4 | Transportation Master Plan

This plan marks the beginning of a transformative period for St. Albert. The private automobile is now, and will continue to be, important to residents and their travelling needs; however, with limited options for road network expansion, the future of St. Albert will depend on transitioning to a higher usage of alternative transportation modes and developing regional infrastructure to lessen the impact of through traffic on the existing road network.

The recommended transportation master plan starts with the policy framework set out in Section 2. This policy framework was used to identify network improvements and an action plan for moving forward to achieve the principles and vision set out.

The TMP is a guiding document. Each of the following sections (Roads, Active Transportation, Public Transportation, Commercial/Goods Movement and ITS) identifies key projects and strategies to achieve the identified vision and align with guiding principles.

The key focus of this plan is to:

- Maximize the benefit of the existing infrastructure available.
- Prioritize improvements to regional infrastructure to alleviate pressure on St. Albert roads.
- Improve St. Albert Trail as a user friendly main street through St. Albert; address function and use of all roadways to support the network.
- Improve transportation choice through development of alternative infrastructure and coordination with land use planning to encourage a shift to alternative modes.

A detailed action plan for specific actions, policies and studies which will move the TMP forward is included at the end of this section. The success of the TMP will be measured by the implementation of these action items in a timely manner and ongoing evaluation of strategy indicators.

Table 4-1: TMP Guiding Principles and Objectives

Principle	Objectives			
1. Liveable Community	Supports land uses with access to employment and amenities via cycling, walking and transit in addition to vehicle access	Streets are identified for levels of service that protect the right road for the right purpose	Supports accessible and affordable transit	-
2. Sustainable Transportation	Supports transit facilities as viable alternatives to private vehicle	Supports multi-modal facilities	Use appropriate levels of service as criteria for infrastructure upgrades	-
3. Environmental Health	Minimize impacts to green spaces and environmental reserves	Achieves targets to reduce harmful emissions and greenhouse gases	Develop alternative forms of transportation (transit, pedestrian and cycling)	Use sustainable practices when upgrading, maintaining and constructing new infrastructure
4. Economic Prosperity	Integrates with regional network	Truck routes that access commercial/industrial areas while protecting neighbourhood streets	Develop new roads and intersections that prioritize safety for all users in balance with efficiency and accessibility.	-

4.1 ROADS

The existing road network in St. Albert is largely built out. The opportunities that exist for the future of St. Albert are a mixture of capital investment and policies to maximize the capacity and usability of the existing road network, as well as the development of standards and policies that will ensure new infrastructure is adequately designed to support growth and prioritize alternative modes.

St. Albert will rely on important regional connections, primarily expansion of Ray Gibbon Drive, but also the eventual development of 127 Street, to alleviate the pressure placed on St. Albert's roads by regional traffic. Building out other modes, including eventual LRT and active transportation links will also support the overall transportation network by providing increasing opportunities to shift modes towards transit, walking or cycling. LRT development will reduce vehicle capacity on St. Albert Trail, as such it will be critical to ensure opportunities for mode shift are realized and collaboratively integrated into the overall function of the network with urban development.

To facilitate the continued movement of automobiles, existing roads need to be managed in a manner that supports their intended use. While for local roads this might mean improving pedestrian facilities, on other major arterials; this may mean identifying improvements to intersections to update the level of service. A complete streets policy, recommended as an outcome in this plan, can help facilitate this shift. Properly identifying new intersections and roads that are designed safely for all users is also a priority.

What is a Complete Streets Policy?

A complete street policy recognizes that a community's road network consists of a wide variety of types of streets, and that on the whole, the network should be designed for users of all ages, abilities and modes. Complete streets policies recognize that some roads are primarily for cars, like freeways or busy rural roads, but other roads should be better designed for cyclists, pedestrians and transit riders. A complete streets policy allows transportation engineers and city planners to work together to transform a road network to ensure the safe, accessible and sustainable accommodation of all road users.

Strategies

1. ITS – Intelligent Transportation System integration will maximize the existing capacity and create improved efficiency on St. Albert roadways through such areas as signal timing progression and real time traffic information monitoring and data sharing. ITS is regarded as being important for the road network, but is also a comprehensive intermodal priority, and opportunities related to ITS are discussed in Section 4.5.
2. Traffic Calming – Neighbourhood streets are important for residents, but some collectors roads have become busy and important connections to major arterials, and neighbourhood shortcutting has become a concern. Traffic calming policies will allow St. Albert to properly identify problem areas and suggest solutions.
3. Complete Streets Policy – In conjunction with the traffic calming policy, a complete streets policy will allow St. Albert transportation to prioritize improvements for alternative modes in priority locations, while supporting vehicle movement in others.
4. St. Albert Trail – St. Albert Trail is the busiest road in St. Albert, as an important connection to

shopping, transit, schools and regional connections. The development of regional infrastructure like 127 Street, Ray Gibbon Drive and the LRT will provide opportunities to change the scale of St. Albert Trail from a wide car friendly arterial, to a community road that supports comfortable facilities for all transportation modes.

5. Regional Infrastructure – To facilitate the future of St. Albert Trail, regional infrastructure is needed to provide alternative access around St. Albert for the high percentage of Sturgeon County and City of Edmonton traffic impacting St. Albert's roads.
6. Traffic Modelling – Maintaining an up to date transportation demand model is beneficial for ongoing evaluation of network infrastructure, traffic impact assessments and capital investment prioritization.

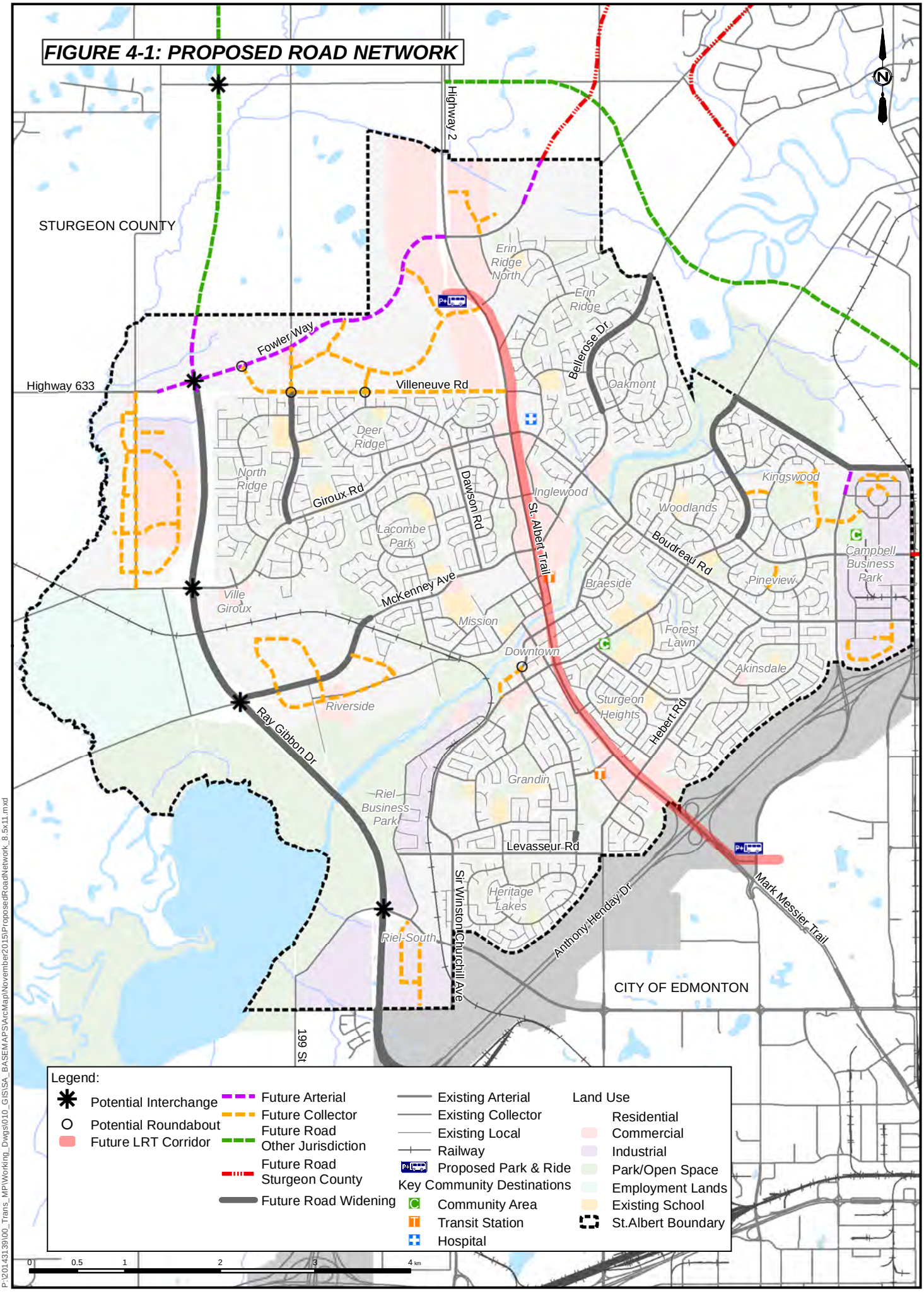
What did we hear about roads in public consultation?

- Neighbourhood streets are the highest priority to residents.
- Speed and noise on these streets are concerns to residents.
- St. Albert Trail is an important road, and there are concerns about the movement of vehicles on this road.
- Driver information technology and intelligent transportation systems are important for residents.
- Ray Gibbon Drive is congested and needs added capacity.

Future Road Network

The future recommended road network for St. Albert is shown in Figure 4-1.

FIGURE 4-1: PROPOSED ROAD NETWORK



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St. Albert Trail: St. Albert Trail divides its functions between acting as a regional thoroughfare and local arterial. A future for St. Albert Trail is dependent on developing supporting regional infrastructure around St. Albert to alleviate this dual function, and allow for a re-envisioned St. Albert Trail for the future. With the approved LRT alignment along St. Albert Trail (from Anthony Henday Drive at the south end of the city to a park and ride transit facility at the north end of the community), two lanes of vehicle traffic from St. Albert Trail will be eliminated.

Development of an LRT, with the support of the City of St. Albert Planning department, can spur a change in development patterns in St. Albert, with future transit oriented development (TOD) and higher density development along the Trail. There is tremendous potential to transform St. Albert Trail from an urban thoroughfare to a multi-modal transportation corridor. With approval of the LRT, St. Albert Trail should include better pedestrian and cycling accommodation and consider access to transit stops. Figure 4-2 shows St Albert Trail today, and a conceptual illustration of how it may look and service road users in 27 years.

Figure 4-2: St. Albert Trail Future Streetscape (Source: Streemix.net)

Major Arterials (Through Movement Streets)

Major arterials are prioritized for the movement of higher volumes of vehicles and transit. These roadways generally will have access limited to 400m between intersections, restrict private access directly to the roadway and facilitate speeds of between 50 km/h to 60 km/h. Many arterials in St. Albert are divided four lane roads, and intersections between arterials are signalized. While it should be prioritized to keep traffic moving at a higher level of service on an arterial roadway, it is recommended that arterial alignments be used to facilitate cycling and pedestrian movements. Due to generous right-of-ways, these movements can be facilitated through development of multi-use trails off of the roadway. Priorities for existing arterials is to ensure safe crossings for pedestrians and cyclists, examine the need for signal prioritization for transit and then to maximize the capacity of the existing arterial through ITS initiatives and intersection improvements.

