

Attachment 1

THE WAY WE MOVE

SHIFTING EDMONTON'S TRANSPORTATION MODE

CONTEXT REPORT

MARCH 11, 2014

TRANSFORMING | **EDMONTON**

BRINGING OUR CITY VISION TO LIFE



THE CITY OF
Edmonton

TABLE OF CONTENTS

| | | |
|-----|---|----|
| 1.0 | INTRODUCTION | 1 |
| 1.1 | The Purpose and Organization of this Report | 1 |
| 2.0 | WHAT IS “MODE SHIFT”? | 3 |
| 3.0 | HOW ARE EDMONTONIANS GETTING AROUND NOW? | 4 |
| 4.0 | WHY DOES EDMONTON NEED A SHIFT? | 10 |
| 4.1 | Mode Shift Reason #1 – Transforming Edmonton’s Urban Form | 10 |
| 4.2 | Mode Shift Reason #2 – Provide Transportation Accessibility | 12 |
| 4.3 | Mode Shift Reason #3 – Supporting Active and Healthy Lifestyles | 14 |
| 4.4 | Mode Shift Reason #4 – Reduce Impacts to the Natural Environment | 15 |
| 4.5 | Mode Shift Reason #5 – Attracting Business and Talent to Our City | 17 |
| 5.0 | INVESTMENTS IN TRANSPORTATION OVER THE YEARS | 18 |
| 6.0 | WAYS OF ACHIEVING MODE SHIFT | 21 |
| 7.0 | WHY EDMONTON? WHY NOW? | 25 |
| | REFERENCES | 27 |

LIST OF TABLES

| | | |
|---------|-----------------------------|---|
| TABLE 1 | Projected Population Growth | 9 |
|---------|-----------------------------|---|

LIST OF FIGURES

| | | |
|-----------|--|----|
| FIGURE 1 | 2005 Overall Edmonton Mode Share | 4 |
| FIGURE 2 | Edmonton Journey to Work Mode Choice Trends: Auto Driver Mode Share | 5 |
| FIGURE 3 | Edmonton Journey to Work Mode Choice Trends: Transit Mode Share | 6 |
| FIGURE 4 | Edmonton Journey to Work Mode Choice Trends: Cycling Mode Share | 7 |
| FIGURE 5 | Edmonton Journey to Work Mode Choice Trends: Pedestrian Mode Share | 8 |
| FIGURE 6 | Edmonton's Growth 1902 to 2007 | 10 |
| FIGURE 7 | The Space Required to Move 15 People in a Number of Different Modes | 11 |
| FIGURE 8 | Projected Senior Population in Edmonton, 2012-2024 | 12 |
| FIGURE 9 | Annual Cost of Transportation for Various Modes | 13 |
| FIGURE 10 | Edmonton Historical Fuel Prices | 13 |
| FIGURE 11 | Prevalence of Adult Obesity in Canada | 14 |
| FIGURE 12 | Edmonton Greenhouse Gas Emissions | 15 |
| FIGURE 13 | Edmonton's Transportation Footprint | 16 |
| FIGURE 14 | Energy Intensity of Transport | 16 |
| FIGURE 15 | Past Spending on Roadway and Transit Infrastructure | 18 |
| FIGURE 16 | Value of Edmonton's Roadway Infrastructure | 19 |
| FIGURE 17 | Transportation Decisions: The Joining of Policy, Infrastructure and Market | 21 |
| FIGURE 18 | Attitudes Towards Sustainable Transportation | 22 |
| FIGURE 19 | Attitudes Towards Experimentation with Other Modes | 23 |
| FIGURE 20 | Likelihood to Replace Some Car Trips with Other Modes of Transportation | 23 |





1.0 INTRODUCTION

The City of Edmonton is making important decisions today that will shape the city we become in the future. With the Alberta economy leading the nation in growth, our city continues to expand, our knowledge economy grows stronger, and we are competing internationally to attract the best and brightest talent. We are on our way to achieving the vision set out in *The Way Ahead*.

We also know that the relationship between transportation and urban form, the growing cost of transportation infrastructure, the impact of transport on public health and the energy used in transportation are important issues that all cities, including Edmonton, are struggling to reconcile. A growing population, with changing demographics and behaviors, will require a change in the way we move around the city.

The Way We Move, Edmonton's Transportation Master Plan, establishes the strategic framework for how Edmonton will address its future transportation needs and is aligned with the Municipal Development Plan, *The Way We Grow*, to acknowledge that transportation and land use are inextricably linked.

Transportation is a key element in all great cities. Providing for a variety of travel options – car, transit, cycling and walking – and the mix of transportation, shapes people's experiences over time and has profound impact on citizens' quality of life.

1.1 The Purpose and Organization of this Report

This report is intended to provide context that clarifies the need that Edmonton is trying to address through the current corporate Strategic Goal, *Shift Edmonton's Transportation Mode*.

The report provides the background information and data on the current state and trends related to transportation in Edmonton. Also provided are the associated impacts of maintaining the status quo and the benefits of achieving our vision.

Why do we need mode shift?

This report highlights five reasons why shifting transportation patterns to a greater share of transit and active modes will have significant positive impact on the city as a whole.

In short, we need mode shift because:

1. We support Edmonton's goal of transforming our urban form
2. We need a transportation system that is accessible for all
3. We want a transportation system that supports active and healthy lifestyles
4. We want to reduce impacts to our natural environment
5. We are in a global competition to attract business and talent to our City

How does Edmonton plan to implement this shift in travel behaviour? At the end of the day, transportation mode is a choice to be made each day by the citizens who live, work and play in Edmonton. The second half of the report discusses the City's role in providing infrastructure promoting improved quality of life. Transportation is in many ways more than just about moving from A to B, it is part of a daily routine that deeply impacts our lives.



2.0 WHAT IS “MODE SHIFT”?

Mode shift takes place when people are provided with a variety of travel options for getting to work, school or play. In Edmonton, that means citizens are provided with options to choose to use transit, walk, cycle or drive to get from A to B. Choosing these alternatives will need to make sense from a financial, social, and economic point of view.

Mode shift is about adding more walking, cycling, car-sharing and transit in Edmonton's transportation mix.

By offering more Edmontonians viable alternatives to using their vehicle as a means of moving around the city, it means there will be more roadway capacity for road users who cannot or choose not to use transit, walk or cycle and there will be more reasonable choices for those who cannot or choose not to use a car. In the end, mode shift is a win-win situation.

3.0 HOW ARE EDMONTONIANS GETTING AROUND NOW?

Data gathered from the 2005 Household Travel Survey tells us that travelling by private automobile represents the majority of trips overall at 57%¹ and is the primary means of travelling to work for 72% of Edmontonians, as shown in Figure 1.² Edmonton also has a significant number of people who carpool (21%), walk (11%), or take transit (9%) to fulfill their daily travel needs.

Studies show that the way people get around is heavily influenced by where they work and live in the city. Data from the 2012 Edmonton Municipal Census shows the link between where citizens live and their method of travel to work, as illustrated in Figure 2.

As defined in the City of Edmonton's Corporate Outcomes, mode shift recognizes the majority of Edmontonians will continue to use their car as their primary mode of transportation. Based on research of transportation trends over time, it is clear that only a portion of people will make the choice to take the LRT or bus, walk, or ride their bike for some of their trips throughout the week.

While there will be large portion of the population that will continue to embrace single occupancy vehicle use, there are opportunities for mode shift in Edmonton.

Although only 26% of daily trips made are commute to work, these are the trips that set the traffic pattern for each day. Trends on travel to work include:

- Central neighbourhoods with mixed land uses and within a 15-20 minute walk of Downtown and the University show higher rates of walking.
- Walking rates increase around major activity centre nodes, such as Old Strathcona, West Edmonton Mall and Mill Woods Town Centre.
- Cycling to work is approximately six times more popular within a 20 minute ride of the city centre.
- Citizens who live within 5 km or less from either the city's downtown or the university area show an increased level of cycling.
- Neighbourhoods closer to the city centre have higher rates of transit use.
- Among neighbourhoods situated within the city's inner ring road, an average of 20% of residents reported traveling by transit.
- For neighbourhoods outside of the ring road, the average proportion of trips by transit was 12%.

