



NewsRelease

Sept. 29, 2017

PROVINCE ANNOUNCES ROAD TO ZERO: MANITOBA ROAD SAFETY PLAN 2017-2020

A new plan by the Provincial Road Safety Committee provides a vision for Manitoba to have the safest roads in Canada and lays the groundwork to one day achieving zero traffic fatalities on the roadways, Crown Services Minister Cliff Cullen and Infrastructure Minister Ron Schuler announced today.

The Road to Zero: Manitoba Road Safety Plan 2017-2020 – the first plan of its kind in Manitoba – adopts a Safe System approach for Manitoba which envisions a more forgiving road system that takes human imperfection and vulnerability into account and considers all parts of the road system holistically in developing solutions to eliminate injury and death, the ministers added.

The Safe System approach focuses on:

- safe roads – designing infrastructure that is forgiving of mistakes and protects vulnerable road users;
- safe speeds – ensuring that speed limits are safe and appropriate, and speeds are managed so that other parts of the system work as intended;
- safe road users – educating the public on the preventability of collisions and instilling a traffic safety culture; and
- safe vehicles – ensuring that vehicles are designed, manufactured and repaired as safely as possible.

“In Manitoba, we aspire to have a road system where emerging vehicle technology; road design, construction and maintenance; traffic safety legislation and enforcement; public awareness and safe travel speeds all contribute to reductions in traffic fatalities and serious injuries,” said Schuler. “This plan represents the collaborative work of many road safety stakeholders and by working together and consulting with the full range of road safety advocates, we are unified in our approach and collectively focused on the same priorities and goals.”

To align itself with current national and international best practice in road safety, Road to Zero also supports a Toward Zero future vision where roadways are free of traffic fatalities or severe injuries, Schuler added. It is an ethics-based approach for road safety which, at its core, holds the principle that it is unacceptable for anyone to be killed or seriously injured when moving within the transportation system, he noted.

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“Our province is committed to identifying and implementing road safety strategies and solutions that work for Manitobans,” said Cullen. “The vision of the road safety plan is for Manitoba to have the safest roads in Canada and we are committed to one day achieving zero traffic fatalities on our roadways. This is a big step forward to achieving better outcomes for Manitobans and their safety on streets and highways.”

Road to Zero follows the Canadian Road Safety Strategy 2025 and seeks to accelerate previous downward trends in the rate-based number of fatalities and serious injuries on provincial and municipal roadways.

Road to Zero provides key priorities for the next three years for legislators, administrators, public works, law enforcement and the transportation sector to advance the road safety agenda in Manitoba.

Highlighted priorities include more co-ordinated research and planning between agencies within the Safe System, early adoption of automated vehicle technology, improved safety for vulnerable road users through smart road design, evolving Manitoba’s traffic safety culture, reducing driver distraction and impairment, increasing awareness of medically at-risk drivers of all ages, and examining new speed management strategies to lower risk, among others.

The Provincial Road Safety Committee was struck in 2015 and includes leadership from Manitoba Infrastructure, Manitoba Public Insurance, Manitoba Justice, Manitoba Health, and the Manitoba Association of Chiefs of Police.

Road to Zero: Manitoba Road Safety Plan 2017-2020 is available to the public via download from the Manitoba Public Insurance website at <https://www.mpi.mb.ca/en/PDFs/RoadToZero.pdf>.

Manitoba Road Safety Plan

2017-2020

Road to
ZERO



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Commitment from Stakeholders

Message from the Ministers

The vision of the Road Safety Plan is for Manitoba to have the safest roads in Canada and we are committed to one day achieving zero traffic fatalities on our roadways.

It is our privilege to present the 2017-2020 Road Safety Plan for Manitoba.

Each year, on average nearly 90 people are killed and over 400 are seriously injured on Manitoba's rural and urban roadways. These people are not just numbers, they are our loved ones and close friends. The only acceptable number of deaths, as a result of a traffic collision, is zero. Safe roads should be expected by everyone. Ourselves, our families, and our friends.

The vision of the Road Safety Plan is for Manitoba to have the safest roads in Canada and we are committed to one day achieving zero traffic fatalities on our roadways. By adopting the Safe Systems Approach, we understand that people will make mistakes. In Manitoba, we aspire to have a road system where emerging vehicle technology; road design, construction and maintenance; traffic safety legislation and enforcement; and safe travel speeds all contribute to the forgiveness of these mistakes and mitigate risks so ultimately driver errors do not result in death or serious injury.

This Plan, developed in collaboration by Manitoba leaders in road safety, will use evidence based approaches and state-of-practice tools to examine new and innovative ways to reduce traffic fatalities and injuries in Manitoba. The Plan will be ever changing, and adapt to the needs of all Manitobans.

Everyone has a part to play in achieving our vision of having the safest roads in Canada and zero road fatalities. Our province is committed to working cooperatively and collaboratively to identify and implement solutions that work for all Manitobans.



Honourable Ron Schuler
Minister of Infrastructure



Honourable Cliff Cullen
Minister of Crown Services

Message from the Chairs of Provincial Road Safety Committee

Manitoba's changing road safety environment requires a proactive approach where all stakeholders and partners work collectively to reduce traffic fatalities.

It is with great pleasure we present the 2017-2020 Road Safety Plan for Manitoba.

We would like to thank the many road safety stakeholders, partners and organizations who have collaborated and contributed in the development of the Manitoba Road Safety Plan.

We are very appreciative of the tremendous commitment shown by all parties in identifying road safety priorities for Manitoba and their willingness to work together on strategic action items to one day achieve our ultimate goal of zero fatalities on our highways and roads. The further commitment to come together to find made-in-Manitoba solutions to these issues is an important step and ensures all provincial road safety initiatives and interventions are aligned and supported.

Manitoba's changing road safety environment requires a proactive approach where all stakeholders and partners work collectively to reduce traffic fatalities. The Plan will consider current and emerging vehicle technologies, infrastructure designs, road safety policy and legislation, enforcement strategies, and emergence of new road safety issues such as the legalization of cannabis.

Road safety is the responsibility of all Manitobans; from the transportation system administrators who design and construct our roads and enact legislation, to vehicle manufacturers who develop and support emerging safety technology, to police officers who enforce traffic laws, and to every person that uses our roads. Together we can achieve our vision of zero traffic fatalities and make our roads the safest in Canada, for the benefit of our families, neighbours and communities.

Co-Chairs of Provincial Road Safety Committee



Ward Keith
Vice-President
Business Development & Communications
and Chief Administrative Officer
Manitoba Public Insurance



Ron Weatherburn
Assistant Deputy Minister
Engineering and Operations Division
Manitoba Infrastructure

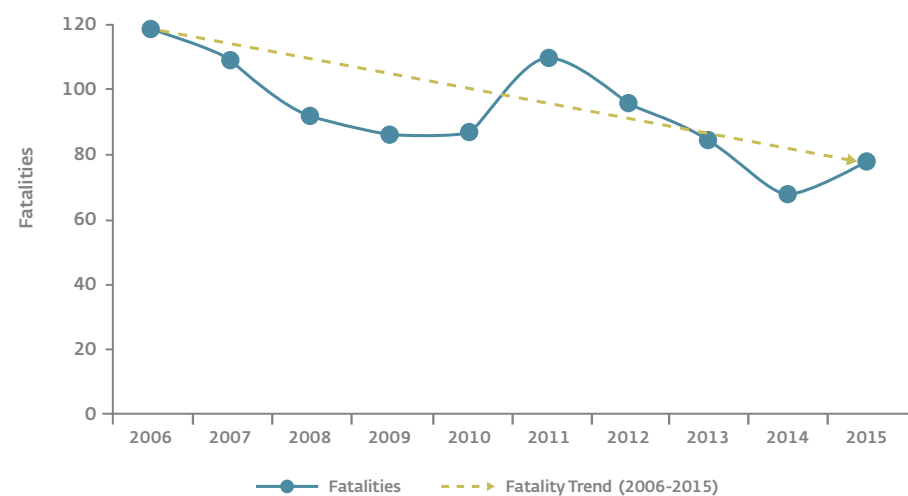
Current Provincial Road Safety Environment

