Policy and Planning Context:

Safe Mobility Strategy 2021–2025

Edmonton

The objective of this discussion paper is to summarize existing strategies, policies, plans, bylaws, and other documentation that relate to traffic safety in Edmonton and the Safe Mobility Strategy. The review considered international, national, provincial, and local policies and context.

International, National, and Provincial Policy Context

International

The principles of the Safe System approach to traffic safety were first developed in Sweden, where the parliament adopted a road traffic safety bill in 1997 that also put forward the Vision Zero goal, stating that no loss of life or serious injury resulting from mobility is acceptable. In the Swedish law, Vision Zero was the objective, and a Safe System approach was the means to attain this objective. A Safe System approach recognizes that human errors cannot be completely avoided, and thus crashes will always continue to occur. It also recognizes that the human body has an inherent vulnerability and can only withstand a limited amount of kinetic energy. A Safe System approach aims to ensure the components of the transportation system — road users, vehicles, and the transportation network and environment they operate in — all take into account these limitations.

In 2010, the United Nations adopted a resolution to proclaim 2011 to 2020 a "Decade of Action for Road Safety" with the intent of stabilizing and reducing road fatalities and serious injuries. A global plan was developed to help member states achieve this goal[1]. The plan puts forward the idea of a Safe System approach and rests on five pillars:

1. **Road Safety Management:** This pillar concerns the management and leadership in road safety, including setting fatality and serious injury reduction targets at the national and regional level and setting aside dedicated funding for traffic safety initiatives.

2. **Safer Roads and Mobility:** This pillar relates to roadway planning, design, construction, and maintenance as well as land use with a particular emphasis on providing adequate infrastructure for vulnerable road users.

3. **Safer Vehicles:** This pillar aims to ensure new vehicles adhere to a set of minimum safety standards.

4. **Safer Road Users:** This pillar targets road user behaviours such as drunk driving, speeding, seatbelt, and helmet wearing as well as general road user education.

5. **Post–Crash Response:** This pillar has the objective to increase responsiveness and quality of care in post–crash emergencies.

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1   United Nations (2011). Global Plan for the Decade of Action for Road Safety 2011–2020, 24 p.

To support the objectives of the Decade of Action, the United Nations encouraged member states to adopt national plans related to traffic safety. With this impetus and the Swedish example, many jurisdictions throughout the world have adopted Vision Zero policies.

National

The current policy guidance at the national level is Canada's *Road Safety Strategy 2025*[2], which was adopted in 2015. It has three predecessors: two *Road Safety Visions* (2001 and 2010) and the *Road Safety Strategy 2015*. The current strategy puts forward a Safe System approach as a guiding principle and is titled "*Towards Zero: The Safest Roads in the World*," in reference to the stated objective to move towards zero fatalities and serious injuries. The strategy does not set an annual reduction target and reporting tools include only rate-based indicators.

> Despite the adoption of a Safe System approach, the policy still puts the greatest emphasis on user behaviour as demonstrated in the list of key risk groups and contributing factors where drunk driving, distracted driving, drug impaired driving, fatigue impaired driving, and others are listed individually, but road infrastructure is a single category of contributing factors.

The Criminal Code also shapes road safety at the national level. Under the main provisions of the Code, a person can be charged for criminal negligence, dangerous operation of motor vehicles, and impaired driving.

Provincial

The Canadian approach is largely reflected in the *Alberta Traffic Safety Plan 2015*[3], adopted in 2012 and titled "*Safer Drivers, Safer Vehicles, Safer Roads*." It follows its single predecessor, the *Alberta Traffic Safety Plan 2007*. The current plan had a horizon to 2015 and has not been updated. Yearly messaging calendars are still being produced to target a different user behaviour each month. The Plan adopts a "Safer System Approach," but, like its Canadian counterpart, its emphasis is mostly on user behaviour. Key actions in the document related to road infrastructure improvements only mention informing the public about roadway changes. A limited number of proactive safer design options are mentioned in the detailed actions, further in the document. The Plan also outlines specific reduction targets, both rate-based and absolute numbers.

