



ANNUAL REPORT
2016

**VISION
ZERO
EDMONTON**



THE WORLD HEALTH ORGANIZATION ESTIMATES THAT APPROXIMATELY 1.25 MILLION PEOPLE ARE KILLED ON THE WORLD'S ROADS EVERY YEAR, WITH BETWEEN 20 AND 50 MILLION PEOPLE SERIOUSLY INJURED.

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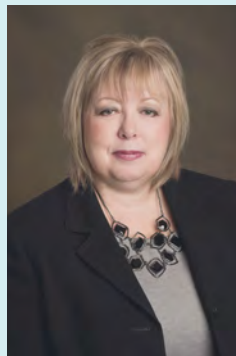
MESSAGES

MESSAGE FROM CITY COUNCIL

City Council unanimously supports Vision Zero Edmonton. We believe everyone deserves to leave and come home safely.

In 2006, Edmonton had the worst traffic-injury rates in Canada. In spite of huge population growth since then, injury rates have dropped by half because of the City of Edmonton's ongoing commitment to building safer roads, educating road users, and enforcing safe driving speeds. This improvement would not have been possible without support from the Edmonton Police Service and many other traffic safety stakeholders. However, even one traffic fatality is too many.

In 2016, our first year of Vision Zero Edmonton, safety became a priority over mobility and we made significant investments in infrastructure like pedestrian crossing lights, signalized left turns, and school-zone upgrades. This is just the beginning.



However, changing infrastructure alone takes time and will need to be combined with other efforts to get us to our long-term goal of zero traffic fatalities and serious injuries. Vision Zero Edmonton is not a building program. It is a philosophy of putting people's safety first. Traffic safety is a shared responsibility, and we invite every Edmontonian to do his or her part to help Edmonton reach Vision Zero and safely share the roads.

Why should you get behind Vision Zero?
Because traffic deaths and injuries are preventable.

Councillor Bev Esslinger

Councillor Dave Loken

MESSAGE FROM THE EDMONTON POLICE SERVICE



Every day, members of the Edmonton Police Service (EPS) witness firsthand the harm motor vehicle collisions cause in our city. From property damage to tragic losses of life, traffic collisions cost our society dearly, and the worst part is they are largely preventable.

Vision Zero acknowledges the shared responsibility of governments, planners, law enforcement and road users and seeks to eliminate all traffic fatalities and major injuries.

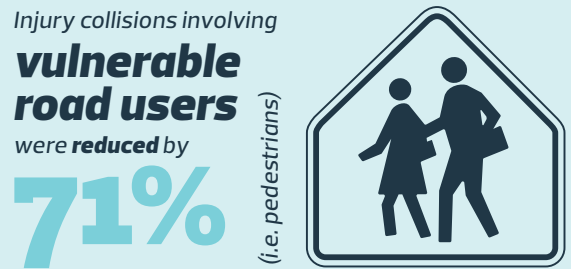
Over the last decade, we have seen encouraging reductions in the number of serious and fatal collisions, but there is still more work to be done. No traffic fatality is acceptable and the EPS will continue to work with our partners to make Edmonton's roads as safe as possible.

Best regards,
Rod R. Knecht - Chief of Police

HIGHLIGHTS

Evaluation

An assessment (see page 32) at the end of the 2015 school year showed significant findings after the implementation of 30 km/hr school zones for elementary schools:

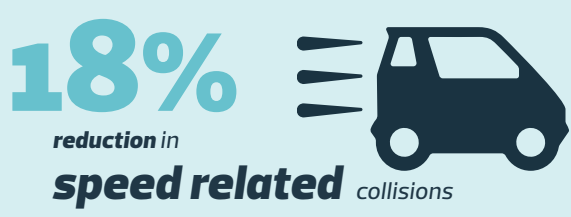
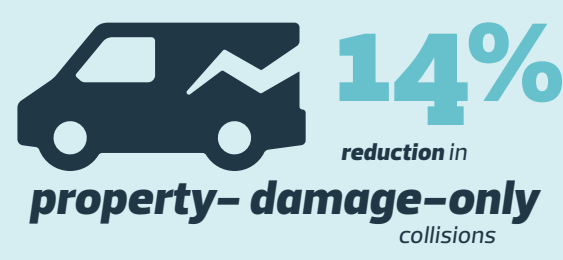
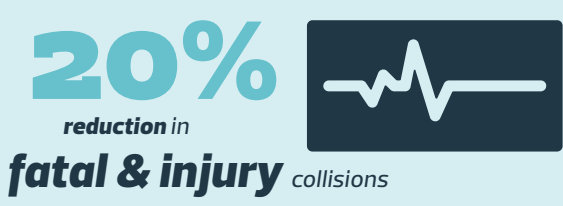


2016 TRAFFIC SAFETY IMPROVEMENTS

A 2016 study (see page 33) found that since 2009, Intersection Safety Devices, which use photo enforcement technology, have resulted in:



A 2015 study (see page 33) found that Automated Mobile Photo Enforcement resulted in consistent reduction in speed related collision severity:



Engagement

More than

3,600



drivers, pedestrians, cyclists & motorcyclists **participated** in the second

Edmonton & Area Traffic Safety Culture Survey

providing valuable insight into attitudes & behaviours.



Open channels of communication between organizations, along with efficient processes, can provide rapid results. Discussions started in mid-October between the NAIT Student Association, Councillor Bev Esslinger and City staff resulting in solar-powered rectangular rapid-flashing beacons installed before the end of 2016.

Enforcement



Police traffic resources were **increased** with the re-deployment of officers to operational divisions for

enforcement

of traffic safety related offences like speeding, school zone safety and public complaints.

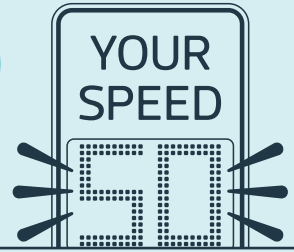
Automated mobile photo enforcement resources were committed to locations across Edmonton, including three specifically for school zones.



Education

100

Driver Feedback Signs were permanently installed in 2016



23

were in proximity to **13 schools**, and **lowered overall speeds** between 6.34 km/h and 10.91 km/h

Engineering

Installing **left-turn-only** green flashing arrow on traffic lights reduces left-turn collisions by

99%



90

locations have been changed since 2009

14

locations were changed in 2016



Modifying the angles of right turn lanes at major intersections reduces collisions by

75%

21

locations have been redesigned since 2009

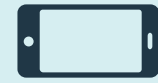
3

locations were completed in 2016

SmartTravel App

More than

6,250



downloads

of **SmartTravel**, an award-winning app providing real-time traffic-safety information.



2016

Traffic injuries:

serious injuries **325**
compared to **383** in 2015



2,980
minor injuries

compared to **3,422** in 2015

(non-hospitalized)



The Way We Move traffic safety
strategic targets for 2016:

3-5 **collision injuries**
per **1,000** population in 2016



above the target of **3.4**, but down from **4.3** in 2015



14.4

collisions at intersections

per **1,000** population in 2016

Below target of **14.8** and down from **16.2** in 2015.

