

## 102 AVENUE OPERATION EVALUATION

### Recommendation

That the November 26, 2024, City Operations report CO01775, be received for information.

<b>Requested Action</b>	Information only		
<b>ConnectEdmonton's Guiding Principle</b>	<b>ConnectEdmonton Strategic Goals</b>		
<b>CONNECTED</b> This unifies our work to achieve our strategic goals.	<b>Urban Places</b>		
<b>City Plan Values</b>	ACCESS		
<b>City Plan Big City Move(s)</b>	A community of communities	<b>Relationship to Council's Strategic Priorities</b>	Mobility Network
<b>Corporate Business Plan</b>	Serving Edmontonians		
<b>Council Policy, Program or Project Relationships</b>	<ul style="list-style-type: none"> <li>• Safe Mobility Strategy</li> <li>• Policy C544 - Active Transportation Policy</li> <li>• Complete Streets Design and Construction Standards</li> <li>• The Bike Plan and The Bike Plan Implementation Guide</li> <li>• Smart Transportation Action Plan</li> <li>• Bylaw 5590 - Traffic Bylaw</li> </ul>		
<b>Related Council Discussions</b>	<ul style="list-style-type: none"> <li>• June 7, 2022, Integrated Infrastructure Services report IIS00899, 102 Avenue LRT Pedestrian Crosswalk Recommendation</li> <li>• February 21, 2023, Integrated Infrastructure Services report IIS01341, Bylaw 20345 - To close a portion of road, Downtown</li> </ul>		

### Previous Council/Committee Action

At the February 21, 2023, City Council Public Hearing, the following motion was passed:

That Administration provide a report to Committee that evaluates the operations of 102 Avenue, including usage by all modes, accidents, near misses, and user and stakeholder feedback for the first six months after the LRT enters service.

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## Executive Summary

- Administration completed a corridor analysis following the reconstruction of 102 Avenue between 99 Street and 102 Street into a multi-modal corridor, and found that it has significantly changed the way that people travel through the area.
- The transition presented new challenges as people using all modes of travel experienced the new design. Observations gathered after six months of LRT operation, along with feedback from interested organizations and the public, showed that the majority of road users navigated the road cautiously while learning the new design. There were minimal incidents and no major safety issues have been identified along the corridor.
- All types of travel mode users engaged in some degree of traffic non-compliance, although this behaviour is expected to decrease over time as users become more familiar with the changes. The majority of non-compliances did not present an immediate and/or significant safety risk, and the most commonly observed non-compliance was by active mode users crossing against signals when no vehicles were present.
- Expectations for where each mode user should travel are prescribed through the engineered streetscape. Overall, the majority of users understood and complied with expectations for all modes. However, survey results indicate the majority of users experienced confusion around the vehicle lane.
- Administration has started work to address the areas of improvement identified by the corridor analysis. This includes a signal timing review, a signage review and exploring the possibility of piloting advance notification for drivers turning across bike lanes. Additionally, learnings from this review will be shared for integration into the Valley Line West LRT project.

## REPORT

Administration redesigned 102 Avenue between 99 Street and 103 Street into a multi-modal corridor as part of the Valley Line Southeast LRT. The corridor features sidewalks on the north and south sides of the avenue, with LRT tracks, a bi-directional protected bike lane and one eastbound traffic lane in the middle.

## Background

At the June 7, 2022, City Council meeting, Council directed Administration to prepare a bylaw to close this corridor to vehicle traffic for a one-year pilot with the intent of using Downtown Vibrancy funding to activate the driving lane of the space. At the February 21, 2023, City Council Public Hearing, Administration presented Bylaw 20345 to close a portion of road downtown, but recommended against the road closure for the following reasons:

- Surrounding land uses are not conducive to creating a vibrant pedestrian corridor (e.g. lack of storefronts, leisure space, etc.)
- Closure area is separated from the sidewalks and located between a bike lane and LRT tracks.
- Nearby roadways and intersections may experience capacity and operational challenges, including wayfinding issues.
- Closure may increase the potential for jaywalking across the bike lane or LRT tracks.