The *Alberta Traffic Safety Act* and its associated *Use of the Highway and Rules of the Road Regulation* is the legislation that establishes acceptable road user behaviours and vehicles at the provincial level and apply to communities across Alberta. These documents regulate who can use what types of vehicles, what constitutes a roadway offense, sets penalties and punishments for offenders, outlines an appropriate driving speed, establishes right-of-way rules, and other legislative items. These documents are the common set of laws that are the foundation for the use of roadway infrastructure.

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2   Canadian Council of Motor Transport Administrators (2016). Canada's Road Safety Strategy 2025. Towards Zero: The Safest Roads in the World, 14 p.

3   Alberta Government (2012). Safer Drivers, Safer Vehicles, Safer Roads. Traffic Safety Plan 2015, 56 p.

Local Context

Traffic Safety Policy Context

In 2015, Edmonton was the first Canadian city to adopt Vision Zero, formally stating its objective of eliminating fatal and serious injury crashes. The Edmonton *Road Safety Strategy 2016–2020* (Vision Zero)[4] was adopted putting forward a Safe System approach and adopting actions in the areas of the five Es: engineering, education, engagement, enforcement, and evaluation. While the education actions mostly target user behaviour, actions in the other areas support a holistic, data–driven approach to traffic safety, including roadway design.

Adopted the same year as the *Road Safety Strategy 2016–2020*, the Edmonton Police's *Traffic Safety Strategy 2016–2020* also adopts a Safe System approach with actions within the realm of policing in each of the five Es. The Edmonton Police *Traffic Safety Strategy* aims to achieve its activities through three implementation approaches: **prevention, intervention, and suppression.** The strategy document actively states curtailment of other activities is required to dedicate resources to traffic safety.

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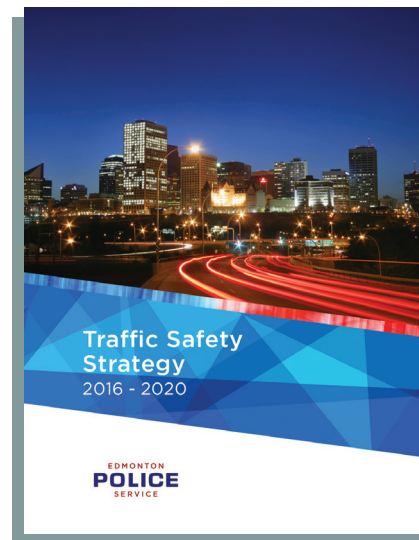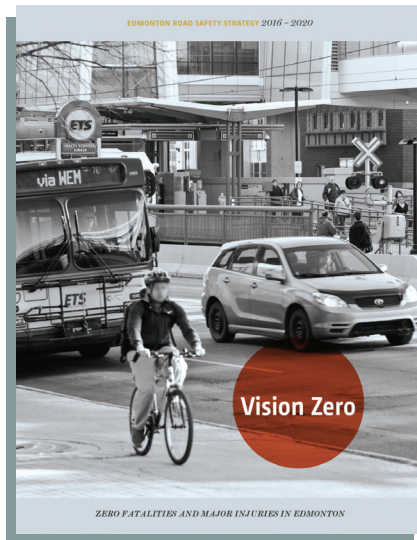
4   City of Edmonton (2015). Edmonton Road Safety Strategy 2016–2020, Vision Zero, 16 p.

Initiatives and Actions outlined in City of Edmonton and Edmonton Police Service Strategies, 2016–2020

	City of Edmonton *Road Safety Strategy 2016–2020*	Edmonton Police Service *Traffic Safety Strategy*
Engineering	· Left-turn signal phase improvements · Right-turn lane redesign · Signal visibility and sight distance improvements · Pedestrian safety upgrades	· Information regarding problematic roadways is transmitted to the City of Edmonton. Edmonton Police also participate in the investigation of collisions, including roadway elements that may have contributed to crashes.
Education	· Voices of Traffic Safety videos · Street Team · Marketing campaigns (sun glare, outsmart the dark, impaired driving, etc.)	· School programs and promotion of traffic safety programs in the media.
Engagement	· Conferences and symposiums for knowledge transfer including presentations for different organizations and at community events · Run Walk Ride for Vision Zero event · Community Traffic Safety Award · Traffic Safety Culture Survey, Street Team · Community traffic management program, which runs in conjunction with Neighbourhood Renewal	· Traffic Tuesdays on Twitter, where users can submit their traffic-related questions. · Partnerships with local stakeholders such as MADD (Mothers Against Drunk Driving).
Enforcement	· Mobile photo enforcement · Intersection Safety Devices	· Enforcement of traffic laws and bylaws within Edmonton. This includes the enforcement of impaired driving, speeding, respect of traffic signals, etc. Interventions also include automated enforcement. · Big Ticket events
Evaluation	· Annual Collision and/or Vision Zero Reports · Monitoring before-after of traffic safety initiatives	· The evaluation component includes an assessment of activities within the other Es, and using evidence-based strategies to inform police activities related to traffic safety. · The Annual Policing Plan monitors severe injuries and fatal crashes, but does not set reduction targets.