Figure 1: 2005 Overall Edmonton Mode Share



Figure 2: Edmonton Journey to Work Mode Choice Trends: Auto Driver Mode Share³

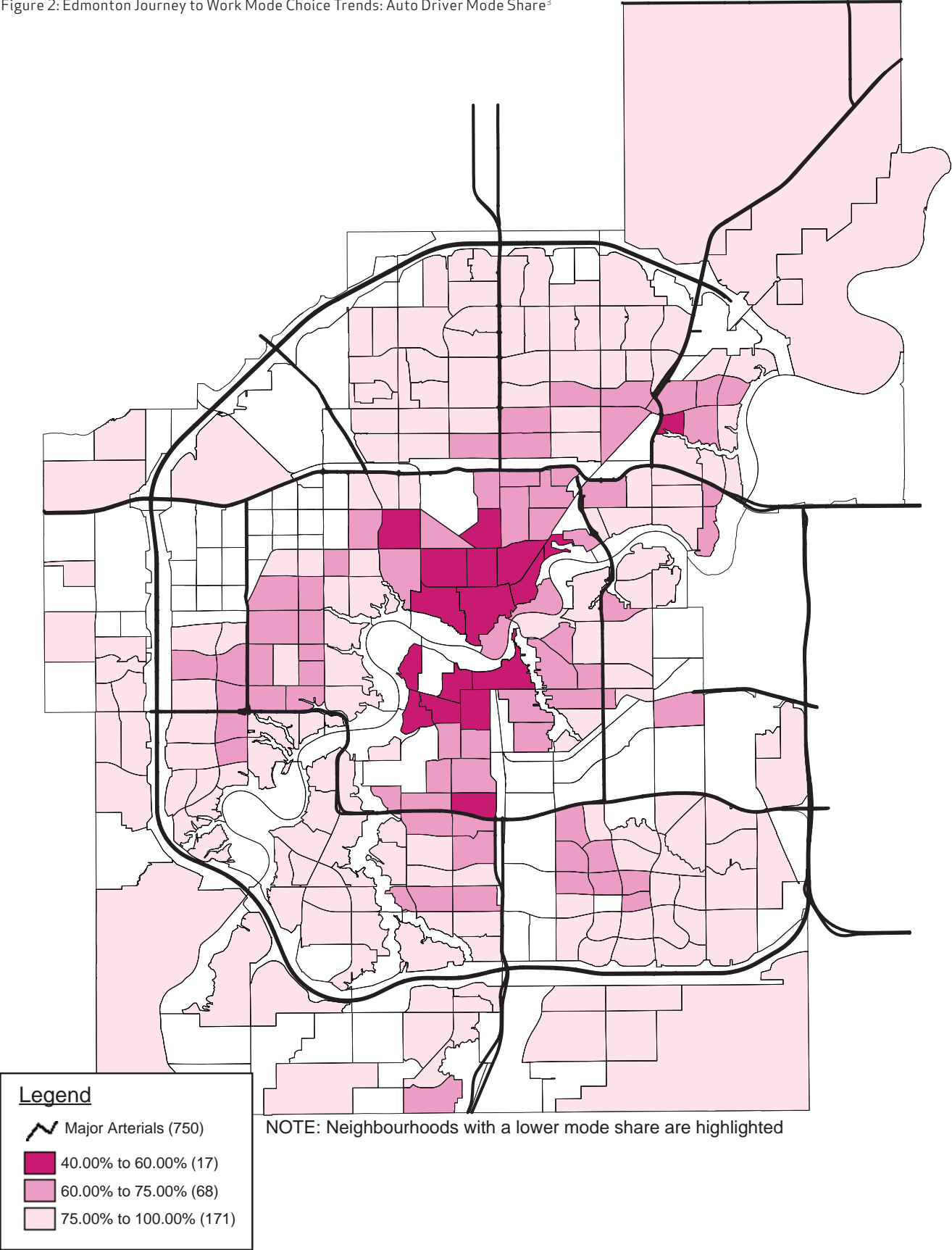


Figure 3: Edmonton Journey to Work Mode Choice Trends: Transit Mode Share³

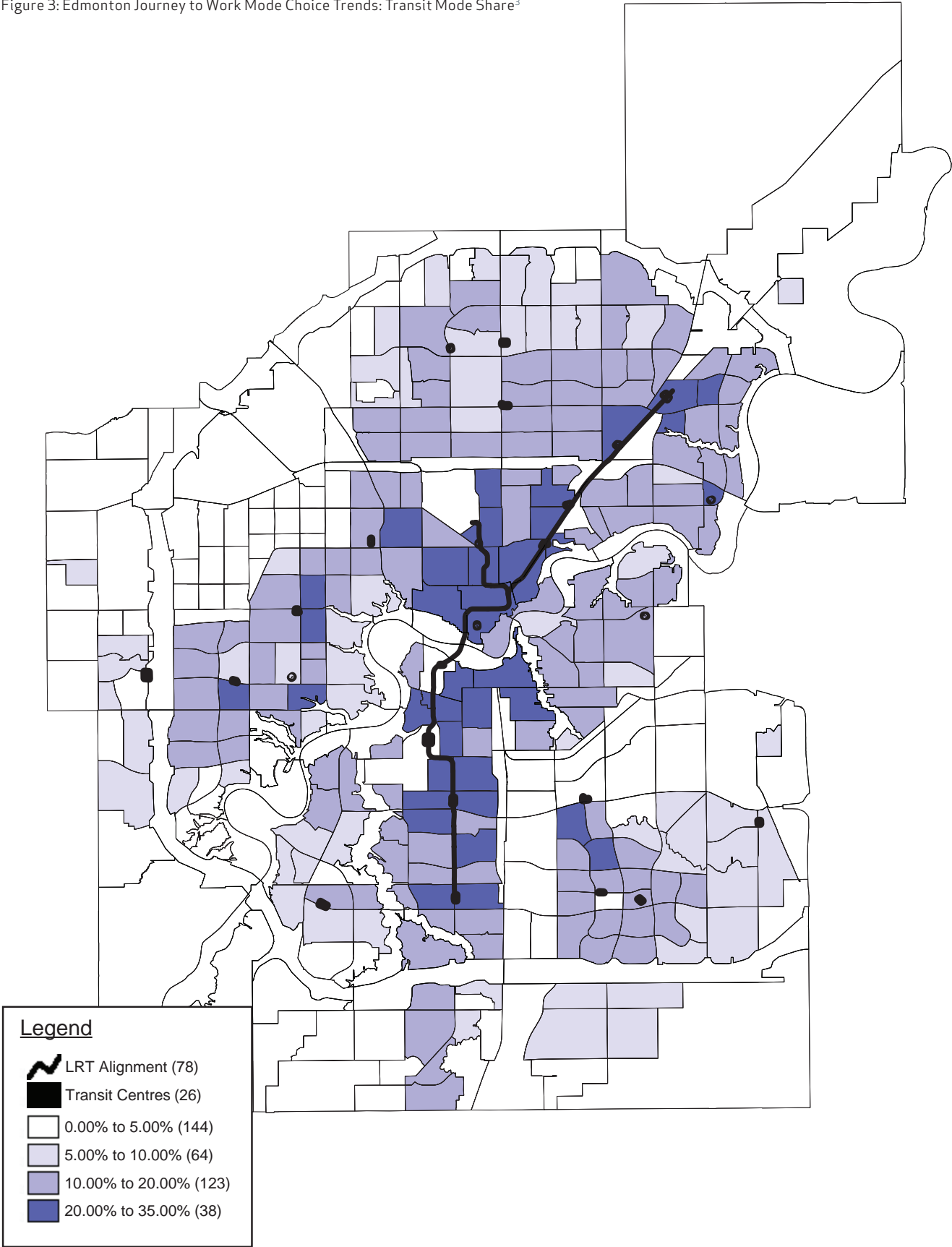


Figure 4: Edmonton Journey to Work Mode Choice Trends: Cycling Mode Share³

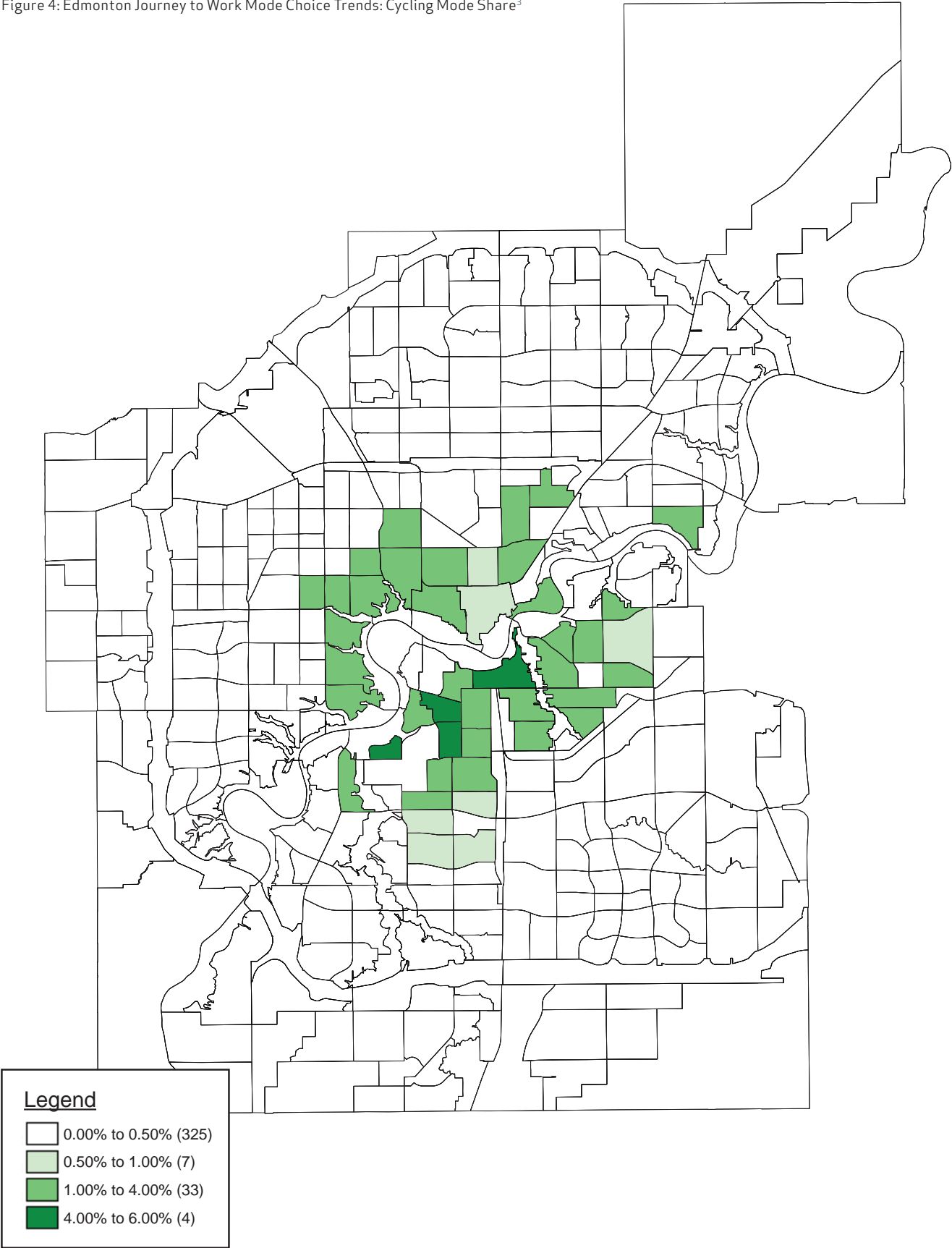
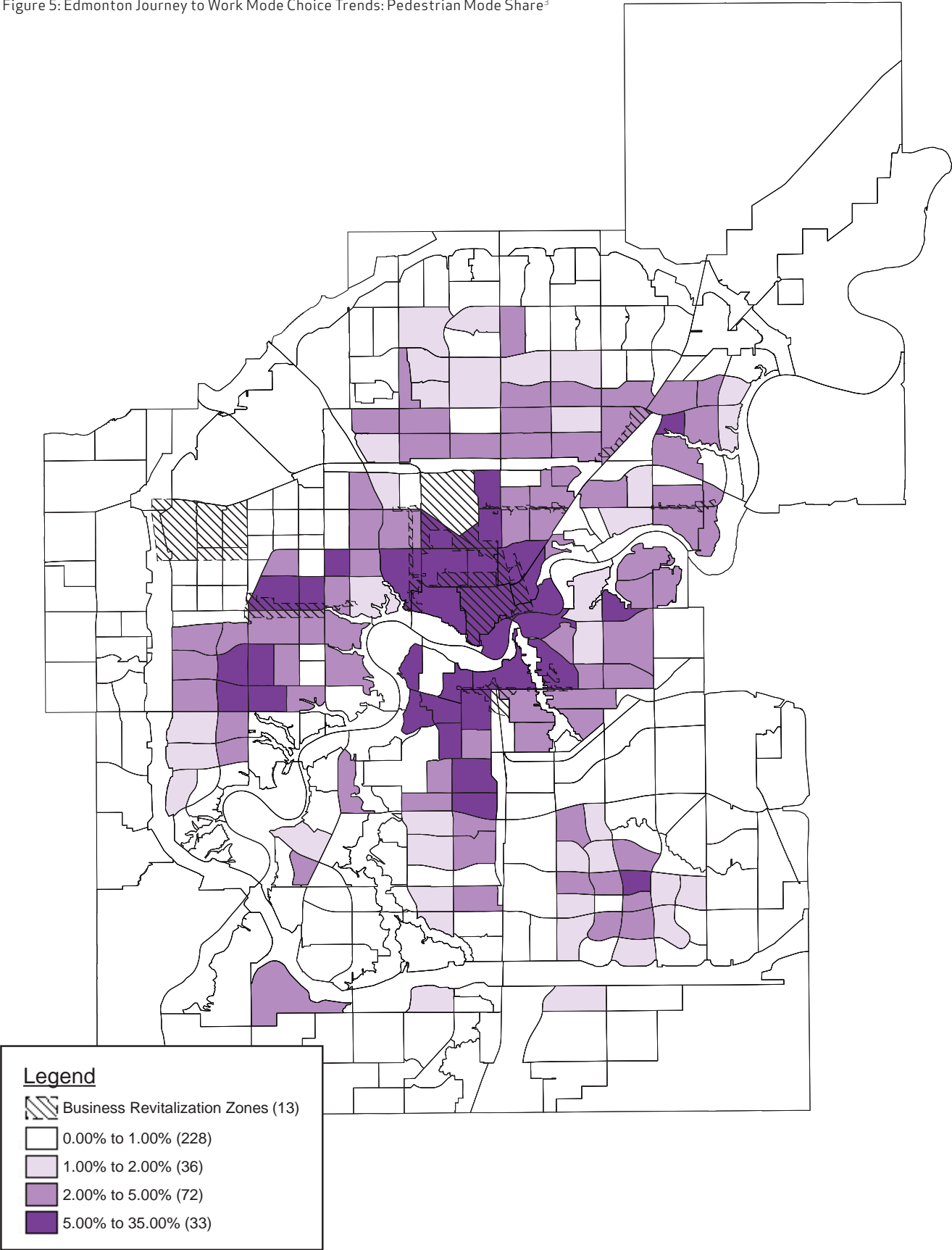


Figure 5: Edmonton Journey to Work Mode Choice Trends: Pedestrian Mode Share³



While there is expected to be growth in the mature areas, much of the future city population is slated to be in new neighbourhoods outside of the Anthony Henday Drive ring road.

Table 1: Projected Population Growth

| URBAN AREA | 2010 POPULATION | 2044 POPULATION | PERCENTAGE GROWTH |
|---|-----------------|-----------------|-------------------|
| Central Area | 84,200 | 114,100 | 36% |
| Inside Inner Ring Road | 273,300 | 346,700 | 27% |
| Between Inner Ring Road and Anthony Henday Drive | 341,400 | 420,900 | 23% |
| Outside Anthony Henday Drive | 57,400 | 275,100 | 381% |

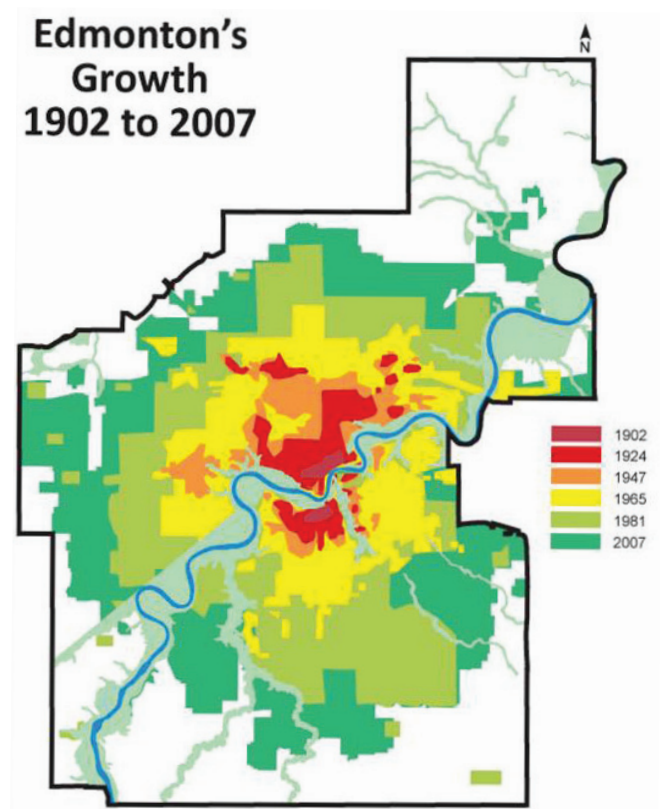
4.0 WHY DOES EDMONTON NEED A SHIFT?

4.1 Mode Shift Reason #1 – Transforming Edmonton's Urban Form

Edmonton has a 10-year strategic goal to “Transform Edmonton's Urban Form” by increasing density. Edmonton's transportation investments will need to reflect and support that goal. Promotion of mode shift adds walking, cycling and transit into the transportation mix. To attract people to shift modes, the transportation system will need to be efficient, accessible and comfortable for citizens.

Research shows that the land use factors that are more likely to result in a shift to sustainable travel are residential density, commercial density, a variety of land uses, and intersection density. Ultimately, increased densities are only possible where a strong multimodal transportation system can support people's travel needs. Lower dwelling densities coupled with a lack of land use mix makes it increasingly difficult to provide active mode and transit options that are a true alternative to the personal automobile. Also, we need to recognize that large investments in roadway infrastructure can spur additional outward growth and increased auto travel, further contributing auto dependence.