Personal and Societal Costs of Collisions

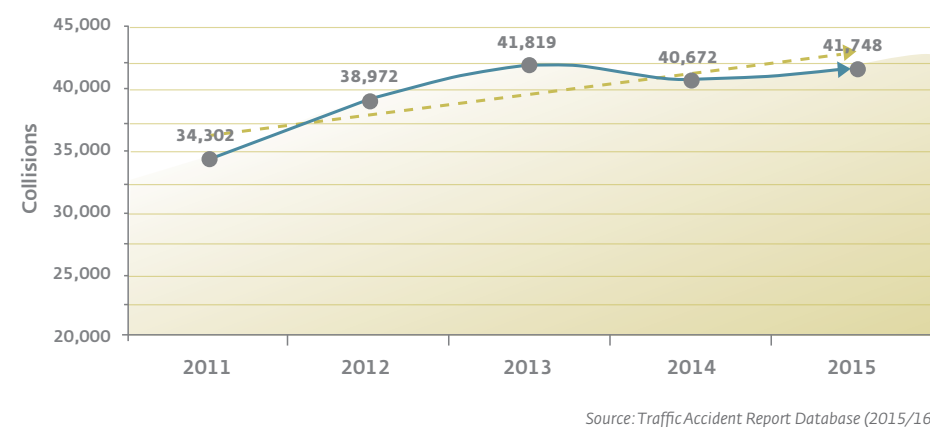
Over the last two decades, motor vehicle-related fatalities and serious injuries have declined significantly on Manitoba roadways. These improvements have been achieved despite increases to the province's population; number of vehicles registered; and licensed drivers on Manitoba roadways, over the same period.

Despite clear declines in motor vehicle-related casualties, the personal and societal costs of collisions, injuries and fatalities continue to be significant. The annual social cost of motor vehicle collisions in Manitoba (in terms of loss of life, medical treatment, rehabilitation, lost productivity, property damage, etc.) are estimated at \$6.4 million per fatality and \$133,000 per injury. When these costs are applied to the number of fatalities and injuries, the societal costs of traffic fatalities and injuries were over \$2 billion in 2013, or approximately three per cent of Manitoba's gross domestic product. Over the past five years (2011-2015), on average, there were 39,492 collisions in Manitoba resulting in 10,777 injury victims and 87 fatalities annually.

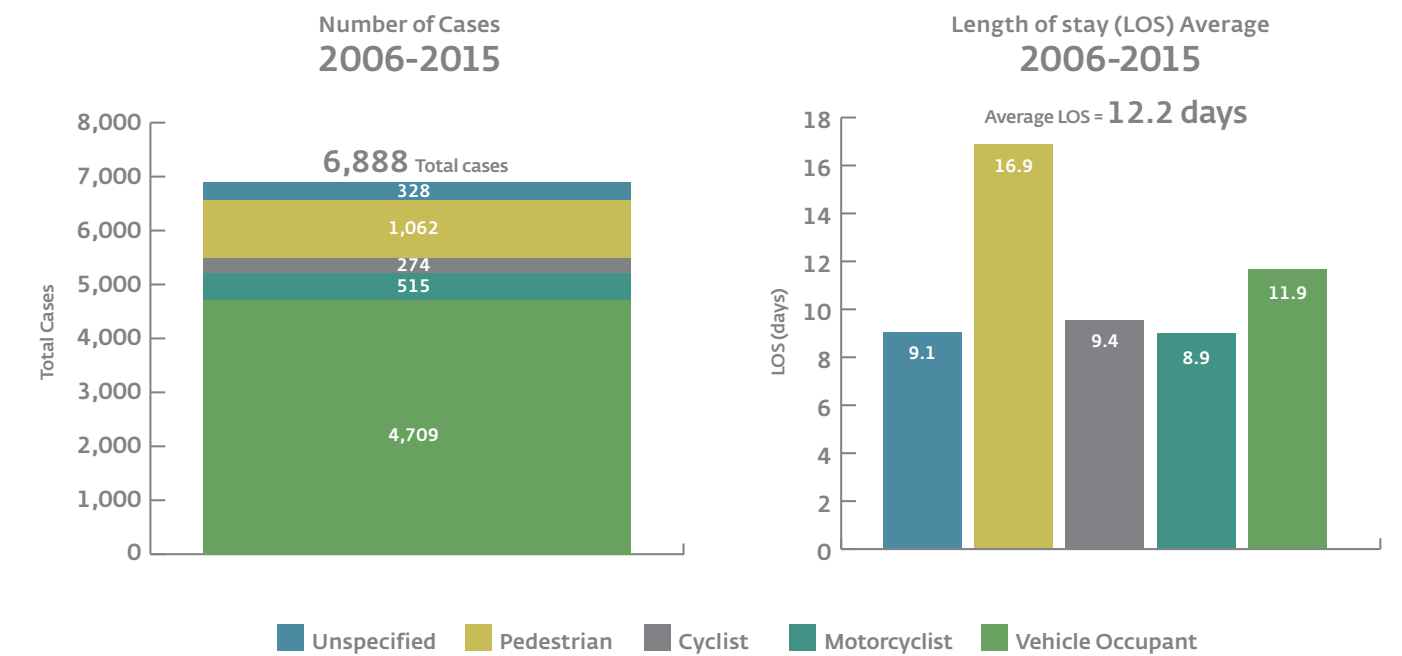
Traffic Fatalities in Manitoba from 2006 to 2015



Total collisions in Manitoba from 2011-2015



Injury hospitalizations due to motor vehicle collisions



Motor vehicle collisions are the fifth leading cause of injury-related deaths in Manitoba, a ranking that has remained constant for the past 10 years. The majority of road users hospitalized over the past ten years were vehicle occupants (68%), followed by pedestrians (15%), motorcyclists (7%) and cyclists (4%). Traffic collisions put a strain on Manitoba's health system as the average length of stay in hospital as a result of

a motor vehicle collision is approximately 12.2 days, with pedestrians having hospital stays 38.5 per cent longer (average stay 16.9 days). Not surprisingly, older individuals record the longest stays in hospital resulting from injury in motor vehicle collisions; with Manitobans aged 85 with the longest length of stay averaging almost 25 days, followed by people aged 75 to 84 (20 days) and 65 to 74 (19 days).

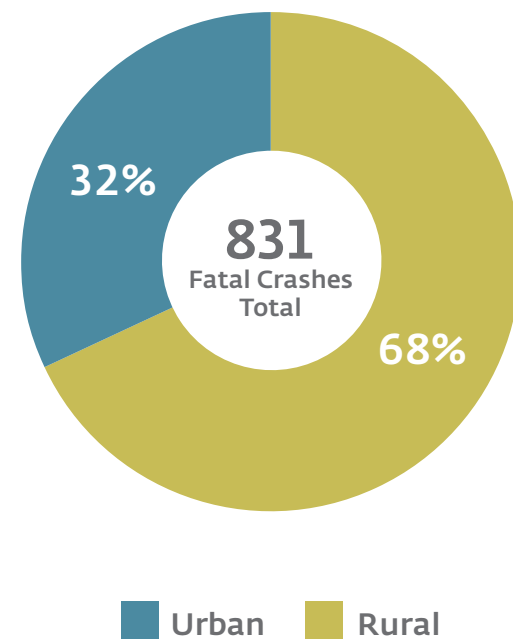
Current Provincial Road Safety Environment

A Changing Road Safety Landscape

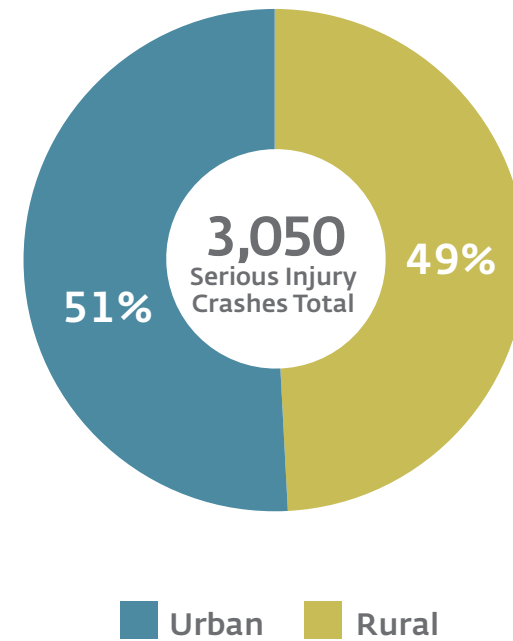
Over the past decade, the vast majority of traffic related deaths on Manitoba roadways have occurred in rural areas (66%), whereas serious injury collisions are more evenly split between rural (53%) and urban (47%) locations. Contributing factors, in fatal and serious injury

collisions occurring in rural areas, are most often noted as driver distraction, driver impairment, loss of control or driving off the road, speed, and failure to yield the right-of-way.