In 2016, Edmontonians travelled to work
and back home in the following ways:

as Driver car/truck/van
72.3%



4.6% **as Passenger**
car/truck/van



13.4%
Public Transit



3.8%
Walk



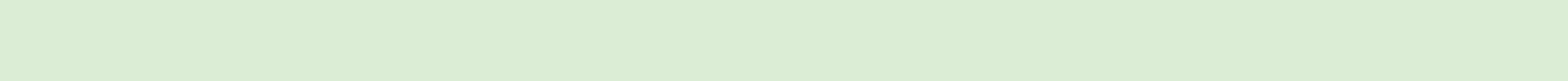
1.0%
Bicycle



VISION ZERO 2016 TIMELINE



January	February	March	April	May
<p>Transportation Research Board ANB20 Award given to Dr. Tazul Islam, City of Edmonton Traffic Safety Analyst, Ms. Shewkar Ibrahim, City of Edmonton Traffic Safety Engineer, and Dr. Karim El-Basyouny, Edmonton's Research Chair in Urban Traffic Safety at the University of Alberta.</p> <p>Scona Road Engagement. Involved the community in meetings and conducted a comprehensive analysis of the traffic safety concerns, resulting in changes to improve road safety.</p> <p>Transportation Committee discusses speed limit enforcement and education along Whyte Ave.</p>			<p>Run Walk Ride for Vision Zero. Event raised awareness in the community about traffic safety for pedestrians, cyclists, motorcyclists and drivers.</p> <p>8th International Conference on Urban Traffic Safety Towards Vision Zero.</p>	<p>Distracted Road Use Study. This study will be used to implement evidence-based countermeasures to reduce distracted road use in Edmonton.</p> <p>2015 collision statistics released.</p>
	<p>Operation 24 hours The City partnered with the Edmonton Police Service to raise awareness of the importance of safe driving and obeying the rules of the road by adding extra enforcement.</p>			
			<p>Construction upgrades · 3 right turn lanes completed · 13 school zones upgraded...</p>	



June	July	August	September	October	November	December
<p>Edmonton and Area Traffic Safety Culture Survey. More than 3,600 drivers, pedestrians, cyclists and motorcyclists participated.</p> <p>Community Traffic Safety Award winner announced. 2016 award winner was Darren Reynes.</p>	<p>Safety Perception Survey. Using Insight community.</p> <p>Operation 24 hours</p> <p>Distracted driving commercials play in local cinemas.</p>		<p>SmartTravel App launch for a safer, easier commute. More than 6,250 downloads.</p> <p>Edmonton Police Service 'Textbook Driver' back to school campaign.</p>	<p>Student discussions between the NAIT Student Association, Councillor Bev Esslinger and City staff regarding road safety upgrades.</p> <p>The City and Edmonton Police Service partnered to distribute about 20,000 reflective zipper tags to students.</p> <p>Feedback on Vision Zero ads sought.</p> <p>Council expands 30 km/hr school zones to junior high schools.</p> <p>Operation 24 hours</p>	<p>Two new bike routes opened: 102 Ave Shared Use Path 136 Street to 102 Ave Bridge over Groat Rd and 83 Ave bicycle boulevard from 96 St to 99 St.</p>	<p>Media event with Edmonton Police Service to raise awareness about the dangers of impaired driving.</p> <p>Community & Public Services Committee discusses safety upgrades at 127 St near Yellowhead.</p> <p>Distracted driving commercials</p>
<p>· 22 school zones re-signalled · signals at 14 intersections changed</p>			<p>· signals at 22 intersections improved</p>			

WHAT IS VISION ZERO?

No traffic fatality or serious injury is acceptable!

This is the fundamental core of Vision Zero. Death and serious injuries from motor vehicle collisions on city streets are preventable. There is no silver bullet to end traffic fatalities or injuries, but previous successes illustrate that combining the efforts of people and governments does save lives and reduce injuries – the required use of seatbelts is a perfect example.

Making city streets safer for all users is something the City of Edmonton continues to take very seriously. Everyone deserves to get home safely.

Traffic fatalities and serious injuries can be reduced, and over time, eliminated – this is the goal of Vision Zero. To effectively make improvements, the approach must be broad – street designs must emphasize safety, predictability and the potential for human error; education must be targeted; enforcement must be data-driven; citizens must be engaged, and evaluation must be independent.

A key component of the Vision Zero strategy is the adoption of the Safe Systems Approach, a holistic view that provides a framework to assess, guide and improve traffic safety. Central to this approach is a shared accountability and responsibility between road users and those who design, maintain and operate all parts of the road system.

This approach does not ignore risk-taking behavior, but acknowledges human fallibility and the need for greater allowances for human error. Planning and developing a safe system means looking beyond standards and towards systematically planning and designing a sustainable and inherently-safe road and transportation system for all road users.





Creating a Safe System Approach depends heavily on understanding and implementing these guiding principles:

- The limits of human performance: we all make mistakes and we need to acknowledge the limits of our capabilities,
- The physical limits of human tolerance to violent forces: we are physically vulnerable when involved in a motor vehicle collision,
- Shared responsibility: all of us have an individual and shared role in road safety,
- A forgiving road system: when crashes do happen, deaths can be avoided and injuries minimized.

There is no single pathway for the adoption, establishment and implementation of a Safe System. Moving to a Safe System Approach is best described as a journey. The journey presents opportunities, hazards and challenges along the way. Each city adopting this approach does so in its own way, shaped by the cultural, temporal and local context, still guided by the four underlying principles.

VISION ZERO—THE CITY OF EDMONTON ROAD SAFETY STRATEGY FOR 2016 – 2020

The City of Edmonton is the first major Canadian city to adopt Vision Zero. This global initiative aims to eliminate fatalities and serious injuries from motor vehicle collisions. The City of Edmonton Road Safety Strategy for 2016 – 2020 provides a strategic plan to continue reducing the prevalence of fatalities, serious injuries, minor injuries and property damage from motor-vehicle collisions.

The strategy incorporates Edmonton’s strategic plan – The Way Ahead – and aligns with two of its strategic goals, The Way We Live and The Way We Move. It builds on previous road-safety initiatives, incorporates leading global road-safety practices, identifies targets, and supports a long-term commitment to road safety. A key component of the strategy is the adoption of the Safe Systems Approach.

The City’s Administration Team is implementing Vision Zero Edmonton and is committed to improving road safety. The five E’s of traffic safety – Engineering, Education, Enforcement, Engagement and Evaluation – are in alignment with the Safe Systems Approach.

Vision Zero Edmonton is specifically intended to improve road safety to the designated targets, moving towards zero fatal and serious injury collisions. Subsequent road-safety strategies will continue to support the reduction of fatal and serious-injury collisions by prioritizing safety over mobility until Vision Zero Edmonton is achieved.

• **WE RECOGNIZE THAT THE NEW STRATEGY MUST FOCUS ON THE NEEDS OF PEDESTRIANS, CYCLISTS AND OTHER VULNERABLE ROAD USERS AND WE ARE ADAPTING PROGRAMS AND SERVICES TO MEET THOSE CHANGING NEEDS.**





HOW IS VISION ZERO EDMONTON MAKING A DIFFERENCE?

Working in conjunction with stakeholders and the citizens of Edmonton, including drivers, pedestrians and cyclists, we are making a difference. Many safety countermeasures have been implemented that will make the streets of Edmonton safer for all users. Fatalities and serious injuries on the streets of Edmonton will decrease through an integrated safe system.

