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Executive Summary

A future Light Rail Transit (LRT) line has been envisaged through the City of St. Albert as an extension of Edmonton’s NW LRT (the “Metro Line”), from the Campbell Road Park & Ride/Transit Centre at the terminus of the NWLRT to the north end of the City near St. Albert Trail. It has been referenced in several City planning documents, as the LRT supports the City’s sustainable transportation initiatives that envisions a travel mode shift from the private automobile to other transit and active modes.

The provision for an LRT through St. Albert would strengthen the City’s transit facilities, and assist to precipitate both localized and regional growth. Also, an extension of the planned LRT network could fortify the draw of people from the Region to the City for business and leisure purposes. In light of this, the City initiated a LRT Planning Study to determine the future LRT alignment, and to help guide future transit planning and growth. The intent of this study is to identify the LRT considerations needed in the future, which could be measured as the City determines if the LRT extension is viable based on priorities and future City vision. This LRT Planning Study is occurring in two phases:

1. LRT Corridor Selection (contained within this report); and
2. Conceptual planning to identify the LRT alignment and other requirements necessary for a future LRT through the City.

The Corridor Selection Study was commenced after the project plan was confirmed with the City project team. Key components in the initial concept development was to host the Initial Value Workshop with the Study Steering Committee. Objectives of this were to establish criteria to narrow down alternative routes. Then input from the public and key stakeholders was sought to gather information about concerns, priorities and feedback on the evaluation criteria. Based on the initial findings of the Initial Value Workshop and initial public and stakeholder consultations, preliminary route alternatives were developed. Two routes were rejected and four routes were carried forward for evaluation.

Each alternative route was qualitatively assessed against the evaluation criteria, and summarized in a comprehensive matrix format. The evaluation criteria fell under the following five categories:

1. Community / Environment
2. Mobility / Accessibility
3. Economic
4. Design & Construction
5. Adherence to LRT Intent

A summary table of the evaluation results is provided in Table ES.1.
Table ES.1: Summary of Highlights from Evaluation Process

<table>
<thead>
<tr>
<th>LRT Corridor</th>
<th>Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
<th>Alternative D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highlights Summary</td>
<td>● Disruption to residential areas, but access to existing medium density residential areas</td>
<td>● Lowest community impacts and impacts to residential neighborhoods</td>
<td>● St. Albert Trail capacity is not reduced at its busiest portion (AHD to downtown)</td>
<td>● Simplest constructability</td>
</tr>
<tr>
<td></td>
<td>● Least environmental impact (tie with B)</td>
<td>● Highest length of route along priority revitalization areas - best opportunity for economic growth</td>
<td>● Requires new river valley crossing</td>
<td>● Best for accessibility to activity centres and trails, but worst in terms of economics and community considerations</td>
</tr>
<tr>
<td></td>
<td>● Good access to activity centres and trails</td>
<td>● Lowest length &amp; cost</td>
<td>● Moderate length &amp; cost</td>
<td>● Most amount of travel through/alongside residential areas</td>
</tr>
<tr>
<td></td>
<td>● Approximately half route is along residential areas</td>
<td>● Fastest travel time</td>
<td>● Severance of parks, and requires acquisition of parkspace/parkland</td>
<td>●Highest length &amp; cost</td>
</tr>
<tr>
<td></td>
<td>● Second highest length &amp; cost</td>
<td>● Only essential connection to active mode trails</td>
<td>● Potential impact to heritage sites</td>
<td>● Slowest travel time</td>
</tr>
<tr>
<td></td>
<td>● Second slowest travel time, with more circuitous route along highest ridership section</td>
<td>● St. Albert Trail capacity reduced along length, however, tunneling would mitigate</td>
<td>● Highest neighborhood severance (Grandin &amp; Mission)</td>
<td>● Highest environmental impacts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● Least access to priority revitalization areas</td>
</tr>
<tr>
<td>Finding</td>
<td>Not preferred</td>
<td>Preferred LRT Corridor</td>
<td>Not preferred</td>
<td>Not preferred</td>
</tr>
</tbody>
</table>

* Note: This is a summary of themes that emerged through the evaluation, and should not be compared directly to singular criteria within the complete evaluation matrix. For details on specific criteria evaluated, please refer to Table 4.1.

Based on the evaluation, Alternative B (shown in Figure 3.2) is recommended as the preferred corridor to carry forward into the next phase of the study, identifying a LRT alignment and determining other requirements necessary for the provision of an LRT within the City.