Figure 6: Edmonton's Growth 1902 to 2007



Innovative cities around the world that have moved towards higher density and mixed land use have seen the emergence of multi-modal transportation patterns that support walking, cycling and public transit, also have streets designed to accommodate a variety of activities with an emphasis on creating attractive public spaces.

The benefits to building a more compact city include:⁴

- Reducing the capital and operating costs of providing public infrastructure and services such as roads, utility lines, garbage collection, emergency services and school transport.
- Improving overall accessibility and people's ability to reach desired goods and services, interact with one another as well as distribute goods within a city.
- Reducing transportation costs, including the per capita costs to consumers to own and operate vehicles, road and parking facility costs, traffic accidents, and pollution emissions.

We recognize that we cannot build our way out of congestion. One of the reasons that we plan for active modes and transit is to be most efficient with our existing assets. In doing so, the City needs to consider how efficient our streets are. For example, a typical transit bus can hold up to 50 passengers. By creating a transportation system that equitably serves multiple modes, Edmonton has the potential to increase the overall capacity of the transportation network.

A car moving at typical city speeds uses 75 times as much space as someone walking.

——— *Happy City, Victoria Transport Policy Institute*

Figure 7: The Space Required to Move 15 People in a Number of Different Modes



4.2 Mode Shift Reason #2 – Provide Transportation Accessibility

It is important to consider the circumstances of Edmonton residents who are unable to shift away from automobile travel, often called “car-captive”, and equally important to consider the needs of those who do not have an option for personal automobile travel. This includes Edmontonians with mobility challenges, children, seniors and citizens in low socio-economic situations. Providing access to alternate modes is key to providing access to those groups.

Seniors - A Growing Consideration

“CAR-CAPTIVE” COMMUTERS

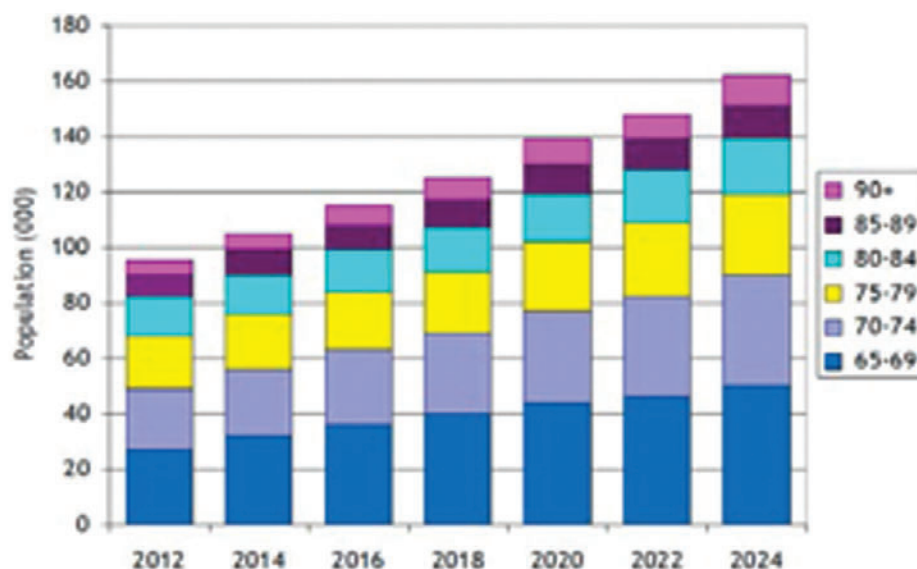
Car-captive individuals are those that require the use of their vehicle for work purposes. Currently, about 18% of the working population fall in this category and this proportion is expected to drop by 50% over the next 30 years. About 1% of Edmontonians are car-captive because their home or work locations are not served by transit.

Source: Edmonton Regional Travel Model

Edmonton’s Senior’s Declaration represents City Council’s commitment towards seniors. The City’s goal is to make Edmonton more “age-friendly”, enhancing livability and being one of the best cities in Canada to live in regardless of age.

Auto-dependency for seniors is currently high with nearly 80% of seniors using a private vehicle to complete their daily trips. A transportation system that provides adequate alternatives to the private vehicle allows seniors to maintain a greater level of mobility over longer periods of time. Over the next decade, the population of Edmontonians aged 65 and older is expected to increase by 55%. With the increasing senior population will come a need for an increasingly age-friendly transportation system.

Figure 8: Projected Senior Population in Edmonton, 2012-2024



Source: City of Edmonton, Office of the Chief Economist

High personal cost of automobile travel

Automobiles are a relatively expensive way to move around in big cities. Nationally, spending on transportation is the second largest household expense (19.9%), after shelter (28.1%). For Edmonton, this cost is below the national average (15.3%), although there have been significant fluctuations over the past decade due to volatile fuel prices. Overall, suburban and rural commuters have a higher transportation cost than commuters who live closer to downtown. Commuters who rely on transit and active modes have the lowest transportation costs.

Dependence on fossil fuels

There are other risks to Edmonton's continued dependence on fossil fuels including the risks of worldwide energy supply limitations into the future, leading to exposure to fuel price volatility for Edmontonians. Gas prices have fluctuated dramatically over the past decade and it is anticipated that this trend will continue. Those not overly dependent on gasoline will be less sensitive to fluctuations in gas prices.

Figure 9: Annual Cost of Transportation for Various Modes

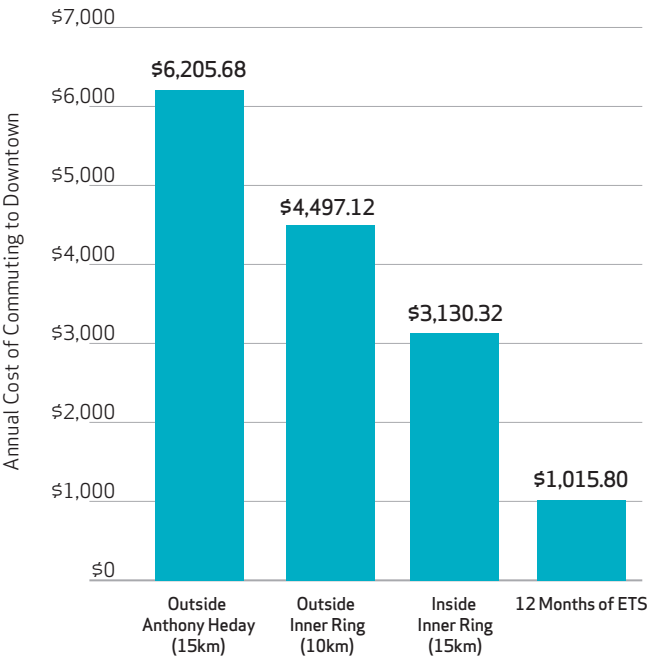


Figure 10: Edmonton Historical Fuel Prices



4.3

Mode Shift Reason #3 – Supporting Active and Healthy Lifestyles

The built environment has an effect on people's health outcomes. We can positively affect these health outcomes by providing opportunities for active transportation, and studies have also linked this affect with transit use and increased physical activity⁵.

Chronic diseases such as obesity, diabetes, heart disease, strokes and cancer, are the leading health problem of our age. The four leading risk factors which account for 80% of deaths are tobacco use, physical inactivity, unhealthy diets, and harmful use of alcohol. As a society, we have taken steps in to address these issues through public outreach and information campaigns and policy changes at multiple levels of government.

Physical inactivity facts:

- 85% of Canadian adults do not get the minimum 150 minutes of moderate-vigorous physical activity per week.
- 91% of Canadian boys and 96% of Canadian girls (ages 6-19 years) do not get the 60 minutes of moderate-vigorous physical activity per day.

Obesity Facts:

- Obesity is the leading cause of premature preventable death. Obesity accounts for up to 90% of all Type 2 Diabetes, is linked to 25-30% of all cancers, and contributes of 80% of cardiovascular disease.
- 61% of Canadians are overweight and obese.⁶

Cities in the US have tackled chronic health issues by making changes to how their cities are being built, and have begun to see positive results. New York has reported increased cycling, walking, transit use and decreases in traffic fatalities, traffic volumes, and vehicle registrations. New York, Philadelphia, and San Diego have reversed childhood obesity trends.⁷

Supportive infrastructures are correlated with increased active transport. Among cyclists, bicycle facilities, including cyclist specific lanes and end of trip facilities, increased rates of cycling and also reduced risk for injury.

