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## **Dedication**

This report is dedicated to those who have lost their lives or been seriously injured on Edmonton's roads. Together, we can achieve Vision Zero in Edmonton through safe and livable streets.

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Since adopting Vision Zero in 2015, fatalities on our streets have decreased by 63% and serious injuries have decreased by 40%.

## VISION ZERO ANNUAL REPORT CITY MANAGER'S MESSAGE



The City of Edmonton's commitment to Vision Zero – zero traffic related fatalities and serious injuries on our roads by 2032 – is essential to a healthy, thriving city.

Working together, through a targeted, evidence-based approach, our investments in safety have made significant progress toward Vision Zero since 2015. As of the end of 2020, traffic-related fatalities have decreased by 63 per cent and serious injuries have declined by 40 per cent.

We know there is much work left to do. In 2020, 12 people were killed in road traffic collisions on Edmonton's streets. The City of Edmonton will continue to make critical decisions to improve the safety and livability of Edmonton's streets with the guidance of the Safe Mobility Strategy 2021–2025. The Safe Mobility Strategy draws clear connections that highlight how safe and livable streets benefit public health, local economy, and the environment, to support Edmonton's strategic goals and direction of The City Plan and ConnectEdmonton.

Vision Zero is only achievable with the dedication of City staff, Edmontonians, community groups, businesses, and organizations. We will work together to continue to build a safe, healthy city for all.

Sincerely,

**Andre Corbould**, City Manager



# ACHIEVING VISION ZERO IN EDMONTON

#### What is Vision Zero?

Vision Zero seeks to eliminate all traffic fatalities and serious injuries while increasing safe, healthy, equitable mobility for all; this work is crutial to support a healthy, thriving city. Vision Zero is founded on four key principles.

No loss of life is acceptable

Traffic fatalities and serious injuries are preventable

We are all physically vulnerable when involved in motor vehicle collisions

We all make mistakes

### A Safe Systems Approach to Vision Zero

Data, research and Edmontonians' lived experiences are used to help take action and reduce fatalities and serious crashes on Edmonton's streets. The work is based on a five year strategy, endorsed by City Council, that connects the goals of Vision Zero by applying a Safe Systems Approach to improve safety and livability.

The Safe Systems approach focuses effort and priority on evidence–based action that reduces risk and harm. Humans make mistakes, and we are prone to overestimate our skills and abilities on the road – but, these mistakes shouldn't cost us our safety. A safe system is designed with these mistakes in mind, recognizes the massive impact of vehicle speed, and works to build understanding of the limitations humans have and how behaviours can be adjusted to protect others. Building a safe system requires a holistic, evidence–based approach supported by the 5 Es of traffic safety:



### ConnectEdmonton: The Broad Societal Benefits of Safe Mobility

The <u>City Plan</u> lays out how Edmonton will grow into a city of 2 million people. The need for safe mobility is fundamental to achieving the City Plan's vision of future land use, transportation, and patterns of growth by supporting the shift from being a city designed for cars to a city designed for people.

In support of <u>ConnectEdmonton</u>, Edmonton's Strategic Plan, safe and livable streets benefit public health, local economy and the environment through creating urban places built for people. When it is safe for people of all ages and abilities to move around by any mode and in any season, physical health and wellness is improved, neighbours are more connected, tragic emotional and economic impacts of crashes are reduced, the local economy is boosted, and climate resilience is improved.

A mobility system with safer transportation options can equitably address the needs of all demographic groups, including women, people with lower incomes, elderly people, the very young, and people with limited mobility.









**Healthy City** 

**Urban Places** 

**Regional Prosperity** 

**Climate Resilience** 

ConnectEdmonton: Edmonton's Strategic Plan sets the direction for the city's future and outlines the changes that are needed today to realize our vision for Edmonton in 2050. The four strategic goals are the focus areas that require transformational change in the next ten years to achieve this vision. These goals will be achieved through strategic actions, partnerships and collaboration.



ConnectEdmonton: The Broad Societial Benefits of Safe Mobility Edmonton's community and personal wellness embodies and promotes health and equity for all of us. Healthy City Dense urban cores help people and businesses thrive and allow for more housing and mobility options. Urban **Places** Regional **Prosperity** Investing in innovation and connectivity allows local and global businesses to grow and thrive. Climate Resilience Edmonton is transitioning to a low carbon future with clean air and water. We are adapting to a changing climate. Safe mobility is essential to a connected, thriving city.