Both the City of Edmonton *Road Safety Strategy* and the Edmonton Police Service *Traffic Safety Strategy* come to the end of their lifecycle in 2020 and are up for renewal. The Safe Mobility Strategy is set to replace and augment the current *Road Safety Strategy.*

The purpose of the Safe Mobility Strategy is to "Achieve Vision Zero through safe and livable streets in Edmonton." Five guiding principles have been approved for the Safe Mobility Strategy:

1. **We All Move**

   Edmonton's streets are for everyone no matter how they are moving, and the most vulnerable users need to be protected. A Gender Based Analysis Plus lens and in–depth equity analysis is used to identify the groups and modes for which Edmonton's transportation network is less safe, and actions will be identified and implemented to address underlying inequities and enable everyone to thrive.

2. **We All Deserve To Move Safely**

   It's simple: no loss of life is acceptable, and no one should have to travel in fear. This is the basis of the Vision Zero goal and inspires the actions and outcomes in the Safe Mobility Strategy.

3. **We Are Connected**

   The Safe Mobility Strategy puts forward a plan that lives out safety and livability as envisioned in ConnectEdmonton and set out in The City Plan. How people move impacts and is impacted by the rich complexity of Edmonton as a connected community; a human–centered approach to this work helps to advance Council's priorities around health, climate resilience, and economic prosperity.

4. **We Are Successful When We Work Together**

   We are collectively and individually responsible for enabling safety on our streets. Achieving Vision Zero goes far beyond the City of Edmonton's Traffic Safety section; it requires an integrated approach throughout the City of Edmonton and with partners in the community. The Safe Mobility Strategy leverages the experience, insight, and support of groups such as post–secondary institutions, Alberta Health Services, school boards, community leagues, business improvement areas, private industry, and other orders of government in its planning and execution.

5. **We Are Informed By Analytics, Lived Experience & Research**

   The City works closely with the Edmonton Police Service and the University of Alberta to collect and analyze quantitative data to inform traffic safety actions. This work brings insight into the realities of how Edmonton is moving through the transportation network, but it doesn't integrate the community's experience and wisdom. Systems for gathering and using qualitative data are built to round out the information needed to proactively achieve safety and livability goals in addition to being responsive to where conflicts are occurring.

Municipal Bylaws

In addition to specific traffic safety initiatives, several municipal bylaws regulate different aspects of travel on and use of the transportation system in Edmonton, the most important of which are the *Traffic Bylaw*, regulating parking, vehicle operation, and transportation of dangerous goods, amongst others, and the *Speed Zones Bylaw* which designates posted speed limits throughout the city. Other municipal bylaws related to transportation include the *Community Standards Bylaw* which regulates sidewalk maintenance and idling, the *Parkland Bylaw* which regulates use of pathways within parks, the *Transportation System Bylaw* which regulates roadway classification.

Planning Context

The following highlight planning policies that regulate planning in Edmonton. The policy documents are organized starting at the highest level of the *Edmonton Metropolitan Region Growth Plan* and ending with individual land use and transportation–related policies that relate to city–wide planning and design as well as to specific types of streets or areas of the city (e.g., transit oriented development station areas).

Edmonton Metropolitan Region Growth Plan

At the regional level, the *Edmonton Metropolitan Region Growth Plan* developed by the Edmonton Metropolitan Region Board sets the general framework for long–term growth in the Edmonton region, including target average residential and commercial densities and general land use development patterns. The Plan includes a Transportation Systems policy area with several objectives, one of which is "Coordinate and integrate land use and transportation facilities and services to support the efficient and safe movement of people, goods and services in both urban and rural areas."