Some issues have been identified for consideration as the alignment is assessed in more detail:

- Transition onto St. Albert Trail at or near the Anthony Henday Drive interchange. This could involve a crossing along the existing bridge structures, providing a new bridge crossing, or creating a new structure with modifications to the current interchange configuration.
- Determine warrant for tunneling under St. Albert Trail until north of Hebert Road.
- Access management along St. Albert Trail.
- Identification of traffic impacts and associated needs for mitigation.
- Confirm specific station locations, considering the feasibility and merits of each.
- Identifying a public and stakeholder engagement strategy that is suitable for the LRT conceptual planning.
1.0 Introduction

1.1 Study Purpose
The City of St. Albert (“the City”) has undertaken a Light Rail Transit (LRT) Planning Study to identify the alignment of a future LRT through the City. This has been initiated to allow the City to plan for the future LRT considerations, and to help guide future transit planning and growth within the City. The provision for an LRT through St. Albert will not only be localized within the City, but will provide an extension of the planned LRT network that will strengthen the draw of people from the Region to the City for business, outdoor and leisure purposes. Overall, the strengthened transit facilities within the City will provide a viable alternative to the private automobile.

Through definition of the preferred corridor and the St. Albert LRT requirements, its future needs can be protected for through the coming years.

The overall St. Albert LRT Planning Study is being conducted in two phases. The first portion of the study (Phase 1), has been undertaken to narrow down the LRT route to one corridor, which is documented through this report. The subsequent Phase 2 will identify the conceptual LRT alignment and station plans within the selected corridor.

The future LRT has been cited in many City planning documents including the Municipal Development Plan, Transportation Master Plan, Council Policy C-CG-02: Council’s Goals and Priorities, the Downtown Area Redevelopment Plan, along with being referred to in the Capital Region Board’s 30 year Intermunicipal Transit Service Plan. Many of these documents also fall under the various sustainability pillars identified in the City of St. Albert’s Integrated Community Sustainability Plan.

This study is intended to identify the optimal corridor for a future LRT through St. Albert, however, City Council will need to consider numerous factors in terms of determining if constructing the LRT is justified and suitable based on their priorities and overall future vision of the City.

1.2 Study Area
The planned terminus of the City of Edmonton’s NW LRT (Metro Line) is at the Campbell Road Park and Ride. From this station, the LRT will continue through St. Albert. The study area essentially encompasses the City of St. Albert, and is shown on Figure 1.1.

1.3 Background
The City of St. Albert has been experiencing, and also planning for, high levels of growth that will see further strengthening of the community in terms of sustainability, economic development, and its unique character. From a transportation standpoint, the City is increasingly focusing on improved mobility within the City and the Region, travel options and the encouragement of active modes.

The City of St. Albert has a number of planning documents referring to the future LRT through the City, including:

- The Municipal Development Plan (MDP) – One of the guiding principles includes pursuing innovative approaches to the movement of people and goods through and within the community. It also notes that the City will consider a LRT along its main corridor, St Albert Trail.
• Transportation Master Plan (TMP) – The TMP recommends the future LRT along St. Albert Trail and associated pedestrian friendly redevelopment along the corridor to a linear mixed use corridor along the tracks. Also, to support a shift to increased transit usage, the TMP recommends Park & Ride Facilities near Anthony Henday Drive and north of Villeneuve Road, near the Transit Oriented Development (TOD) planned in the area.
• The Downtown Area Redevelopment Plan identifies that the Downtown area presents one of the most important opportunities for redevelopment, and envisions the LRT along St. Albert trail with a Downtown LRT station at St. Anne Street.
• City Policy C-CG-02 “Council’s Goals and Priorities” prioritizes the completion of a LRT functional alignment study to support the outcome of cultivating sustainable infrastructure and services.

The City of Edmonton has also completed Conceptual Planning for their NW LRT alignment, which extends from City Centre to NAIT and will continue north to terminate at the Campbell Road Park and Ride site. The St. Albert LRT would be an extension of this line through the City to the north.