Safety on the streets of Edmonton continues to be a priority. Vision Zero Edmonton is only as effective as the strategies and effort that governments and citizens apply to it. We all must understand that traffic crashes are the result of a series of actions that can be changed or prevented. Engineering, education, enforcement, engagement and evaluation – combined – make the difference in changing attitudes and behaviours.

Vision Zero Edmonton builds on strategies already in place, taking previous targets into consideration when setting new goals and targets. There is a natural progression to strategies, changing and evolving over time, and continuous improvement is critical to moving forward. These improvements will only happen through developing and implementing road-safety initiatives, incorporating leading global road-safety practices, identifying targets and supporting a long-term commitment to road safety.

The Way We Move – Transportation Master Plan 2009

Recognizing that transportation is more than moving people, goods and services on roads, rails, buses, sidewalks and light rail transit, Edmonton developed its Transportation Master Plan, The Way We Move in 2009. Transportation is essential infrastructure that shapes our urban form, impacts our economic well-being and is a primary determinant of our city's environmental, financial and social sustainability. How easily we move through our city, the distances we must travel, the transportation choices we have and how readily we can move between different transportation modes, profoundly affect our relationship with the city, the environment and each other. As the major urban centre of regional industrial development, Edmonton's transportation system is a contributing factor to the economic vitality and competitive advantage of Edmonton and the Capital Region.

Edmonton's 2016 Municipal Census provided an opportunity to see how Edmontonians typically navigate the streets as they get to work and back home. Responses to "Main mode of transportation from home to work" break down as follows:

Car/Truck/Van (as driver)	72.3%
Car/Truck/Van (as passenger)	4.6%
Public Transit	13.4%
Walk	3.8%
Bicycle	1.0%
Other	2.7%
No Response	2.3%



TARGETS AND RESULTS

..... **THE TRANSPORTATION MASTER PLAN TARGETS TO REDUCE THE NUMBER OF COLLISION INJURIES AND REDUCE THE RATE OF COLLISIONS AT INTERSECTIONS FORM PART OF THE EDMONTON ROAD SAFETY STRATEGY 2016 – 2020.**



MEASURE 1

Rate of collision injuries per 1,000 population

Year	2016	2017	2018	2019	2020
Measure	3.4	3.3	3.2	3.1	3.0
Actual	3.5				

Over the years, targets have been adjusted as improvements were realized. In 2006, the rate of injuries was 11.3 injuries/1000 population. In 2015, the rate of related injuries was 4.3 injuries/1000 population. Based on those improvements, the 2016 target of 3.4 was determined, with further progressive reductions of injuries over five years.

MEASURE 2

Rate of collisions at intersections per 1,000 population

Year	2016	2017	2018	2019	2020
Target	14.8	14.5	14.2	13.8	13.5
Actual	14.4				

Over the years, targets have been adjusted as improvements were realized. In 2006, the rate of collisions at intersections was 18.2/1,000 population. In 2015, the rate of collisions at intersections per 1,000 population was 16.2. Based on those improvements, the 2016 target of 14.8 was determined, with further progressive reductions of collisions over five years.

Population growth for the City of Edmonton

Year	2009	2011	2012	2014	2016
Population	782,439	812,201	817,498	877,926	932,546

The Vision Zero Edmonton target is to eliminate fatalities and serious injuries.

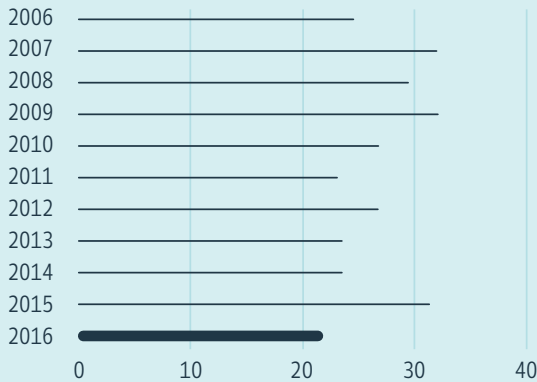
TRAFFIC SAFETY ON EDMONTON STREETS HAS IMPROVED SIGNIFICANTLY FROM PREVIOUS YEARS.

In 2006, 8,246 people were injured and killed in collisions on Edmonton streets. In 2016, 3,396 people were injured and killed, a decrease of 58.8 per cent from 2006 and a decrease of 11.5 per cent from 2015.

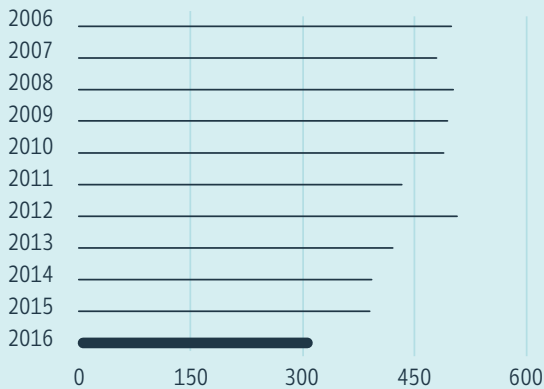


| 2006 – 2016 Fatalities

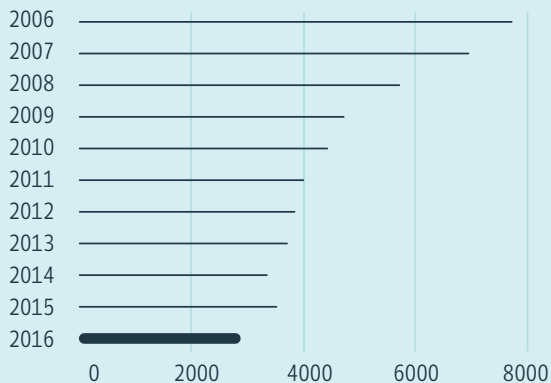
The data in regards to fatalities reflects a need to continue to work towards Vision Zero. There have been improvements but we need to continue to work using the Safe Systems Approach to create a safer system for all road users.



| 2006 – 2016 Serious Injuries



| 2006 – 2016 Minor Injuries



TRAFFIC SAFETY IMPROVEMENTS

During 2016, many improvements were made on the streets of Edmonton to implement Vision Zero. These improvements and activities are presented under the five E's of traffic safety – Engineering, Education, Enforcement, Engagement and Evaluation.

| Engineering

Fundamental to the Safe Systems Approach is designing and operating roadways to prevent collisions from occurring or to reduce the severity of those collisions. At the same time, the possible role of human error in precipitating crashes must be considered. Edmonton's transportation system is changing as road users shift to public transportation. This increasing demand for multi-modal options – walk, bike, ride, transit – requires a holistic approach to designing and operating an increasingly complex transportation system.



Engineering improvements include:

Installing a left-turn-only green flashing arrow on traffic lights reduces left-turn collisions by 99%:

Left-turn-across-path collisions occur when drivers attempt to turn left across the oncoming lane of traffic. A green flashing arrow is used when the movement is protected, otherwise it is a solid green arrow. Higher speeds of oncoming vehicles and right angle impacts result in more serious collisions.