ConnectEdmonton

The development of the Safe Mobility Strategy is happening in the context of important changes to the City of Edmonton's long–term vision. Edmonton's Strategic Plan, *The Way Ahead*, was replaced in 2019 by *ConnectEdmonton*, the 2019–2028 Vision. *ConnectEdmonton* includes four main strategic goals, which all relate directly to the Safe Mobility Strategy:

Climate Resilience **Regional Prosperity** **Healthy City** **Urban Places**

The City Plan

The City Plan will support the implementation of *ConnectEdmonton* and update guidance regarding land use, transportation, and patterns of growth. *The City Plan* presents an important opportunity to ensure all planning policies help achieve safe mobility in Edmonton. These policies influence the built form (streets, buildings, and their interaction), the location of destinations, and the types of transportation options that are available and comfortable to move around Edmonton.

The City Plan ties to the four strategic goals of *ConnectEdmonton* and overlays them with six guiding values (Belong, Live, Thrive, Access, Preserve, Create), leading to 24 City Building Outcomes. Each Outcome guides the development of Intentions — the actions required to accomplish the outcome — which, in turn, support the development of specific Directions for each Intention. Several of the Outcomes and Intentions have a mobility component (or a land use component that directly impacts mobility patterns).

For current information about the City Plan, please visit edmonton.ca/cityplan.

Outcome 2.1 Edmontonians feel safe and secure in their communities and benefit from public spaces and infrastructure that support health and wellbeing.

- Intention 2.1.1 Ensure that publicly accessible spaces and facilities are designed and maintained for the year–round safety, security, and barrier–free accessibility of all users.

- Intention 2.1.2 Support the physical and mental health of Edmontonians by integrating housing, services, amenities, and natural systems with active transportation networks.

Outcome 2.2 Edmontonians have the ability to live locally, with access to diverse and affordable housing options in communities that support their daily needs.

- Intention 2.2.1 Promote compact, mixed use development within districts that supports equitable access to employment, education and amenities.

- Intention 2.2.3 Ensure that walkable and attractive mixed use development occurs at nodes and along corridors in a manner that is integrated with accessible mass transit.

Outcome 4.1 Edmonton advances equity through access to barrier–free spaces, services, facilities and transportation networks.

- Intention 4.1.1 Support inviting and inclusive transportation options for Edmontonians of all ages, abilities and incomes

- Intention 4.1.2 Ensure safety of all users in the planning and design of city infrastructure, networks and spaces

Outcome 4.2 Edmontonians live closer to what they need and are supported by walkable communities, active transportation networks and greater connectivity across all travel modes.

- Intention 4.2.1 Ensure that transportation investment supports urban intensification and diversification.

- Intention 4.2.2 Ensure a mobility system where people can seamlessly move from one travel option to another to conveniently fulfill their daily needs.

- Intention 4.2.3 Ensure active transportation networks serve a variety of purposes including recreation, commuting, transportation and fun.

Outcome 4.3 Edmonton's transportation system connects residents and businesses, creating opportunities and building partnerships throughout the region.

- Intention 4.3.1 Ensure that the transportation system enables the efficient movement of people and goods within Edmonton and the Metropolitan Region.

Outcome 4.4 Edmontonians benefit from improved public transit and high quality active transportation networks which reduce greenhouse gas emissions.

- Intention 4.4.1 Support a low carbon transportation system.

In addition, *The City Plan* includes five Big City Moves that run parallel to the set of Outcomes, Intentions, and Directions:

· Greener as We Grow

· A Rebuildable City

· A Community of Communities

· Inclusive and Compassionate

· Catalyze and Converge

These Big City Moves are transformative projects that are in line with and support the Outcomes, Intentions, and Directions. Several of the Moves relate to mobility, but the Community of Communities Big City Move is particularly relevant. Notably, it proposes that 50% of trips will be made by transit and active transportation, and that 15–minute districts will allow people to easily complete their daily needs.

The implementation of *The City Plan* will manifest itself in the physical world through the City's systems and networks, which *The City Plan* divides into three categories:

1. Planning and Design

District Networks
Nodes and Corridors Network
Green and Blue Network
Non–Residential Opportunities Network

2. Mobility

Active Transportation Network
Transit Network
Roadway and Goods Movement Network

3. Managing Growth

Growth Management Framework
Pattern Areas
Phasing Strategy

Four of these networks are relevant to the Safe Mobility Strategy: the Nodes and Corridors Network, the Active Transportation Network, the Transit Network, and the Roadway and Goods Movement Network.

