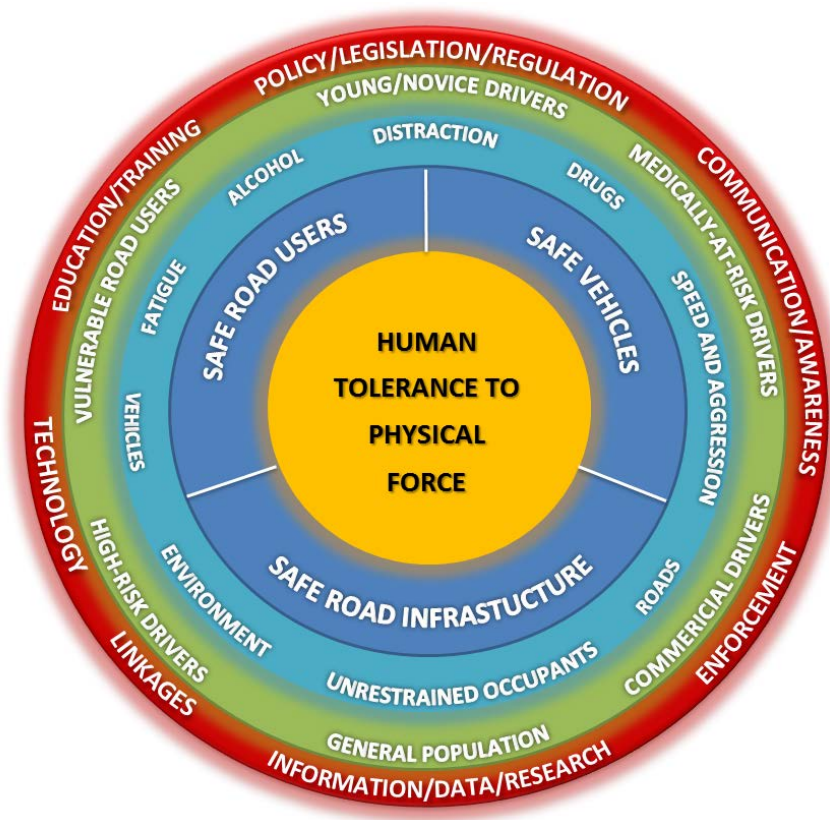


Figure 1.1 .Source: This diagram is Canadian version adapted from the 2009 WHO report on the Global Status on Road Safety which was in turn modified from work commissioned by the Government of Western Australia.

Downward trend towards zero

RSS 2025 seeks to achieve directional downward trends in the rate-based number of fatalities and serious injuries rather than in the actual numbers of fatalities and serious injuries. These trends will be measured at the national level annually using multi-year rolling averages to smooth out short-term fluctuations since year-over-year reductions may not be practical or attainable.

Two rate-based indicators commonly used internationally are fatalities and serious injuries per 100,000 population (World Health Organization, 2014) and fatalities and serious injuries per billion kilometres travelled (Organization for Economic Cooperation and Development and International Transport Forum, 2012). In Canada, the rate-based indicators will be:

1. fatalities and serious injuries per billion kilometres travelled, and
2. fatalities and serious injuries per one hundred thousand population.

Although the strategy does not include hard quantitative targets, it does not preclude individual jurisdictions or organizations from establishing their own targets when there is government, law enforcement and/or road safety stakeholder support for doing so.

Best practices

It is important that Canadian jurisdictions have the ability to adopt road safety initiatives without having to research best practices individually. As such, core to the strategy is an inventory of best practices interventions that have been used by the leading road safety countries and found to be effective in reducing fatalities and serious injuries. In order to support national consistency and allow jurisdictions to reference the best practices for their own road safety plans, the CCMTA has developed an on-line inventory at roadsafetystrategy.ca.

4 RISK GROUPS, CONTRIBUTING FACTORS AND INTERVENTIONS

The following key risk groups and contributing factors have been identified based on emerging trends and research and analysis conducted over Canada's last three road safety strategies.

4.1 Key Risk Groups

The key risk groups are defined as follows:

Risk Group	Definition
Young/Novice Drivers	Drivers who are under the age of 25 or have less than 2 years driving experience.
Medically at Risk Drivers	Drivers with physical or cognitive impairments which affect a person's ability to operate vehicles safely.
Vulnerable Road Users	Pedestrians, motorcyclists, cyclists and persons in personal mobilized devices (e.g., motorized wheelchairs and scooters).
Commercial Drivers	Drivers of heavy commercial vehicles (e.g., vehicles over 4,586 kg or passenger transportation).
High Risk Drivers	Repeat offenders with a pattern of illegal driving behaviours (e.g., recurring incidences of alcohol/drug impaired driving, traffic violations, collision involvement, or suspended/prohibited drivers).
General Population	Road users who benefit from strategies, interventions, regulations, and legislation introduced to make roads, vehicles and road users safer.