Fatal crashes in Manitoba from 2006 – 2015



Serious injury crashes in Manitoba from 2006 – 2015



Source: Traffic Accident Report Database (2015/16)

There are several key reasons for Manitoba's ever-changing road safety environment. These factors include the current state of infrastructure within the province, the emergence of new vehicle technology, the prominence of emerging road safety issues, a growing commitment to active transportation and safety of vulnerable road users, and changes to Manitoba's population.

Infrastructure

The Manitoba government is committed to strategic infrastructure investment and forecasts \$1.7 billion in strategic infrastructure investment in 2017/2018. Of that investment, nearly \$750 million is committed to road, highways, bridges and flood protection.

Even with significant infrastructure investment, programming pressures still exist, with many competing demands for highway infrastructure dollars. Safety and standards best practices are currently built into new infrastructure; however, retrofit projects for existing infrastructure present a much greater challenge.

There are also costly maintenance considerations when introducing leading edge technologies to address road safety concerns. That said, Manitoba is committed to ensuring value for money when rebuilding provincial infrastructure and will utilize a return on investment model to prioritize government investment in infrastructure projects.

Perhaps the biggest challenge for implementing road safety initiatives is identifying mechanisms for sustainable road safety funding well into the future.

Emerging Vehicle Technologies

Autonomous vehicle (AVs) technologies are advancing rapidly, providing opportunities and challenges for policy-makers and regulators. There are several perceived societal benefits of AV technology including reductions in traffic collisions, mitigation of consequences as a result of distracted driving, lower vehicle emissions and traffic congestion, and improvements in fuel efficiency and mobility.

There is a need for a strategic and coordinated approach to AV technology across Canada. Manitoba continues to monitor developments in connected and AV technologies. However, legislative amendments will be required to guide their use, and establish parameters for their safe operation.

Active Transportation

Active transportation (AT) promotes a healthier and more active lifestyle through alternative and environmentally friendly modes of transportation; such as cycling and walking. Active transportation provides the opportunity to integrate physical activity into daily life, and increase social interactions which enhances community vibrancy in neighbourhoods all across Manitoba.

Pedestrian and Cycling Safety

Manitoba Infrastructure (MI) works with AT stakeholders to safely integrate AT facilities in highway rights-of-way or adjacent to highways, where appropriate, and invests in AT infrastructure improvements such as building sidewalks on bridges.

Some municipalities within Manitoba have also developed AT strategies and action plans to meet the unique and emerging needs of their communities. For instance, over the last decade, the City of Winnipeg has invested significant resources in improving infrastructure, policy and programs in support of cycling and pedestrian safety.

A Changing Road Safety Landscape

Changing Demographics

The steady growth of Manitoba's population has been driven by increases in immigration, less outbound migration, and natural growth. As immigration numbers increase many new Manitobans may lack knowledge of rules and safe practices on Canadian roads; not only as drivers, but also as pedestrians and cyclists. This Plan will consider additional driver training for new arrivals seeking a driver's licence and orientation of safe road practices as a pedestrian or cyclist for new Manitobans.

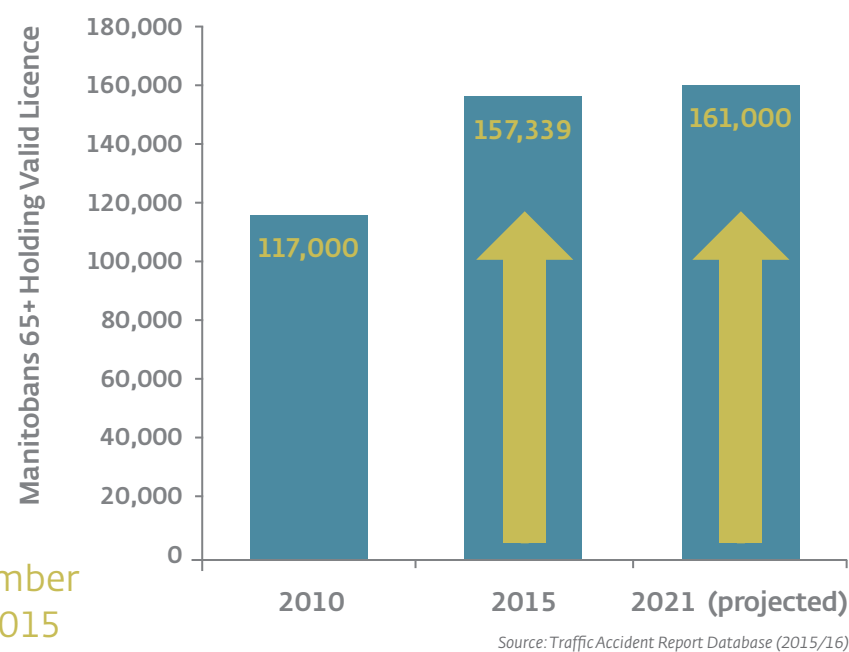
The majority (56%) of Manitoba's population resides in the provincial capital, Winnipeg, with the balance dispersed throughout the province. Over the years, migration from rural areas to urban locations has created a population imbalance that places considerable strain on resources to meet the demands of growth, but still maintain a vast infrastructure network in areas with declining population.

34% increase in the number of drivers 65+ from 2010 to 2015 with projections suggesting this will continue to climb.

Statistics Canada is predicting a large increase in the population of seniors over the next few decades. In 2010, fewer than 117,000 Manitobans aged 65 years and older held a valid driver's licence. In keeping with population projections, this segment of drivers could rise to approximately 161,000 by 2021. As seniors age, they are more likely to

develop physical and cognitive restrictions, although not all seniors have conditions which affect the safety of their driving. This aging population may require additional safety measures or interventions to keep them and other Manitobans safe on the road, and provincial/municipal road infrastructure may need to be modified.

Manitobans aged 65 plus years and holding a valid driver's licence



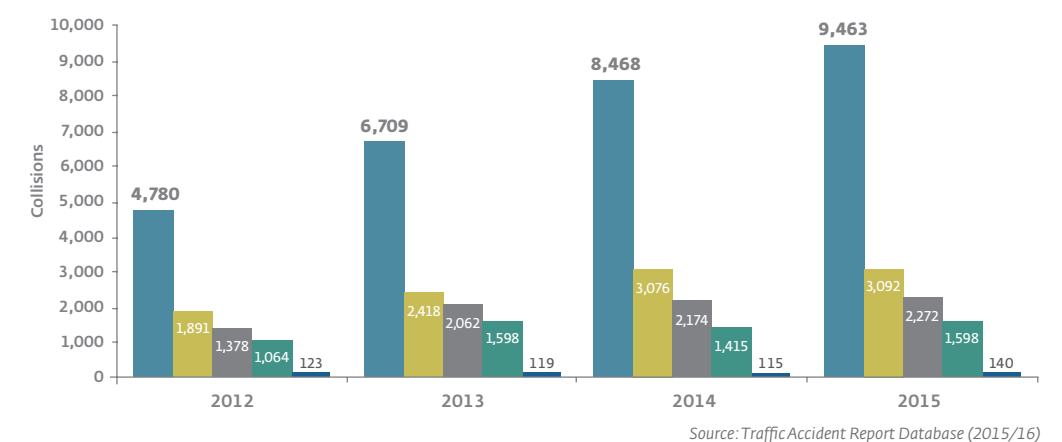
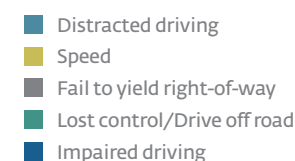
Emerging Road Safety Issues

Progress has been made over the past decade to reduce the number of motor vehicle-related fatalities and serious injuries, but road safety stakeholders in Manitoba must remain diligent on important issues such as alcohol impairment, distraction, drug impairment, speed, and non-use of occupant restraints that continue to play a role in contributing to motor vehicle-related collisions and casualty results in Manitoba. That said, driver distraction and impairment by drugs are two priority issues that may significantly alter road user risk and impact collision and casualty results in the future, if left unattended.