The Nodes and Corridors Network is the combination of centres of denser activity and mobility corridors that also support living and commerce. While new policies will be developed to implement *The City Plan*, it will also rely on existing policies. The Nodes and Corridors vision is supported by two existing policies: the *Transit Oriented Development (TOD) Policy* and the *Main Streets Policy. The current Transit Oriented Development Guidelines*, adopted in 2012, describe land use types and density, building and site design, and public realm design for areas in close proximity of LRT stations and transit centres. These "Station Areas" provide a mix of land use and carry several transportation network requirements. The *Main Streets Policy* supports the idea that some major streets are both links and places and must support both functions. Main Streets are considered to be enhanced Complete Streets and their characteristics are outlined in the *Main Streets Guideline* developed in 2015.

Land Use Policies

Other policies support the Planning and Design systems outlined in *The City Plan*. In 2018, the City of Edmonton developed the *Infill Roadmap*, which lists actions required to increase housing density in mature neighbourhoods, which in turn influences the length of trips and available modes of transportation. While the *Infill Roadmap* targets mature neighbourhoods, *Designing New Neighbourhoods* is the set of guidelines adopted in 2013 to guide development in Urban Growth Areas. The document includes twelve outcomes that point to more diverse, compact, and connected neighbourhoods where all modes of transportation are accommodated and a range of local amenities are within walking distance. Ultimately, land use is regulated by the *Zoning Bylaw*, which dictates permitted and allowable uses on each lot within the city and was recently amended to replace minimum parking requirements with Open Option Parking.

Transportation System Policies

While the City of Edmonton has many policies, strategies, and plans associated with transportation that relate to the Safe Mobility Strategy, the following summarizes existing transportation policies that are particularly related to traffic safety, Vision Zero, and Safe System:

- *Active Transportation Policy*

- *Bus Network Redesign*, *Transit Service Policy*, and *Transit Strategy*

- *Complete Streets Design* and *Construction Standards*, *Complete Streets Policy*, and *Access Design Guide*; and

- Additional policies related to speed management, enforcement, and safety of school areas and neighbourhoods.

The Active Transportation Network consists of the cycling and walking/wheeling networks. Several strategies and plans influence the network and are envisioned to participate in achieving the goals of *The City Plan*. Notably, Edmonton has an *Active Transportation Policy*, which supports a bikeable and walkable Edmonton. This policy, adopted in 2009, facilitated the adoption of the *Sidewalk Strategy*, the *Walkability Strategy*, and the *Bicycle Transportation Plan Update*. The *Bicycle Transportation Plan Update* will be replaced by the *Edmonton Bike Plan*, currently pending final approval/adoption.

The Transit Network is undergoing important changes. The City is currently working on the *Bus Network Redesign*, which will transition the bus network from a door-to-door service to a high-frequency, transfer-based network. The new service was set to launch on August 30, 2020, but has been delayed due to COVID-19. In addition, the first phase of the Valley Line LRT (from Downtown to Mill Woods) is under construction and planning efforts continue for the Valley Line West LRT (from Downtown to Lewis Farms). In late 2019, the City adopted a new *Transit Service Policy* with the explicit intent to support *ConnectEdmonton* and Edmonton's *Transit Strategy* commitments of a safe, fast, reliable and convenient transit service. The *Transit Strategy* was adopted in 2017 with the ultimate aim to encourage more Edmontonians to use transit. It includes an approach to establishing a fare policy in addition to outlining the characteristics of a transit network that is safe, fast, reliable, and convenient.

Finally, the Roadway and Goods Movement Network includes major roadways for freight and goods movement, but also all the streets that form the backbone of mobility in Edmonton. The design of streets, pathways and trails is regulated by the City's *Design Standards and Construction Specifications*. In 2018, the *Complete Streets Design and Construction Standards* replaced the previous design standards for roadways (Volume 2) and that are intended to function for and be welcoming to people of all ages and abilities, regardless of transportation mode. The 2018

Access Design Guide provides supplementary guidance to the Standards to ensure safe and accessible paths of travel for users of all ages and abilities. In line with these documents, the *Accessibility for People with Disabilities Policy* adopted in 2019 states the importance of making Edmonton, including its streets and other mobility networks, accessible for everyone. The *Winter City Design Guidelines* provides guidance on the design of streets and public spaces to support use, operation, and maintenance during the winter season.