Urbanized Arterials (Balanced Streets)

Certain roadways within St. Albert that are labeled arterials should not be designed to function as a high speed through-way. Though they are similar in limiting residential access and functioning as a connection point between areas, some arterials, particularly in the Downtown should be more versatile, with increased accommodation for pedestrians, cyclists and transit. Traffic should move at a slower speed on these roads and lower levels of service for automobile traffic is acceptable.

Collector Roads

Collector roads are primarily residential, with direct access to private driveways, and serve to feed local traffic onto the major arterials. Feedback on traffic calming, excess speeds and volumes as part of this study were generally in reference to collector roads. Residents often perceive a collector road as a local road, and can be resistant to the impact of traffic from outside their neighbourhood driving in front of their homes. Existing collector roads should be evaluated in the traffic calming policy to identify if and when traffic calming measures should be implemented, either to slow traffic or potentially reduce neighbourhood shortcutting.

The City of St. Albert Council moved in 2010 that future growth in the City should not include back alleys and have a curvilinear design with no grid system (Council Motion C191-2010). New neighbourhood designs should therefore align with this motion, but with consideration for multiple access points within neighbourhoods, particularly for pedestrians and cyclists. Ongoing consideration for best practices in neighbourhood design should be reviewed periodically.

Collector roads should be limited to two lanes of traffic, with on street parking availability and speed limits not exceeding 50 km/h. Collector roads can carry cycling traffic directly on the roadway, and should have sidewalk accommodation on both sides.

Local Roads

Local roads make up a significant part of the St. Albert Road network. Roads are typically designed with two driving lanes with resident parking available on both sides and speed limits no greater than 50 km/h. Local roads should accommodate pedestrians in the form of sidewalks on both sides. Cyclists should be comfortable riding directly on a local road.

Traffic Calming

Implementation of a traffic calming policy is recommended as part of the 10 year action plan in this report. This is an important issue raised by many residents over the course of the project period. Traffic calming on local neighbourhood streets can help to support active transportation as well, by making certain roads more appealing to cyclists and pedestrians through slowing traffic volumes and eliminating any shortcutting traffic. A traffic calming policy will be necessary to identify a unified set of standards to identifying project locations and implementation.

Complete Streets Policy

A complete streets policy is a system that can help municipalities bridge the gap between the desired outcomes of a TMP (meeting the needs of all users), and how the current engineering servicing standards are generally set up to prioritize the private vehicle. A complete street will have elements that support transit, pedestrians, cyclists and in many cases the private automobile, but will identify how to prioritize different streets for these different purposes. There is no unified design standard for a complete street, because a complete street policy is about the overall network, not the individual road. What this may look like in St. Albert is improving pedestrian facilities on local roads, while still having major urban arterials that are primarily designed for rapid auto and transit movement. The intent of the complete street policy is to identify the standards by which different roadways should be classified and what movements are most important for that road. Complete streets are liveable, sustainable, and safe. In St. Albert in particular, a complete street policy will support that re-invention of St. Albert Trail as mass transit is introduced, and provide opportunities in new neighbourhoods to explore alternative roadway cross sections that support alternative modes.

Intelligent Transportation Systems (ITS)

An important part of the overall transportation system, and not just to the automobile, the strategy behind ITS is discussed in detail in section 4.5.

Regional Roads

The build out of the regional road network provides a bypass network around St. Albert through the use of Ray Gibbon Drive and 127 Street. This bypass network will contribute to the reduction of pass through traffic currently seen on St. Albert Trail. As noted from results of the intercept survey, approximately 50% of traffic on St. Albert Trail was identified as pass through traffic.

The future of St. Albert Trail depends on the construction of this regional road infrastructure to carry this external traffic around St. Albert as opposed to through St. Albert. With the future implementation of an LRT system this will result in the reduction of one lane of travel in each direction on St. Albert Trail. Knowing that the timing of the LRT completion will be aligned with urban development,

and mode shift; the transition between modes of travel will provide an offset to the loss of vehicle capacity, however it will also identify a reliance and requirement for the completion of such regional network improvements as Ray Gibbon Drive and 127 Street.

With the regional road network in place, it forms an unofficial ring road around St. Albert and consists of:

- Anthony Henday Drive along the southern border of St. Albert,
- Ray Gibbon Drive along the western portion of St. Albert,
- A combination of Fowler Way and Hwy 37 forms the northern connection, and
- 127 Street forms the eastern leg of the loop.

This development is important, not only for St. Albert traffic, but also for the capital region as a whole.

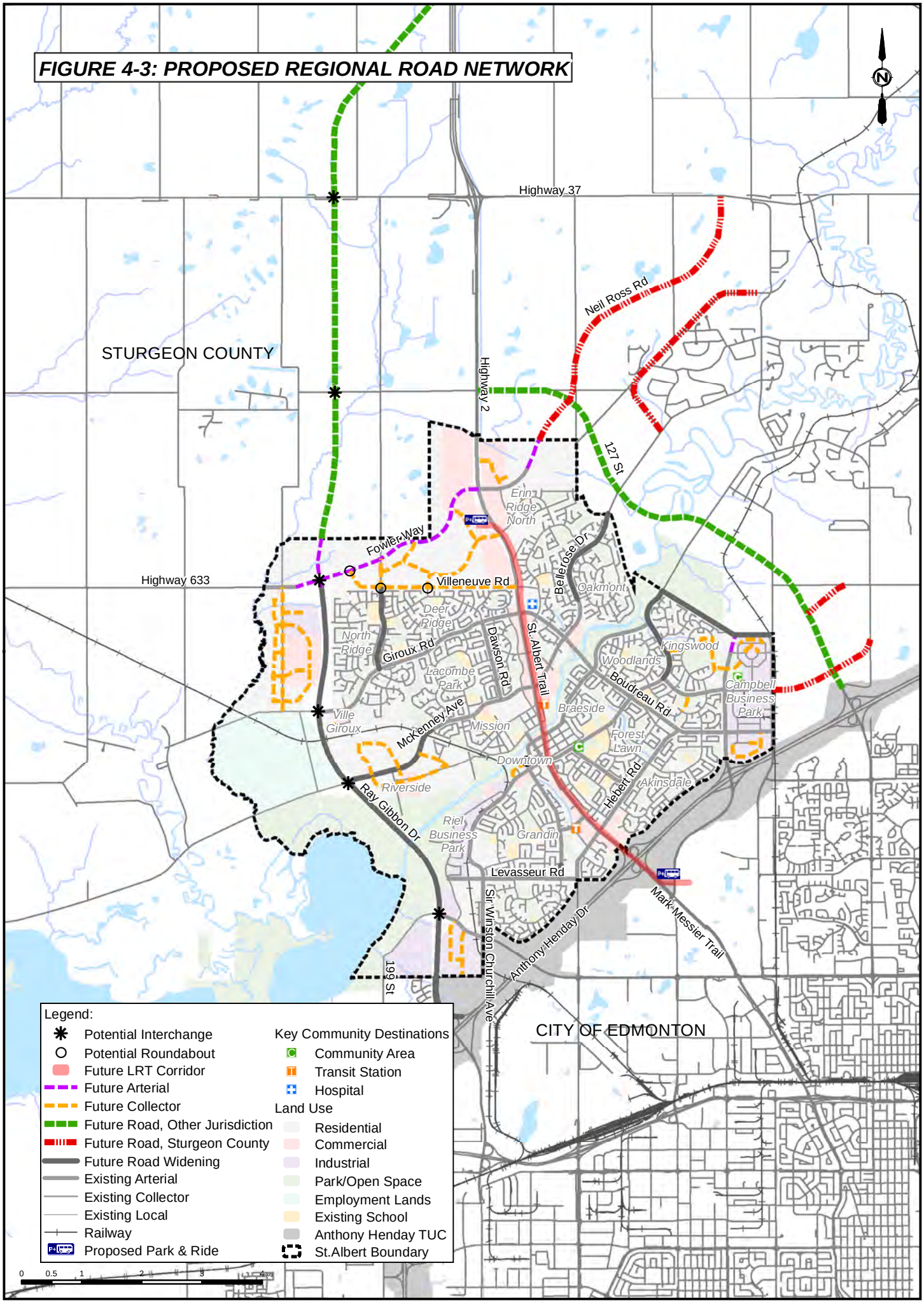
Ray Gibbon Drive – Ray Gibbon Drive is a potential future provincial highway that runs from Anthony Henday Drive to Highway 2, north of Highway 37.

The future alignment of Ray Gibbon Drive will include 6 lanes of travel and interchanges, to make it a freeway. Within the horizon of this TMP, it is expected that Ray Gibbon Drive will be developed to a four lane cross section with at grade signalized intersections. This widening is beneficial to the overall road network by adding capacity, particularly for regional traffic as a bypass.

127 Street – 127 Street is identified in the Capital Region Board IRTMP as extending north past Anthony Henday Drive through Sturgeon County and connecting to Highway 2 north of St. Albert at Township Road 544. It is expected the 127 Street will ultimately be a four lane arterial and will divert regional traffic from St. Albert Trail.

Figure 4-3 shows the proposed future regional road network within the context of the St. Albert area.

FIGURE 4-3: PROPOSED REGIONAL ROAD NETWORK



The four figures on the following two pages show the impact on the overall road network of the development of this regional infrastructure by the projected future traffic volumes. Figure 4-4 is the volume distribution in the PM Peak assuming all future road network upgrades are completed. Figure 4-5 shows the impact of the future volumes on a road network with no upgrades from the current, 2014 road network.

Figure 4-4: 2042 PM Peak Volumes (full network built-out)

Figure 4-5: 2042 PM Peak Volumes (no upgrades)

Figures 4-6 and 4-7 show the comparison between development of Ray Gibbon Drive vs 127 Street. Figure 4-6 is the build out of the road network with four lanes on Ray Gibbon Drive, but no 127 Street. Figure 4-7 is two lanes on Ray Gibbon Drive and development of four lanes for 127 Street. The development of both roads within the planning horizon is recommended.