— Alberta Health Services⁸

Figure 11: Prevalence of Adult Obesity in Canada⁹



4.4

Mode Shift Reason #4 – Reduce Impacts to the Natural Environment

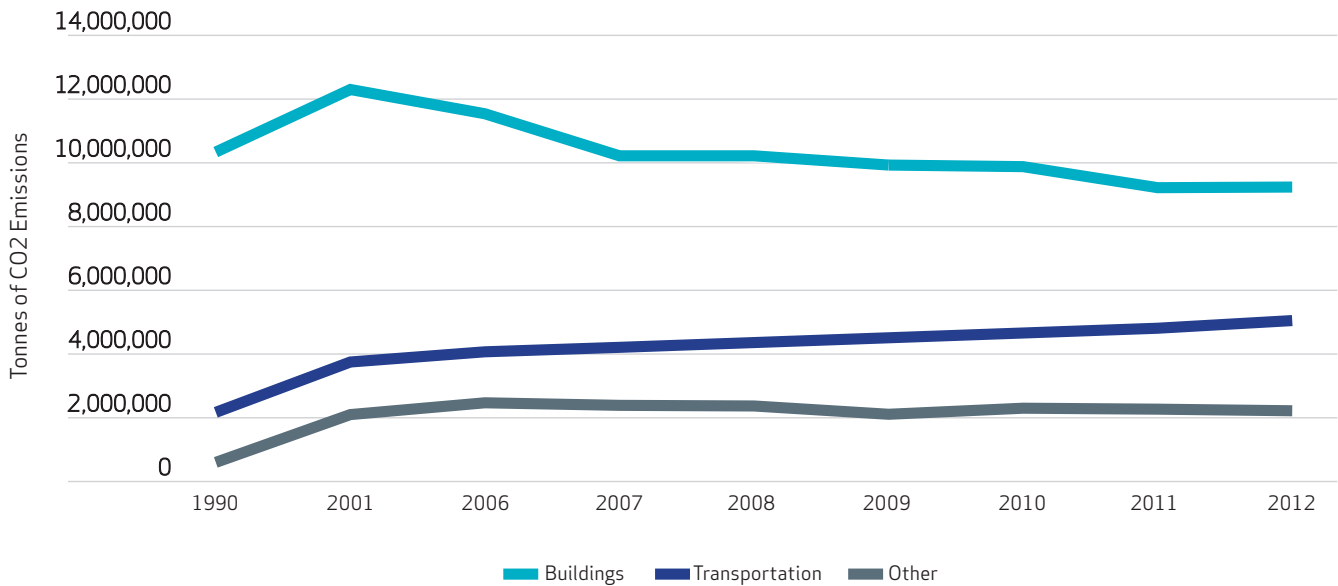
Greenhouse Gas Emissions

The emissions from our transportation system have a significant impact on our environment and natural systems. According to the City's Office of the Environment, Edmonton's total greenhouse emissions increased from 13.1 million tonnes in 1990 to 16.5 million tonnes in 2012, which equates to an increase of approximately 25%. During the same period, greenhouse gas emissions from transportation sources have increased by 133% and now make up 30% of all greenhouse gas emissions produced in Edmonton. This increase is nearly four times greater than the rate of population growth of 35% over the same period.

Through recent plans for LRT expansion, the future of GHG emissions in Edmonton has been extensively modeled. With full build out of the LRT system, it is estimated the transportation system will reduce GHG production by 170 tonnes per day, which equates to approximately 1.2% of the daily GHG production rate for Edmonton in 2012. Funding for LRT expansion is critical to providing this reduction.

The increase in transportation-related emissions is particularly large when compared against the level of GHG emissions generated by the heating of buildings. While heating of buildings still makes up the largest source of GHG emissions, these emissions have decreased over the past twenty years through more energy efficient construction and refurbishment of older buildings.

Figure 12: Edmonton Greenhouse Gas Emissions



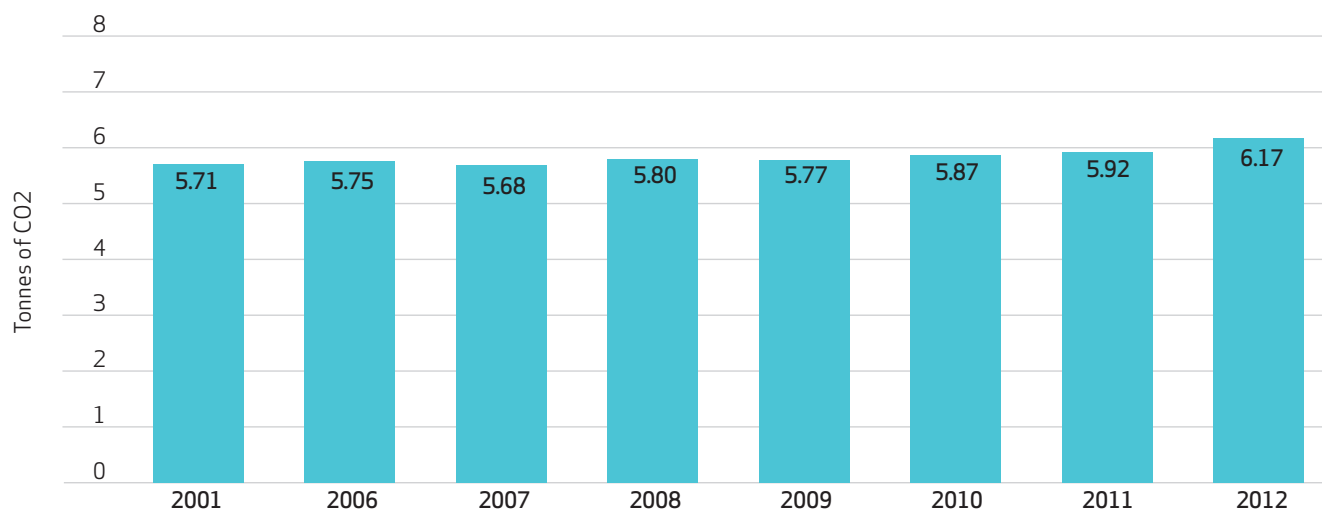
Source: Office of the Environment, City of Edmonton 1990–2012

Edmontonians per capita greenhouse gas footprint from transportation sources is increasing steadily. This is in large part due to both the energy intensive forms of transportation that we use as well as the rising number kilometers travelled. In 2005, the total distance travelled daily by car drivers on the Edmonton Region road network was 13 million -- this is projected to increase to nearly 50 million kilometers by 2044. By providing less energy intensive transportation options, we have an opportunity to reduce Edmonton's greenhouse gas emissions.

Air Quality

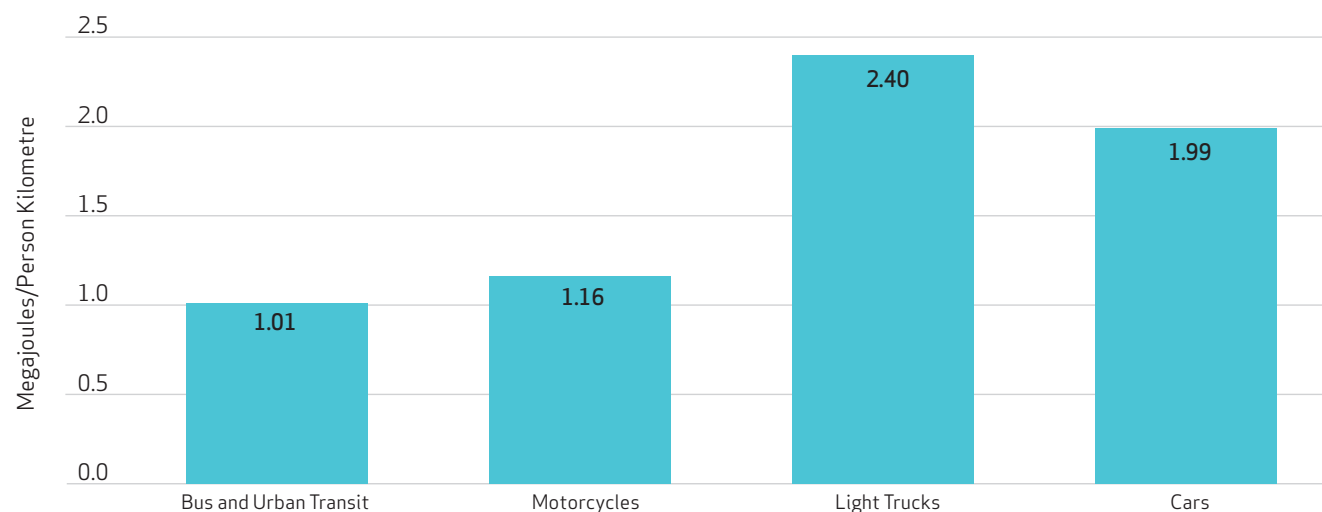
Ambient air quality depends on the balance between the rate of pollutants emitted into the atmosphere, and the ability of the atmosphere to disperse them. It is a significant factor in respiratory health. Airborne fine particulate matter is associated with a broad spectrum of acute and chronic illness such as lung cancer and cardiopulmonary disease. Transportation is responsible for approximately a quarter of all secondary particulate matter events in the Edmonton region through the emission of nitrous oxides.