4.2 Key Contributing Factors

The key factors contributing to collisions are defined as follows:

Contributing Factor	Definition
Distracted Driving	Distracted driving occurs when a driver's attention is diverted from the driving task by secondary activities (e.g., eating, talking to passengers, talking or texting on electronic communication devices (ECDs) such as cell phones and smart phones).
Alcohol Impaired Driving	Physical or cognitive impairment of a road user which is caused by the consumption of alcohol.
Drug Impaired Driving	Physical or cognitive impairment of a road user which is caused by the consumption of psychotropic drugs (e.g., cannabis, prescription drugs, narcotics, etc.).
Fatigue Impaired Drivers	Fatigue is a general state caused by lack of sleep, time of day, time on task, or task monotony which diminishes the ability to drive by altering alertness and vigilance.
Speed and Aggressive Drivers	Includes driving at speeds beyond posted legal limits or driving too fast for road conditions and driver behaviours which are deemed illegal or outside socially acceptable norms which put other road users at risk (e.g., tailgating, improper passing, failure to signal, etc.).
Unrestrained Occupants	Includes factors pertaining to proper restraint use by all road users (e.g., seat belts, child safety seats, booster seats).
Environmental Factors	Includes factors that may affect the likelihood or severity of crash occurrence (e.g. weather conditions, wildlife on road).
Road Infrastructure	Includes factors that may affect the likelihood or severity of crash occurrence (e.g., roadway configuration, road construction, road surface condition, road and roadside design, lighting and signage).
Vehicle Factors	Includes factors related to vehicle design (e.g., crash avoidance, crashworthiness), maintenance, recalls, aftermarket vehicle equipment, commercial vehicles, unusual vehicles, automated vehicles, new and emerging vehicle technologies.

It should be noted that there may be significant overlap in these risk groups and contributing factors (e.g., high risk drivers and alcohol impaired driving) and that their priority may change over time. Jurisdictions are encouraged to monitor emerging issues and use appropriate interventions as needed to ensure their initiatives are effective and innovative. A visual of the matrix can be found on the Road Safety Strategy 2025 website.

4.3 Road Safety Interventions

For each risk group and contributing factor, there may be more than one intervention for promoting safer road users, safer infrastructure and safer vehicles. A combination of interventions could result in even greater improvements to safety.

The interventions are categorized as follows:

Intervention Type	Definition
Policy/Legislation/Regulation	Includes evidence-based jurisdictional policies, laws, and regulations intended to improve road user behaviour and the safety of the road infrastructure and vehicles.
Education/Training	Includes activities that provide knowledge and/or test the capacity of a person to demonstrate appropriate behaviour with respect to road safety (e.g., proactive and remedial education, driver training, child restraint training).
Communication/Awareness	Includes any activities that contribute to increased awareness and knowledge of key road safety issues by the general public or target audience that may lead to safer road user behaviour. (e.g., ad campaigns, social media, etc.).
Enforcement	Includes activities carried out by enforcement agencies in order to apprehend offenders and to raise the perceived likelihood of being apprehended (e.g., enhanced Check Stops, Selective Traffic Enforcement Programs (STEP), intelligence-based enforcement, automated enforcement, commercial vehicle inspections).
Information/Data/Research	Includes capturing and compiling complete, uniform and timely data (e.g., crash, trauma, exposure) to expedite the identification of emerging trends/issues for the further development of evidence-based road safety interventions. This also includes the evaluation of road safety measures and the monitoring of road safety indicators over time.
Technology	Includes using technology and innovation to improve the safety of the driver (e.g., installment of alcohol ignition interlock, speed and red light cameras); vehicle (e.g., electronic stability control, side curtains and airbags) and infrastructure. (e.g., Intelligent Transportation Systems, roundabouts).

Intervention Type	Definition
Linkages	Includes the establishment of linkages between jurisdictional, national or international governmental and non-governmental organizations with a vested interest in road safety. This will foster partnerships, knowledge sharing and best practice guidelines, and improve cooperation and collaboration among key road safety stakeholders (e.g., police, health professionals, etc.).

The CCMTA's on-line inventory of best practices contains "proven practices" for reducing or preventing fatalities and injuries. In addition to these, many other potentially good initiatives have been reviewed but are considered too "young" to demonstrate effectiveness in reducing fatalities and serious injuries and hence are considered to be "promising". These proven and promising practices can be found at roadsafetystrategy.ca.

4.3.1 Road User Initiatives

The inventory includes a number of road user interventions that have been proven to be effective or at least are considered to be promising in addressing the challenges of dealing with those who drink and drive, speed or drive aggressively, refrain from buckling up, or drive while distracted.

4.3.2 Road Infrastructure Initiatives

The road infrastructure elements are diverse and depending on the initiative, can address rural and urban situations, focusing on the road and the roadside. The objective of infrastructure initiatives is to reduce the likelihood and/or the severity of a collision recognizing that despite best efforts, human errors will occur. Many of these initiatives have been evaluated and, as such, their effect on fatalities and serious injuries after implementation has been proven. The inventory also includes promising initiatives.