Figure 4-6: 2042 PM Peak Volumes (no 127 Street)

Figure 4-7: 2042 PM Peak Volumes (Two lanes Ray Gibbon Drive)

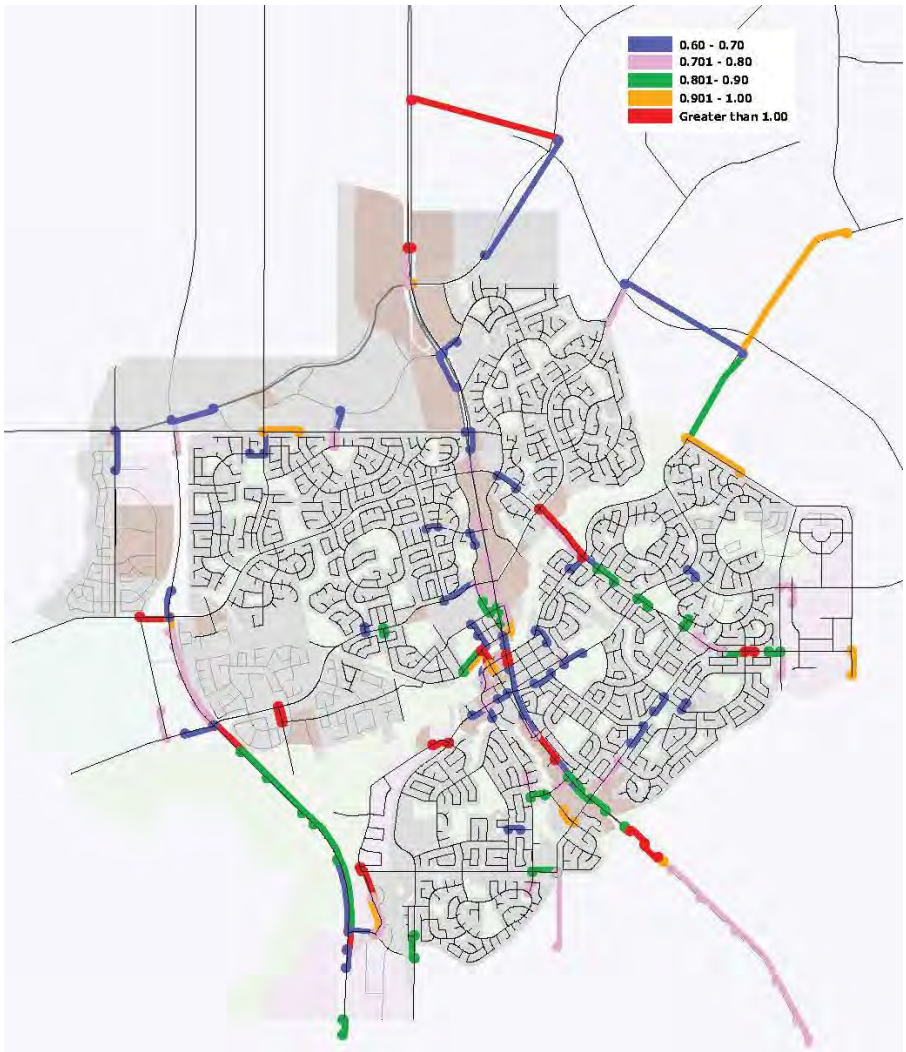
Anthony Henday Drive:

Anthony Henday Drive is an important regional connection for St. Albert residents, allowing fast access around the City of Edmonton and connections to important regional connections like the Edmonton International Airport in Nisku. With the completion of the northeast quadrant of the road scheduled for completion in November of 2016, there will be improved access between Strathcona County, northeast Edmonton and St. Albert.

LRT Impacts

The recommended LRT alignment, as identified by the LRT Alignment Study (2015), identifies necessary lane closures to accommodate a road cross section with LRT along St. Albert Trail. While the implementation of the TMP does increase transit ridership, and thereby eliminate some of the commuter congestion on St. Albert Trail, the ultimate impact of the lane closures will result in increased v/c ratios along St. Albert Trail which may cause further diversion of traffic away from the more congested St. Albert Trail to other route options such as 127 Street and Ray Gibbon Drive. The v/c map for the road network, as impacted by future LRT is shown in Figure 4-8. This map assumes four lanes on Ray Gibbon Drive and four lanes on 127 Street, as well as other internal upgrades (identified in the capital plan).

Figure 4-8: LRT Impacts Road Network



4.2 ACTIVE TRANSPORTATION

The development of a long-term active transportation network is commensurate with the horizon of this TMP and was based upon the identification of strategic improvements that will ultimately ensure residents and visitors have increased accessibility to alternative, non-motorized forms of transportation for both commuting and recreational needs. It is notable that the 2014 Household Travel Survey recorded that 27% of car trips originating in St Albert are less than five minutes in duration. This presents a real and tangible opportunity to replace a significant number of existing internal network vehicle journeys with active modes and also foster a sustained increase in multimodal journeys over time.

Strategies

1. Support Community Growth with a priority towards strategic higher density development and multimodal connectivity throughout the city.
2. Align with local demand through public consultation and data analysis.
3. Establish and implement design standards to accommodate all network users for the appropriate function of the roadway.
4. Establish a system of trail linkages and cycling routes.
5. Ensure ongoing promotion and encouragement of active transportation.

What did we hear about Active Transportation in public consultation?

- It is not safe to walk or cycle on roadways in St. Albert.
- There is not much demand for facilities for commuting by bicycle in St. Albert.
- Cycling is primarily recreational.
- Cycling and walking routes are important for residents.
- Residents would like to be able to walk or bike to work and commercial.

Strategy Development Process:

The development of the active transportation plan was developed through the integration of existing network plans, public consultation and stakeholder engagement. Key documents reviewed included the existing and planned on and off road routes, the City of St. Albert Recreational Trail System Map, and the City of Edmonton existing Bicycle Transportation Network Map. Field investigations documented and confirmed the existing conditions, and identified future opportunities and barriers. From this review, a draft network concept was identified, which was reviewed through engagement with stakeholders at the stakeholder sessions, and through the public open houses.

The recommended Active Transportation Network proposes to build upon the existing off-road network, therefore catering to the widest range of users abilities in St. Albert. This will be accomplished by developing off-road links wherever possible and utilizing on-road connections where necessary.

The Red Willow Trail System was a key input to the analysis of the existing network and future considerations sought to build upon and extend the connectivity that the Red Willow currently provides.

4.2.1 Future Active Transportation Network

Network Concept

The Active Transportation Network outlined here proposes a transition from a high recreational priority to a more commuting opportunity, through the development of off-road links wherever possible and utilizing on-road connections to build upon the off-road network, therefore catering to the broad range of new and existing users with a range of abilities in St. Albert.

Figure 4-9 illustrates the proposed Route Network Concept which consists of city-wide (Primary) Routes and Connector (Secondary) Routes. This terminology was intentionally selected to be consistent with the Edmonton Bicycle Transportation Plan, and reinforce the desire to create seamless connections between the two cities. Connections to Sturgeon County via the proposed Intermunicipal Trail Network have also been included.

Network Hierarchy

The network consists of three kinds of connections:

1. City-Wide (Primary) Routes
2. Connector (Secondary) Routes
3. Other connections

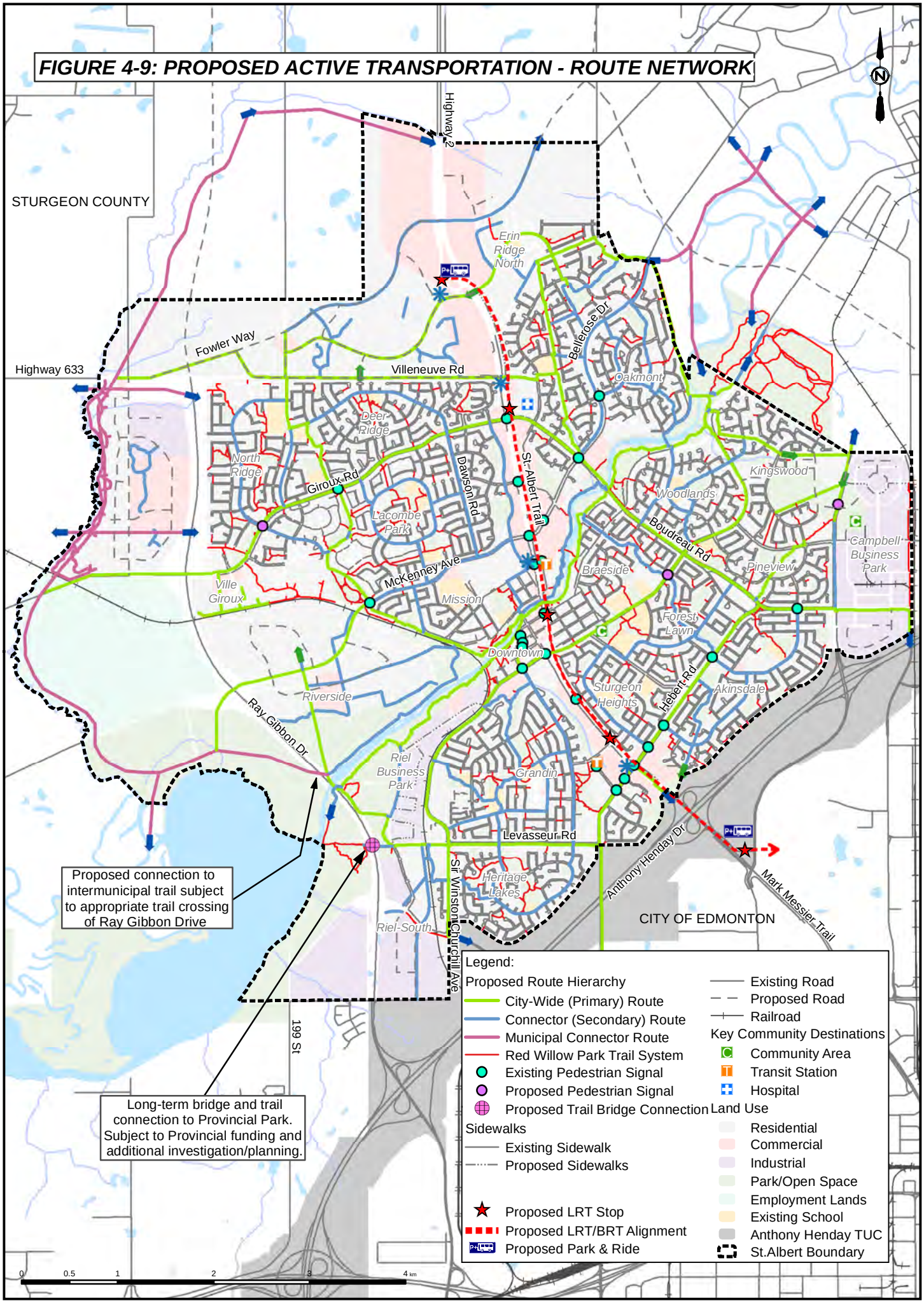
Primary Routes are designed to provide continuous spine connections throughout St. Albert and create links to the City of Edmonton. With the exception of a few locations, the proposed city-wide network is off-road, utilizing the existing off-road trail network through parks and public open space, and expanding on the in-boulevard multi-use trails along a number of arterial roads. The city-wide system will enable utilitarian and recreational users to travel efficiently throughout the city and to neighbouring Edmonton, while providing some separation between active transportation users and motor vehicles.

As new neighbourhoods are developed, the city-wide routes should be extended, with an opportunity to integrate new complete street design standards, and include crossings of major barriers such as the railway and Ray Gibbon Drive.

Secondary Routes are designed to connect directly to city-wide spine routes, and provide connections within neighbourhoods throughout St. Albert. Secondary routes utilize portions of the off-road trail system as well as the network of neighbourhood collector and residential streets where pedestrians can rely on sidewalks and cyclists can share the roadway network with motor vehicles on proposed facility types including signed bike routes.

Other Connections refers to the primarily recreational paths that run through parks and other green spaces in the city. These routes allow connections to and from recreational spaces as well as access to the primary and secondary elements of the wider active transportation network.