Figure 13: Edmonton's Transportation Footprint



Source: Office of the Environment, City of Edmonton, 1990-2012

Figure 14: Energy Intensity of Transport¹⁰



Source: <http://oee.nrcan.gc.ca/publications/statistics/trends10/appendix-1.cfm?graph=56&attr=0>

4.5

Mode Shift Reason #5 – Attracting Business and Talent to Our City

Active transportation and transit play a large role in making Edmonton a great place to live, work, and play. Our future vision of Edmonton is one where citizens can “walk its safe leafy neighbourhoods and ride its efficient and accessible transportation system.” (*The Way We Prosper*)

In order for Edmonton to be a viable business hub, it needs to efficiently manage the flow of people to and from the city and traffic generated by the exchange of goods and services arising from the city's role as a marketplace. Diversifying the transportation options and more effectively using our current infrastructure are critical to attract businesses for the sake of the economic development of the city as well as to allow an effective exchange of goods and services.¹¹

Demographic and economic trends are changing and this will affect the amount and type of travel people would choose. A recent report on transportation planning stated, “motor vehicle travel grew steadily during the Twentieth Century but has started to peak in most developed countries. Aging population, rising fuel prices, increasing urbanization, improving travel options, increasing health and environmental concerns, and changing consumer preferences are reducing demand for automobile travel and increasing demand for alternatives.”¹²

Automobile travel will not disappear. In fact it will continue to increase as population increases, but many people would prefer to drive less and rely more on walking, cycling, public transport and telework, provided they are convenient, comfortable and affordable.¹²

We are in an international competition for talent. Traditional tactics of attracting talent and sustaining business investments will not suffice. *The Way We Prosper* notes: “The city has grown up; now we're building smarter.” We are following the lead of today's successful cities and creating urban environments that provide a high quality-of-place experience and quality of life for residents in order to attract the best and the brightest to their city.” This includes providing the type of sustainable transportation choices that align with international preferences.

5.0 INVESTMENTS IN TRANSPORTATION OVER THE YEARS

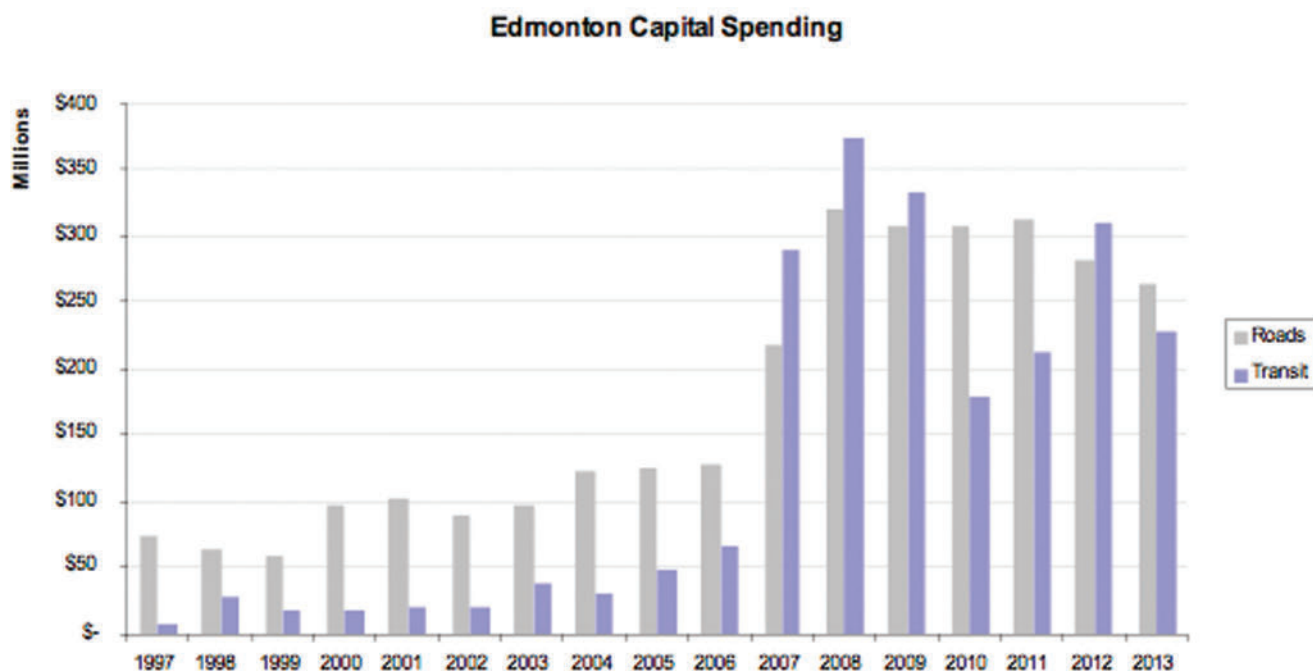
Roads have been and will continue to a critical part of transportation infrastructure

Improving car and goods movement is an important function for the City, but it has not traditionally been the City's only focus for transportation planning. The City of Edmonton subsidizes capital and operating expenses associated with all transportation modes: automobile, transit, and active modes.

Historically, Edmonton has focused investments on infrastructure that support automobile transportation, including highway expansion and suburban development in the peripheral areas of the City. In the period from 1992 to 2010, the City of Edmonton spent approximately \$2.4 billion on roadway infrastructure,

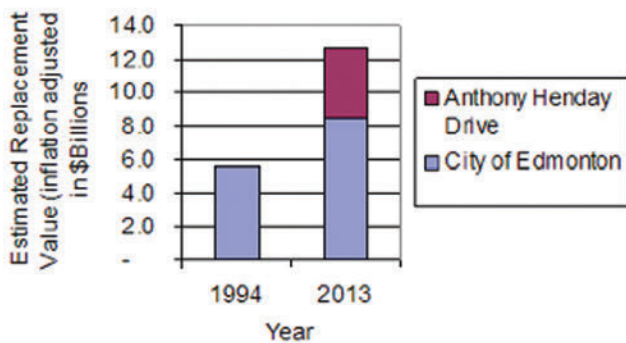
representing approximately double the investments made in transit infrastructure in the same period. This trend seems to be reversing in recent years where roadway and transit infrastructure are reaching matching levels, driven by the City's expansion of LRT. It is important to note the City of Edmonton spends significantly more than it receives from fuel taxes on roadway infrastructure. From the period from 2007 to 2011 the amount spent on roads was double the amount received from fuel tax rebates.

Figure 15: Past Spending on Roadway and Transit Infrastructure



This increased asset value points to a rapidly growing cost of asset renewal. From the City of Edmonton's risk based infrastructure renewal forecasting model (RIMS), the cost of renewal of the City's assets for all roadways in Edmonton will be an average of \$195 to 260 million annually for the next 20 years, not adjusting for inflation. This compares with an annual average estimate of renewal of transit assets of \$25 to \$30 million (not including future LRT expansion). This is due in part to the longer asset life of transit infrastructure. For example, LRT track and vehicles are subject to significantly less deterioration over time as compared with roadways.

Figure 16: Value of Edmonton's Roadway Infrastructure



Investment in automobile focused infrastructure has been further supported in recent years by significant investments by the provincial government in Edmonton's ring road. The estimated total cost of the Anthony Henday Drive ring road is \$4.3 billion dollars, which has been rapidly delivered in the past decade in Edmonton through the implementation of public private partnerships.

Although the Province has also supported investments in transit infrastructure, the level of investment for roads and transit has not reached parity. To compare, the provincial Green Trip program represents an investment of approximately \$800 million in transit infrastructure in the Edmonton area. The province will provide an estimated \$1.4 billion dollars in the next ten years through its Municipal Sustainability Initiative (MSI) funding program; however these funds are shared across the wide variety of city assets that compete for public funding, including fire stations, police infrastructure and recreational facilities.

Effective use of scarce resources

The needs of various modes often compete for the same limited resources, such as physical space and funding. In managing competing interests and managing our public resources to provide the greatest possible benefit to the public, the City must frequently make choices that consider or require trade-offs.

The Active Transportation budget that funds sidewalks, shared-use pathways, bus stop and curb ramp construction, as well as on-street bicycle routes is currently about 2% of the City's transportation budget (not including the budget for LRT). From 2010 to 2012, on-street bike routes have made up less than 5% of this 2% of funding.

As an example, an on-street bicycle route was installed on 82 Street from 127 Avenue to 137 Avenue in 2012. The total project cost for 10 blocks of paving was \$961,500. The cost for the bike route markings was \$29,500, or 3% of the total project costs.

SPENDING ON ROADS

Edmonton currently has nearly 3,500 km of roadway, increasing by about 50 km each year. The operating budget to maintain these roadways has increased from \$124 million in 2012 to \$138 million in 2014. The cost of building of new arterial roadway is on average \$10.7 million per kilometer.