## The Road Safety Strategy (2016–2020)

#### **CELEBRATING ACHIEVEMENTS**

The City of Edmonton committed to Vision Zero in 2015 and developed the *Road Safety Strategy* (2016–2020) to work towards this goal. This strategy used a data driven approach to addressing high collision locations, unsafe speeds, and the top contributing causes to crashes. Through this approach, the *Road Safety Strategy* (2016–2020) has contributed to the ongoing reduction of fatalities and serious injuries.

#### **5 YEARS OF VISION ZERO-INVESTMENTS IN SAFETY**



IMPROVING 105 SIGNALIZED INTERSECTIONS WITH ENGINEERING UPGRADES

Addressing top rear-end crash locations

27

Right-turn bays





IMPROVING SAFETY AT SCHOOLS



237

Schools upgraded

**+** 

Preventing left turn crashes

15

Protected left-turn signals

Signal visibility improvements

63

ENCOURAGING DRIVERS TO SLOW DOWN



212

Driver Feedback Signs (DFS), placed on priority roads DETERING DRIVERS FROM RUNNING RED LIGHTS AND SPEEDING

105

Intersection Safety Devices in operation

#### **MOBILE SPEED ENFORCEMENT YEARLY VIOLATIONS (2015–2020)**

Data shows extreme speeding violations have been decreasing every year since Vision Zero was adopted. Total collisions at mobile speed enforcement sites have decreased 18% when comparing 2013–2015 (Pre-Vision Zero) to 2016–2019 averages. During the same period, the average hourly violation rate decreased by 45%.

The number of violations are decreasing each year. This can be attributed to a number of factors, but it suggests that people are changing their behaviour and slowing down in response to the presence of mobile automated enforcement. Notably, the number of high risk violations (more than 21km/h over the speed limit) have decreased by well over 50%.

#### **Mobile Speed Enforcement**

Overall Violations

21+ Violations

51+ Violations

2015	2016	2017	2018	2019	2020
597,105	615,541	554,319	447,441	383,294	145,835
85,340	74,954	69,230	59,628	41,712	19.750
570	386	373	334	246	174



#### **SERIOUS INJURY AND FATALITY REDUCTIONS**

#### **Total Serious Injuries and Fatalities**

## SERIOUS INJURIES FATAL INJURIES

2015	2016	2017	2018	2019	2020
383	325	341	319	268	231
32	22	27	19	14	12



**52**%

#### Serious Injuries and Fatalities by Mode

2015	2016	2017	2018	2019	2020
23	18	23	20	22	11
49	43	35	37	19	25
70	65	69	66	63	32
270	214	237	208	174	165

PEDESTRIAN

DRIVER OR

**PASSENGER** 

## OVERALL REDUCTIONS IN SERIOUS INJURIES AND FATALITIES 2015–2020

Since adopting Vision Zero in 2015, fatalities and serious injuries on our streets have decreased by over 40%, and pedestrian fatalities and serious injuries have decreased by 54%.



## PRINCIPLES OF THE SAFE MOBILITY STRATEGY (2021–2025)

We all move

We all deserve to move safely

We are connected

We are successful when we work together

We are informed by analytics, lived experience, and research

3,355

People reached through public engagement



## The Safe Mobility Strategy (2021–2025)

The <u>Safe Mobility Strategy (2021–2025)</u> is the way forward on the City's path to achieve Vision Zero through safe and livable streets in Edmonton. This new Strategy builds on the successes of the *Road Safety Strategy* by incorporating the learnings from crash and equity data, as well as the lived experiences of Edmontonians.

#### The Safe Mobility Strategy changed the conversation in two important ways.

- 1 The Safe Mobility Strategy ties traffic safety to the vision and goals of the City of Edmonton as outlined in the <u>City Plan</u>. Integrating safety into all city building and transportation work across the organization is critical in order to achieve Vision Zero.
- Next, the Safe Mobility Strategy integrates the principles of equity and empathy in its development, going beyond the traditional pillars of safety to facilitate the decisions necessary to achieve a more livable and equitable Edmonton. Seeking to better understand lived experience was a key focus of the strategy development and will be built into all of this work moving forward.

