

Transit Mode Share

Increase and Impacts

Recommendation

That the February 2, 2021, Urban Form and Corporate Strategic Development report CR_7810, be received for information.

Previous Council/Committee Action

At the November 26, 2019, City Council meeting, the following motion was passed:

That through the City Plan, Administration explore what policy, transit investment, partnership and pricing mechanisms are required to increase transit mode share (triple or double over the short to medium term, for example 10 years) and explore the economic development impacts of increasing ridership.

Executive Summary

This interim report presents potential actions to achieve The City Plan's target of 50 percent transit and active transportation mode share at a population of two million. The target helps to achieve ConnectEdmonton's goals, address the Edmonton Declaration and support the integrated transportation and land use directions in The City Plan. Achieving a double or triple transit mode share in 10 years would require these actions to be accelerated and the activation of levers to be intensified. Even so, applying that intensity of change over a 10-year horizon in absence of similarly accelerated changes to land use, employment and density could be ineffective in increasing the transit ridership as requested in the motion. As Administration reimagines City Building in response to the COVID-19 pandemic and the economic recession, many factors that are foundational to mode shift, such as land use intensification and employment growth in the nodes and corridors as envisioned in The City Plan, may be challenged by short term market pressures.

The analysis found that adopting The City Plan Concept and investing in transit are not enough on their own to reach the 50 percent transit and active transportation mode share target. These actions must be coupled with implementation of the policies outlined in The City Plan and activating the levers of change (Attachment 1).

The degree to which the levers are engaged over time can vary. However, focused spending on transit and active transportation infrastructure, operations and increasing costs associated with private vehicle use are the most effective ways to reach the

50-percent target. Such changes would make the time and cost of travelling by transit competitive with car travel. This cannot happen through improvements to transit alone; a market transition is necessary which requires considerable time. Subsequent reports will outline developing a mode share target for a population of 1.25 million as part of a broader corporate effort to establish interim City Plan targets.

There are many impacts of the COVID-19 pandemic that will make achieving some of The City Plan targets more challenging. Over the next 10 years, Edmonton will need to focus on actions to regain ridership and select the most effective strategies to support mode shift that also align with economic recovery and affordability.

Report

The City Plan identifies a set of long-range targets for each of the Big City Moves. Making more of what Edmontonians need within reach by foot, rolling, bike and transit will be key to achieving the *Community of Communities* and *Greener As We Grow* Big City Moves. Achieving 50 percent of daily trips by active transportation and transit by the time our city is two million strong can be attained by realizing The City Plan's land use concept, implementing The City Plan policies and additionally, applying the levers of change.

Edmontonians' travel modes identified in the 2015 Household Travel Survey breakdown as follows:

- Nine percent of all daily trips are made by transit
- 13 percent of all daily trips are made by active transportation, such as walking, rolling and cycling
- 78 percent of all daily trips are made by car, either as a single driver or passenger

Modelled results for a population of two million indicate that:

In reaching the 50-percent target, Edmontonians' travel modes would break down as follows:

- 30 percent of all daily trips made by transit
- 20 percent of all daily trips made by active modes
- 50 percent of all daily trips made by car

Realizing The City Plan concept alone (combining land use intensification and mass transit without additional levers of change) is estimated to result in about a 30 percent transit and active transportation mode share. This share breaks down as follows:

- 15 percent of all daily trips made by transit
- 15 percent of all daily trips made by active modes

- 70 percent of all daily trips made by car

A 50 percent mode share represents a two and a half times increase in transit ridership over what was modelled in the City Plan Concept. To achieve the desired mode share, additional levers of change as identified in The City Plan are required.

It should be noted that accelerating the application of the levers with similar intensity in the 10-year horizon, in absence of comparable accelerated changes to land use, employment and density, could be ineffective in doubling or tripling the transit mode share.

Analysis and Findings

The City uses many analytical tools to understand possible future scenarios under a variety of conditions. The City of Edmonton's Regional Travel Model was used to examine the potential impact of different levers and the degree of effort that would be needed to achieve a 50 percent mode share of transit and active transportation at a population of two million. Historically, analysis has involved examining how individual levers such as an Edmonton Transit fare reduction could improve transit ridership. The analysis shows that individual levers applied in isolation will have modest impacts on achieving The City Plan's mode share target. To produce significant mode shift, the levers must be applied strategically and in combination with each other. Also important to note is that the Regional Travel Model considers current travel patterns and uses existing mobility technology which may change over time and have an impact on transit use and attraction.

Administration analyzed a number of scenarios, including various combinations of levers with a variety of policy directions and effort applied. The City Plan concept was the starting point for all scenarios, and levers were applied in addition to the implementation of The City Plan land use concept and mass transit network. One possible scenario tested in the model found the following levers and associated magnitudes of change to be effective in achieving the 50-percent transit and active transportation mode target:

Transit-related levers

- Coverage - repurpose traffic lanes to create dedicated transit lanes on most arterials and more direct bus connections between transit centres.
- Frequency - increase bus arrivals to every 10 minutes on key routes
- Fare - reduce cost of all transit fares
- Park and Ride capacity - increase the number of park and ride stalls

Automobile-related levers

- Household auto operating costs - double the costs associated with operating a car (e.g., road pricing such as tolls and congestion charges, fuel taxes, vehicle registration costs or mileage based charges).
- Parking costs - quadruple the cost of parking in established paid parking areas and introduce paid parking in all nodes and corridors.
- Car-free corridors - create select car-free corridors in the central districts.

