



# **COMPARISON OF ROAD SAFETY MANAGEMENT IN SELECTED COUNTRIES**

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# Purpose

- Describe how road safety is managed in selected countries:
  - Australia,
  - Canada,
  - Netherlands,
  - Sweden,
  - United Kingdom,
  - United States.

# Australia

- Australia has federal and 7 state/territorial governments
- Federal Government is responsible for:
  - regulating safety standards for new vehicles,
  - allocating infrastructure resources, including those for safety, across national highway and local road networks (e.g., black spot program),
  - laws regarding alcohol and drug impaired driving (i.e., legal limit of .05 mg% for alcohol).
- State/territorial governments have primary responsibility for:
  - funding, planning, designing and operating road network,
  - managing vehicle registration and driver licensing systems and
  - enforcing road user behavior (i.e., policing).

# Road Safety Management in Australia

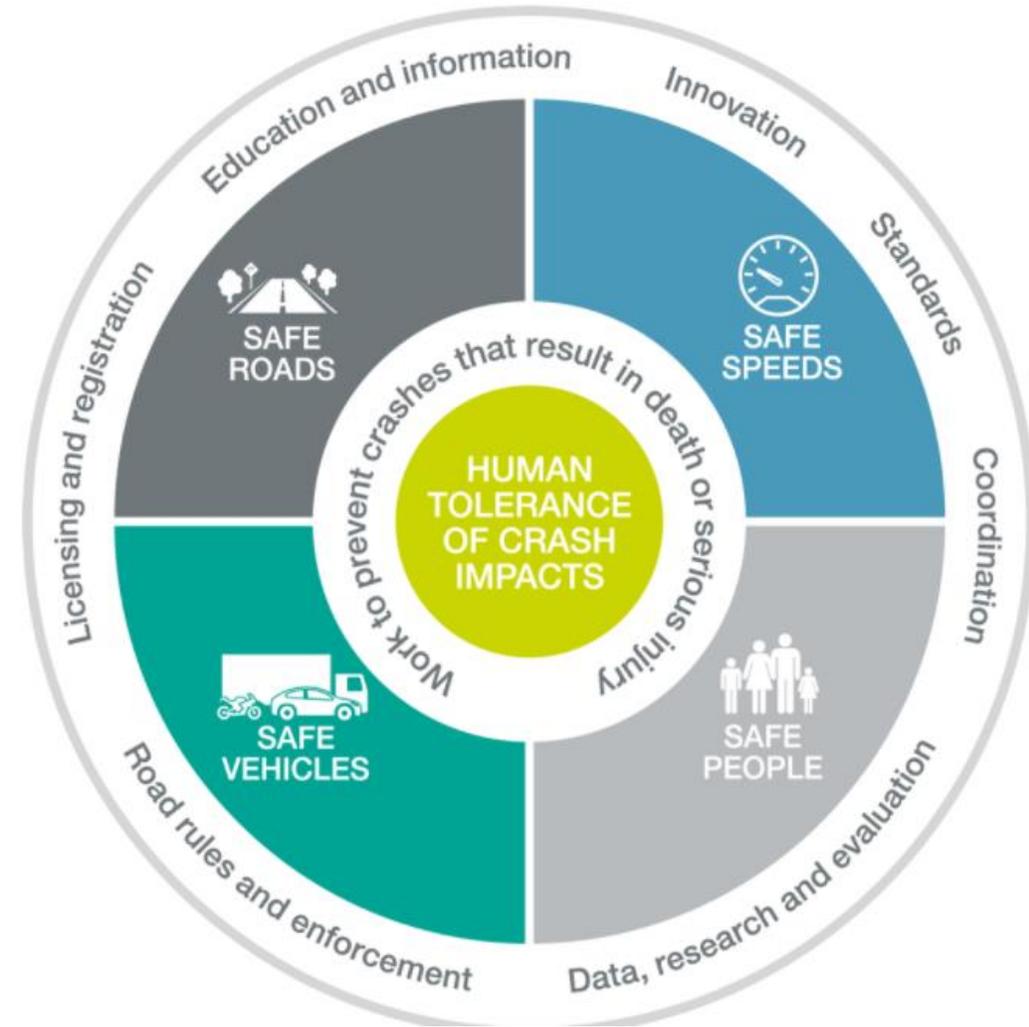
- In 2019, Australian Government established Office of Road Safety in Department of Infrastructure, Transport, Regional Development and Communications.
- Office of Road Safety responsible for:
  - new and existing road safety programs,
  - engaging with road safety stakeholders,
  - reporting on National Road Safety Strategies.