Distraction

Since 2013, distraction has contributed to more total vehicle collisions in Manitoba than any other recorded factor.

Distorted driving vs. other contributing factors: multi-year



Over the last four years (2012-2015), on average, distracted driving was a contributing factor in 32 per cent of motor vehicle collisions in Manitoba causing death and 22 per cent of collisions resulting in serious injury. These numbers continue to climb each year. Distractions can occur both within and outside the vehicle. External distractions include other vehicles, cyclists or pedestrians and display/advertising signs both within and adjacent to road rights-of-way. Common internal distractions include handling of a hand-held electronic device, in-vehicle visual technology, interacting with passengers, eating, grooming or reading. With smart phone ownership increasing and new visual technologies continuously being introduced in vehicles, it is reasonable to believe distraction will remain an important safety issue now and in the future.

Recent implementation of legislative countermeasures to combat distracted driving has not yet resulted in a major

decline in serious injury or fatal collisions in Manitoba. Under Manitoba's Highway Traffic Act, using a hand-operated electronic device while driving has been prohibited since July 2010. Manitoba also leads the country with the highest demerit level compared to other Canadian jurisdictions, though most Canadian jurisdictions have introduced higher fines for using hand-held electronic devices. The consequences of distracted driving are as serious as impaired driving, leading many Canadian jurisdictions to adopt legislative sanctions similar to those found in impaired driving legislation. Changing public perception and behaviour requires leveraging the right combination of tools—public education, legislation and enforcement—to make distracted driving as socially unacceptable as impaired driving. Additionally, enhanced protocols with respect to display/advertising signs may also need to be considered.

A Changing Road Safety Landscape

Impairment by Drugs

In June 2016, the Government of Canada announced its intention to legalize the recreational use of cannabis. Once recreational use of cannabis is legalized, it is anticipated that cannabis usage will increase, which may result in more people driving while impaired by drugs in Manitoba. Recent research examining multiple studies about the effects of cannabis on driving performance concluded that cannabis doubled the risk of crash involvement.^[1] It should also be noted that a large volume of research demonstrates that drivers who have been using cannabis in combination with alcohol are at significantly greater risk of collision.^{[2][3][4]}

Manitoba has led the way provincially and introduced the Cannabis Harm Prevention Act in 2017 to provide interim measures, including licence suspension for cannabis impairment, prohibiting cannabis consumption in vehicles on public roads, and restricting the transportation of cannabis in vehicles, that will protect Manitobans during the period before new federal cannabis and impaired driving legislation is fully implemented. Manitoba will continue to work with other provincial counterparts to ensure administrative laws are as effective as they can be in reducing drug impaired driving. Manitoba legislators require a nimble approach to ensure recreational cannabis use does not result in a new road safety problem.

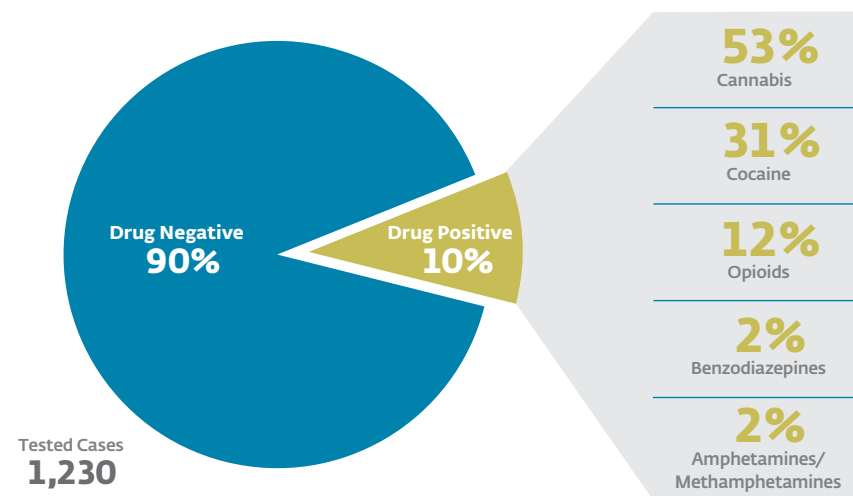
Nationally, there is a significant lack of research and empirical evidence on the issue of drugs and driving. Further research is needed to better understand this emerging issue and potential implications new

legislation may have on the prevalence of drugs and driving in Manitoba. In response to this need, Manitoba Public Insurance partnered with MADD Canada in 2016 on a series of roadside surveys in Manitoba to determine the prevalence of both alcohol and drug use in drivers. Results showed one in ten Manitoba drivers who participated in the survey tested positive for some form of drug, with cannabis (53%) and cocaine (31%) being most common among those testing positive. By comparison, only 2.4 per cent of drivers had a blood alcohol concentration (BAC) greater than nil (un-weighted). These results establish a baseline against which future surveys can be compared and will provide critical data that help to determine the impact of legislation, enforcement and safety promotion and awareness campaigns in the ongoing fight against impaired driving.

Manitoba's road safety environment is evolving as new issues and technologies emerge and demographic conditions change. This changing environment creates new challenges for improving road safety and ultimately reducing fatalities and serious injuries on Manitoba roadways. The Road Safety Plan will provide guidance and direction to all road safety stakeholders as we navigate change and prepare for the future.

Sources
^[1] Asbridge, M., Hayden, J.A., & Cartwright, J.L. (2012). "Acute cannabis consumption and motor vehicle collision risk: Systematic review of observational studies and meta-analysis." *British Medical Journal*, 344, e536
^[2] Bramness, Jørgen G., Hassan Zaré Khiabani, and Jørg Mørland. "Impairment due to cannabis and ethanol: clinical signs and additive effects." *Addiction* 105.6 (2010): 1080-1087.
^[3] Downey, Luke A., et al. "The effects of cannabis and alcohol on simulated driving: influences of dose and experience." *Accident Analysis & Prevention* 50 (2013): 879-886.
^[4] Ronen, Adi, et al. "The effect of alcohol, THC and their combination on perceived effects, willingness to drive and performance of driving and non-driving tasks." *Accident Analysis & Prevention* 42.6 (2010): 1855-1865.

Proportion of drivers testing positive for drugs



The Safe Systems Approach

The Canadian Council of Motor Transport Administrators (CCMTA) Road Safety Strategy (RSS) 2025 supports a long-term vision of making Canada's roads the safest in the world. As well, a number of principles key to the strategy's success have been aligned with international best practices in road safety, including adopting the Safe Systems Approach. Manitoba's Road Safety Plan aligns with Canada's RSS 2025 and supports the Safe Systems Approach to traffic safety.

What is the Safe Systems Approach?

The Safe Systems Approach aspires to a more forgiving road system that takes human imperfection and vulnerability into account.