748,650

Potholes filled in 2013

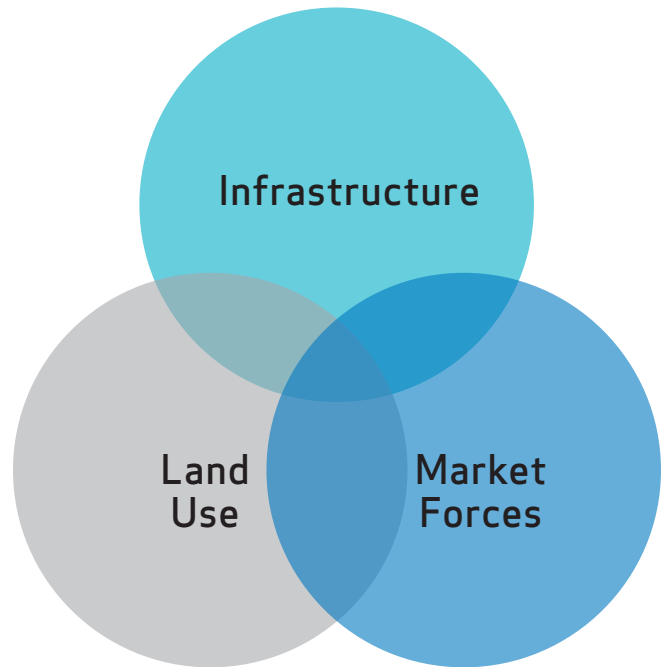


6.0 WAYS OF ACHIEVING MODE SHIFT

Policy, Infrastructure, Citizen Choice

In the end, transportation mode is a choice that all people need to make. Achieving mode shift can be visualized as a three legged stool of land use policy, transportation infrastructure and market forces. Without providing infrastructure, even if there is a supportive market and land use for sustainable transportation, the ability of citizens to choose is limited. At the same time, a city can provide infrastructure, such as LRT, sidewalks and bike lanes, but these need to be accompanied by appropriate land use policy or else there is little chance for success. Finally, if a city provides good infrastructure and supportive land use develops, the success of sustainable transportation systems heavily depends on trends in the market, such as economic cycles, shifts in preferences and relative levels of disposable income. The uncertainty related to market forces points to the need for “social marketing” to encourage choices to use sustainable transportation modes. This positively affects the city as a whole by supporting investments in infrastructure and changes in policy.

Figure 17: Transportation Decisions: The Joining of Policy, Infrastructure and Market



Influencing the Market

In terms of encouraging mode shift, the City has chosen a positive focus by promoting the benefits of active modes and transit, as opposed to car taxes or road tolls as has been done in other cities and regions. The strategy of using communication to promote behavior change benefits takes time to realize results. For example, the City of Edmonton was one of the first cities in North America to promote recycling, and by encourage changes in people's daily actions was able to achieve significant benefits to the city as a whole. A transition to a recycling culture has come to fruition in Edmonton with time.

The City of Edmonton has been leading a program of infrastructure expansion, including LRT and bicycle facility expansion, while updating and reinforcing land use policy, through projects such as Complete Streets, Transit Oriented Development Guidelines and the New Neighbourhood Design Guidelines. To promote the efficient use of these facilities while maximizing the city's investment, a social marketing program has been developed and implemented in Edmonton to encourage a shift in transportation mode choices. The program is shaped by research into the current attitudes and expectations of Edmontonians related to their daily transportation.

The majority of Edmontonians support a reduction in driving. In recent research¹³, 84% agreed or strongly agreed with the statement "Edmontonians need to reduce driving". However when this general desire is applied specifically to individuals, the population is essentially split 50/50 into two groups, those who are totally committed to driving and those who are potential experimenters. More detailed research into the types of transportation alternatives that people are willing to try and their reasons for the change have been used to design and implement the programs.

This research helps understand attitudes towards transportation, and it allows the program to focus on areas where the most impact can be made. Today, activities are focused on people who are looking for change. Through research, we understand that the environment and personal health are important motivators, with support from 70% of Edmontonians. When Edmontonians were asked about the likelihood of replacing some car trips with other modes of transportation they saw the potential for increases in all modes, especially walking and LRT.

Figure 18: Attitudes Towards Sustainable Transportation

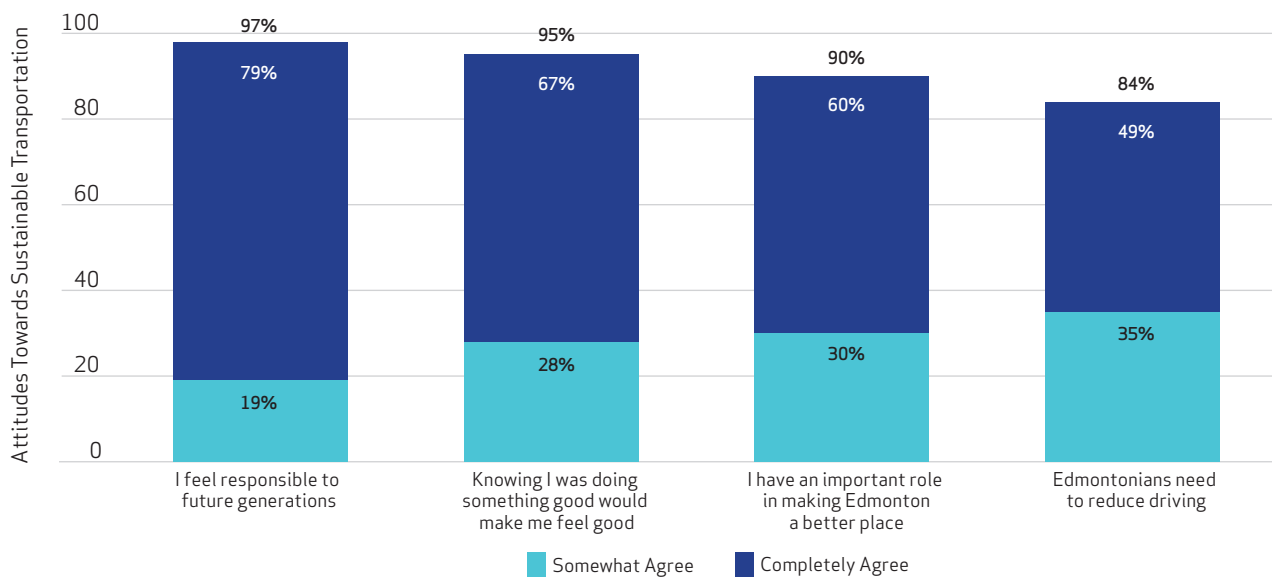


Figure 19: Attitudes Towards Experimentation with Other Modes

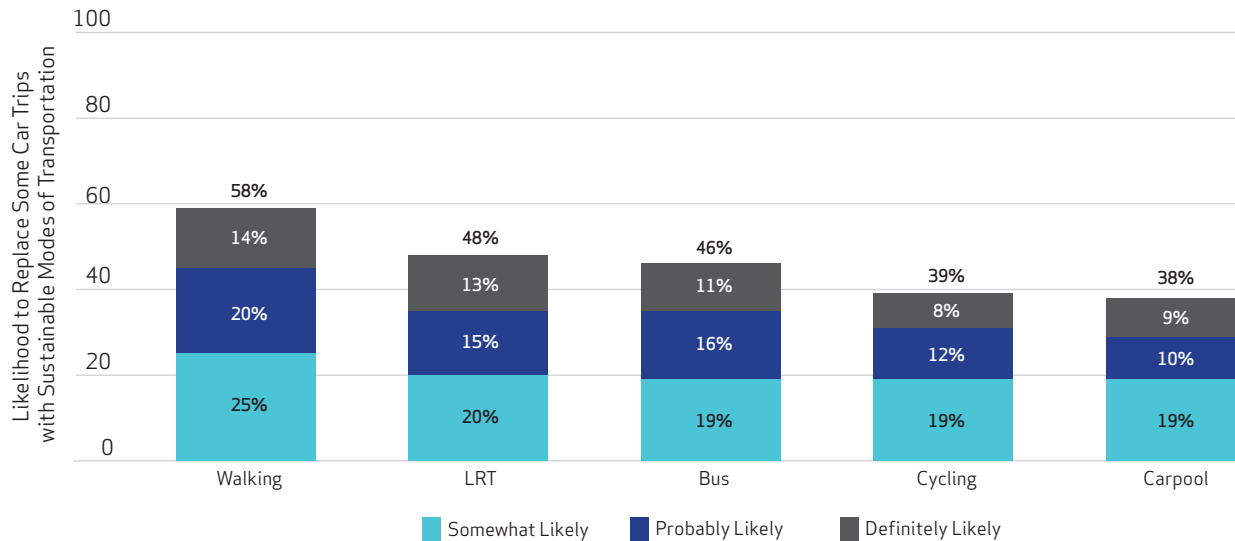
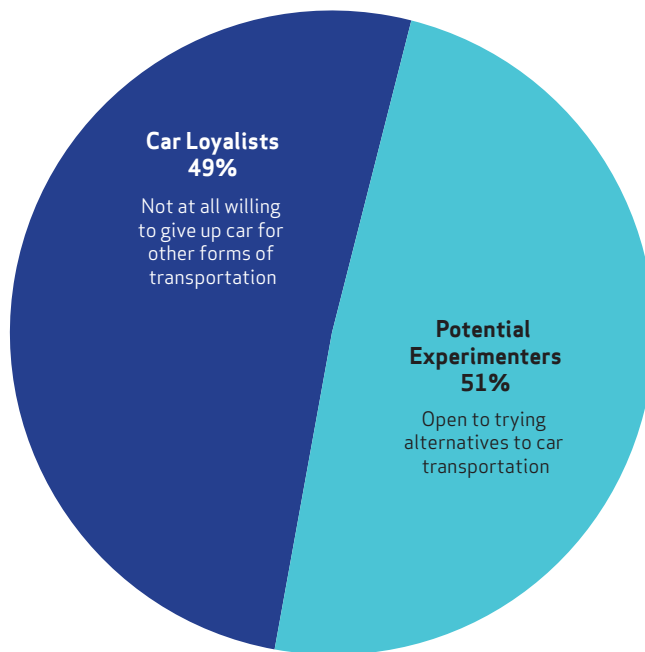