# National Road Safety Strategy 2011–2020

- Adopted Safety Systems Approach to achieve Vision Zero by 2050.
- Set interim goal of 30% reduction in fatalities and serious injuries by 2020.
- Partners include:
  - States/territorial governments,
  - Austroads- association improving Australasian road transport,
  - Government owned vehicle insurers (e.g., Traffic Accident Commission),
  - Universities (e.g., Monash University Accident Research Centre).

# Australian Principles of Safe Systems Approach

- **People make mistakes:** Transport system should not result in death or serious injury as consequence of errors on roads.
- **Human physical frailty.** There are known physical limits to amount of force our bodies can take before injury.
- **A ‘forgiving’ road transport system.** Safe Systems ensure that forces in collisions do not exceed limits of human tolerance. System designers and operators need to take into account limits of human body in designing and maintaining roads, vehicles and speeds.



# Australian Strategic Action Plan for 2018–2020

- Increase infrastructure funding to reduce trauma on regional roads.
- Implement safety treatments to reduce injuries at urban intersections.
- Reduce speed limits to 40 km/h or lower in pedestrian and cyclist places and deploy more point-to-point and mobile speed cameras.
- Increase roadside drug testing significantly in all states/territories.
- Improve heavy vehicle safety through improvements to licensing arrangements and fatigue laws.
- Increase deployment of vehicle technology to increase safety (e.g., Autonomous Emergency Braking).

# Progress on Australia's 2011-2020 Strategy

- Number of fatalities dropped by 12% and fatality rate per billion VKT declined by 24% between 2010 and 2019.
- Significant reductions were observed in:
  - single vehicle fatalities (-12%),
  - fatal crashes involving young drivers/riders (-25%),
  - fatally injured drivers with a blood alcohol concentration (BAC) over .05 limit (-40%) and,
  - crashes involving heavy vehicles (-17%).
- Developing 2021-2030 strategy to reduce rate of traffic deaths per 100,000 population by at least 50% and rate of serious injuries by at least 30% - being released later this year.

# Canada

- Canada has federal and 13 provincial/territorial governments.
- Transport Canada's (TC) Multi-Modal and Road Safety Programs is primarily responsible for safety standards for new and imported vehicles, tires and child restraints.
- Justice Canada is responsible for *Criminal Code of Canada*
- Provinces and Territories are responsible for driver licensing, vehicle registration, designing, building and maintaining roads and the administration of justice.
- Motor Carriers are a shared responsibility.
- All work together through the Canadian Council of Motor Transport Administrators reporting to Council of Ministers.

# Canada's Road Safety Strategies

- Current Road Safety Strategy (RSS) 2025 started in 2016.
- Vision is “Toward Zero: The Safest Roads in the World”.
- Canadian Council of Motor Transport Administrators (CCMTA) is the custodian.
- Each jurisdiction is responsible for identifying their own road safety issues and developing plans and interventions.
- To assist jurisdictions, inventory of proven and promising road safety countermeasures has been developed by CCMTA.
- Other partners include Transportation Association of Canada, vehicle insurers, police services, universities, CARSP, Parachute, etc.

# RSS 2025 Risk Groups and Factors

		Contributing Factors								
Risk Group		Alcohol Impaired Driving	Drug Impaired Driving	Distracted Driving	Fatigue Impaired Drivers	Speed and Aggressive Drivers	Unrestrained Occupants	Environmental Factors	Road Infrastructure	Vehicle Factors
	Young/Novice Drivers									
	Medically at Risk Drivers									
	Vulnerable Road Users									
	Commercial Drivers									
	High Risk Drivers									
	General Population									

Between 2008 and 2019:

Fatality rate per 100,000 licensed drivers dropped 29%,

Serious injury rate per 100,000 licensed drivers decreased 36%.