FIGURE 4-9: PROPOSED ACTIVE TRANSPORTATION - ROUTE NETWORK



Facility Types

The proposed facility types for the future active transportation network are illustrated in Figure 4-10. The proposed facility types include:

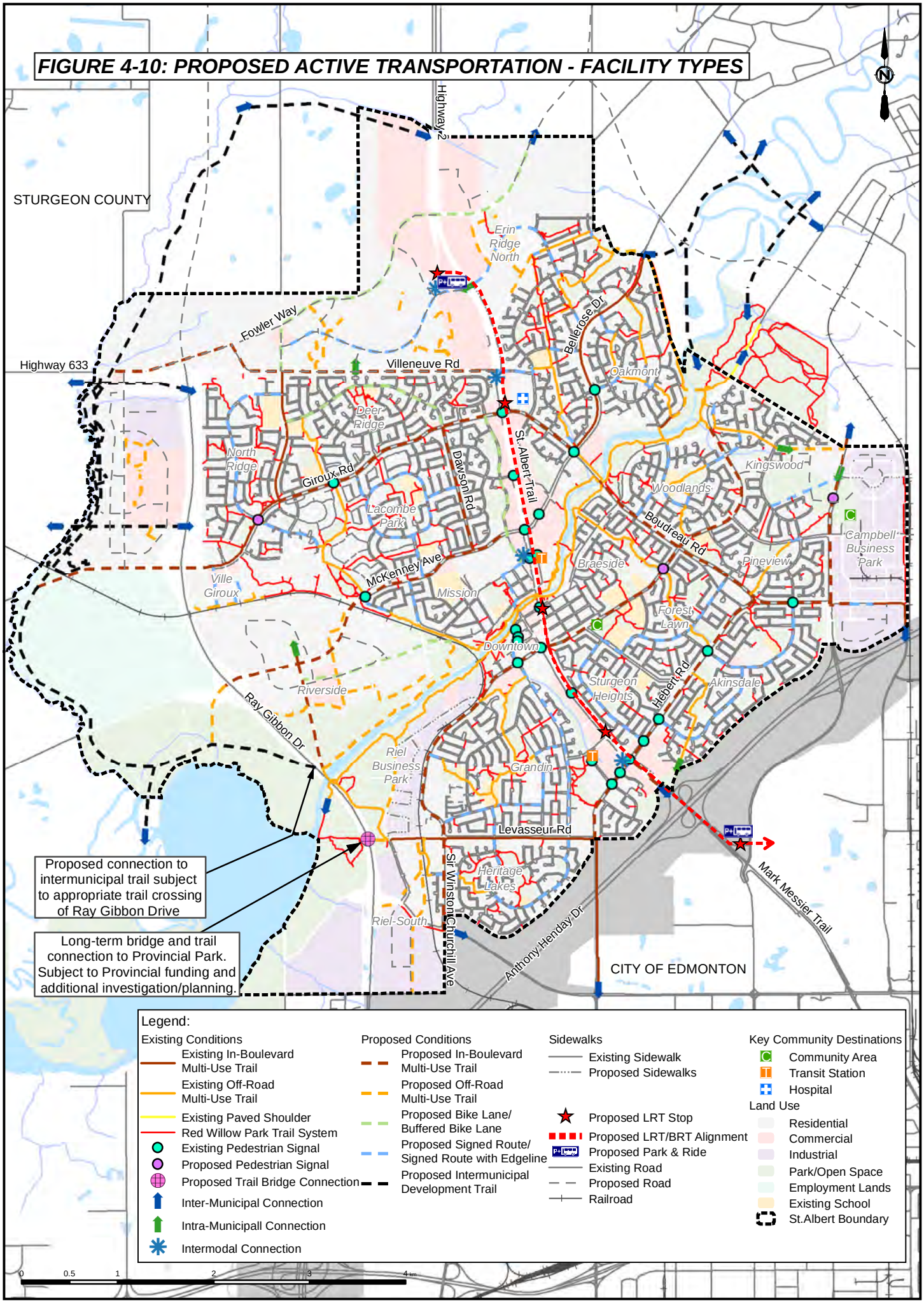
In-Boulevard Multi-Use Trail - These paved 3-4 m wide trails, typically with a center line to delineate directions of travel on the trail, are best for off-road cycling with adequate width to allow for passing and shared mode use with pedestrians, wheelchairs, or other modes such as rollerblades / skate boards. In-Boulevard multi-use trails parallel existing roadways and are constructed within the road right-of-way. Appropriate accommodation and treatment must be considered and implemented for safe crossings at trail to trail and trail to roadway crossings.

Off-Road Multi-use Trails - Built to the same criteria as in-boulevard trails, these facilities are also paved, shared multi-use trails but are typically located through parks.

Bike Lane/Buffered Bike Lane – A bike lane is a delineated on-road facility where parking and driving automobiles is prohibited. Bike lanes should be well marked and signed and are recommended to be a minimum of 1.5 m wide, with an engineered separation between bikes and vehicles. Buffered bike lanes include additional physical separation between cyclists and traffic through either a lane of parallel parking or other devices on the roadway. Bike lanes are appropriate on slightly busier roadways where cyclists may feel less comfortable sharing right-of-way with automobiles.

Signed Route/Signed Route with Edgeline – A signed route is where there is no specific space allocated to the bicycle within the roadway, but signage indicates that users should be prepared to share the road. If the shoulder is marked with an edgeline where the width is greater than 1.3 m, cyclists can be directed to use the shoulder as their cycling facility. Signage should be frequent and clear to ensure that users are prepared to share the space.

FIGURE 4-10: PROPOSED ACTIVE TRANSPORTATION - FACILITY TYPES



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4.3 PUBLIC TRANSPORTATION

St. Albert already has a comprehensive long term transit planning document in the form of the Transit Long Term Department Plan (TLTDP). The intent of the TMP is to support and align transportation strategies and associated action plan with the goals and objectives identified within the TLTDP.

Public transportation is also more than just the traditional model of publicly funded mass transit. New services such as car sharing, as well as potential future driverless technologies, will have a significant impact on public transportation choices in the foreseeable future.

Strategies

The key public transportation strategies for this TMP are to:

- Endorse the direction of the TLTDP
- Support implementation of the LRT Alignment Study (2015) and utilize its recommendations in future traffic modeling and evaluation of network scenarios.
- Support the development of intermodal connections.
- Investigate implementation of non-traditional transit modes and ensure aspects of any ITS strategy align with forthcoming technology.
- Land use integration to support density around future LRT stations through adoption of appropriate land use planning instruments.

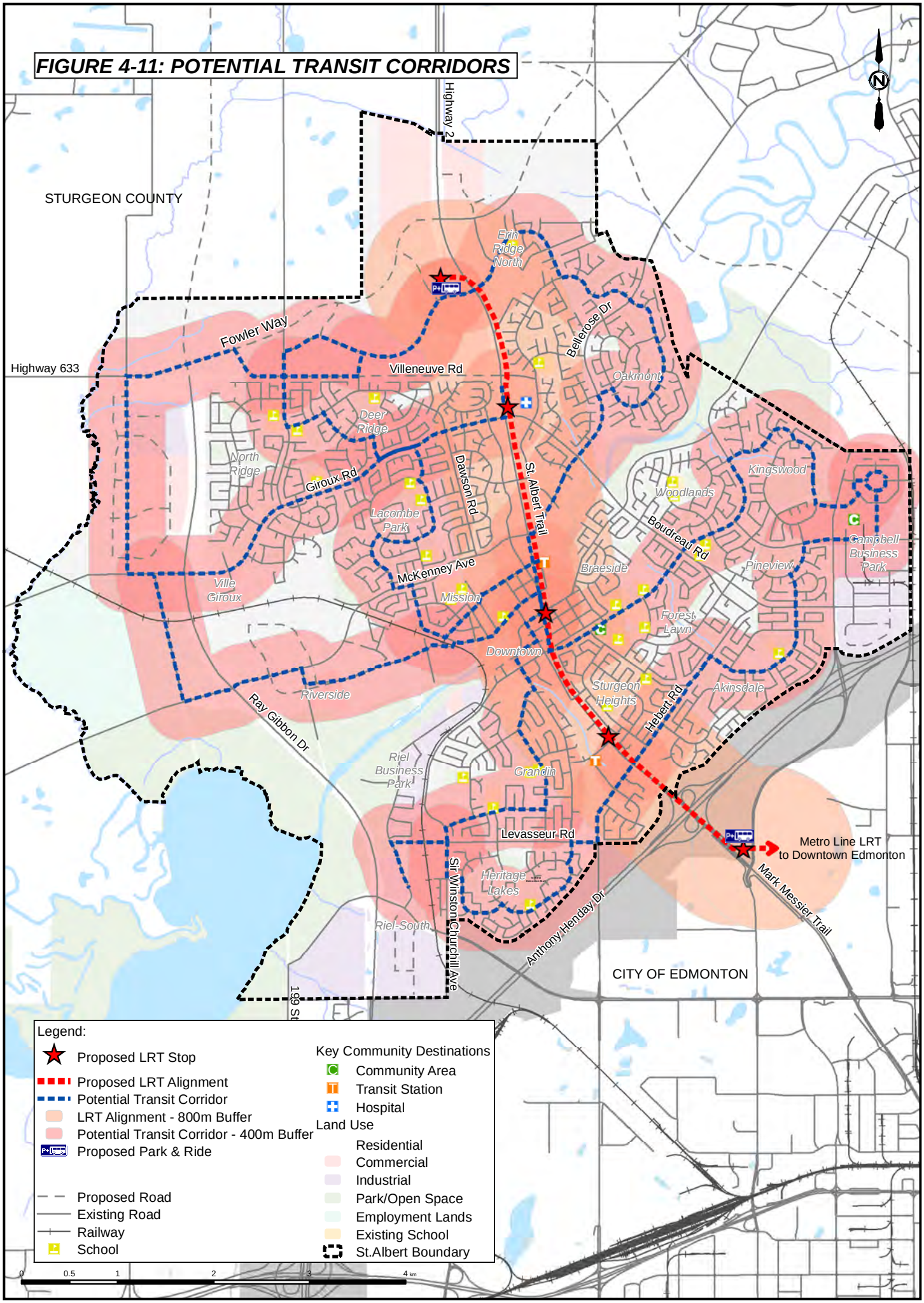
What did we hear about Public Transportation from the public consultation?

- Public transit is important to residents.
- The LRT is important for the future.
- Local routes are not always convenient.
- Integration of land use will be important for success.

4.3.1 Future Recommendations

Based on the existing plans in place, this TMP identifies potential local bus corridors that provide coverage to service the community, as well as the approved LRT corridor and park and ride facilities. Future transit corridors are shown in Figure 4-11.

FIGURE 4-11: POTENTIAL TRANSIT CORRIDORS



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LRT

This TMP supports the long term implementation of LRT as a strategy to increase transit ridership and mitigate the environmental and roadway level of service impacts due to regional and municipal growth and ensure a fully integrated multimodal network system for the Capital Region. As LRT planning moves forward, more detailed ridership estimates will be developed by looking at land use densification around stations and increased job opportunities in St. Albert to attract 'reverse direction commuters' (that is, residents from Edmonton who will take the LRT to work in St. Albert). Transit ridership growth is estimated in this study by comparing the expected future difference between travel times when driving or taking the bus, versus taking the LRT. While ultimately LRT ridership will be impacted by many factors, including travel costs, land use and residential densities, employment locations, travel times is an effective tool for estimating ridership with the information available.

Due to future lane closures on St. Albert Trail, and increasing congestion on both St. Albert's roads and the City of Edmonton roads, in the future, the LRT will prove to be a faster route into Downtown Edmonton, the University of Alberta and NAIT than driving. Transit ridership is expected to continue to grow in St. Albert, but the implementation of the LRT has the potential to increase the transit ridership by 30%, based on these expected travel time differences. This improvement would result in an ultimate mode split for traffic traveling into and out of Edmonton at the south end of St. Albert of 23% transit ridership, versus the existing mode split of 15% in the PM peak hour.

There is potential for additional ridership growth through increased regional traffic transferring onto the LRT. Park and ride spots, particularly in north St. Albert could support this growth. Guidelines for transit oriented development, to help support better connections and density at each of St. Albert's transit centres will help direct future development in such a way as to support LRT and increase ridership projections even higher.

An additional strategy to support the long-term implementation of the LRT is the development of high frequency local bus routes running along the future LRT alignment.