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Council directed Administration to return with a corridor evaluation after six months of LRT operation. The Valley Line Southeast LRT went into operation on November 4, 2023. Administration worked with an independent firm to complete a corridor analysis from November 2023 to June 2024 (Attachment 1).

### Usage by Modes

To understand mode usage, traffic data was collected from five intersections along 102 Avenue (99 Street, 100 Street, 100A Street, 101 Street and 102 Street) in June 2024 to capture peak active mode use, while vehicle volumes remain relatively consistent throughout the year. This was compared to data from prior to any construction closures in the area.

A summary of volume changes by mode along 102 Avenue corridor is below:

	Vehicles	Cyclists	Pedestrians	LRT boardings
<b>Daily volume per intersection in June 2024</b>	463 - 777	655 - 1,104	3,500 - 15,000	2,054 - 2,760
<b>Change compared to pre-LRT construction</b>	90 per cent reduction from an average of 6,274 to 624 daily vehicles	No pre-LRT operation data available	6 per cent increase at 100 Street with reductions between 22 and 50 per cent at other intersections	N/A

The changes in pedestrian volumes at different intersections are likely due to passenger transfers between the Valley and Capital Line LRTs. Additionally, the increase of pedestrians at 100 Street can be partially attributed to the return of library patrons and the reopening of areas that were closed between 2017 and 2020 for construction of the Stanley Milner Library.

Reductions in vehicle volumes are likely due to the design, which includes:

- Single one way eastbound traffic lane.
- Prohibited left turns along the full length of the corridor due to LRT tracks.
- Prohibited right turns on red lights; drivers must yield to the bicycle lanes on right turns.
- No parking lots or curbside parking available in the corridor.
- Construction for the Valley Line West LRT project to the immediate west of the corridor.

### Safety Analysis

Administration assessed the collision and near miss history in the study area using reported events from the Edmonton Police Service (EPS) and TransEd, as well as through direct observation and video conflict analysis.

#### Edmonton Police Service - Collisions

Data collection includes reports from officers attending incidents and from collision reporting centres after the LRT began operation.

- Data is limited due to occasional, varying delays between collision centre reporting and receipt of data by the City of Edmonton, but shows a declining trend in collisions following the

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completion of construction along the corridor. From 2015 to 2017, there were an average of 16.7 collisions per year. In 2023, the first full year after the corridor reopened, there were seven. This could be related to the change in traffic volume and behaviour, as well as better design and control to separate different modes.

- No collisions involving pedestrians or cyclists were reported.
- One vehicular collision was reported involving property damage only.

### TransEd - Collisions and Near Misses

Data collection of safety incidents included near misses (an event as reported by an LRT operator or other TransEd worker that could have resulted in an incident but was avoided) and collisions (a reported incident where an LRT vehicle came into contact with a person or vehicle).

- Near misses were primarily due to interactions with people walking or riding bicycles too close to or on the tracks.
- Collisions are a small proportion of all reported safety incidents. Three collisions involving LRT vehicles were reported within the study area. One involved property damage, and emergency medical services attended the other two as a precaution, but no injuries were reported.

### Direct Observation and Video Conflict Analysis

Data collection included direct inspector observation throughout the corridor during lunch hour and evening rush hour, when user volumes for all modes are highest, for a total of 15 hours in May 2024. Inspectors recorded near misses and unsafe actions with a focus on interactions with vulnerable road users (pedestrians, cyclists and micromobility users).

- Approximately 16 per cent of total observed roadway users (18,436) engaged in non-compliant actions (3,025).
- Of those non-compliant actions, less than two per cent resulted in near misses (50). This suggests the majority of non-compliances, while illegal, do not present immediate danger.
- No collisions were observed.
- The most common reason for near misses and traffic non-compliances involved a pedestrian crossing against a “Do Not Walk” signal where another road user (i.e., bicycle, scooter or vehicle) had to slow down or re-position to avoid a collision.
  - In most cases, there was sufficient time and space (two meters or more) for road users to detect a potential conflict and avoid a collision, such as by slowing down until the area was clear before proceeding.
  - Instances where emergency actions were required to avoid a collision, such as hard braking or sudden swerving, were almost non-existent. Only one such incident was witnessed during the observation period.