The system accepts that people will make mistakes and are vulnerable, so road systems are created in such a way that collision forces don't result in serious injury or death or are prevented from occurring in the first place. All parts of the road system are to be considered

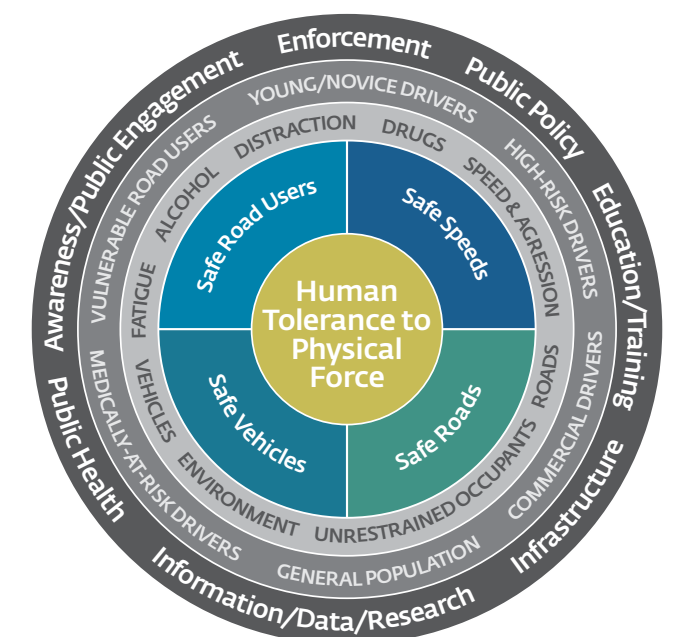
holistically and strengthened; including roads, speeds, vehicles and road users. In a Safe Systems Approach, all those who design and maintain the road system, and those who use it, must share in the responsibility for road safety outcomes.

A Safe Systems Approach, therefore, focuses on:

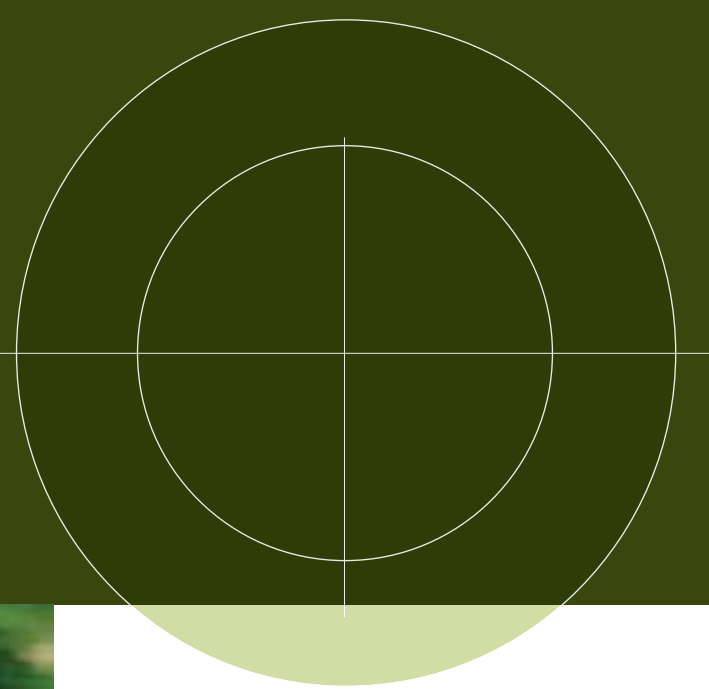
- designing infrastructure that is forgiving of mistakes and protects vulnerable road users;
- ensuring that speed limits are safe and appropriate, and speeds are managed so other parts of the system work as intended;

- educating the public on the preventability of collisions and instilling a traffic safety culture; and
- ensuring that vehicles are designed, manufactured, and repaired as safely as possible.

A Safe Systems Approach requires commitment and collaboration between all levels of government and private sector stakeholders with a mutual interest in road safety. It also requires strategic planning, long-term thinking, and sustained funding commitments.



Towards Zero and Road Safety Targets



To align itself with current national and international best practices, Manitoba's Road Safety Plan supports the Towards Zero approach to traffic safety.



What is Towards Zero?

A Towards Zero strategy supports the vision of a future which is free of traffic fatalities or severe injuries. Towards Zero is an ethics-based approach for traffic safety, and is a variation of Vision Zero—started in Sweden in the late 1990s. The core principle for both is that it is unacceptable for anyone to be killed or seriously injured when moving within the road transport system. Towards Zero suggests responsibility for the safety of all road users is shared by road users, transportation system administrators (including politicians, designers, construction and maintenance workers, facility owners and operators), and vehicle manufacturers.

Towards Zero maintains that while not all types of crashes may be prevented, traffic deaths and severe injuries are preventable. Towards Zero concurs with a Safe Systems Approach that people will make mistakes and that the human body is not designed to absorb the high impact forces that occur in motor vehicle collisions. Therefore, the focus is not on avoiding all collisions, but rather on lowering the likelihood of crashes resulting in death or severe injury. A safe system with an emphasis on data-driven solutions is needed to protect all roads users (in particular, vulnerable road users) from their own or others' mistakes.

Towards Zero calls for a range of holistic solutions, but sets the highest level of responsibility on system administrators. This, in itself, may require a change in traffic safety culture—allowing for greater innovation, higher levels of public funding towards roadways, and creating stronger legislation.

Fundamental Principles of a Towards Zero Approach

There are some basic elements that form the foundation of a Towards Zero approach:

- traffic deaths and severe injuries are understood to be preventable
- human life and health are prioritized within all aspects of the transportation system
- human error is unavoidable, and transportation systems should be forgiving of this

- though behavioral change is still an important aspect of the approach, improved system administration (to the extent it is possible) becomes the primary focus
- speed is recognized and prioritized as a fundamental factor in crash severity
- public engagement and support is critical in advancing and implementing Towards Zero strategies

Road Safety Targets

Manitoba's Road Safety Plan will follow the RSS 2025 model, and will seek to accelerate previous downward trends in the rate-based number of fatalities and serious injuries on provincial and municipal roadways. Overall performance will be measured by an annual downward trending over the next ten years in fatalities and serious injuries per 100,000 population, as well as, downward

trending over the next ten years in the societal cost of collisions in Manitoba on a per capita basis.

The Plan intends to measure progress over a ten year time-frame allowing for a clearer view of trends and progress towards zero deaths. Monitoring progress over a ten year period enables the identification of improvement strategies and incremental gains, but removes impetuous response to year-to-year fluctuations.

It will take time to develop and implement key strategic actions that address the priorities within the Plan (as outlined in the next section), therefore numeric performance targets have not been created for the first three years of Manitoba's Road Safety Plan. Manitoba may consider setting numeric targets, after the initial three year period, upon review of the rate of downward trending at the time.



Priorities for Manitoba

Identifying priorities for each quadrant of the Safe Systems Approach focuses our efforts in pursuit of our targets. These priorities for Safe Vehicles, Safe Roads, Safe Road Users and Safe Speeds

will guide future strategic actions, public policy and legislative countermeasures, safety interventions, and resource allocation and investment.

Research priorities impact each quadrant of the Safe Systems Approach and are identified separately.



Research and Data Collection

Fostering research capacity, data collection and consistency are overarching goals that span all road safety priority areas. Comprehensive data collection and analysis is essential for designing effective road safety strategies, determining intervention priorities, and monitoring program effectiveness. Reliability of data is a key issue when developing road safety interventions. Data quality and effective analysis are fundamental to risk awareness and intervention effectiveness.

Collaboration with other provincial, municipal and territorial partners on road safety research initiatives will strengthen consistency and consensus for data collection, address potential data gaps and enable better inter-jurisdictional data comparison and evaluation.

In Manitoba, organizations capture data in response to their own mandated need and requirement. Manitoba Public Insurance gathers collision and claims data to administer insurance claims, inform road safety priorities and initiatives, and to maintain statistical data for national reporting and provincial comparative analysis. The health sector gathers data to determine injury cause, severity and hospitalization impact in the facilitation of health care and injury prevention. Law enforcement gathers data to efficiently and strategically direct policing resources. Municipalities and the province collect data to set priorities for public works and infrastructure. Greater collaboration on what data is collected, and for what purpose, is needed. Further, to the extent possible, consolidating this data and storing it in one place enables all stakeholders access to the same information for decision making.

Further investigation and insight into fatal and serious injury collisions could be gained by increasing research capacity and augmenting existing collision data collection across all user modes such as cars, trucks, buses, pedestrians and cyclists. Rates of serious injury and death amongst active transportation users are

currently unknown, as data gaps exist regarding active transportation use. A more evidence-based, site-specific road safety review of problematic locations is needed to guide safe infrastructure solutions for vulnerable road users.