The analysis found that the automobile related levers had the highest impact on improving the transit and active transportation mode share, and that all of the levers needed to be applied together to have a substantial impact. Application of these levers result in transit becoming more attractive to travellers as the time and cost of travelling by transit becomes comparable and competitive with car travel. A more detailed discussion on The City Plan levers of change used in the analysis is provided in Attachment 1.

Associated Economic Benefits

Studies, including those previously completed for the City, indicate that cities that provide a complete range of mobility options improve their economic competitiveness and sustainability. In particular, making transport efficient, in part through offering transit and active transportation as viable mobility options, can attract economic activity, and enhance productivity by improving connectivity and reducing time lost to travel. By extension, investments in the transit and active transportation networks that advance the 50 percent mode share target are in keeping with the City policy intention 3.2.1 to ensure that public infrastructure is designed to support a vibrant local economy and competitive business environment. Additional benefits include reduced household car ownership, improved climate outcomes, and improved public health from an increase in daily active transportation trips.

COVID-19 Impacts

Transit ridership across Canada has been negatively impacted by the COVID-19 pandemic. In Edmonton, ridership dropped to 25 percent of 2019 levels in the spring and has since been hovering around 45 percent. There are several factors that impact transit ridership during and after a global pandemic. Internal variables impacting ridership include safety and security, service design and faring; external variables include economic conditions and employment levels, including the COVID-19 impacts of remote work and online learning, as well as the status of public health emergencies. Safety and security are critical during a pandemic. The City has acted to provide reliable and safe transit service for riders - including essential workers - throughout COVID-19, including enhancing cleaning and disinfecting of transit buses, trains, transit

centres and LRT stations, as well as implementing a face coverings bylaw specific to transit.

Administration also has several deliverables through the 10-year transit strategy that will help recover ridership and enable future growth. To recover ridership in the next three years, Administration will focus on the following deliverables:

- Implementing the bus network redesign and first kilometre/last kilometre on demand pilot, introducing more flexible transit solutions for Edmontonians
- Further enhancing safety and security, including building actions through a Gender Based Analysis (GBA+) process with the community
- Implementing Smart Fare payment technology to automate fare payment
- Introducing Valley Line Southeast service to the transit network, and construction and service planning for Valley Line West
- Continue implementing the bus fleet electrification program, converting diesel buses to electric in support of climate resilience goals. Electric buses are more modern and offer better customer amenities

Next Steps

With the recent adoption of The City Plan and its associated targets, Administration will apply lessons learned and to further analyze strategic actions to achieve a 50 percent transit and active transportation mode share. Tripling or doubling ridership over a 10-year period is more accelerated than The City Plan concept contemplates. Achieving this would require accelerated implementation of the land use concept and mass transit network as well as policy levers.

As part of the broader corporate effort to establish interim City Plan targets, Administration will determine an interim target for mode share that is aligned with achieving The City Plan longer-term mode share target. In doing so, Administration will:

- Analyze actions needed in the short- and medium-term to achieve the interim mode share target
- Analyze the associated economic benefits and costs of increasing ridership
- Identify the high level budget required to support the potential infrastructure and transit service levels

COVID-19's impact on current transit ridership could necessitate adjusting the starting point for the interim mode share target. In applying the levers, Administration will consider which levers may be more or less palatable in the near term, being careful to consider impacts to affordability and economic stimulation. However, as Administration reimagines City Building in order to recover from the pandemic and the economic recession, many of the factors that are foundational to creating mode shift to transit and active transportation, such as land use intensification and employment growth in the nodes and corridors, may be challenged by market pressures and renewed preference for lower density housing in the short term. It is also unclear how a

potentially long term societal movement to online working and learning may directly and indirectly impact transit ridership. Administration is committed to monitoring these trends and developments and responding to ensure Edmontonians have a reliable and efficient public transit system that supports an excellent quality of life.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Edmontonians use public transit and active modes of transportation			
Outcome(s)	Measure(s)	Result(s)	Target(s)
Edmonton neighbourhoods are more vibrant as density increases, where people and businesses thrive and where housing and mobility options are plentiful	Mobility choice: Edmontonians who choose walking, biking, and/or public transit as their primary choice or main mode of transportation to work, school, and completing their other daily needs	2019: 18 percent to work 56 percent to a post-secondary institution 9 percent other	2019 Baseline
Edmonton is an environmentally sustainable and resilient city	Community Greenhouse Gas (Tonnes of carbon dioxide equivalents)	18.7 megatonnes, carbon dioxide equivalent (Dec 2018)	Reduce total community emissions to 35% below 2005 levels by 2035

Attachments

1. Applying The City Plan Levers of Change

Others Reviewing this Report

- M. Persson, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- G. Cebryk, Deputy City Manager, City Operations
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services
- K. Armstrong, Deputy City Manager, Employee Services
- B. Andriachuk, City Solicitor