# The Netherlands

- The Netherlands has central, provincial, and local governments.
- Creation and monitoring of National Road Safety (RS) strategy, setting of targets, and development of RS programs involve:
  - Ministry of Infrastructure and Water Management, Directorate General Mobility – Roads and Traffic Safety.
  - Ministry of Infrastructure and Environment (MIE).
  - Provinces, urban regions, and municipalities,
  - Rijkswaterstaat (i.e., water boards),
  - Safe Traffic Netherlands and Institute for Road Safety Research (SWOV).

# The Netherlands 2008-2020 Strategic Plan

- Road Safety Strategic Plan 2008–2020, *From, for and by everyone* based on Sustainable Safety Vision (SPV).
- Set targets for fatalities and serious injuries every 4 years,
- Process starts with forecasts for numbers of fatalities and serious injuries based on two-step approach.
  - Extrapolation of past casualty rate trends for different road user categories are combined with forecasts on distances traveled,
  - Extrapolation is adjusted for changes in road safety policies.
- Current target is 500 fatalities and 10,600 MAIS2+ road injuries by 2020.

# Principles of Netherland's Sustainable Safety Vision

- **FUNCTIONALITY**- Road sections and intersections have only one function for all modes of transport.
- **(BIO)MECHANICS** - Modes are compatible with respect to speed, direction, mass, size and degree of protection supported by design of road, road environment and vehicle.
- **PSYCHOLOGICS** - Traffic system is well-aligned with the general competencies and expectations of road users.
- **RESPONSIBILITY** - Responsibilities are allocated and institutionally embedded to guarantee a maximum road safety result for each user.
- **LEARNING and INNOVATING** - Responsibilities are allocated and institutionally embedded and integrated with inherent roles and motives.

# Progress on Road Safety Strategy in The Netherlands

- Fatalities decreased 4% from 2010 to 2017.
- Serious injuries increased 37% from 2010 to 2016.
- Bicyclist collisions increased.
- Collisions involving elderly increased.
- Manifesto supported by 30 organizations was published in 2017 and government has included road safety in its' program.
- Government is currently developing 2020-2030 strategy which will include regional and local governments and other key stakeholders involved in road safety.

# Sweden

- Sweden has national government and several provincial governments.
- Federal Swedish Transport Administration is responsible for:
  - long-term planning of transport system,
  - road network and road safety policies.
- Ministry of Enterprise and Innovation is responsible for:
  - road infrastructure and,
  - monitoring of road safety development.
- Swedish Transport Agency is responsible for:
  - vehicle safety improvement and,
  - road user education and publicity.

# Sweden's Road Safety Strategy

- In 1997, Sweden was first country to adopt Vision Zero philosophy by putting people first and focusing mainly on collisions resulting in fatalities or serious injuries.
- Vision's long-term objective: No one should be killed or seriously injured in traffic and that design, function and use of road transport system shall be adapted to standards this vision requires.
- Vision is being pursued by following Safe Systems Approach where system is designed to minimize harm of potential human errors.
- Latest Swedish strategy adopted following targets:
  - road traffic fatalities shall be reduced by 50% and serious injuries by 25% between 2007 and 2020.

# Progress on Sweden's Road Safety Strategy

- From 2010 and 2018:
  - Fatalities increased by 22%,
  - Fatality rate per billion VKT increased 9%,
  - Injury collisions declined by 14%.
- Fatal collisions between passenger vehicles and heavy trucks increased by 68% from 2017 to 2018.
- Between 2016 and 2018, percentage of fatalities involving alcohol has remained around 24%.
- Since 2010, only 45% of drivers comply with speed limits.
- Swedish Transport Administration produced action plan for safe road traffic for 2019-2022.
- Sweden considering renewing target of 50% reduction in fatalities and 25% reduction of serious injuries by 2030.