Other policies related to transportation also affect safe mobility in Edmonton:

- The *Community Traffic Management Policy* describes the Community Management Program, which aims to implement traffic management tools, particularly in tandem with Neighbourhood Renewal. The program is designed as a collaboration between the City and local residents with the objective of implementing measures tailored to the local context and community values.

- The *Guidelines for the Implementation of Safety Measures Around Schools Policy* lists specific safety measures that the City may implement following the review of school areas. These include 30 km/h School Zones, crosswalk controls and sidewalk construction, for example.

- The *Speed Reduction Policy* allows Community Leagues to request a reduction of residential speed limits to 40 km/h on an individual neighbourhood basis when evidence of 67% community support is provided.

- The *Urban Traffic Noise Policy* places responsibility on developers to ensure noise in the back yards of new private residences adjacent to transportation facilities do not exceed 65 dBA. It also aims to ensure this noise limit is not exceeded when building or upgrading transportation facilities in existing neighbourhoods and opens the possibility for minimizing traffic noise in existing neighbourhoods adjacent to existing transportation facilities.

- The *Traffic Safety and Automated Enforcement Reserve Policy* establishes a reserve funded by revenue from the use of intersection safety devices and all automated enforcement devices. The reserve fund aims to address revenue variability and ensure ongoing funding of traffic safety initiatives.

Because of their essential role in mobility, it is worth examining the design of roads in more detail. The *Complete Streets Design and Construction Standards* (CSDCS) were developed with context sensitivity and safety considerations in mind.

- The first chapter (Concepts and Philosophy for Complete Streets Design) states the goal is to "create a network of streets that are safe, welcoming, attractive, comfortable, and functional for all users in all seasons, and that support and enhance the unique characteristics of the neighborhoods and districts they serve." One of the Design Principles reads "The transportation network provides travel options for users of all ages and abilities that are safe, universally designed, context sensitive, and operable in all seasons (including winter.)"

- Section 1.3 speaks to designing streets with a Safe Systems lens and directly addresses the relation between street design and Vision Zero.

- The CSDCS adopted an approach to reduce the inherent risk of collisions by minimizing conflicts in time and space and minimizing speed differentials where separation is not possible.

- The concept of Design Domain is presented in Section 1.4. The Design Domain is the range of values a design element (e.g., sidewalk, bike lane, or roadway width) can take. The range of values present trade–offs in terms of fitness for purpose and safety for all users. For example,

building a roadway with a generous width can lead to more efficient operation but would result in higher vehicle speeds and a reduction in safety for all road users.

- More details on systematically thinking through these trade–offs between competing objectives and different road users, including safety considerations, are provided in Section 2.0 of the CSDCS.

- Overall, the incorporation of the Design Domain shifts the design process from simply selecting a singular design dimension to considering the impacts on all users of selecting different values within the domain to achieve the objectives for the given street or pathway undergoing design.

The principles put forward in the conceptual framework of the CSDCS support infrastructure design guidance that is necessary for safe mobility. Concrete examples include requiring the design speed to be equal to the posted speed for streets where the posted speed limit is 50 km/h or less as well as reducing the minimum lateral clearance from obstructions such as poles and trees to reduce the scale of the street and encourage slower vehicle speeds.

Conclusion

The Safe Mobility Strategy connects the dots between City agencies and external partners to ensure Edmonton has a sustainable and safer transportation system. There are existing local, provincial, national, and international strategies, policies, plans, bylaws, and other documentation that relate to traffic safety in Edmonton. These need to be considered in the development of the Safe Mobility Strategy. A number of these existing policies are out of date and will need review for alignment, applicability and consistency with ConnectEdmonton, City Plan, and the Safe Mobility Strategy. This work will be included as one of the major actions for 2021/2022 in the Safe Mobility Strategy. The Strategy will build off their strengths and fill gaps to create a Safe System for Edmonton's transportation network.