Buses

Local transit routes will continue to be important to serve the internal transit centres. The ongoing Local Transit Route Restructure process will review service standards and include a two-phase public engagement process before recommending an updated network for implementation from September 2016.

This review provides a timely opportunity to consider the current TLTDP goals and review them against the long term transportation planning horizon objectives outlined in this TMP. An integrated planning framework has the potential to increase mode share above and beyond the existing goals.

Future route planning should determine the balance between access and frequency, and continue to review best practices to determine the most appropriate method to boost ridership within St. Albert.

4.4 GOODS MOVEMENT

Though primarily a residential community, the City of St. Albert has two industrial areas and plays an important role in the movement of goods through the region. While the City of Edmonton's 2014 Good's Movement Strategy shows that the majority of current regional good's movement bypasses the City of St. Albert, industrial expansion in the City of Edmonton's northeast and northwest industrial areas is expected to have an impact on the City of St. Albert. Extensive development of South Riel and existing major commercial/industrial entities like the Albert Gaming and Liquor Commission distribution centre in Campbell Business Park result in a large volume of goods movements originating in the city.

Strategies:

- Provide connections between industrial areas and commercial sites within the City of St. Albert.
- Deter heavy vehicle traffic from residential areas and schools where possible.
- Provide regional connections to Sturgeon County and The City of Edmonton.

What did we hear about goods movement in public consultation?

- Commercial vehicles are sometimes traveling on residential streets.
- Regional connections are important to residents.

4.4.1 Future Truck Route Network

Within this TMP, the priority is identification of the key routes for future good's movement through the City of St. Albert. The existing traffic bylaw designates and permits large loads on the majority of arterial roadways in the city; the recommended TMP truck route map recommends reductions to these allowances and looks to align with appropriate designations based upon overall roadway functionality. While this TMP is primarily about the movement of people, the movement of good's is important for the economic growth of the region. Connections to the City of Edmonton and Sturgeon County, as well as through the region will be the focus. The types of routes identified within the TMP are consistent with those identified for the capital region.

24-Hour Dangerous Goods Routes

The two St. Albert corridors most important for good's movement currently are St. Albert Trail and Ray Gibbon Drive. The expansion of Ray Gibbon Drive and development of Fowler Way are the priority infrastructure improvements to positively impact goods movement through the city. This change will take heavy vehicle traffic off of Villeneuve Road in the short term, and St. Albert Trail in the long term. A key recommendation in the Villeneuve Road Study (2015) was to reclassify Villeneuve Road as a collector road and remove its designation as a truck route; while designing and constructing Fowler Way as the designated commercial good's movement corridor.

As described in the Roads Section (4.1), the long term intent for St. Albert Trail is a new vision as an urbanized arterial, prioritizing the movements of people through active transportation and transit. While this plan continues to include St. Albert Trail as a 24 Hour Dangerous Goods Route, it is expected that completion of 127 Street and Ray Gibbon Drive would allow for a re-evaluation of this designation, and dangerous goods vehicles could be eliminated from St. Albert Trail. Although St. Albert is not currently a regional oversize load corridor, collaboration with the City of Edmonton, Sturgeon County, Alberta Transportation and other key stakeholders should occur on an ongoing basis to protect the efficient and appropriate movement of goods through the region.

Restricted Truck Routes

The restricted truck routes are identified to provide the connections between the industrial areas and access to main commercial sites within the community. The revisions to the restricted truck routes as identified in this plan reduce the impact on residential areas, with a focus of avoiding school zones where possible.

As per the Provincial Traffic Safety Act, commercial vehicles must stay on the restricted routes until taking the shortest route to their final destination. All roads within identified Industrial Areas shall remain as both truck and dangerous goods routes. These routes, if approved, would have to be identified and incorporated into the Traffic Bylaw for field level changes. The proposed Truck Route Map is included in Figure 4-12.

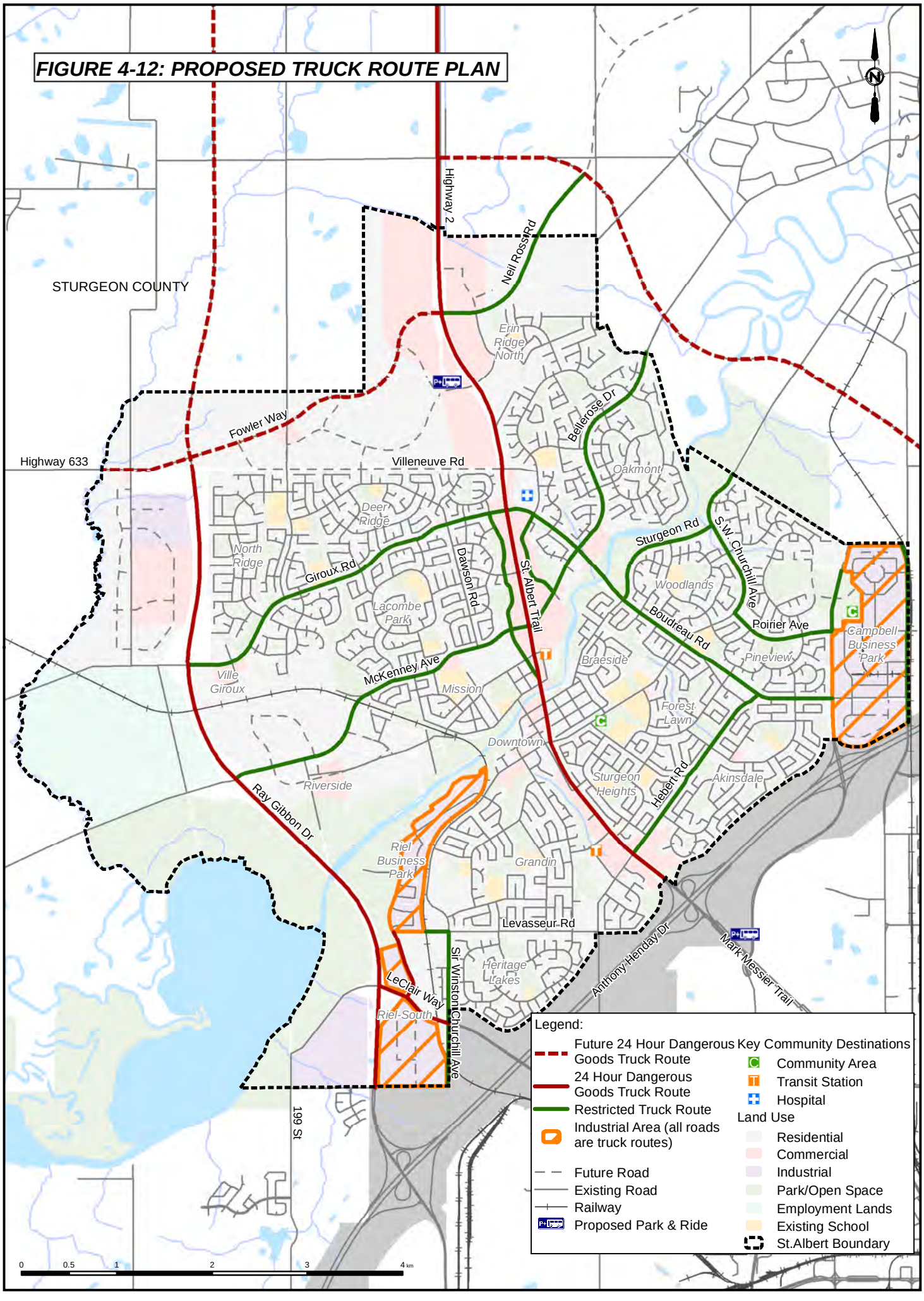


FIGURE 4-12: PROPOSED TRUCK ROUTE PLAN
STURGEON COUNTY
Highway 2
Neil Ross Rd
Erin Ridge North
Fowler Way
Highway 633
Villeneuve Rd
Bellerose Dr
Oakmont
Deer Ridge
North Ridge
Giroux Rd
Dawson Rd
St. Albert Trail
Sturgeon Rd
S.W. Churchill Ave
Woodlands
Lacombe Park
Boudreau Rd
Poirier Ave
Campbell Business Park
Braeside
Pineview
Ville Giroux
McKenney Ave
Mission
Forest Lawn
Downtown
Riverside
Ray Gibbon Dr
Sturgeon Heights
Hebert Rd
Akinsdale
Riel Business Park
Grandin
Levasseur Rd
Anthony Henday Dr
Mark Messier Trail
Heritage Lakes
Sir Winston Churchill Ave
LeClair Way
Riel-South
199 St
Legend:
Future 24 Hour Dangerous Goods Truck Route
24 Hour Dangerous Goods Truck Route
Restricted Truck Route
Industrial Area (all roads are truck routes)
Future Road
Existing Road
Railway
Proposed Park & Ride
Key Community Destinations
Community Area
Transit Station
Hospital
Land Use
Residential
Commercial
Industrial
Park/Open Space
Employment Lands
Existing School
St.Albert Boundary
0
0.5
1
2
3
4 km
P:\2014\31139\00_Trans_MP\Working_Dwgs\010_GIS\SA_BASEMAPS\ArcMap\November2015\ProposedTruckRoutePlan_8.5x11.mxd

4.5 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Many of the strategies identified in the previous four sections identify recommendations related to supporting a specific mode. Worthy of a separate discussion, many emerging technologies have the capability to improve the overall implementation of the TMP and support strategies across multiple modes. ITS implementation is at the forefront of this discussion. ITS development can improve road capacity through signal timing progression, improve EMS / Transit travel times through priority signal phasing, enhance traffic data collection and management, and result in improved road condition and operations information sharing with the general public that can be aligned with multi-jurisdictional collaboration. This supports the TMP guiding principle of sustainable transportation by using technology to make the most of existing infrastructure as well as providing tools to residents to help make the shift away from the private vehicle more appealing in certain conditions.

Strategies:

- ITS Policy Development
- Social Media and Education integration
- Regional Integration
- Multi-modal facilities
- Future Technologies

4.5.1 ITS Plan

The Community Vision of St. Albert speaks to its values as a “vibrant, thriving city” with the five pillars of sustainability. As an innovative and progressive city that protects its identity and small town values, these characteristics are indicative of the success of the city, its communities and residents. ITS is an important component to supporting the ultimate implementation of the Smart City Centre of Excellence Master Plan. Growth and prosperity are realities in St. Albert which affects transportation needs that will be addressed in this TMP. The Transportation Master Plan and the ITS initiatives will support this vision by building better communities through transportation excellence.

What is ITS?

Intelligent Transportation Systems applies technologies to transportation problems to improve the efficiency, safety and security of the network. ITS supports a seamless, multi-modal journey that integrates transit, goods movement, autos, pedestrians and cyclists.

The congestion and safety problems that are evident on each commuting day in St. Albert, combined with the fiscal reality of restricted budgets, require the city to examine ITS as an “enabler” of innovation and efficiency to maximize the operation of the existing transportation network. ITS achieves this goal by using technologies that make trips smoother, safer and more sustainable. A direct result of this efficiency is that St. Albert will be better able to meet its sustainability and environmental community objectives.

ITS is organized into 8 user service “bundles” comprised of 35 user services which are directly applicable to the TMP. These bundles include:

- Traveller information – provides information to the public including pre-trip (web sites) and enroute (in-vehicle navigation, variable message signs) traveler information.
- Traffic management – traffic signals that are coordinated to real time demand and incident management to detect, verify and respond to motor vehicle incidents.
- Public transport – systems that support transit such as transit signal priority (TSP), tracking of buses using GPS, and real time “next bus” arrival systems.
- Electronic payment – smart cards, and parking payment systems that provide the customer with convenient means to pay a fare, fee or toll.