# United Kingdom

- United Kingdom is unitary state but has counties and local authorities.
- Roads, Devolution, and Motoring Group of Department for Transport (Dft) is lead agency responsible for:
  - development and coordination of road safety policy, strategy and actions,
  - driver and vehicle licensing and road user licensing insurance,
  - freight operator licensing,
  - pedestrian and bicycle safety,
  - local transport Infrastructure,
- Highways England is responsible for safety on strategic roads network.

# Road Safety Strategy in United Kingdom

- Adopted Safe Systems Approach to reach its national vision of zero fatalities and serious injuries.
- 2011 evaluation of Local Road Safety found that national targets had stimulated successful local partnerships but post-2010, there was shift away from national targets which lowered local priority given to road safety.
- 2018 Road Safety Management Capacity Review found UK's Road Safety Management to be good information sharing structure at national level bringing together key road safety partners.
- Weaknesses in road safety management included absence of national road safety performance framework for short and long-term, resulting in lack of focus and cohesion in coordination efforts.

# Progress on United Kingdom's Road Safety Strategy

- Between 2010 and 2019:
  - number of fatalities initially declined about 5% then plateaued,
  - serious injury collisions dropped by 23%,
  - pedestrian fatalities increased 17%.
- In 2018, in the British Road Safety Statement, government committed to invest in road safety activity but endorsed local decision-making instead of national targets.
- Created framework whereby by 2040, number of people killed or seriously injured on Strategic Road Network should approach zero.

# United States

- United States has federal government and 50 state governments.
- Federal Department of Transportation (DoT) includes:
  - National Highway Traffic Safety Administration (NHTSA) responsible for:
    - promulgation and enforcement of motor vehicle safety regulations,
    - research related to vehicle safety and road user behavior, and
    - development of road safety education programs.
  - Federal Motor Carrier Safety Administration (FMCSA) regulates safety of motor carrier operations through regulations and their enforcement.
  - Federal Highways Administration (FHWA) supports state and local governments in design, construction, and maintenance of nation's highways.

# Responsibilities of American States

- States' responsibilities include:
  - licensing drivers and registering vehicles,
  - constructing, operating, and maintaining highways,
  - passing road safety laws regarding alcohol and drug impaired driving, seat belt use, speed limits, distracted driving, etc.
  - conducting research and policy and program development on road safety.

# U.S. Road Safety Strategy

- NHTSA's latest strategic plan for 2016-2020 centred on:
  - Safety,
  - Proactive Vehicle Safety,
  - Automated Vehicles,
  - Human Choices and Organizational Excellence.
- NHTSA and many state and local transportation agencies embraced various versions of Vision Zero and Safe Systems Approaches.
- DoT agencies are all part of national Road to Zero coalition focused on strategies to end vehicle fatalities by 2050.
- Each state must develop Strategic Highway Safety Plan for reducing fatalities and serious injuries on public roads in order to receive funding from federal Highway Safety Improvement Program.

# Progress on Road Safety Strategy in U.S. from 2010 to 2019

- Fatalities increased from 32,999 to 36,096, up by 9%.
- Fatality rate per billion vehicle miles traveled remained unchanged at 1.1.
- Number of injuries increased from 2.3M to 2.7M, increase of 17%.
- Injury rate per billion vehicle miles traveled increased 15%.

# Principles of Effective Road Safety Management\*

1. Define burden and nature of road casualties,
2. Gain commitment and support from decision makers including politicians,
3. Establish Road Safety Policy,
4. Define institutional roles and responsibilities,
5. Identify road safety problems,
6. Set Road Safety Targets,

\* According to Andras Varhelyi, Lund University in Sweden

# Principles of Effective Road Safety Management Cont'd

7. Formulate Strategy and Action Plan.
8. Allocate responsibility for measures.
9. Ensure funding.
10. Apply measures with known effectiveness.
11. Monitor performance.
12. Stimulate research and capacity building.

# Full Paper

- Boase, P. and Jonah, B. (2021) Road Safety Management in Selected Countries. In Vickerman, Roger (eds.) International Encyclopedia of Transportation. vol. 2, pp. 519-528. UK: Elsevier Ltd.