Priorities:

- Create a central repository of road safety related data, accessible to provincial and municipal stakeholders and researchers.
- Collaborate on research projects (multi-partner funding agreements).
- Expand research and intelligence as primary drivers for road safety decision making.
- Evaluate road safety policies, legislation, programming and interventions to ensure their effectiveness is measured, resources are allocated appropriately and desired outcomes are achieved.

Priorities for Safe Vehicles in Manitoba

Our Vision for Safe Vehicles

What it looks like on Manitoba's road network

Road infrastructure supports emerging autonomous vehicle technology. Within Manitoba's fleet of vehicles, there is widespread use of advanced driver assist technologies and, eventually, fully autonomous vehicles.

What it looks like in Manitoba's culture

consumers recognize the benefits of advanced in-vehicle safety features, including driver assist and autonomous technologies, and seek, invest in, and readily adopt those features.

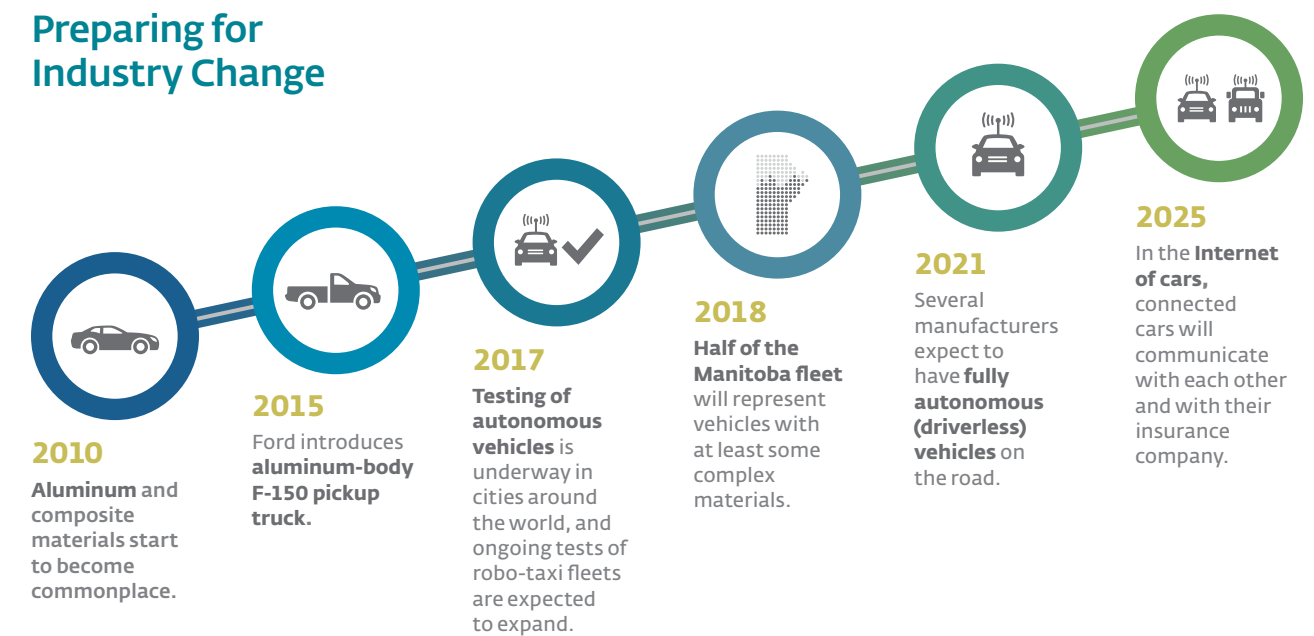
Though fully autonomous vehicles on Manitoba roads may be a decade (or more) away, significant safety advancements have already been made to vehicle technology. Advanced safety features (including collision avoidance, lane departure alerts, pedestrian detection, and auto-braking systems) are becoming standard equipment in new vehicles. These systems take control

of the vehicle to avoid a collision when a human driver fails to do so. This can have a significant impact to road safety as more vehicles on Manitoba roadways are equipped with such technology.

According to data from the National Highway Traffic Safety Association's National Motor Vehicle Crash Causation Survey (2005 to 2007) the driver was

identified as the critical reason for 94 per cent of all recorded crashes. Therefore, the impact of technologies in removing the human action (or decision), which was most often the critical reason for a collision, could be dramatic.

Preparing for Industry Change



Manitoba's Highway Traffic Act establishes requirements and prohibitions for "drivers" and "persons". Currently, Manitoba legislation is designed for traditional motor vehicles with human drivers in control of the vehicle. Amendments to regulatory frameworks are required to allow for pilot testing and evaluation of autonomous vehicles and emerging technologies, including regional testing of infrastructure in different climates, time of day, and weather conditions, in support of autonomous vehicle as they emerge in the marketplace.

Strategies to manage the transition from existing vehicle technology to new autonomous vehicle technology are required to ensure concerns or issues with advancing technology are identified early, and strategies are developed to deal with them.

Priorities:

- Promote early adoption of automated vehicle technologies that promote road safety.
- Expand safety research of emerging technology, autonomous technology in particular.
- Address challenges with technology transition; ensure infrastructure can accommodate and interact with automated vehicle technologies and autonomous vehicles can interact with non-autonomous vehicles.
- Determine how vehicle telematics may be used to monitor and influence positive driving behaviour.



Priorities for Safe Roads in Manitoba

Our Vision for Safe Roads

What it looks like on Manitoba's road network

A road network that meets the safety needs of all users. Separate infrastructure treatments to reduce or eliminate conflict between active transportation users and motor vehicles. These safety improvements are incorporated, in a systematic and formalized way, into road construction and rehabilitation.

What it looks like in Manitoba's culture

The rights of all road users to access a safe road network is understood, accepted and endorsed. Proven safety treatments are implemented.



Many Manitobans enjoy an active and healthy lifestyle through alternative and environmentally responsible modes of active transportation, such as walking and biking. The Provincial Road Safety Committee recognizes a direct connection between the protection of vulnerable road users, their perceived safety, and the further adoption of active transportation.

Vulnerable road users include people on foot, people who use mobility devices to travel, and people on bikes (motorized and human powered). They are particularly at risk of being killed or seriously injured when sharing the roadway with motorists as they do not have the impact protection afforded to people inside vehicles. When speeds rise, especially on the rural high speed highway network, this risk becomes greater. Limiting the interaction between motor vehicles and vulnerable road users, or enhancing infrastructure to separate them altogether, can improve safety and reduce human toll. The protection of vulnerable road users is of the utmost importance and province-wide collaboration and cooperation between all levels of government towards these efforts is essential to enhance safety.

Currently in Manitoba, at both the provincial and municipal level, traffic engineers and road designers have established practices whereby safety improvements to existing infrastructure are incorporated into rehabilitation and re-construction projects on an as needed project-by-project basis. Further safety benefits would be achieved through a more formalized and systemic approach in incorporating road safety within new and existing infrastructure, and to ensure compatibility with the Safe Systems Approach.

Additionally, improved capture of comprehensive collision data, network analysis and site prioritization across all user modes (i.e. car, truck, bus, motorcycle, pedestrian, or cyclist) would allow for installation of site-specific safety treatments, or combination of treatments, that have the greatest potential for collision reductions based on specific collision history.

Priorities:

- Improve safety for all vulnerable road users through smart road design.
- Align active transportation strategies at the municipal and provincial levels, and meet the ever-changing needs of Manitobans.
- Build capacity for research and data collection on site specific location solutions—in both urban and rural municipalities (to better understand where the problems are, what the issue is, and what the possible solutions might be).
- Implement a formalized and systemic approach in incorporating infrastructure improvements that enhance safety.

Priorities for Safe Road Users in Manitoba

Our Vision for Safe Roads Users

What it looks like on Manitoba's road network

Road users demonstrate safe practices and comply with safety legislation.
Enhanced enforcement deters high risk and unlawful behaviours.

What it looks like in Manitoba's culture

Manitobans understand their role and are united in their commitment to reduce collision fatalities and injuries.
High risk behaviours like distracted driving, impaired driving, speeding, and non-use of seatbelts, are socially unacceptable.