- Commercial vehicle operations – systems such as weigh-in-motion (WIM) that support the regulation and operation of commercial vehicles.
- Emergency management – integration of emergency services with traffic operations to provide information to first responders.
- Vehicle safety and control systems – connected and autonomous vehicles.
- Information warehousing – data management.

Because ITS is a relatively new concept in St. Albert, this section will go into additional detail as to the possibilities related to implementation ITS and how it supports the overall goals the of the TMP.

Why Do We Need a Plan?

As a first step, it is important that St. Albert prepare an ITS Strategic Plan for the city that will be an essential roadmap to guide development of the ITS infrastructure into the future. The ITS Plan will involve a series of tasks, strategies and projects that will "map" directly to and support the vision, goals and objectives of St. Albert's Transportation Master Plan. The ITS plan should include the following tasks:

- Stakeholder engagement, using internal and external agencies for input, will lead to a detailed "Needs Assessment and Gap Analysis" that will provide insight into the difference between current and required future ITS infrastructure.
- ITS Vision, Goals and Objectives will provide high level direction with measurable performance metrics.
- ITS Strategies supported by distinct ITS Projects.

The ITS Plan provides clear, overall direction, based on the needs of the stakeholders and users. The ITS Plan will achieve several objectives:

- Provide a phased and prioritized implementation plan over short, medium and long term horizons. This plan will allow St. Albert to program the capital projects based on needs, benefits (priority) and budget.
- Support coordination and regional integration between jurisdictions and functional boundaries. Key participants should include Alberta Transportation, the City of Edmonton, Sturgeon County and Strathcona County.

What are Key ITS Initiatives?

While the ITS strategic plan is still required to provide detailed ITS project recommendations, anecdotal information and data acquired during the TMP process supports several key areas of focus within the ITS suite of services for the City of St. Albert.

St. Albert focused services:

1. Integrated Corridor Management (ICM) on key corridors – Ray Gibbon Drive, St. Albert Trail, Anthony Henday Drive. The approach of ICM is to consider all modes as "assets" within a corridor and to maximize their operation and efficiency together. These tasks would include:

- Transit signal priority (TSP) and bus queue jumpers which direct operational advantages to bus operations at key intersections.
- Adaptive signal control which is a signalization strategy that dynamically optimizes the signal timing plans on a corridor based on real time, measured traffic flows.
- Next bus arrival systems which provide predicted arrival times at upcoming stops on LED signs. This task would involve equipping buses with GPS tracking and passenger counters.
- Traffic management including incident management using detectors, CCTV cameras and variable message signs (VMS).

2. Data Management seeks to integrate different systems and would involve:

- Integration between modes at facilities such as transit stations, LRT stops, and other modal facilities.
- Access to an online community using social media (Facebook, Twitter, Google) will allow users to have direct notification of transportation options and conditions.
- Real time travel between road segments measured through "Bluetooth" devices. The travel times would be displayed on overhead VMS and available online.
- Wireless network supporting data transmission.

3. Traffic Management Centre (TMC) acting as the central hub for data and traffic operations:

- Data from field devices, signals, and controller cabinets would send data to and from the TMC. Traffic operators would be able to monitor traffic conditions, verify incidents via CCTV and respond.
- Signal timing plans could be adjusted in real time.

4. Customer Services that provide direct benefits to the public include:

- Traveller information systems (ATIS) that provide real time information on traffic conditions, weather-related advisories, and trip recommendations. ATIS allows the public to manage their trips efficiently and minimize their delays.
- Parking management allows customers to pay via smart phone or other convenient device.

5. Safety Initiatives that support people and goods may include:

- Speed monitoring and enforcement systems.
- "Smart" work zones that emphasize road safety.
- Road-Weather Information Systems (RWIS) that provide critical advisories in advance of severe weather events. These systems can save lives through travel advisories and traffic closures.
- Advanced speed advisories that utilize LED signs and detectors to warn drivers of their excessive speeds.

Regional Services:

1. Integration with regional agencies is critical through the ITS infrastructure. The key component for this task would be "centre-to-centre" communication between the St. Albert TMC and Edmonton's TMC. Data sharing with Alberta Transportation and Strathcona County would be supported. The Smart City Alliance will play a key role in this integration.

2. Goods Movement is a key element of the economy and supports the prosperity of St. Albert. This task would involve working with Alberta Transportation and the Partners in Compliance (PIC) program to develop a network of commercial vehicle inspection stations that use ITS technologies such as:

- Weigh-in-motion scales and over-height detectors that allow trucks to be dynamically weighed and examined for compliance,
- CCTV cameras with licence plate recognition (LPR) systems to confirm the carrier, and
- Transponders and readers to detect and identify registered trucks.

As the region grows and prospers, the need for ITS and other means to maximize the efficiency of the existing transportation network will also increase. The St. Albert TMP and the subsequent ITS Strategic Plan will provide the framework and foundation to move forward - protect the livability and sustainability of the city while continuing to attract new residents and build better communities through transportation excellence.

5 | Implementation

The development of this TMP represents an accumulation of knowledge from a wide range of stakeholders, from St. Albert residents, city administration and regional partners. The discussion presented through the previous four sections has been filtered into an action plan that can be used to continually monitor the implementation of the TMP.

5.1 RECOMMENDED ACTION PLAN

A detailed recommended action plan identifying initiatives and implementation timelines was developed with support from the project team, the public and stakeholder engagement.

This plan is ambitious with an aggressive schedule for a large number of initiatives to be completed by St. Albert Administration in a short period. The action plan also serves as the evaluation matrix; and should be reviewed regularly to identify projects that have been completed and new projects to begin.

The action plan items have been correlated to the relevant TMP Guiding Principles:

1. Livable Communities
2. Sustainable Transportation
3. Environmental Health
4. Economic Prosperity

Recommended Action Item	Timeline			Land Use Planning Integration	Related TMP Guiding Principles			
	Short 1-3 years	Medium 3-5 years	Long 5-10 years		1	2	3	4
Integrated								
Complete a Strategic Plan for implementation of recommendations identified through TMP	X			X	X	X	X	X
Align planning, engineering, transit, operations and maintenance master plans, goals and policies		X		X		X		
Provide dedicated staff to implement the active transportation plan and develop travel demand management programming	X					X		
Develop achievable mode split targets and perform scheduled updates and evaluation of levels and targets	X					X		
Complete an updated travel demand survey every 10 years		X		X		X		
Develop a comprehensive asset management strategy including a database resource to assess life-cycle costs of transportation infrastructure	X					X		
Maintain and utilize the city's Traffic Model to establish strategic priorities for the city's investment in transportation infrastructure to serve as a guide for capital investment plans to service the full build-out population of 113,000	X					X		
Update the ten (10) year capital plan to align with TMP principles.	X					X		
Create and implement a public and stakeholder communication plan in relation to the Transportation Master Plan and its resulting strategic plan	X					X		
Set and achieve Green House Gas (and related performance indicators) targets related to transportation (includes data collection to measure these)	X		X				X	
Incorporate the travel demand model as an on-going transportation planning and evaluation tool for new developments and network planning as they relate to environmental impacts through greenhouse gas emissions	X			X			X	
Shift funding priorities towards transit and active transportation		X					X	
Advocate for higher orders of government to invest in all modes	X						X	
Partner with community leaders to achieve the TMP vision	X						X	
Review the Transportation Association of Canada (TAC) Canadian Guide for Greener Roads (CGGR) and relate identifiable objectives of the CGGR with St. Albert policies and principles		X					X	
Develop Performance Measurement Framework to measure the success of the Transportation Master Plan	X						X	
Work with Capital Region Board to align and implement the city's TMP and the Integrated Regional Transportation Master Plan	X							X

Recommended Action Item	Timeline			Land Use Planning Integration	Related TMP Guiding Principles			
	Short 1-3 years	Medium 3-5 years	Long 5-10 years		1	2	3	4
Develop an Intelligent Transportation System Strategy as a travel demand management strategy	X						X	
Implement Safe Journeys to School strategies and maintain communication between stakeholders and public in relation to the program	X							X
Roads								
Create a Complete Streets Policy for design and implementation	X			X	X			
Update engineering standards to guide implementation of the Complete Streets Policy		X			X			
Update Pedestrian Crossing Control Guidelines in regards to pedestrian crossing warrant processes and criteria, control treatment, and operational standards for signalized pedestrian crossings.	X				X			
Update engineering standards for sidewalks, pathways and transit access in new developments and for retrofit		X		X	X			
Develop neighbourhood traffic management guidelines (includes traffic calming)	X			X	X			
Develop Traffic Impact Assessment Guidelines for Residential, Commercial and Industrial Neighbourhoods that incorporate cycling and pedestrian impacts and ensure projected traffic volumes are appropriate with the design and function of the proposed road network	X			X	X			
Develop a functional plan for St. Albert Trail to support Light Rail Transit/Bus Rapid Transit, pedestrian travel (or to transform it to a Complete Street) and incorporate Transportation Demand Management principles		X		X		X		
Create and implement a Traffic Data Management Strategy	X					X		
Complete Transportation Demand Management Study for Downtown		X		X		X		
Update the St. Albert Trail North-Arterial Corridor Management Plan	X			X		X		
Identify and consider potential locations for infill development to maximize use of existing roadways		X		X		X		
Allocate appropriate staff levels to respond to transportation inquiries from residents, maintain the traffic model, and to align with identified projects	x					X		
Create level of service guidelines reflective of St. Albert's sustainable transportation goal and apply to appropriate operations, traffic impact assessment guidelines and policy	X							X
Develop street classification definitions and define their intended functionality and level of service targets	X							X
Work with regional partners to develop an Emergency Measures Strategy (such as traffic signal pre-emption)	X							X

Recommended Action Item	Timeline			Land Use Planning Integration	Related TMP Guiding Principles			
	Short 1-3 years	Medium 3-5 years	Long 5-10 years		1	2	3	4
Work with Alberta Transportation, City of Edmonton and Sturgeon County to develop a regional traffic control centre			X					X
Advocate for twinning of Ray Gibbon Drive and extension of Ray Gibbon Drive	X							X
Advocate for construction of 127th Street between Anthony Henday and Highway 2	X							X
Create guidelines and increase use of roundabouts in new development and look for opportunity of retro-fit completion to enhance network safety and efficiency	X			X				
Establish a safety review process when traffic collisions involving a fatality on a public roadway occurs		X						X
Develop an annual network screening program to identify high collision locations	X							X
Establish an in-service safety review program for high collision locations	X							X
Adopt safety audit standards for new roadways (incorporate in with the TIA guidelines)	X							X
Develop a St. Albert Traffic Safety Plan	X							X
Develop Noise Management Policy	X							X
Develop data collection and management policy	X							X
Develop temporary traffic control/special event management policy	X							X
Develop parking management policy		X		X				X
Develop Wayfinding/Tourist Transportation Management Policy		X		X				X
Active Transportation								
Implement the active transportation plan with the focus of closing existing gaps within the network and prioritize completion of short gaps.	X				X			
Complete active transportation connections to community destinations, with a priority on family orientated destinations		X			X			
Develop/enhance active transportation connections to trails along Sturgeon River		X			X			
Incorporate Crime Prevention Through Environmental Design principles into active transportation planning		X		X	X			
Maintain and update wayfinding to key recreational and commercial amenities on bike trails	X			X		X		
Create opportunities to incorporate active transportation and recreational uses in environmental reserve areas	X						X	