#### **LISTENING WITH EMPATHY**

To create a strategy that proactively addresses safety for all Edmontonians, it is important to understand where people feel safe and unsafe when walking, biking, driving, and using mobility aids, and how the design and function of Edmonton's streets contribute to those feelings.

3,355 people participated in public engagement in a variety of ways:

- By using the <u>Safe Streets Map</u>, people shared where on Edmonton's roads they felt unsafe, and why
- From survey results, the City learned that peoples' sense of safety varies based on factors like mode of transportation, gender, or use of a mobility aid
- Through an online <u>Safe Mobility Livestream</u>, the City updated stakeholders on what was learned through the engagement process and research, and to give people a chance to ask questions in a virtual format



#### ADDRESSING INEQUALITY AND DISCRIMINATION: GBA+ PILOT PROJECT

The *Safe Mobility Strategy* has an increased focus on equity. This means paying attention to how the City prioritizes the work that makes Edmonton's streets safe for everyone.

The *Safe Mobility Strategy* is a Gender–Based Analysis Plus (GBA+) pilot project for the City of Edmonton. GBA+ is a tool to look at how different genders and diverse people experience policies, programs and initiatives. An in–depth equity analysis was used to address underlying inequities and identify the groups and modes for which Edmonton's transportation network is less safe. This lens will help the City address inequality, reduce discrimination, and ensure equality of outcomes for all Edmontonians.

#### **LEARNING FROM CRASH DATA**

A High Injury Network was identified by plotting crash locations on a map for each mode of transportation – walking, cycling, driving, and motorcycling. This helps the City find specific corridors and locations where serious and fatal injury crashes are occurring. Understanding current crash patterns and the communities who are most impacted by traffic safety issues was an important step in creating a plan that will lead to meaningful change where it is needed most.

#### **THEMES AND KEY ACTIONS (2021 TO 2022)**

The City identified <u>four themes and 16 key actions</u> to take through 2021 and 2022 to assist in our work towards Vision Zero. Through these actions, the *Safe Mobility Strategy* will help shape how Edmonton's streets are planned, designed, built, activated, and maintained.

Learn more at edmonton.ca/SafeStreets.

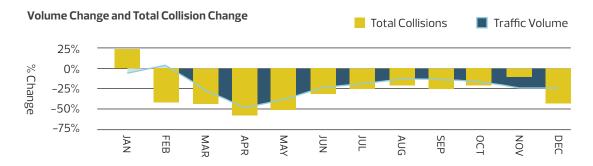


10

## **HOW COVID-19 IMPACTED ROAD SAFETY**

2020 was a unique year, and traffic safety was no exception. Travel patterns changed when daily routines and lives were impacted by the COVID-19 pandemic.

In Spring 2020, there was a sharp decrease in the number of vehicles on the road, and when traffic volumes decreased, so did the number of crashes. Even as vehicle volumes returned to near pre-pandemic levels, the total number of crashes remained around 25% lower than in previous years. This has demonstrated that even a small change in travel patterns can have a significant impact on improving safety.



#### SHORT TERM SPEEDING INCREASE DUE TO LOW TRAFFIC VOLUMES

Due to the sudden drop in traffic volumes in March and April of 2020 when Edmontonians were asked to stay home, the wide empty roads created an opportunity for a small subset of drivers to engage in extreme speeding.

Mobile enforcement and strategic collaboration with the Edmonton Police Service was critical for helping remind Edmontonians to drive safely, reduce impact to the healthcare system and look out for one another during this difficult time.

"Now is the time we need everyone to be very, very careful so they don't wind up, either themselves, or putting someone else in hospital at a time where our health care workers have enough to deal with." – Jessica Lamarre, Director of Safe Mobility.

Learn more about how the City asked drivers to help keep Edmonton's roads and each other safe by slowing down in this <u>blog post</u>.

#### **SUPPORTING VULNERABLE EDMONTONIANS**



The Edmonton Convention Centre (ECC) became the site of a temporary 24/7 pandemic accommodation space from October 2020 to April 2021. During this period, the travel patterns surrounding the ECC changed given the increase in people walking and biking in the area to access the building from Grierson Hill.