Evolving a Traffic Safety Culture in Manitoba

Culture consists of the "beliefs, values, norms, and things people use, which guide their social interactions in everyday life"^M. Traffic safety culture, therefore, refers to the influences under the surface that drive our attitudes and behaviours regarding road safety. To actively address traffic safety culture in Manitoba, the province will be proactive in changing the mindset of Manitobans about road safety and encourage a traffic safety culture where all road users have a heightened awareness of the consequences of unsafe behaviour (such as distraction, speeding or impairment) and are willing to change their behaviour in the interest of safety for all road users.

Studies have shown that well planned and executed public awareness campaigns, paired with active enforcement and strong legislation, can increase awareness of serious road safety issues while simultaneously reducing traffic collisions, deaths and serious injuries. Media and awareness campaigns also encourage people to think about their attitudes and choices, clear up commonly held misperceptions, and can assist in establishing new social norms. All of these elements are vital in helping to establish a new traffic safety culture that contributes to a positive environment where all people, regardless of their transportation method, require

and are afforded care and consideration. Such awareness campaigns would aim to raise Manitobans' expectations for a higher level of safety practice on the road.

In adopting a traffic safety culture, Manitobans will recognize their every day actions can contribute to an improved road safety environment for all. For example, by staying alert at all times and not using a hand-held device while driving, vehicle operators can focus on the task of driving and be able to take safe evasive action to avoid a collision should something unexpected occur. Placing their safety and safety of others ahead of anything else would make it socially unacceptable to use a hand-held device while travelling in a vehicle. Gains may be achieved by altering the attitudes and behaviour of people who value staying connected more than safety.

Also, though research shows drivers who have used drugs are at an increased risk of getting into a motor vehicle collision and have crash rates higher than those of sober drivers, many Manitobans do not perceive the risk associated with operating a motor vehicle after consuming drugs, and many believe their driving ability improves. For instance, awareness around the use of marijuana affecting reaction time and concentration is not widely known or accepted. Considerable work is required to change the social norms and misconceptions relating to drug use and driving.

Seatbelts and child restraints help protect vehicle occupants by keeping them restrained in a collision, and though most occupants wear a restraint in Manitoba, not all occupants are properly restrained at all times and run the risk of being injured or killed from impacting the inside of the vehicle or being ejected from the vehicle. In Manitoba, an occupant in a motor vehicle is 28 times more likely to be killed and five times more likely to be seriously injured when not wearing a seatbelt. Adopting a traffic safety culture where occupant restraints are used correctly by every vehicle occupant on every trip (even short ones), can have a positive impact in reducing the number of fatalities or serious injuries on Manitoba roads.

Priorities:

- Evolve and improve the traffic safety culture in Manitoba.
- Reduce driver distraction on Manitoba roadways.
- Reduce impaired driving, both alcohol and drug impairment, on Manitoba roadways.
- Persuade Manitobans to use occupant restraints properly and consistently—including seatbelts, child restraint systems, and mobility aid securement.
- Improve safety of youth on our roads.

^MMoeckli J, Lee JD. "The making of driving cultures" AAA Foundation for Traffic Safety (2007), p. 62.

Priorities for Safe Road Users in Manitoba

Enforcement

Traffic law enforcement, which covers the entire enforcement process, from detection of a violation through to conviction and applying a penalty, is an important instrument to improve traffic law compliance. Under the Safe Systems Approach, to maximize the effect on road safety, traffic law enforcement should prevent violations that are proven to be linked to collisions.

Police enforcement refers to the work of police agencies in detecting traffic violations, administering penalties, and gathering evidence for prosecution. Visible and consistent police enforcement has been demonstrated to be an effective strategy in deterring risky driving behaviours such as alcohol impaired driving, speeding and distracted driving.

Automated traffic enforcement technologies, such as speed and red light enforcement technologies complement existing law enforcement efforts in enforcing high risk locations. Expanded use of automated enforcement, utilizing data to target specific locations, would improve enforcement coverage in problem areas across Manitoba.

The Plan will consider other emerging enforcement technologies and best practice from other jurisdictions when developing strategic action items relating to enforcement, to be as effective as possible in reducing risky driving behaviours.



As part of a comprehensive strategy grounded in Safe Systems Approach and Towards Zero foundations, collaboration and engagement with law enforcement to select and target the most dangerous traffic behaviours for enforcement efforts is vital to success. Focusing on the top five dangerous traffic behaviours, rather than lower level infractions that do not benefit safety efforts has proven to be best practice for police enforcement.

Priorities:

- Target enforcement to deter actions that put people at risk on the road.
- Embed traffic safety culture into general police operations.
- Explore new enforcement methods and technology.

Education

Driver training and education provides a safety foundation for all new drivers in Manitoba. Evidence suggests that novice driver education is a meaningful and effective approach to reducing traffic collisions, especially injury or fatal collisions. Studies indicate that novice drivers who complete Manitoba Public Insurance's High School Driver Education (HSDE) have lower collision and traffic offense conviction rates than those who have not completed the course. Increasing access to driver training for all different groups in all areas of the province, including rural and remote communities, is of the utmost importance.

Road safety education has been successful in reducing dangerous driver behaviour by influencing people's perceptions of specific types of dangerous actions and altering well established social norms. However, not all road users are drivers. Safety education directed to pedestrians and cyclists, both young and old, can contribute to a greater understanding of the rules of the road and safe practices, even if they are not drivers.

Through a life-long learning approach, Manitoba school-aged children have been introduced to road safety learning outcomes in an effort to improve their knowledge, skills and behaviour as cyclists and pedestrians. It is believed introduction to road safety concepts

and strategies, early on, provides the necessary foundation that fosters an improved road safety environment, as children grow and become drivers themselves. Currently, road safety learning outcomes are not consistently managed or applied in schools across Manitoba. Greater attention is required in improving road safety learning outcomes for young road users, and first time drivers.

Priorities:

- Increase access to driver education programs across Manitoba.
- Improve road safety outcomes for young road users and novice drivers.
- Enhance education for cyclists and pedestrians to improve safety.



Priorities for Safe Road Users in Manitoba

Public Policy and Legislation

Currently, there is no overarching policy directive or systemic approach to ensure application of Safe Systems Approach in Manitoba. The Safe Systems Approach considers the human vulnerability and limited tolerance to kinetic force as a central principle in its approach to legislation and road design and operations; for instance, speed limits need to suit the in-built function and design of the road.

In recent years, Canadian jurisdictions have implemented significantly broader and stricter legislative countermeasures

to combat distracted driving such as increased fines and demerits, short-term administrative licence suspensions, vehicle impoundment and stricter rules for novice drivers, similar to those for impaired driving. Manitoba will ensure that its policies align with other Canadian jurisdictions to proactively address this issue.

Municipal collaboration and alignment in road safety policy and planning is critical. Future success will depend on increased provincial outreach, support and knowledge-sharing related to highway network collision screening, capital project management, safety performance and site specific evaluations to guide

joint decision-making on infrastructure and land use planning/development. Display/advertising signs must also be properly managed via public policy and legislation to help avoid driver distraction.

Priorities:

- Pursue aggressive policy and legislation that advances the Safe Systems Approach and facilitates road safety progress.
- Enhance alignment between provincial and municipal road safety policy.

Medically At-Risk Drivers

As a greater number of Manitobans age, some may experience physical and cognitive changes affecting their driving ability and increasing their risk of collision. Greater awareness by mature drivers, their families, and medical professionals who understand how physical and cognitive conditions affect ability can contribute to sound decision making about safe driving.

In Manitoba, the policies for assessing medical fitness to drive are based on The Medical Standards for Drivers, published by the Canadian Council of Motor Transport Administrators. These guidelines reflect a commitment to medical standards that utilize best evidence available and focus on a patient's ability to drive rather than the medical diagnosis. It also recognizes provinces and territories have jurisprudence to individually assess drivers.

Greater awareness of medically at-risk drivers of all ages is needed to ensure medically at-risk drivers are identified at an earlier stage, and accommodations can be offered. Expanding reporting obligations to include more health care professionals (beyond doctors and optometrists) with relevant expertise to assess the potential impact of medical conditions on a person's physical and

cognitive ability to safely operate a motor vehicle would reduce risk on the road.