Recommended Action Item	Timeline			Land Use Planning Integration	Related TMP Guiding Principles			
	Short 1-3 years	Medium 3-5 years	Long 5-10 years		1	2	3	4
Work with regional partners to identify active transportation links (eg. Sturgeon County, Alberta Transportation, Alberta Environment and Parks, Alberta Health Services)	X							X
Develop accessibility guidelines to accommodate physical limitations	X			X				X
Public Transportation								
Identify bus routes to connect with future Light Rail Transit		X			x			
Adjust Land Use Policies to support Transit Orientated Development around proposed future Light Rail Transit stations		X		X	x			
Prioritize land development with higher densities and mixed uses in vicinity of major transit stations (short term timeline for planning and long term timeline for implementation)	X		X	X	x			
Develop and prioritize a construction program to implement field level upgrades for improved accessibility at transit stop locations for those with limited mobility or vision		X			x			
Review/update transit fare policy to support affordability for users		X			x			
Support the development of a park and ride facility at Campbell Road Transit Centre	X			X		X		
Prepare a strategy to develop the north LRT Station which may include a transition from Park and Ride to a Transit Oriented Development		X		X		X		
Conduct feasibility study for Bus Rapid Transit/priority bus lanes as a progression towards Light Rail Transit implementation		X				X		
Implement parking for bikes and provide drop / off zones (kiss and rides) at Transit facilities	X			X		X		
Develop winter road maintenance and accessibility standards for transit stops	X					X		
Protect the property needed for the Light Rail Transit	X		X	X		X		
Work with regional partners to improve regional transit services	X							X
Commercial/Goods Movement								
Develop a Movement of Goods and People Policy	X			X	X			
Establish a tiered truck route system for Large Commercial Vehicles and Pick and Delivery Vehicles (includes sign changes, education, bylaw changes, helping residents understand purpose of roadways)		X						X

5.2 10 YEAR ROADS AND TRAILS PLAN

5.2.1 Roads

The TMP has taken into consideration the comments received from the public, the existing recommended 10 year plan and the results from the St. Albert Travel Demand Model to identify the highest priority projects recommended for completion by 2025.

Without improvements to the road network, by 2025 there will be congestion on all north-south arterials; adding capacity on any of those roadways can help to alleviate that pressure across the network. The other area of congestion is north St. Albert Trail. Areas of spotty congestion can be potentially alleviated through improvements to intersections and signal timing. Public input has indicated the highest priority projects in the short term are:

- Address noise concerns,
- Signal timing on St. Albert Trail, and
- Twinning Ray Gibbon Drive.

The recommended 10 year plan is summarized in Table 5-1. The 10 year plan does not include certain projects identified through a number of current studies, plans and initiatives. These include:

- Neighbourhood traffic calming strategies,
- St. Albert Trail and Boudreau/Giroux Road Corridor Safety Review Implementation,
- Safe Journeys to School safety implementation,
- Downtown Area Redevelopment Plan (DARP),
- Transit Long Term Department Plan (2013-2027), and
- St Albert LRT Study.

The St. Albert LRT Study has no capital cost assigned from the study, but any improvements on and around St. Albert Trail should recognize the LRT alignment and plan for future LRT.

Table 5-1: Recommended 10-Year Roads Plan

PROJECT	TYPE	DESCRIPTION	PRE-EXISTING CAPITAL PROJECT OR NEW TO TMP	OFF SITE LEVIABLE? (Yes / No)
St. Albert Trail - Signalization	ITS	Adaptive traffic signal controls for 14 Intersections on St. Albert Trail. To reduce congestion by creating smoother flow by adjusting the signal timing.	YES	NO
Erin Ridge Neighbourhood Traffic Calming	Roadway Design Improvements	Implement a Neighbourhood Traffic Calming Process in the community of Erin Ridge and evaluate the procedure to utilize in other city neighbourhoods.	YES	NO
North St. Albert Trail Functional Planning Study	Study	To Review and provide solutions for the northern part of St. Albert Trail.	NO	NO
Transit Priority Signals	ITS	To add transit priority measures on transit routes to optimize passenger travel time.	YES	NO
Traffic Pre-Emption System for Fire	ITS	To improve emergency response time due to increased congestion on roadways.	YES	NO
Ray Gibbon Drive	Widening	Expand to 4 lanes of divided arterial roadway improve efficiency of Ray Gibbon Drive and also enhance capability to absorb additional traffic volumes from St. Albert Trail.	NO	NO
St. Albert Trail & Hebert Road Intersection	Intersection Improvement	East and westbound right turn bay construction and northbound lane extension from the superstore access to Hebert road.	YES	NO
Fowler Way: From Ray Gibbon Drive to St. Albert Trail	New Construction	Develop first 2 lanes of ultimate 4 divided arterial roadway. Reduce congestion and reduce traffic on St. Albert Trail by allowing traffic to Ray Gibbon Drive.	NO	YES
Meadowview Drive	Re-Build & Upgrade	Re-build 1.6km to urban design due to determination of roadway and safety concerns, projected traffic levels and services the Employment Lands area.	YES	YES
Boudreau Road & Campbell Road Intersection	Intersection Improvement	To increase throughput capacity due to congestion from traffic accessing Anthony Henday Drive.	YES	NO

PROJECT	TYPE	DESCRIPTION	PRE-EXISTING CAPITAL PROJECT OR NEW TO TMP	OFF SITE LEVIABLE? (Yes / No)
Giroux Road Twinning to Ray Gibbon	Twinning	Currently Giroux Road is twinned its entire length but falls short 300m from the intersection of Ray Gibbon Drive. With the 4 laning of Ray Gibbon Drive and added capacity, traffic patterns will change and utilize Giroux to access Ray Gibbon Drive.	YES	YES
McKenney Avenue Twinning to Ray Gibbon Drive	Twinning	Currently McKenney Avenue is twinned from St. Albert Trail to Morgan Crescent, this project includes the continuation of the twinning 1.5km through the Riverside Neighborhood to Ray Gibbon Drive. As the city has seen a change in traffic patterns as traffic is utilizing Ray Gibbon Drive.	YES	YES
LeClair Way & Riel Drive intersection	Intersection Improvement	To increase capacity due to congestion from traffic accessing Anthony Henday Drive.	NO	NO
St. Albert Trail and Boudreau Road	Intersection Improvement	To increase capacity	YES	NO
Bellerose Drive: From Oakmont to City Limit	Twinning	Twin approx. 1.7km of roadway. Provide additional capacity to access Erin Ride Drive and residential developments.	YES	YES
Villeneuve Road	Redesign	Redesign and reclassify Villeneuve Road and intersections as per the approved Villeneuve Road Study.	NO	NO
Sir Winston Churchill Ave: From Sturgeon Road to City Limit	Twinning	This project is twinning of approximately 620). Two additional lanes will be constructed along the adjacent path of the current road structure.	YES	NO
Campbell Rd Extension to Poundmaker Road	New Construction	This project is to extend approximately 300m of Campbell Road to Poundmaker Road	YES	YES
Boudreau Road	Intersection Improvements	Intersection improvements at the intersection of Sturgeon Road and Bellerose Drive to improve capacity (potential turning lane addition at intersection)	NO	NO

The following two figures show the volume to capacity results from the implementation of the recommended 10 year plan. The top Figure 5-1 is the v/c of the network without improvements, the Figure 5-2 with improvements. While the network will still experience locations of congestion, the key issues are addressed and should align with appropriate levels of service as per city policy. Furthermore, additional projects like dealing with traffic calming and noise mitigation will have an overall positive impact on the road network for residents, thoughthe results may not appear directly on the plan. On a larger scale, alignment between network improvements and further capital construction work will be evaluated on an ongoing basis.

Figure 5-1: 10 Year Volume v/c (No Network Improvements)

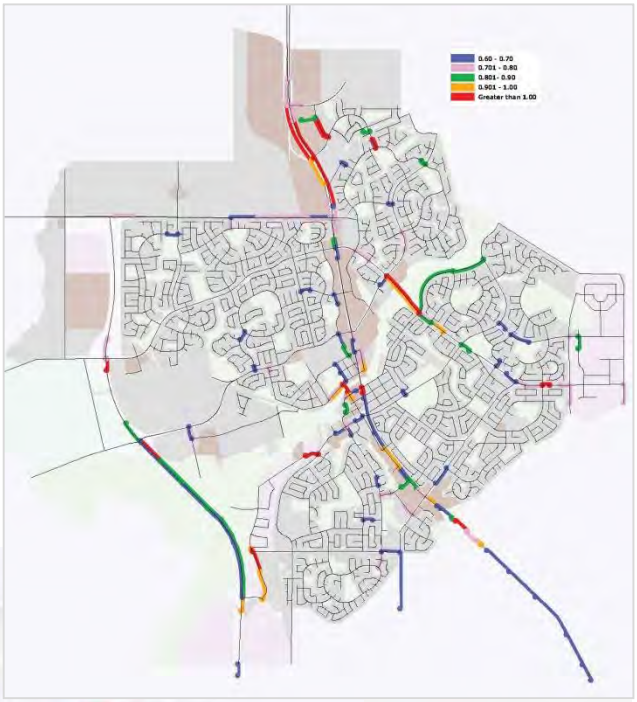
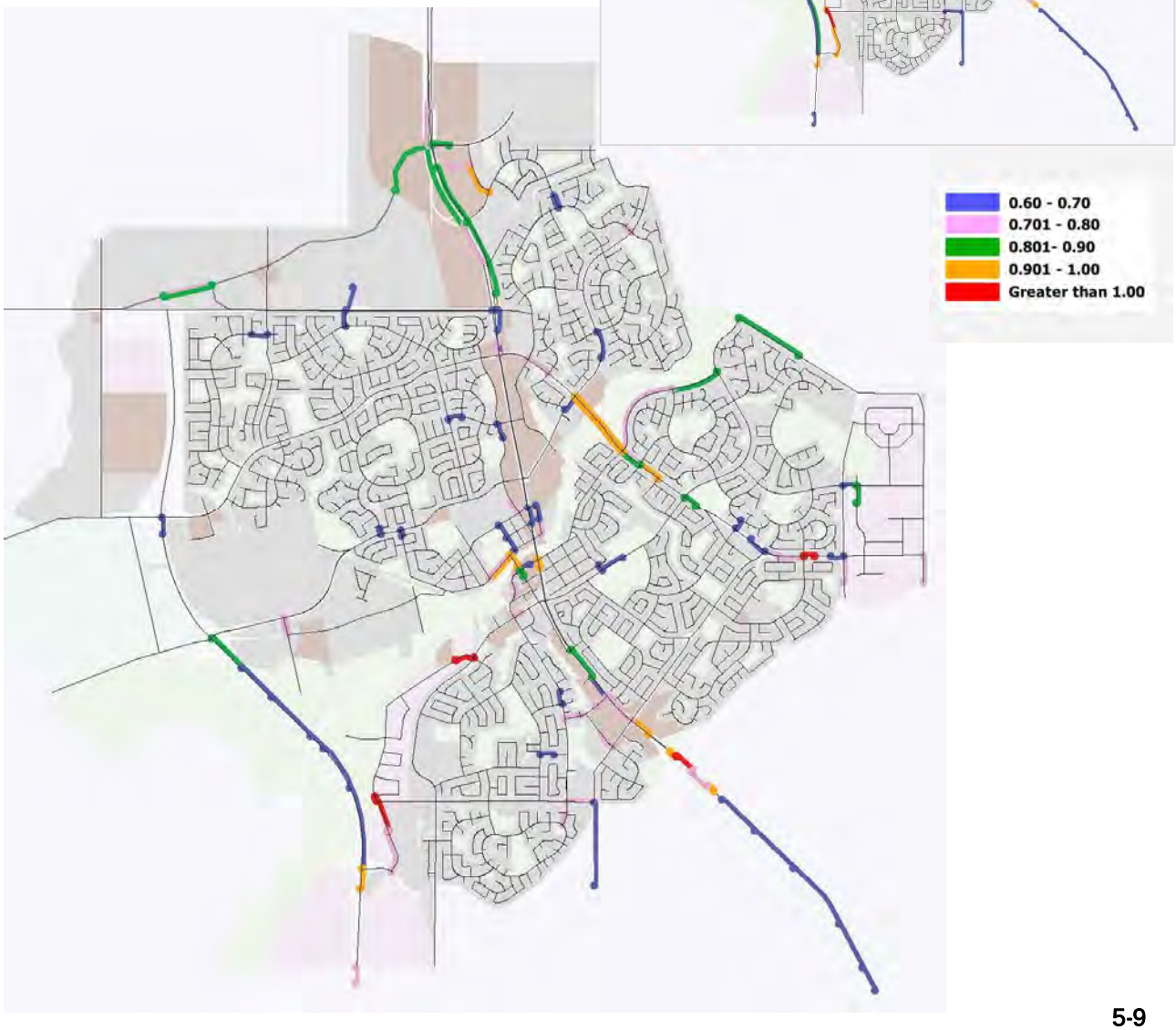