90 locations have been changed since 2009

14 locations were changed in 2016:

- 111 Avenue & 124 Street NW
- 51 Avenue NW & Calgary Trail Southbound
- Windermere Boulevard SW & 170 Street SW
- 23 Avenue NW & 111 Street NW
- 76 Avenue NW & 83 Street NW
- Whitemud Drive Eastbound & 122 Street NW
- Yellowhead Trail Westbound & Victoria Trail
- 23 Avenue NW & 91 Street NW
- Fort Road & Wayne Gretzky Drive
- Sherwood Park Freeway Westbound & 50 Street NW
- 107 Avenue NW & Groat Road Northbound
- 118 Avenue NW & 97 Street NW
- 137 Avenue NW & 82 Street NW
- 160 Avenue NW & 97 Street NW

Modifying the angles of right turn lanes at major intersections reduces collisions by 75%:

Typically, 46% of collisions at major intersections are rear-end, with 30% occurring in the right turn cut-off lane. Redesigning this right turn improves safety by reducing collisions by 75%.

21 locations have been redesigned since 2009

3 locations were completed in 2016

- Windermere Blvd SW & 170 St North
- 23 Avenue & Terwillegar Drive Northbound
- Mill Woods Road & 91 Street





Pedestrian crossing control upgrades:

Includes improvements to pedestrian crossing controls, pedestrian signals, overhead pedestrian amber flashers or rapid flashing beacons.

In addition to the pedestrian-crossing upgrades completed in 13 school zones, pedestrian signals, amber flashers or rapid flashing beacons were installed at 22 locations in 2016

- 111 Avenue & 110 Street (Signal)
- 86 Street & Coronet Road (Signal)
- Hewes Way & 25 Avenue (Signal)
- 62 Avenue & Goodwin Gate (Signal)
- 109 Street & 68 Avenue (Signal)
- 101 Avenue & 63 Street (Signal)
- Towne Centre Boulevard & Trelle Way (Amber Flasher)
- 112 Street & 83 Avenue (Amber Flasher)
- James Mowatt Trail SW & Bowen Wynd SW (Amber Flasher)
- 109 Street & 85 Avenue (Signal)
- 23 Avenue & East of 32 Street (Flasher)
- 38 Avenue & East of 76 Street (Flasher),
- 156 Street & 99 Avenue (Signal),
- 99 Street & 91 Avenue (Signal)
- 82 Street & 121 Avenue (Signal)
- 153 Avenue & Veterans Way (Signal)
- 124 Street & 110 Avenue (Signal)
- 124 Street & 106 Avenue (Signal)
- 95 Street & 105 Avenue (Signal)
- Queen Elizabeth Park Road – Mid Block (Rapid Flashing Beacon)
- Riverbend Road North of Heath Road (Rapid Flashing Beacon)
- 95 Avenue & 50 Street (Rapid Flashing Beacon)



School zone safety upgrades:

Traffic safety assessments are conducted at schools with elementary grades to observe road user behavior. Countermeasures include new zebra crosswalks, new stop signs with retro-reflective poles, reflective strips on pedestrian signs, and upgrading from yield signs to stop signs.

13 schools were reviewed in 2016 and new countermeasures were installed in September

- Ward 1: Youngstown School
- Ward 2: Elizabeth Finch School
- Ward 3: Dunluce School
- Ward 4: Edmonton Christian Northeast School
- Ward 5: Bessie Nichols School
- Ward 6: Edmonton Christian West School
- Ward 7: St. Matthew School
- Ward 8: Mckernan School
- Ward 9: Johnny Bright School
- Ward 10: West Brook School and Mount Pleasant School
- Ward 11: Greenview School
- Ward 12: Michael Strembitsky School

Starting in 2016, one school pickup/drop-off zone will be implemented every year.

- St. Justin School

Prohibiting left turns from school parking lots:

- Donald Massey School
- Michael Strembitsky School

Additional countermeasures implemented in 2016:

Additional traffic signal fixtures installed:

- Whitemud Drive & 170 Street WBD
- Whitemud Drive & 170 Street NBD
- 87 Avenue & 170 Street
- 95 Avenue & 170 Street
- Stony Plain Road & 170 Street NBD
- Stony Plain Road & 170 Street SBD
- 107 Avenue & 170 Street
- 118 Avenue & 170 Street
- Yellowhead Trail & 170 Street EBD
- Yellowhead Trail & 170 Street WBD

Installation of retro-reflective tape to intersection traffic signals:

- Whitemud Drive WBD & 170 Street NBD
- 87 Avenue & 170 Street
- 90 Avenue & 170 Street
- 95 Avenue & 170 Street
- Stony Plain Road & 170 Street SBD
- Stony Plain Road & 170 Street SBD
- 107 Avenue & 170 Street
- 118 Avenue & 170 Street
- Yellowhead Trail & 170 Street EBD
- Yellowhead Trail & 170 Street WBD
- Saskatchewan Drive & Scona Road

EDUCATION

Understanding the underlying traffic safety culture of Edmonton helps determine the behaviours and attitudes of the community regarding traffic safety. Started in 2014, together with the Population Research Laboratory at the University of Alberta, the City of Edmonton has conducted a biennial Edmonton and Area Traffic Safety Culture Survey. These cultural findings, along with research, are used in developing new education programs, reviewing and enhancing existing programs and implementing an annual traffic safety communications plan.

Communications goals for 2016 included:

Raise awareness of Vision Zero Edmonton

Connect Vision Zero Edmonton to improved road safety

Disseminate safety messages to:

- • • Build capacity towards behavior changes,
- • • Create conversations about traffic safety, and
- • • Reduce traffic-related serious injuries and fatalities.

Education initiatives include:

2016 Traffic Safety Culture Survey

The Edmonton and Area Traffic Safety Culture Survey provides valuable data on attitudes, perceptions and behaviours of road users as they relate to traffic safety in the Edmonton region. More than 3,600 drivers, pedestrians, cyclists and motorcyclists took part in the 2016 study. The report is available at:

<https://www.edmonton.ca/transportation/RoadsTraffic/TrafficSafetyCultureSurveyReport2016.pdf>



2016 Awareness Initiatives

The City of Edmonton and Edmonton Police Service (EPS) meet regularly to discuss and coordinate traffic-safety education initiatives:

- EPS created two distracted-driving commercials, one for the summer and one that played during the Christmas season. The City of Edmonton provided funding to play these commercials at local cinemas. The estimated combined audience was 1.5 million.
- The City of Edmonton financially supported and the EPS led the Textbook Driver (back to school) campaign in September.
- In October, the City of Edmonton and EPS teamed up to distribute about 20,000 reflective zipper tags to kids in the hopes of reducing the number of vehicle/pedestrian collisions in the city. The tags can be worn on jacket zippers, backpacks or Halloween costumes.
- The City of Edmonton and EPS participated in a drugged-suit media event in December to highlight the dangers of impaired driving.
- The 10th Anniversary of Curb the Danger on October 27th celebrated the collaboration of EPS, the City of Edmonton and citizens. Since 2006, EPS has received 90,898 calls, resulting in almost 8,062 impaired driving arrests and more than 2,821 roadside suspensions.
- The nine month pedestrian safety campaign had more than 145 signs on buses and billboards reminding drivers to watch for and yield to pedestrians. Other print based campaigns focused on distracted driving, following too closely, and speeding.



Driver Feedback Sign (DFS) Program

DFS locations include the inner ring roads (170 Street, 75 Street, Whitemud Drive, and Yellowhead Trail), schools and areas where there are significant speeding issues. The signs are very effective in increasing driver awareness and slowing them down.