Grierson Hill has a 50 km/hr speed limit, limited pedestrian crossing points, and limited visibility for drivers. The existing infrastructure did not provide a safe access point for those who were carrying their belongings and/or using mobility aids to the ECC. This introduced safety concerns for people crossing the streets, especially at night.

The following temporary measures were implemented in order to ensure the safety of everyone who was accessing this site:

- **Temporary crosswalk**, including zebra pavement markings, signage, a rapid flashing beacon to increase visibility and provide safe access to the building.
- **Temporary speed limit reduction** from 50 km/h to 30 km/h along Grierson Hill including portable driver feedback signs to advise and remind drivers of their speed.

## **CHANGES TO EDMONTON'S STREETS**

The Safe System Approach combines the 5 E's of traffic safety: engineering, education, engagement, enforcement and evaluation to create safe, livable streets for everyone.

Traffic safety engineering looks to build new streets or redesign older ones with features that help prevent or reduce the severity of mistakes and crashes. Below are some of the improvements the City made to Edmonton's streets in 2020.



## DRIVERS NOT YIELDING TO PEOPLE WHO HAVE THE RIGHT OF WAY IS A TOP COLLISION CAUSE IN EDMONTON.

Based on 2020 collision statistics, 19 serious and fatal injuries involved drivers failing to yield to a pedestrian who had the right of way in a crosswalk.

### **Crosswalk Improvements**

69

In 2020, 69 crosswalks were upgraded, and \$3 million was invested in improving crosswalks.

#### **2020 CROSSWALK INSTALLATIONS**

UPGRADE	2020 INSTALLATIONS	CROSSWALK TYPE
FLASHING BEACONS	55	Two rapidly and alternately flashing rectangular amber beacons mounted above side-mounted pedestrian signs. They are used in areas that have low to moderate traffic volumes and are typically found at locations around schools.
PEDESTRIAN ACTIVATED AMBER FLASHERS	8	While active, amber traffic lights flash to warn drivers they must slow to the indicated speed and stop for pedestrians. They are used in areas with moderate to high traffic volumes.
PEDESTRIAN SIGNALS	6	Pedestrian activated signals are traditional traffic lights with a pedestrian activated button on the pedestal. They are used on arterial roadways where the posted speed is 60 km/hr or higher.
TOTAL	69	



#### **CROSSWALK UPGRADE DASHBOARD**

The City is developing new interactive ways for Edmontonians to explore the improvements that increase safety and livability on Edmonton's streets. Explore here.

### **Improving Safety at Schools**

Traffic safety opportunities are reviewed at schools each year where engineers identify countermeasures that are tailored to the specific concerns at each school.

#### **2020 SCHOOL SAFETY UPGRADES**

54

upgrades were conducted including:

- Flashing beacons added at school crosswalks
- Increasing the visibility of stop sign and crosswalk poles
- Upgraded pavement markings for crosswalks and road centrelines

additional schools were reviewed

## \$1.7 MILLION

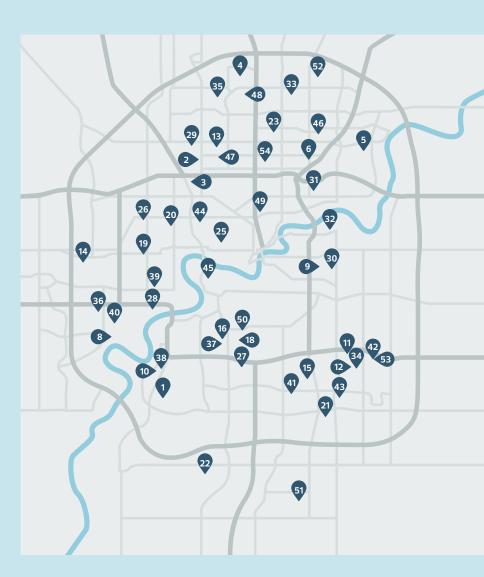
invested on school safety improvements



#### Schools that received upgrades in 2020

- 1 Archbishop Joseph MacNeil School
- 2 Athlone School
- **3** Aurora Charter School
- 4 Baturyn School
- 5 Belmont School
- 6 Belvedere School
- 7 Ben Calf Robe St. Clare School
- 8 Centennial School
- 9 Clara Tyner School
- 10 Earl Buxton School
- 11 Jackson Heights School
- 12 Julia Kiniski School
- 13 Kensington School
- 14 LaPerle School
- 15 Lee Ridge School
- **16** Lendrum School
- 17 Mayfield School
- 18 McKee School
- **19** Meadowlark Christian School
- 20 Menorah Academy
- 21 Meyokumin School
- **22** Monsignor Fee Otterson School
- 23 Northmount School
- 24 Norwood School
- 25 Oliver School
- **26** Our Lady of Peace School