Figure 5-2: 10 Year Volume v/c (Apply 10 Year Improvement Plan)



5.2.2 Active Transportation

Network priorities have been identified so as to strategically stage infrastructure improvements in the coming 10 years.

Priorities were identified with the following criteria in mind:

1. Close gaps in the existing network, with a particular focus on short gaps that result in long sections of continuous route.
2. Develop connections to important destinations, especially those that are frequented by families (e.g. community centres such as the Servus Credit Union Place, Riel Recreation Area, etc.).
3. Develop / enhance connections to trails along the Sturgeon River.
4. Work with land developers to ensure that links to new neighbourhoods are created as part of the development rather than after the neighbourhoods become established.
5. Implement active transportation facilities as part of other capital infrastructure projects such as road widenings, new roads, utilities (e.g. hydro, gas, water and sanitary mains etc.), new bridges and bridge rehabilitations, realignment of watercourses, etc.
6. Focus on completing a limited number of spine routes even if they are not part of planned major capital infrastructure projects. Some potential candidates include:

- Boudreau Road south of the Sturgeon River and Erin Ridge Trail which would result in a continuous connection from the Edmonton boundary (at Veness Road at Anthony Henday Drive) to northeast St. Albert.
- Completing missing links and making necessary upgrades to the Sturgeon River trail corridor, which creates a continuous connection from west to east, linking two major recreational trail destinations (Riel Recreation Area and River Lot 56 Natural Area). This also provides a link to Edmonton via the existing multi-use trails on Levasseur Road and Gervais Road south of Levasseur Road.
- Completing the northwest trail route from the Sturgeon River corridor near Meadowview Ball Park through the Mission, Lacombe and Deer Ridge neighbourhoods and connecting to the Hogan Road multi-use trail in the northwest part of the city.

Table 5-2: Recommended 10-Year Active Transportation Plan

Project	Type	Length (m)
Buffered bike lane Liberton Drive	Buffered bike lane	1539
Dawson Road	In-Boulevard Multi Use Trail	1343
Mckenney Avenue	In-Boulevard Multi Use Trail	1646
Giroux Rd between Bellerose Drive and Bellerose Composite High School	In-Boulevard Multi Use Trail	2774
Giroux Rd between Bellerose Composite High School and Hogan Rd	In-Boulevard Multi Use Trail	600
Sir Winston Churchill Avenue between downtown and Boudreau Rd	In-Boulevard Multi Use Trail	2645
Hebert Rd	In-Boulevard Multi Use Trail	2080
Villeneuve Rd	In-Boulevard Multi Use Trail	2251
Boudreau Rd south of Sturgeon River to Hebert Rd	In-Boulevard Multi Use Trail	1992
Proposed Signed Bike Route whole Network	Proposed Signed Route	10000
Proposed Signed Bike Route with Sharrow whole network	Proposed Signed Route	20800

5.2.3 Public Transportation

The 10 year plan is identified within the Transit Long Term Department Plan, which has a planning horizon to 2027. Key short term recommendations will include ITS signal priority, the Transit Local Route Restructuring Project, and fleet expansion. St. Albert Transit should continue to investigation methods to more aggressively attract riders as a means to achieve the goals of this TMP.

5.2.4 Commercial Goods Movement

Within the short term 10 year implementation period, the traffic bylaw should be updated to reflect the revised truck plan. The City of St. Albert should continue to work with regional partners to support industrial and goods movement growth in the region. The Movement of Goods and People Policy should reflect the balance between the use of roads for goods movement and the movement of people via all modes.

5.3 INFRASTRUCTURE FUNDING

The City of St. Albert has access to two sources of funding for capital projects, which are:

5.3.1 City of St. Albert's Capital Budget

The department implements a Long-Term Divisional and Department Plan (LTDDP) to effectively manage the delivery of municipal services. The LTDDP sets out future goals and resources that are required to support future infrastructure. Surveys, Transportation and other department Master Plans, and other communication from public feedback is continually sought out to ensure that the levels of service, maintenance of city infrastructure, and new capital requirements are sufficient to meet the needs of current and future residents.

The department plan links to the city's 10 Year Municipal Capital Plan as it reflects the long term capital requirements that the city requires for the next 10 years. In addition, funding requirements for the capital projects are reviewed annually to ensure that adequate financing is made available for maintaining current infrastructure and investment for future needs

The Municipal Capital Budget expenditures will be funded through grants, reserves and a portion supported by tax funds. The city utilizes grants as the primary source of funding, as not all projects are eligible for grant funding and may not meet the minimum requirements. In such cases, other sources such as reserves and tax supported funds are therefore utilized for the remainder of funding capital projects. Often, a tax supported fund (Pay-As-You-GO or PAYG) is applied to projects that are smaller in nature, while the use of reserves are regularly planned and are applied for the use of lifecycle and replacement projects.

The city ensures resources are targeted toward the necessary critical investments in St. Albert's infrastructure and transportation to position the community for sustaining current services and meeting future growth The Capital Budget consists of revenue obtained through collection of taxes and from grants/funds provided by the Provincial and Federal Governments. The types and amounts of the grants/funds vary from year to year and from government to government. Past sources of the grants/funds include:

- Municipal Sustainability Initiative (MSI),
- Alberta Community Partnership (ACP), which also contains the Metropolitan Funding (MF) Component,
- Federal Gas Tax Fund, and
- Federal Small Communities Fund.

St. Albert updates its City Budget on a three year cycle. Within the budget the city allocates funds for capital projects as determined by Administration and Council.

5.3.2 City of St. Albert Off-Site Levies

Off-site levis are an approved mechanism under the Municipal Government Act (MGA) that allow a municipality to collect all or some of the capital dollars needed to construct new infrastructure required to support growth. Amongst other infrastructure types the MGA provides a mechanism to collect off-site levies for new or expanded roads required for or impacted by a subdivision development and the necessary land required to support the infrastructure.

In 2010 the city first established its' Off-Site Levy Bylaw and corresponding rates. The Bylaw was based on key guiding principles approved by Council to establish how the off-site levy rates are calculated, assigned, and collected, consistent with best practices across the province. The guiding principles delineated that arterial roads identified within the Off-Site Levy Bylaw as well as arterial to collector and arterial to arterial intersections would be included as projects within the bylaw.

The current practice within the city, is a yearly update to the Off-Site Levy Bylaw to ensure the most reflective delineation of projects and associated costs. As the city grows and infrastructure is required to support the growth, requirements are identified for the infrastructure to be designed and constructed to support the network. Front ending, off-setting and long term reimbursement of costs are identified in the Off-Site Levy Policy Framework. This Council policy, as amended, provides the necessary steps to facilitate the identified growth infrastructure from identified roads in master planning documents to constructed and functioning networks of infrastructure.

5.3.3 Development

In instances where upgrade work is required to support development that is not identified within the Off-Site Levy Bylaw, the MGA under section 650 and 651 identifies that development may be required to pay for road infrastructure needed to support access. Additional projects that may be within this funding categorization would be interim road upgrades needed to support development.

5.4 EVALUATION

The success of the plan will be measured primarily through the implementation of the Action Plan and completing the projects identified in the 10 year plan. Further evaluation of success will involve the completion of tasks identified which incorporate specific evaluation criteria such as level of service standards, greenhouse gas emissions goals, ITS (travel times), etc. As this plan represents a shift in transportation planning in St. Albert, it is anticipated that future plans will identify concrete goals that measure the success of transforming transportation in St. Albert. The most important step in supporting the future green, sustainable and multi-modal ambitions of a complete transportation network is short term improvements in data collection, (particularly around traffic count collections), transit ridership data and active transportation usage information. This data can support identifying achievable goals in mode split and greenhouse gas emissions, which are valuable tools in quantifying the implementation goals of the TMP.

Samples of evaluation criteria include:

- Mode Split: The current mode split for transit ridership and cycling were discussed in Section 3. The strategies and objectives identified in this TMP include many that aim to improve access to transit, walking and cycling as local modes of transportation. Future updates to the TMP, and future data from household surveys can be used to evaluate if the implementation of the TMP is achieving a change in mode choice for St. Albert residents. Future TMP updates can look at improvements and set specific targets for mode split and Greenhouse Gas Emissions reductions (see below).
- Greenhouse Gas Emissions: The Environmental Master Plan identifies the ambitious goal of reducing community greenhouse gas emissions by 6% from 2008 levels by 2020. Greenhouse gas emissions caused by transportation contribute a significant impact to these community emissions. Driving emissions in St. Albert are estimated at 226,779 tonnes per year. Data from the household travel demand survey indicated that approximately 27% of all trips taken by St. Albert residents that originate in St. Albert are 5 minutes in length or less. These short trips represent an average of 20 tonnes of CO2 emissions per day. If half of those trips of 5 minutes or less were taken on a bicycle or walked, this could translate into an annual reduction of 3,650 tonnes per year. This reduction represents almost 27% the overall community reduction target.

- **Action Plan Implementation:** The TMP Action Plan should be reviewed annually to identify new projects to complete and to also review alignment with further updates to other city Plans or documents, and also alignment with public input through any engagement actions taken on various projects.
- **Land Use Planning Integration:** The forthcoming update to the Municipal Development Plan should consider the recommendations of this TMP, with land use plans that support multi-modal integration and densification to support transit growth ambitions.

5.5 CLOSURE

The development horizon for this Transportation Master Plan is 2042. The transportation paradigm has the potential to change dramatically between today and 2042. This plan is the first step in preparing St. Albert for this future friendly transportation network. While the private vehicle continues to be important, the future for St. Albert will be bike and pedestrian friendly, with mass transit to serve commuters and transportation technologies like ITS making the roads more efficient for goods movements and drivers who must still use the private automobile (or their community shared car) to get around. Future updates to the TMP will continue to evaluate these changes and update the goals to reflect the changing world.

This report was prepared for the City of St. Albert to develop a Transportation Master Plan that will help achieve its vision of a safe, sustainable, multi-modal transportation system to serve the community.

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Respectfully submitted,
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