- 100 were permanently installed in 2016, 23 in proximity to 13 schools, and on streets where speeding is a problem.
- The average speed reduction ranged from 6.34 km/h to 10.91 km/h, depending on the posted speed limit.
- 24 portable speed-display trailers are also deployed in locations across Edmonton on a rotational basis.

8th International Conference on Urban Traffic Safety, April 25 – 28, 2016 Towards Vision Zero

The City of Edmonton hosted its 8th International Conference on Urban Traffic Safety, showcasing leading and best practices supporting the goal of achieving Vision Zero. More than 250 national and international delegates heard leading global experts from 17 countries share their insights and experiences.

The City of Edmonton would like to acknowledge the courage of the following people who were willing to share their stories – Chris Thompson, Allan Pfannmuller, Renaye Wade, Jane Cardillo and Steve Finkelman and Anthony Brown.

SmartTravel Application (App)

The City of Edmonton and University of Alberta Centre for Smart Transportation (CST) created a traffic safety mobile app, SmartTravel that warns drivers of school zones, speed-limit changes and high-collision locations.

The SmartTravel app complies with distracted driving legislation because it functions hands-free when the vehicle is in motion. The push-notification capability lets drivers know about severe weather conditions, when school is back in and police enforcement events. It also provides online maps with school zones and collision locations. The app integrates data from multiple sources to provide access to various road safety and transportation information sources.

- Received the 2016 Innovation Research & Development Award from the Intelligent Transportation Systems Society of Canada
- 6,250 downloads

To download the SmartTravel app, go to Edmonton.ca/SmartTravel or to the iTunes App Store or Google Play.





Bike Lanes

Two new bike routes opened in Edmonton in 2016:

- 102 Avenue
- 83 Avenue

The Bike Education Team is an on-the-street engagement team dedicated to helping Edmontonians understand how to safely navigate the city's roadways. This team is committed to fortifying Vision Zero and bringing education to Edmontonians in relatable, engaging ways. Emphasizing 'Share the Road' and 'Get There Together', the Team conducted many activities:

- More than 200 street-level conversations
- 48 hours of face-to-face educational events
- More than 450 home visits
- 180 hours of doorstep engagement with residents
- 5 pop-up events
- 2,900 flyers delivered to 83 Avenue and 102 Avenue homes and businesses
- Signs alerting drivers to watch for bikes and pedestrian crossings
- Temporary signs along the 102 Avenue shared-use path.

The Voices of Traffic Safety

There is nothing more powerful than hearing first-hand, personal experiences of those affected by traffic collisions to illustrate the importance of Vision Zero Edmonton. The Voices of Traffic Safety videos, found at edmonton.ca/visionzero illustrate experiences from EPS constables, an emergency room physician, a city councillor, a friend and a victim of a traffic collision.



Bev Esslinger

Councillor, City of Edmonton

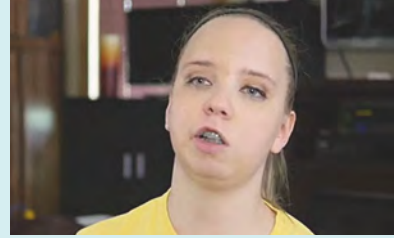
Councillor Esslinger and her colleagues have heard from citizens before and since they were elected, that traffic safety is personal. It affects everybody, whether walking to school, driving to work, or going to the grocery store. "This is a shared responsibility – pedestrians and drivers all need to be aware of our surroundings and be safe in our environments," says Councillor Esslinger.



Dr. Bill Sevcik

**Emergency Department,
University of Alberta Hospital**

To tell family members that their loved one has been killed is the worst part of Dr. Sevcik's job, especially if it was predictable and preventable. To tell parents their child has died, or to see children suddenly without parents, is excruciating for Dr. Sevcik, as a physician and as a father himself. Dr. Sevcik wants to emphasize that, "Everybody should get home or get to where they are going in one piece."



Renaye Wade

Renaye Against Distracted Driving (RADD)

On March 15, 2013, Renaye was a passenger in a vehicle that stalled in the center lane of the Yellowhead Trail. About 15 minutes later, their car was hit from behind by a distracted driver. It took emergency services 25 minutes to cut the car off Renaye and she spent 481 days in the hospital. One half of Renaye's brain now must do everything for her and she has had to re-learn everything. It is amazing she survived. Renaye now visits schools to tell her story and her words, "Keep your eyes on the darn road" are proving very effective with students.



Constable Braydon Lawrence

**Major Collision Investigation Section,
Edmonton Police Service**

As a member of the Major Collision Investigation Section, Constable Lawrence sees the unforgettable. His role is to notify family members of loved ones involved in fatal or serious motor vehicle collisions. Constable Lawrence's message is "Whether you are driving a car or pedaling a bike, follow the rules of the road, respect each other and get where you need to go – safely."





Educational Awareness Campaigns



ENFORCEMENT

Driver behaviour continues to be a leading contributor to motor-vehicle collisions that result in fatalities, injuries and property damage. Law enforcement can effectively change behaviours of road users and is a critical piece when combined with engineering and educational efforts. The Edmonton Police Service (EPS) targets speeding, driving while impaired, distracted driving, failure to wear seatbelts, and other road user behaviours.

Enforcement initiatives include:

School Zone Enforcement

City Council approved and funded three dedicated automated speed enforcement units and resources to increase school zone safety. These operate during school days, Monday to Friday. Additional mobile automated speed enforcement resources supplement the dedicated schools' enforcement resources as required.

- EPS reallocated fifteen members to the six Response Divisions across Edmonton, dedicated to traffic enforcement and complaints related to speed and safety in 2016.

Automated Mobile Photo Enforcement

Automated mobile photo enforcement is an effective deterrent in reducing speed, as well as the number and severity of collisions. For example, over the past three years, several locations on 82 Avenue have seen speeding dramatically decrease, with the number of tickets issued dropping between 20 and 73 per cent. The 2016 top ten enforcement locations were:

- 170 Street between 118 and 114 Avenue SB
- 156 Street between 94 and 92 Avenue SB
- 82 Ave between 93 and 95A Street WB
- Anthony Henday Drive & Ray Gibbon Drive EB
- 106 Avenue between Rowland Road & 76 Street WB
- Gateway Boulevard – South of Anthony Henday Drive NB
- Gateway Boulevard at Ellerslie Road NB
- Yellowhead Trail at Anthony Henday Drive EB
- Yellowhead Trail at 215 Street EB
- Anthony Henday Drive at Yellowhead Trail NB

Number of Photo / Laser Radar Tickets Issued, 2015 – 2016, by Speed Infraction Category

Range of Exceeded Limit By	2015	2016
1-5 Over the speed limit	-	-
6-10 Over the speed limit	59,544	63,227
11-15 Over the speed limit	217,646	254,299
16-20 Over the speed limit	152,264	143,818
21-50 Over the speed limit	68,396	61,183
More Than 50 Over the speed limit	377	268
Grand Total	498,227	522,795

Note: Compulsory court is 51km per hour and over the posted speed limit.





Operation 24 Hours

The Operation 24 Hours program (OPS24), dubbed the “Big Ticket Event”, uses traditional manned police speed enforcement supplemented by traffic safety messages displayed on permanent and mobile dynamic messaging signs. Tickets are issued for speeding and other violations, including seatbelt infractions, impaired driving, distracted driving, traffic safety violations and criminal code violations.