### Pedestrian Traffic Non-compliance Observations

- Approximately 26 per cent of total observed pedestrians (10,460) engaged in non-compliant behaviour (2,697).
- Many events involved walking within the crosswalk against a “Do Not Walk” signal.
- Inspectors observed higher numbers of non-compliant crossing across 102 Avenue than across the adjoining streets in the study area. Pedestrian wait times to cross 102 Avenue are

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longer because signal timing must accommodate LRT crossing in addition to pedestrians and vehicles. Inspectors often observed pedestrians waiting for extended periods while no vehicles were using the intersection.

- The non-compliance rate is higher at the sites with less vehicle traffic due to high wait times combined with fewer potential conflicts with motorized vehicles.

### Cyclist Traffic Non-compliance

- Approximately 18 per cent of total observed cyclists (1,041) engaged in non-compliant behaviour (192).
- The most commonly observed non-compliance was cycling parallel to the LRT tracks while the LRT had a signal to proceed, but the bicycle signal was indicating to stop.
- Cyclist traffic non-compliance rates observed at the 100 Street and 101 Street intersections are similar to those found at a similar comparison site (102 Avenue and 104 Street) outside of the study area.
- Non-compliance rates at the other study area intersections were much higher than at the 100 Street and 101 Street, most likely because these are low volume streets with fewer potential conflicts.

### Motorized Vehicle Traffic Non-compliance

- Approximately two per cent of total observed motorists (6,935) engaged in non-compliant behaviour (136).
- The most commonly observed non-compliance was during very busy periods when queues along 101 Street and 100 Street could extend beyond the train tracks. Drivers would occasionally stop in the middle of the intersection in an attempt to avoid obstructing the LRT.
- Other observations include driving in bicycle lanes, one-way violations and making illegal turns (includes turning right on red lights and turning left where prohibited).

In addition to in-person inspections, data was collected using video cameras for a 24-hour period from July 3-4, 2024 at the 100 Street intersection. Eighty-six near misses were detected, including 82 related to pedestrians, which is consistent with the findings of the in-person inspections.

### **Findings and Next Steps**

Administration has identified opportunities to improve safety and traffic flow for all modes in the 102 Avenue corridor.

- Long pedestrian wait times impede flow for active modes of travel and contribute to non-compliant actions. Administration is reviewing the signal timings along 102 Avenue to reduce the pedestrian wait times and the “total lost time” as referenced in the corridor study. This work is being performed in conjunction with the signal design efforts for the Valley Line West LRT project.
- Signage adjustments or additions (e.g. Do Not Enter, One Way, Turn Restriction, Turn Indication) may help reduce driver violations and improve clarity for drivers along the corridor. Administration is in the process of conducting a full signage review to determine where improvements can be made.

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- There are potential conflicts between drivers and cyclists when vehicles turn right across the bike lane. Administration will explore emerging technologies with the potential to pilot a real-time warning for right-turning vehicles of approaching cyclists at 102 Avenue and 100 Street.

The safety of all road users in this corridor is expected to continue to improve over time as users build familiarity with this corridor. Administration may conduct a public survey in the future to assess changes to road user experiences after any signal timing and signage adjustments are implemented. Learnings from this review, particularly on signalling and signage, will be shared for integration into the Valley Line West LRT project.

### **Budget/Financial Implications**

The findings from the 102 Avenue Corridor evaluation do not present significant budget or financial implications. The recommendations contained within the evaluation can be accommodated through the existing operating budget.