Figure 20: Likelihood to Replace Some Car Trips with Other Modes of Transportation



Supportive Land Use Policy

Edmonton's settlement pattern and urban form have always been influenced by its transportation infrastructure, including its river connections, railways, roadways, public transportation and airports. Transportation provides access to land, thereby affecting its desirability and value, while the mix and intensity of land uses results in activities that generate demands on the transportation system.

Because land use and transportation are inextricably linked, *The Way We Grow* and *The Way We Move* were developed together with complementary goals and outcomes. The Real Estate Investment Network has noted the impact on transportation investment in Edmonton in *The Edmonton Transportation Effect* paper noting that areas near large transportation investments result in increased property values. Areas that are most positively affected tend to be near LRT Stations and Anthony Henday Drive. The choices we make for investment in transportation infrastructure will affect the type of urban form that results.

Balanced Transportation Infrastructure

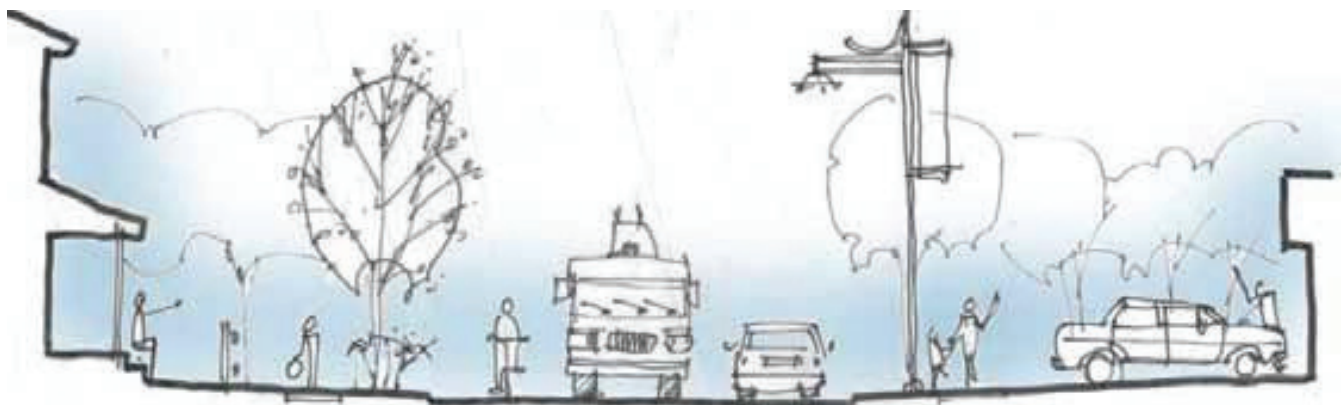
With the recent expansion plan for LRT, Edmonton has set its sights on providing a convenient transportation alternative for Edmonton as a backbone for efficient transit service. At the same time, streets and adjacent sidewalks will continue to be the main transportation network for cars, bikes, transit, and pedestrians. Streets create the opportunity for public space improvements and have associated social benefits by providing opportunities for interactions on a personal level.

Streets that provide for active modes can contribute to the quality of life in our city by providing choice in how people get around and providing essential public space for us to connect with one another. Historically, transportation systems have been designed with the primary focus of accommodating automobiles to connect destinations. However the function of streets is more than connecting destinations, streets can also function as a social space and have a relationship with the places where people live, work and play.

Mode shift involves focusing on more than just cars in terms of streets and supports the concept of Complete Streets, which has been endorsed by the City of Edmonton. As a key part of the urban fabric, Complete Streets support livable communities and provide residents with convenient access to a full range of transportation options. The Designing New Neighbourhoods Guidelines for Edmonton's Future Residential Communities identifies principles of neighbourhood design as creating walkable neighbourhoods, accommodating accessible and effective transit service for the neighbourhood and beyond, providing cycling opportunities within neighbourhood with connections to existing and future networks.

By providing transportation choices there is potential to make communities more pleasant places and influence the way people interact with one another. Active and public transportation support social connectedness and create a sense of community by creating opportunities for interactions.

Reducing vehicle traffic along a corridor enhances the potential for human interactions. People will choose to live, play, socialize, and have connections along streets that have less vehicle traffic. In a study conducted in 1972 by Donald Appleyard, he analyzed San Francisco streets with similar residential land uses and densities. The amount of vehicle traffic and speed of traffic along the streets affected the residents' social activity levels with their neighbours, their sense of safety, well being, and their reports of the "friendliness" of a street.



7.0 WHY EDMONTON? WHY NOW?

Sustainable urban transport is a complex challenge facing many cities around the world. For the first time in history, there are more people living in cities than in rural areas and the future economic, social and environmental success of cities depends on developing solutions to urgent urban problems. Providing a range of transportation options, including alternatives to the private automobile, is an important part of the solution, with the possibility of significant positive impacts to quality of life.

People have been drawn to gather in Edmonton for many years. What has drawn them here is possibility: to trade and prosper, to celebrate and worship, to learn, to build, to change their lives. Edmonton has grown in its own particular way due to the ideas, tenacity and giving spirit of its people.

Edmonton's transportation system needs to reflect that same spirit of possibility. We need to provide sustainable transportation options. We need to expand our infrastructure and transform our urban form. Edmonton needs to keep moving ahead towards its vision of a strong and diverse city that is positioned for success in the 21st century and beyond.



REFERENCES

- 1 City of Edmonton. *2005 Edmonton Household Travel Survey Summary Report on Weekday Travel by Edmonton Residents*. July 2006.
- 2 Statistics Canada. *Federal Census National Household Survey*. 2011.
- 3 City of Edmonton. *Mode Choice Trends: City of Edmonton 2012 Municipal Census - Journey to Work Summary*. May 2013.
- 4 Victoria Public Transit Institute (T. Litman). *Smart Growth Savings: What We Know About Public Infrastructure and Service Cost Savings, And How They are Misrepresented By Critics*. April 2013.
- 5 Canadian Urban Transit Association. *Promoting Better Health Through Transit Use*. Public Transit. May 2002.
- 6 Alberta Health Services. (n.d.). *Obesity Facts*. Retrieved February 19, 2014. <http://www.albertahealthservices.ca/7467.asp>
- 7 Lee, K. (2014, February). *The Key Roles of Community & Building Environments in Protecting and Promoting Health*. Building Communities That Create Health. Lecture Conducted from Edmonton, Alberta.
- 8 Coupland K, Rikhy S, Hill K, and McNeil D. *State of Evidence: The Built Environment And Health 2011-2015*, Public Health Innovation and Decision Support, Population & Public Health, Alberta Health Services. November 2011.
- 9 Chronic Disease Surveillance Division, Centre for Chronic Disease Prevention and Control, Public Health Agency of Canada. *Measured - 1978/79 Canada Health Survey; 1989 Canadian Heart Health Surveys (ages 18-74); 2004 Canadian Community Health Survey; Nutrition; 2005 Canadian Community Health Survey. Self-reported - 1985 and 1990 Health Promotion Survey; 1994/95, 1996/97, 1998/99 National Population Health Survey; 2000/01, 2003, 2005, 2007 Canadian Community Health Survey*.
- 10 Natural Resources Canada Office of Energy Efficiency. *Energy Efficiency Trends in Canada*. 2008. <http://oee.nrcan.gc.ca/publications/statistics/trends10/chapter6.cfm?attr=0#graph56>
- 11 Price Waterhouse Coopers. *Cities of the future - Global competition, local leadership*. http://www.pwc.com/en_GX/gx/government-public-sector-research/pdf/cities-final.pdf
- 12 Victoria Public Transit Institute (T. Litman). *The Future Isn't What It Used To Be: Changing Trends And Their Implications For Transport Planning*. November 2013.
- 13 City of Edmonton. *The Way We Move Social Marketing Research*. November 2011.

City of Edmonton, Transportation Planning
13th Floor, Century Place
9803 – 102 A Avenue
Edmonton, Alberta, Canada T5J 3A3
780.496.1795

www.edmonton.ca