The following two tables summarize the results of Operation 24 Hours in 2016 and 2015. Please note – Automated enforcement tickets for these operations are included in the photo laser/radar table.

Operation 24 Hours Summary of Results, 2016

Operation #	Month	Manned Speed	Manned Other	Manned Total
1	Feb	511	329	840
2	Mar	557	437	994
3	Apr	844	294	1138
4	Jul	899	384	1283
5	Aug	823	326	1149
6	Oct	855	502	1357
Total	Feb-Oct	4489	2272	6761

Operation 24 Hours Summary of Results, 2015

Operation #	Month	Manned Speed	Manned Other	Manned Total
1	Mar	557	399	956
2	Apr	700	592	1292
3	Jun	333	229	562
4	Jul	425	320	745
5	Aug	709	437	1146
6	Nov	265	309	574
Total	Mar-Nov	2989	2286	5275

ENGAGEMENT

Engagement activities include:

Edmonton Insight Community

The City of Edmonton values the opinions of Edmontonians and wants to share information in convenient and meaningful ways. Edmonton Insight Community is an open dialogue tool for connecting Edmontonians with City staff. It is open to all residents, and those who own property in Edmonton, over the age of 15. More than 6,000 already participate and registration can be accessed at edmontoninsightcommunity.ca/Portal/default.aspx

2016 Traffic Safety topics included:

- • • Perception by mode of transportation (January and July)
- • • Vision Zero Advertisements feedback (October)
- • • Vision Zero table at community events

Community Traffic Management Plan Surveys (CTMP)

- • • Neighbourhood-specific CTMP surveys were conducted for Prince Charles, Belgravia, Newton, Ottewell, and Pleasantview.



5th Annual Run Walk Ride for Vision Zero, April 2016

Previously known as the Run Walk Ride 4 Traffic Safety, this event took place on Saturday, April 23rd in support of Vision Zero Edmonton. Raising awareness in the community about traffic safety for pedestrians, cyclists, motorcyclists and drivers is critical to the success of Vision Zero.

This family-oriented event brings together people who support Vision Zero. Some have suffered the ultimate loss of a loved one to a motor vehicle collision and the event encourages citizens to consider what they personally can do to help achieve Vision Zero Edmonton.

Run Walk Ride for Vision Zero participants can also consider donating to the Memorial and Traffic Safety Fund established through the Edmonton Community Foundation. The fund provides a safe and permanent way to memorialize their loved ones, and supports traffic safety research and related traffic safety initiatives. For more information on the Memorial and Traffic Safety Fund or to donate, go to ecfoundation.org



Bikemaps.org

Working with the Traffic Injury Research Foundation of Canada, Edmonton was selected as a pilot city for Bikemaps.org, along with Victoria and Ottawa. The goal of this three-year pilot is to make cycling safer for all citizens and to increase ridership in Edmonton.

2017 work will include focus groups – for more information, please visit Bikemaps.org.

Scona Road Engagement

The intersection of Scona Road, Saskatchewan Drive and 99 Street was a concern, particularly due to the increased demand for bike and pedestrian safety. Through effective engagement, involving the community in numerous meetings, and a comprehensive analysis of the traffic safety concerns, changes have been made to improve safety.

- Driver feedback signs were installed
- Additional traffic light was installed
- Reflective tape was applied to intersection traffic signals to improve visibility
- Bus stop was relocated further down the street
- Pedestrian wait times were reduced during all hours of the day, including off-peak periods
- Additional pedestrian-activated signal was installed.

EVALUATION

Vision Zero Edmonton commits to using resources effectively and efficiently, and that requires the use of an evidence-based principle and rigorous evaluation measures. Vision Zero Edmonton will continue to build on the work under way by the Edmonton Urban Traffic Safety Research Chair, established at the University of Alberta. Ongoing state-of-practice transportation-related initiatives will continue, as well as development of state-of-the-art methodologies and practices. Research will continue to ensure the advancement of Vision Zero Edmonton urban traffic safety.

2016 Evaluation measures:

30 km/h School Zone Safety Effectiveness

In 2014, 30 km/h school zone speed limits were implemented at all (232) elementary schools. An assessment by the Edmonton Urban Traffic Safety Research Chair, completed at the end of the 2015 school year, showed significant findings: severe collisions were reduced, especially for pedestrians and cyclists; reductions were observed for mean speed and speed variation, and for every 1 km/h reduction in mean speed, fatal/injury crashes were reduced by 4 per cent:

Injury collisions were reduced by 43%

- An average of 10 injury collisions per year vs. 17 injury collisions per year previously

Injury collisions involving vulnerable road users (i.e. pedestrians) were reduced by 71%

- 2 vulnerable road user injuries in the year after vs. 7 vulnerable road user injury collisions previously

The average speed was reduced by 12 km/h.





Effectiveness of Intersection Safety Devices (ISDs)

The City of Edmonton began using ISDs in 2009 with the installation of 50 cameras throughout the city. ISD cameras measure the speed of moving motor vehicles and capture red light violations.

A study to evaluate the effectiveness of the ISD program looked at safety performance and identifying factors that can lead to successful selection of future ISD sites². The results showed significant reductions:

- • • 12% reduction in total collisions
- • • 43% reduction in angle collisions
- • • 14% reduction in rear-end collisions

Effectiveness of Automated Mobile Photo Enforcement

Speeding is a leading factor in road collisions and is found to contribute to approximately one-third of fatal collisions. Speed enforcement is one of the most common countermeasures used to reduce speed.

A study to evaluate the effectiveness of automated mobile photo enforcement³ showed consistent reductions in different collision severities:

- • • 15% reduction in total collisions
- • • 20% reduction in fatal and injury collisions
- • • 14% reduction in property-damage-only collisions
- • • 18% reduction in speed related collisions

²Contini, L. and El-Basyouny, K. Lesson learned from the application of intersection safety devices in Edmonton. *Accident Analysis and Prevention*, 94 (2016): 127-134.

³Li, R., El-Basyouny, K., and Kim, A. Before-and-After Empirical Bayes Evaluation of Automated Mobile Speed Enforcement on Urban Arterial Roads. *Transportation Research Record: Journal of the Transportation Research Board* (2015), No. 2516: 44-52.

FINANCIAL SUMMARY 2016

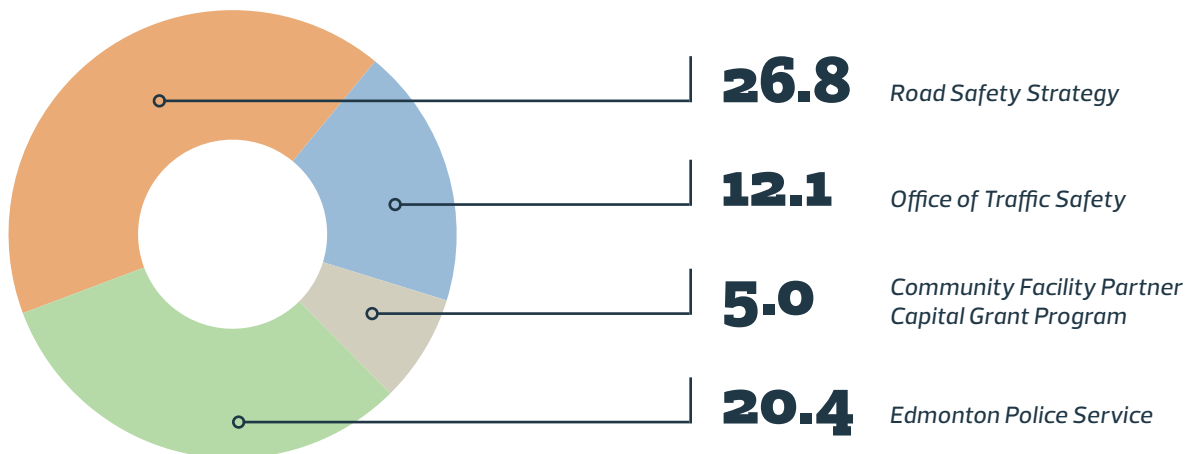
THE ADOPTION OF VISION ZERO MADE EDMONTON THE FIRST MAJOR CITY IN CANADA TO TAKE ON A LONG-TERM GOAL OF ZERO FATALITIES AND SERIOUS INJURIES FROM MOTOR-VEHICLE COLLISIONS.