- 27 Rideau Park School
- 28 Rio Terrace School
- 29 St. Angela School
- 30 St. Brendan School
- **31** St. Francis of Assisi School
- 32 St. Gabriel School
- 33 St. John Bosco School
- 34 St. Kateri School
- 35 St. Lucy School
- 36 St. Martha School
- 37 St. Martin School
- 38 St. Mary School
- -- -- ---
- 39 Stratford School40 Talmud Torah School
- 41 Tipaskan School
- 42 Velma E Baker School
- 43 Weinlos School
- 44 Westglen School
- 45 Windsor Park School
- 46 York School
- 47 Calder School
- 48 Lorelei
- 49 Mee-Yah-Noh
- 50 Mt Pleasant
- **51** Divine Mercy
- 52 Soraya Hafez School
- **53** Thelma Chalifoux School
- **54** Glengarry



## **ENCOURAGING SAFE SPEEDS**

#### **ESTABLISHING A SAFER SPEED LIMIT**

City Council, Administration, and community groups took action to establish a safer speed limit on residential streets and in high pedestrian areas in Edmonton.

In November 2020, City Council approved reducing Edmonton's default speed limit for residential roads, the main street sections of Whyte and Jasper avenues and other high pedestrian areas to 40 km/h.

#### These changes will come into effect in summer 2021.

Stay up to date with this at edmonton.ca/safespeeds.

The City looked at places where lowering speed limits can create safe, livable streets for everyone using:

- A systematic road network review to identify where speed limits could increase safety and livability in Edmonton's neighbourhoods
- An Estimated Time of Arrival tool to help Edmontonians see that reducing speed limits will have little
  impact on trip times
- A refreshed signage approach to reduce the number of road signs on our streets and address complaints of signage-related clutter

#### Will Speed Limit Reductions Reduce Collisions?

Dr. Karim El-Basyouny, Urban Traffic Safety Research Chair at the University of Alberta, used speed and collision data to model potential outcomes related to reducing speed limits. The analysis included estimating anticipated injury and fatal collision reductions and quantifying the value of cost avoidance related to decreasing collisions. These projections indicate that reducing speed limits will help reduce collisions, making our streets safer overall.

#### **DRIVER FEEDBACK SIGNS**

Driver Feedback Signs (DFS) provide real-time information that shows drivers how fast they are going. We use two types of these in Edmonton; speed trailers that can be moved to locations throughout the city, and permanent DFS locations. In 2020, speed trailers were used at 90 locations in Edmonton, and 212 DFS were operational on priority roads.

#### **New Research**



A study from the University of Alberta found that DFS are effective at both reducing speeds and reducing crashes. Areas where DFS are deployed had significant crash reductions compared to similar areas without DFS. The reduction in crashes ranged from 30% to 45%, and there was a higher reduction in crashes when DFS and mobile speed enforcement were used together as compared to using DFS alone. The study also helped identify new areas that would benefit from a DFS by suggesting future sites for installing new DFS to optimize crash reductions and increase safety.

#### **SAFETY MESSAGING**

#### **Digital Message Boards**

In 2020, safety messages were displayed on digital message boards across Edmonton to remind drivers to drive safely. These safety messages were displayed for a total of 20,912 hours.

These messages encourage safe speeds, driving to conditions, and watching for others on the road.

DENSE FOG
PROCEED WITH
CAUTION

SPEEDING IMPACTS
US ALL
PLEASE DON'T SPEED

DON'T SPEED STAY SAFE

#### **Community Signs**

When community members contact the City with concerns related to speeding in their community, we can provide them with specialized signage to remind drivers to slow down. In 2020, 144 neighbourhoods received a total of 281 signs.



#### **SPEED ENFORCEMENT**

The vast majority of drivers are following speed limits in Edmonton.

The City of Edmonton and the Edmonton Police Service work together to enforce speed limits and make Edmonton's streets safer for everyone.