### **Community Insight**

#### **Engagement Sessions**

Administration invited key contacts and participants from the previous engagement conducted in 2022 (Integrated Infrastructure Services report IIS00899, 102 Avenue LRT Pedestrian Crosswalk Recommendation) to meet and share feedback on operations in the 102 Avenue corridor. This included businesses, building management and representative groups with interests in the downtown core surrounding Churchill Square and those with interests in public mobility in general. Representatives from Paths for People and the building management team for Canada Place met with the project team. Three main themes were identified during these meetings:

- **Transition of Public Spaces:** People-oriented spaces in the City, specifically the downtown core, are growing in number. Participants noted that this requires people to adapt how they use these spaces.
- **Vehicle Traffic Management:** Providing safe routes for motorists into and out of the downtown core remains an important priority. However, participants wondered if the space could be better utilized when vehicle volumes are not as high.
- **Driver Experiences:** The changes to the corridor can be confusing and challenging, particularly for accessing parkades and loading docks. Participants felt that this confusion results in problematic driving behaviour such as using the wrong lanes or not following directions.

#### **Public Survey**

Administration conducted an online public survey from May 27 to June 24, 2024. This survey was open to all residents, but was targeted toward corridor users and the invited organizations that did not participate in the feedback meetings. It was advertised through emails to those organizations and to the public through roadside signs along the corridor.

A total of 411 participants completed the survey and provided information on how often they used the 102 Avenue corridor, and by what mode. Respondents also provided open-ended

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feedback describing their thoughts and perceptions about the corridor. A full overview of responses is outlined in Attachment 2. Highlights include:

- 90 per cent of respondents use the corridor at least a couple of times per month, and 68 per cent at least several times per week or more.
- The most reported mode of travel used on or while crossing 102 Avenue was walking (75 per cent), followed by cycling (48 per cent), LRT (37 per cent), driving (35 per cent) and rolling or scooting (12 per cent).
- Respondents indicated that it was easy to identify spaces for LRT (63 per cent) and walking (50 per cent). Only 16 per cent found it easy to identify spaces for driving.
- 75 per cent of respondents reported having had unsafe experiences or near misses with other corridor users.
  - Unsafe experiences were most common for those walking (64 per cent) and cycling (52 per cent).
  - 66 per cent reported that their unsafe interactions involved drivers, while 37 per cent reported that it involved pedestrians.
  - Reasons for feeling unsafe came from non-compliant behaviours, such as drivers not checking for pedestrians in a crosswalk, or pedestrians and micromobility users crossing against the “Do Not Walk” signal.
  - Several respondents also reported feeling unsafe due to ongoing concerns with social disorder in the area.
- Suggestions to improve the corridor fell into categories such as:
  - Vehicle-free / pedestrian-friendly measures.
  - Means to further separate vehicles and cyclists.
  - Adding streetscape and mechanisms to enhance the pedestrian experience in the area.

### GBA+

Roadway design and operation, such as the presence and condition of sidewalks, signal timing, crossing length and other factors, can disproportionately impact users with limited mobility or lower movement speed such as seniors, persons using mobility devices or pushing strollers and walking with young children. Administration included demographic information such as age, gender and ethnicity in the online survey to understand how equity-deserving groups are experiencing the 102 Avenue corridor. In general, responses from these groups were limited and reported similar experiences with regard to unsafe or near misses as other users of the corridor.

- Among the 22 seniors aged 65 and over, 13 had unsafe experiences or near misses with other users of the corridor.
- Among the 34 respondents who are persons with disability, 27 had unsafe experiences or near misses with other users of the corridor.
- Among the 14 respondents who identify as non-binary, 12 had unsafe experiences or near misses with other users of the corridor. This may be related to ongoing issues of social disorder in the area.

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The survey results do not indicate a need for change in design or operation based on inequity; however, Administration is taking steps to improve overall safety and will continue to monitor how the corridor operates in the future.

### **Environment and Climate Review**

This report was reviewed for environment and climate risks, and no significant interactions with the City's environmental and climate goals were identified within the scope of this report.

### **Attachments**

1. 102 Avenue Corridor Evaluation
2. Online Public Survey 2024 - 102 Avenue Operation Evaluation