On November 26, 2014, Edmonton City Council passed City Policy: C579, the Traffic Safety and Automated Reserve. The Traffic Safety and Automated Enforcement Reserve (TSAER) was established to address the revenue variability associated with automated traffic enforcement and to allow for the accumulation of Annual Traffic Safety Program Surplus funds within the reserve or fund an Annual Traffic Safety Program Deficit when necessary. Annual budgeted automated enforcement revenue funds on-going traffic safety initiatives and other programs approved by City Council through the budget process. Funding allocations are made from the reserve to individual traffic safety and other programs as follows:

- Office of Traffic Safety
- Other traffic safety programs as approved by City Council in the capital or operating budget
- Community infrastructure programs such as, but not restricted to, the Community Facility Partner Capital Grant Program and the Community League Infrastructure Grant Program.
- Edmonton Police Service

Approved 2016 Funding from Traffic Safety and Automated Enforcement Reserve (\$ million)

As part of the 2016–2018 approved operating budget, the following funds were allocated to each operational area or program in 2016.



2016 Approved Budget

	(\$ millions)
Edmonton Police Service	20.4
Office of Traffic Safety	12.1
Community Facility Partner Capital Grant Program	5.0
Road Safety Strategy	26.8
Total approved Funding from TSAER	64.3

Road Safety Strategy – Operating Service Packages funded from TSAER in 2016

Operating Service Packages	(\$ millions)
Engineering	4.8
Technical Road Safety Specialist	
Road Safety Audits	
Corporate Traffic Safety Initiatives	
Enforcement	0.2
Increased school zone enforcement	
Education/Engagement	3.3
Community Traffic Management	
Road and Pedestrian Safety Education Campaigns	
Traffic Safety Culture Survey	
Evaluation	0.2
Traffic Safety Culture Survey	
Total	8.5

Capital Programs funded from TSAER in 2016

Programs	(\$ millions)
Traffic Signals Pedestrian Vehicle Safety (CM-66-2520)	5.3
Traffic Safety Engineering Measures (CM-66-2550)	3.5
Traffic Safety Speed Management Equipment (CM-66-2545)	5.8
Community Traffic Safety Countermeasures (CM-66-2555)	3.7
Total	18.3

The 2016 TSAER final yearend financial statement can be referenced at sirepub.edmonton.ca/sirepub/view.aspx?cabinet=published_meetings&fileid=614814



AWARDS

TRANSPORTATION RESEARCH BOARD (TRB) ANB20 AWARD

The TRB's Safety Data, Analysis and Evaluation (ANB20) Committee Young Researcher Paper Award was presented for the study "Before-After Safety Evaluation using Full Bayesian Macroscopic Multivariate and Spatial Models" (Paper 16-1576).

This prestigious award was given to Dr. Tazul Islam, OTS Traffic Safety Analyst, Dr. Karim El-Basyouny, Edmonton's Research Chair in Urban Traffic Safety at the University of Alberta, and Ms. Shewkar Ibrahim, OTS Traffic Safety Engineer.

The TRB's Safety Data, Analysis and Evaluation Committee is concerned with the study of roadway safety. This includes the collection, maintenance and use of crash records and related roadway, road user, and vehicle data; the development of theories, analytical techniques, and evaluation methodologies for improving the understanding of roadway safety; and the application of these theories, techniques and methods to identify road user, vehicle and/or roadway-based treatments that will enhance roadway safety.

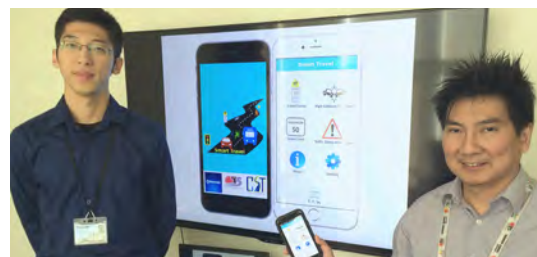
This award is an acknowledgement of the work, dedication and commitment of the City of Edmonton, its employees and the citizens, to implementing Vision Zero Edmonton.



INTELLIGENT TRANSPORTATION SYSTEM (ITS) CANADA AWARD

The ITS Canada National Awards Program was created to better serve and profile ITS Canada's membership by acknowledging significant and defining people, projects and initiatives in the Canadian ITS marketplace.

Edmonton's SmartTravel app won the 'Best New Canadian Commercial/Industry/Academic ITS Technology/Innovation/R&D Award', at the 7th Annual ITS Canada National Awards Program on May 3, 2016 in Calgary.



INTERNATIONAL ROAD SAFETY COMMITTEE, ITF/OECD

Edmonton was given the honour of sitting on the International Road Safety Committee of the International Transport Forum (ITF), as the Canadian representative. ITF is an intergovernmental organization with 57 member countries that acts as a think tank for transport policy and is the only global body that covers all transport modes. It is politically autonomous and administratively integrated with the OECD and is based in Paris, France. Canada participated in the creation of the Vision Zero report and as a representative on the editorial committee.

2016 SPECIAL AWARD – PRINCE MICHAEL OF KENT INTERNATIONAL ROAD SAFETY AWARDS

On December 13, 2016, the International Transport Forum (ITF) report "Zero Road Deaths and Serious Injuries: Leading a Paradigm Shift in Road Safety" was awarded the Prince Michael of Kent International Safety Award.

At the ceremony, the ITF was congratulated by Prince Michael of Kent, saying, *"The new report comes at a time when the world needs to change up a gear or two to accelerate efforts to reduce the unacceptable toll of death and serious injury on our roads. It is a most welcome addition to the all-important bank of knowledge available to governments and a fine example of the leadership shown by ITF."*

The award-winning study by a group of 30 international safety experts from 24 countries, convened by the ITF at the OECD, reviews the experiences of countries that have made it their long-term objective to eliminate fatal road crashes.

Canada is one of 24 countries that participated in the study, and Edmonton was represented by Gerry Shimko, Executive Director of Traffic Safety.

Vision Zero Edmonton was selected as one of the case studies presented in the report. The ITF Report can be viewed at itf-oecd.org/zero-road-deaths.

The news release can be viewed at fiafoundation.org/blog/2016/december/foundation-partners-programmes-recognised-at-prince-michael-s-2016-awards.