4.3.3 Vehicle Initiatives

Road safety advances for vehicle safety may be realized through innovative measures adopted by the vehicle manufacturers as well as the passing of Canada Motor Vehicle Safety Standards (CMVSS). Adoption of new vehicle technologies (e.g., electronic stability control, brake assist) can also be advanced through consumer demand for safety improvements based on New Car Assessment Programs.

4.3.4 Proven and Promising Initiatives Assessment Tool

CCMTA has developed an assessment tool to determine whether initiatives are proven or promising by identifying:

- characteristics of initiatives being considered;
- performance measures, where available;
- evaluations or cost benefit/cost-effective analysis, where available; and
- initiatives that address the various risk groups and contributing factors.

The assessment tool used to evaluate initiatives can be referenced in Appendix A. The initiatives are intended to be used by CCMTA and its member jurisdictions and other stakeholders as a reference for the development of their own policy and programs.

5 MANAGEMENT AND GOVERNANCE OF THE STRATEGY

5.1 Updating and ownership

As custodian of the RSS 2025, the CCMTA, working through the jurisdictions and its committees, task forces, and working groups, will be responsible for maintaining, updating and reporting on the strategy. Given the strategy's approach, these up-dates may include progress on new research projects, identifying new initiatives, key risk groups or contributing factors.

It is recommended that each jurisdiction develop its own provincial/territorial action plans, and in creating these plans, utilize the appropriate strategies that have been proven effective in Canada and elsewhere.

5.2 Ten year timeframe

A 10-year timeframe was chosen for RSS 2025 for the following reasons:

- CCMTA's experience with past RSSs has shown that a longer timeframe is essential to set the strategy up for success by allowing for policies to be introduced and implemented over a longer time period;
- an extended timeframe takes into account the reality that collision data collection can take up to 2-3 years, making it difficult to identify road safety trends in a 5-year period.

A mid-term review of the strategy will be scheduled after the fifth year of RSS 2025 (i.e. 2020). In order to keep the strategy's 10-year approach relevant and front and centre for all stakeholders, annual reporting on progress and evaluations of road safety initiatives is essential.

5.3 Reporting

CCMTA will produce a report (based on Transport Canada's annual fatality and serious injury data) on progress using rate-based indicators for fatalities and serious injury rates as well as key risk groups and contributing factors. Additionally, CCMTA will also report on qualitative measures on an annual basis.

6. REFERENCES

1. Transport Canada, 2015 *Draft Report on the Social Costs of Collisions in Canada, 1996-2012*.
2. Transport Canada, 2004, *Road Safety Vision 2010, 2002 Annual Report*.
3. Canadian Council of Motor Transport Administrators, *Road Safety Vision 2010, Final Report*, November 2013
4. OECD and International Transport Forum, Transport Research Centre, *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach*. 2008.
5. Transport Canada (2015a) *Canadian Motor Vehicle Collision Statistics: 2013*.
6. Organization for Economic Cooperation and Development and International Transport Forum, *Road Safety Annual Report 2014*.
7. Organization for Economic Cooperation and Development and International Transport Forum (2008), Transport Research Centre, *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach*.

APPENDIX A: ASSESSMENT TOOL FOR IDENTIFYING BEST PRACTICES

SECTION ONE: Recommended Initiative
Initiative Title:
Synopsis:
Applicable uses according to target group:
Applicable uses according to causal factor:
Applicable uses according to strategies:

SECTION TWO: Performance Measures	Yes	No
Were any evaluations, cost/benefit analyses, or cost effectiveness analyses conducted?		
If yes, please indicate the author, title, source, and/or web-link where the cost-benefit/cost-effective analyses can be located.	Works Cited	
	Scope of the Problem	
	Evidence	

SECTION THREE: Evidence		LEGEND	EVALUATION
How would you rate the research-based evidence that might support this initiative?	Demonstrated to be effective by one or more high-quality evaluations with consistent results (systemic review, multi-centre studies)	☆☆☆☆☆	
	Demonstrated to be effective in certain situations	☆☆☆☆	
	Likely to be effective based on balance of evidence from high-quality evaluations or other sources	☆☆☆	
	Effectiveness still undetermined; different methods of implementing this countermeasure produce different results	☆☆	
	Limited or poor-quality evaluation evidence (descriptive studies, case studies, expert opinion, studies of poor methodological quality)	☆	

SECTION FOUR: Scoring and Recommendation	PROVEN Must have at least 4-5 stars for question 3	PROMISING Must have at least 2-3 stars for questions 3	NOT ACCEPTED No evaluations, cost/benefit analyses, or cost effectiveness analyses
It is recommended that this initiative be attributed the following rating with respect to including it into the RSS 2025 on-line inventory.			