#### **Automated Enforcement**

Automated traffic enforcement in Edmonton includes mobile speed enforcement and intersection safety devices.

#### **Mobile Speed Enforcement**

• In 2020, there was a 66% decrease of observed drivers receiving a ticket through mobile enforcement compared to the previous year



#### **Mobile Speed Enforcement Ticketed Percentage**

	2019	2020	
PERCENT OF DRIVERS WHO RECEIVED A TICKET	1.30%	0.44%	66%
PERCENT OF DRIVERS WHO RECEIVED A 21+ KM/HR TICKET	0.092%	0.027%	71%

#### **Intersection Safety Devices**

Intersection Safety Devices discourage running red lights and speeding through intersections. Collisions at intersection safety device locations are continuing to decline – crashes were 34% lower in 2020 compared to 2019. In 2020, only 0.013% of vehicles (56,959 violations) received a red light running violation ticket, and only 0.095% of vehicles (412,958 violations) received a speed violation ticket.

#### **Increasing Transparency**

In late 2019, the City of Edmonton began marking automated enforcement vehicles in bright yellow wraps and decals and adding safety flags to increase visibility. This reminds drivers to slow down – which is the goal of automated enforcement! All automated enforcement vehicles had received this treatment by the end of January 2020.



A publicly–available <u>Automated Enforcement Dashboard</u> was implemented in 2020. It summarizes violations and collisions before and after Vision Zero was implemented in Edmonton.



Maps are also available on open data showing the locations of all <u>Automated Traffic Enforcement Zones</u>, as well as the <u>Scheduled Automated Enforcement Zones</u> for the week ahead. These tools reflect the City's approach to provide transparent and open public communication, which is a priority in the <u>Safe Mobility Strategy</u>.

## **INVESTING IN SAFE MOBILITY**

Funds collected through automated traffic enforcement are deposited into the Traffic Safety Automated Enforcement Reserve and do not go into general City revenues.

City Policy C759B dedicates this Reserve to be used for traffic safety initiatives, such as crosswalk upgrades, road design improvements, and public education campaigns.

Through the reserve, funds are reinvested back into safe mobility programs to help reach Vision Zero.



# THANK YOU TO VISION ZERO PARTNERS AND ADVOCATES

Vision Zero can not be achieved without the many dedicated individuals, groups, and organizations that support safe mobility in Edmonton.



# WHAT'S NEXT FOR VISION ZERO IN EDMONTON?

#### **SAFER SPEEDS**



This summer, the speed limit on most of Edmonton's residential and downtown streets will be reduced from  $50 \, \text{km/h}$  to  $40 \, \text{km/h}$ .

If you're driving in a residential area, adjust your speed to a maximum of forty and help make Edmonton's streets safer.

Tell your friends, family and neighbours about how slowing down increases your field of vision, gives you more time to react, and reduces the likelihood of tragic crashes.

Visit edmonton.ca/SafeSpeeds to learn more.

#### **COMMUNITY ACTIVATION**

Community activation is one of the Key Actions built into the *Safe Mobility Strategy*. The purpose is to create programming and tools to support Edmontonians to get involved and influence safety and livability on their streets.

Many Edmontonians want drivers to slow down on residential streets and to feel safer crossing the street near their home. The City wants people of all ages and abilities to feel safe when walking and rolling through Edmonton. Tools are being developed to help encourage people to travel safely on Edmonton's streets, and the City is creating a Safe Speed Toolkit so you can be part of the change.

Vision Zero Street Labs are another crucial part of Community Activation. It is an innovative program that builds community-led, City-supported projects that combine Edmontonians' lived experience and City staff expertise to collaboratively implement temporary, adaptable measures to address neighbourhood safety and livability concerns. Through this program, Edmontonians can transform their neighbourhood streets with exciting new temporary installations.

Find out what is possible in your neighbourhood at <a href="edmonton.ca/StreetLabs">edmonton.ca/StreetLabs</a>.

## **GET INVOLVED WITH VISION ZERO**



Follow @CityofEdmonton on Twitter, Facebook, and/ or Instagram to help us share traffic safety messages on social media



Talk to your friends, neighbours and loved ones about how you can make Edmonton's streets safer and more livable



Visit edmonton.ca/ VisionZero to learn more and get involved!