COMMUNITY TRAFFIC SAFETY AWARD

The City of Edmonton created the Community Traffic Safety Award in 2012 to recognize community members who contribute to traffic safety initiatives in their community, through their community league or as a part of a larger city traffic-safety initiative.

The Community Traffic Safety Award is specifically tailored to recognize Edmontonians who have demonstrated personal commitment to trying to improve traffic safety in Edmonton. In general, those recognized for the award have an accumulated history of involvement and shown leadership in traffic safety.

Award recipients are recognized by City Council, through a council protocol item and they are presented with the award in Council Chambers during a council committee meeting.

The 2016 award went to Darren Reynes, who has made it his mission to ensure the safety of all the children attending the Dr. Donald Massey School. Mr. Reynes works with parents, teachers, bylaw enforcement and police members from the traffic unit and has made numerous suggestions to reduce danger to students.

The City of Edmonton was proud to present this award to Mr. Reynes and acknowledge his actions towards zero traffic fatalities and serious injuries.

RESEARCH

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THE CITY OF EDMONTON, THROUGH A MOTION OF CITY COUNCIL, CREATED THE EDMONTON URBAN TRAFFIC SAFETY RESEARCH CHAIR AT THE DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING, UNIVERSITY OF ALBERTA.

On July 1, 2011, after an international competition, Dr. Karim El-Basyouny accepted the position. A joint initiative of the City and the University of Alberta, the permanently endowed Urban Traffic Safety Research Chair is a one-of-a-kind academic posting for traffic safety engineering in Canada, possibly in North America.

The Research Chair's scope is a focus on traffic safety in urban built environments, including to evaluate ongoing state-of-practice transportation-related initiatives and develop state-of-art methodologies and practices. Given the affiliation with the University of Alberta, all studies conducted by the Research Chair are independent.

2017 Research work will include:

- Research on the use of automated photo-enforcement for collision reduction and optimization of automated photo-enforcement resources.
- Weather prediction for collision avoidance, speed management and roadway operations.

Road-safety audit criteria to ensure road-safety countermeasures are included in transportation-related projects.
- Advanced video-based road-safety analytics to proactively identify collision risk, providing evaluation of collision risk without actual collisions. This new, advanced technology quantifies risk and provides insight into suitable road-safety countermeasures.

Distracted Road User Study

Distracted road users, including drivers, motorcyclists, cyclists, and pedestrians represent a serious threat to safety on Edmonton's streets. In January 2016, the City initiated a study on distracted road use. The study was completed in 2016 and will be used to implement evidence-based countermeasures to reduce distracted road use in Edmonton.



UPCOMING EVENTS

6th Annual Run Walk Ride for Vision Zero, June 18, 2017

This family friendly event is all about promoting the importance of traffic safety in our community for everyone: pedestrians, cyclists, motorcyclists and drivers. More information at edmonton.ca/transportation/traffic_safety/run-walk-ride.aspx

Joint Conference on Transportation Safety, Banff, Alberta, August 2017

Edmonton's 9th International Conference on Urban Traffic Safety will be held in conjunction with China's 4th International Conference on Transportation Information and Safety.

This joint conference will attract transportation-safety experts from across Canada, China and around the world. For more information, please visit urbantrafficsafetyconference.com

International Council on Alcohol, Drugs and Traffic Safety Conference, 2019

The City of Edmonton has been selected to host the 22nd International Council on Alcohol, Drugs and Traffic Safety conference in 2019.

This triennial conference brings together leading experts from around the world to speak to the very serious threat of alcohol and drug impaired road users to safety on our roadways. Through sharing of leading and best practices these experts will contribute to the reduction of alcohol and drug-related fatalities and injuries.

Information is available at t2019.org



NEXT STEPS 2017

2016 WAS A STRONG INITIAL YEAR FOR VISION ZERO EDMONTON.

PLANNED INITIATIVES AND IMPROVEMENTS FOR 2017 WILL CONTINUE THE MOMENTUM OF MOVING EDMONTON CLOSER TO ELIMINATING FATALITIES AND SERIOUS INJURIES ON OUR STREETS.

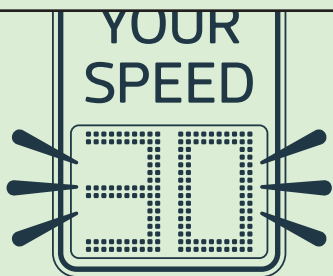
2017 will also see the new Community Traffic Management Policy guide how Administration will work with communities to address traffic concerns at the neighbourhood level. As the city grows, more demands are placed on our transportation system. Some drivers will cut through neighbourhoods to avoid congestion. Speeding, shortcutting, and other poor driver behaviours can impact feelings of safety and quality of life. These issues have the potential to be addressed through community traffic management projects.



Engineering



Pedestrian signals, amber flashers or rapid flashing beacons will be **installed** at additional pedestrian crossings

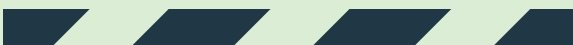


24

schools will receive updated **safety countermeasures** in 2017 including driver feedback signs, etc.

8

additional schools will receive upgraded **safety countermeasures** as part of the ongoing Neighbourhood Renewal Program



Design work for **Scona Road** geometric improvements will be completed



The **update to the policies** around removing/reducing pedestrian obstructions

Engagement about residential speed limits



Education & Engagement

In 2017 these two E's are **crucial to creating a culture of safety** where all road users, especially those who are most at risk such as pedestrians and cyclists, are safe.

The Education and Engagement activities will be expanded to include social marketing strategies that **raise awareness** about the dangers of unsafe driving and **assist in keeping vulnerable road users safe**.

30

km/h

speed limits in school safety zones will be extended to include **43** junior high schools



16

School zone **safety upgrades** at new schools under construction

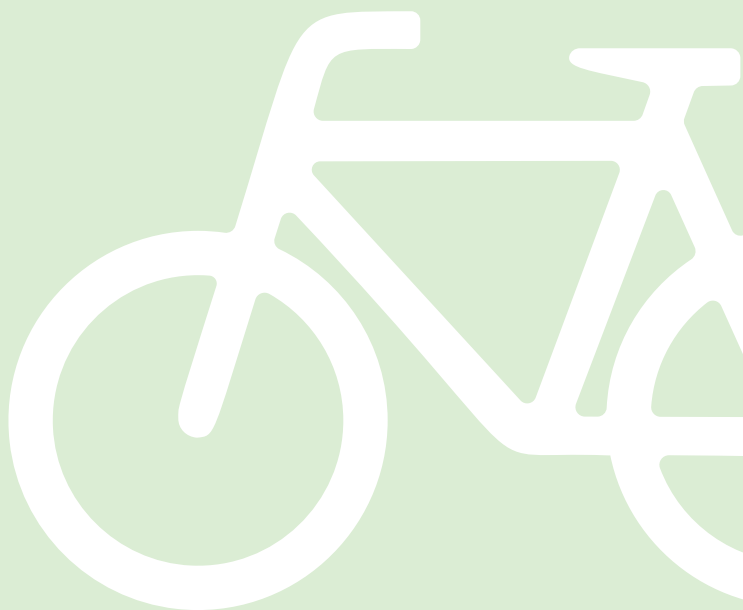


Installation of the Downtown **Bike Grid**



24

schools will undergo school zone **traffic assessments** each year in 2017 and 2018





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