Should more individuals be determined as medically at-risk to drive, improving the affordability and accessibility of transportation options is important to sustaining health and quality of life. People who can no longer safely drive due to conditions impacting cognitive or physical ability need access to affordable, convenient and appropriate alternate transportation options.

Priorities:

- Increase awareness of medically at-risk drivers of all ages.
- Pursue expansion of reporting requirements to include a broader range of health care practitioners.
- Raise awareness of risks, assessments, and resources and accommodations for an aging population and people with varying driving abilities.
- Accommodate the needs of medically at-risk vulnerable road users.



Priorities for Safe Speeds in Manitoba

Our Vision for Safe Speeds

What it looks like on Manitoba's road network

Incorporation of environmental and physical changes to support lower travel speeds. Alignment of driver perceptions of safe travel speeds and speeds that are posted. New and emerging speed enforcement methods are readily used. Increases in transportation efficiency do not impact safety.

What it looks like in Manitoba's culture

Speeding is not tolerated or socially accepted. Manitobans understand and accept the link between speed and collision likelihood and severity.

Safe Speeds

The speed drivers travel greatly influences the chance of surviving a collision, regardless of what caused the collision in the first place. Therefore, ensuring that speed limits are appropriate for the roadway and vehicles traveling upon it, and creating an environment which supports lower travel speeds are important steps in reducing the number of crashes, which cause serious injury or death.

Safe speeds should suit the function and level of safety of the road. Setting speed limits is based on injury minimization within the Safe Systems Approach. This means speed limits are set according to collision types that are likely to occur, the impact forces that result from collisions, and the human body's tolerance to withstand crash forces. This may mean reducing rural speeds to 80 km/h where a 100 km/h open road limit is not safe or encouraging speed limits equal to or less

than 40 km/h in some urban areas. However, altering speed limits in developed communities and neighbourhoods, which offer well established external cues to drivers on perceived safe travel speed, is a

tremendous challenge. But once this change is understood, in the spirit of traffic safety culture, road users are more likely to comply with speed limits and drive to road conditions.

Pedestrian risks increase with higher speeds

If hit by a vehicle driving at: ■ Person survives the collision ■ Person does not survive the collision



Public policy focused on a Safe Systems Approach could resolve competing pressures concerning the public and business sectors. On one hand, safety advocate groups demand lower speed limits around emergency and roadside workers, schools and construction sites, while transportation and business sectors demand higher speeds for greater efficiency and movement of goods between communities and across borders. Furthermore, trade-offs between accessibility and mobility across the provincial highway network regarding safe accommodation of traffic volumes, traffic mix, adjacent land use and signage placement, and active transportation require additional consideration in policy and planning.

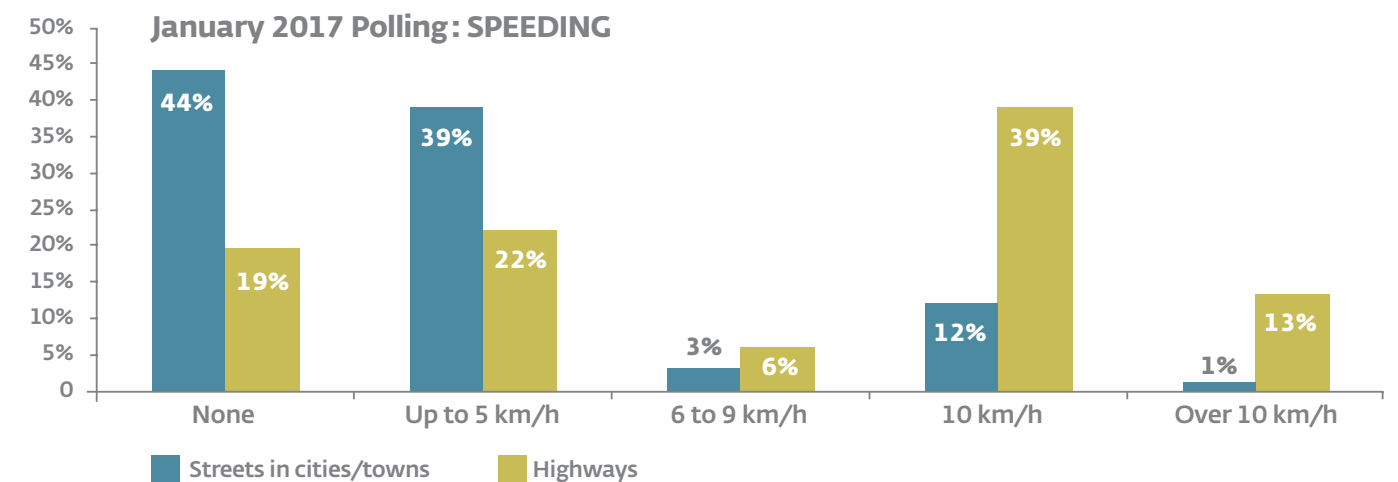
Currently, there is an accepted tolerance for speed in Manitoba. This may be a result of lower perceived risk of having a collision in rural areas due to unobstructed sight lines and level terrain. Driving 10 km/h over the limit is conventional and misguided practice for many Manitobans. Given the number of fatal collisions in rural areas, attitudes towards exceeding the limit on higher speed highways requires a significant adjustment. At the same time, reducing the tolerance for exceeding the speed limit and aggressive driving in urban areas can contribute to the reduction of serious injury and fatal collisions.

The Safe Systems Approach incorporates the basic premise that the severity of a traffic injury is directly related to the force of the collision and the resulting impact on the body. Speeds need to be controlled by a combination of policy, technology, road safety culture and infrastructure design to a level corresponding with the inbuilt safety of the road system itself.

Priorities:

- Examine new speed management strategies to lower risk.
- Change the culture on speed in Manitoba.

Acceptability of going over speed limit in ideal weather conditions



Ensuring Progress



Effective road safety planning and implementation begins with informed decision making through multi-sectoral collaboration. Achieving meaningful change requires the participation and commitment from all road safety stakeholders and partners namely government, road safety advocacy groups, motor vehicle manufacturers, law enforcement officers, health professionals, and Manitoba Public Insurance. This Plan brings all provincial parties together to jointly establish road safety priorities and collectively pursue strategic actions best suited for Manitoba. Through ongoing collaboration and support of a safe systems approach, Manitoba aims to make meaningful change in its traffic safety culture and continue a downward trend in the number of fatalities and serious injuries related to motor vehicle collisions.

All Manitobans share responsibility for road safety outcomes. The sharing of responsibility can only occur when all parties participate and have a vested interest in the success of Manitoba's Road Safety Plan.

To that end, key stakeholders will be engaged when strategic actions are developed in support of the Plan, thereby, ensuring all communities, First Nations and safety advocacy groups have a voice in the process and are united on the strategy. The broader public will also be consulted and informed through various awareness initiatives and campaigns about the meaning and significance of 'Towards Zero' and their important role in reducing human toll.

At the start of each year, the Provincial Road Safety Committee will provide a Manitoba Road Safety Plan Progress Report summarizing the actions taken to make Manitoba roads safer, and their safety outcomes.

This progress report will also be shared with the Canadian Council of Motor Transport Administrators to demonstrate Manitoba's contribution and progress toward Canada's Road Safety Strategy 2025.

The Manitoba Road Safety Plan Progress Report will include:

Progress 'Towards Zero':

- A high level and visual summary illustrating incremental progress made using key targets defined earlier in the document.

Achievements:

- A listing of new or enhanced programs, legislation or other initiatives delivered each year, including special research projects undertaken and their results.

Community engagement activity:

- Summary of committees, working groups, and other formal meetings planned and held throughout the year with local municipalities, representatives of First Nations, socio-economic groups, government approved interveners, and other advocates with an interest in road safety.

The Manitoba Road Safety Plan identifies priorities for road safety stakeholders over the next three years and sets the framework for collaboration and the development of strategic actions to address these priorities. This is the first Plan in what is envisioned as an ongoing strategic approach to road safety, and the ongoing review and renewal of the Plan is envisioned in the future.