1.4 Methodology
This section provides a general overview of the methodology and approach employed to undertake the St. Albert LRT corridor selection. The project team at various team meetings worked together to confirm the project plan and the necessary background data required to undertake the work and effectively assess alternative alignments. Key components in the initial concept development was to host the Initial Value Workshop with the Study Steering Committee. Objectives of this were to establish criteria to narrow down alternative routes. Then input from the public and key stakeholders was sought to gather information about concerns, priorities and feedback on the evaluation criteria. Based on the initial findings of the Initial Value Workshop and initial public and stakeholder consultations, preliminary route alternatives were developed. Two routes were rejected and four routes were carried forward for evaluation. Each alternative route was qualitatively assessed against the evaluation criteria, and summarized in a comprehensive matrix format. Based on the evaluation, the preferred St. Albert LRT corridor was identified.

Key milestones during the Phase 1 (Corridor Selection) process:
Initiation Meeting – December 13, 2013
Initial Value Workshop with the Study Steering Committee – February 21, 2014
Public Open Houses and Workshops – June 18 and June 24, 2014
Development of Alternative Alignments – August 2014
Assessment and Evaluation of Alternatives - September and October, 2014
Selection of Preferred Corridor – October, 2014
Draft Report Review – October 24, 2014
Final Report Submission – November 5, 2014
2.0 Concept Development

2.1 Initial Value Workshop/Steering Committee Criteria Development
An initial value workshop was held early on in the project process to establish initial corridor screening criteria, along with evaluation criteria for the corridor analysis and preferred corridor selection. This Steering Committee meeting included representatives from various City Departments, the St. Albert Economic Development Advisory Board, City of Edmonton Transportation Planning, and key representatives from the LRT planning consultant team (AECOM, ISL Engineering & Land Services, and SMA Consulting).

The workshop identified the following objectives for the LRT in St. Albert, and also compiled a list of challenges that would be associated with each objective:

- Strengthen St. Albert’s unique character, environmental stewardship and progression as a City;
- Increase mobility and accessibility within St. Albert and the surrounding region; and
- Promote economic development in St. Albert.

Resulting from the workshop, a number of key items were compiled, including:

- Corridor start point at Edmonton’s NW LRT endpoint near Campbell Road, and end point at the TOD and big box shopping at the north end of the City.
- Target Destinations – these LRT “touch points” were brainstormed and priority ranked. A LRT station Downtown was deemed essential to the ultimate route selected.
- Corridor Screening Criteria – outlined specific economic, community/environment, mobility/accessibility, and design and construction criteria. These are characteristics the potential corridors must have.
- Detailed Evaluation Criteria considerations and weightings.

The results of this workshop were integrated in the evaluation of alternative LRT routes through St. Albert, as discussed in Section 4.

A full synopsis and documentation of this workshop is available in the “St. Albert LRT Planning Study, Initial Value Workshop Summary Report (March 12, 2014)”, compiled by SMA Consulting.

2.2 Community Feedback and Public Open Houses/Workshops
After completing the technical compilation of City priorities relating to the LRT objectives, evaluation criteria and target LRT destinations, two public meetings were initiated to garner feedback on the same from a community perspective. Approximately 55 people attended the meetings held on June 18th and June 24th, 2014. The format encompassed drop-in times where attendees could view project information and how their feedback would assist in informing the project. A formal presentation was also given, followed by a facilitated workshop in small groups that gave stakeholders the opportunity to have direct input to the key objectives, proposed selection criteria and target destinations that the LRT could provide access to. After the face-to-face workshops were held, information regarding the project was provided on the City’s website, along with a survey questionnaire, which accepted feedback until September 31, 2014.

In general, the public feedback supported and confirmed the objectives, criteria and target destinations that the Initial Value Workshop concluded, just the ranking of importance for the objectives and criteria.
varied. The LRT “touch points” that were mentioned the most in the workshops and comment forms was the Downtown core and Sturgeon Hospital.

The full documentation of the consultation for this phase of the project, and what was heard, is available in the “St. Albert LRT Planning Study, Public Engagement, Stage 1 Corridor Selection – Interim Report (August 2014)”, compiled by Kinnikinnick Studio Inc. This report currently exists in draft form.
3.0 Development of Alternative LRT Alignments

3.1 Development of Alternatives
Overall, a fine web of alternative routes could be sketched up for the St. Albert LRT, however, the potential LRT alignments developed and discussed in this report were considered representative and those with the most opportunity for value for the City, when taking into consideration:

- Starting point at the end of Edmonton’s NW LRT at 153 Avenue/Campbell Road, based on the City of Edmonton’s NW LRT Planning Study;
- End point at the TOD/Big Box shopping area in St. Albert’s north end, with an optional longer-term extension to employment lands on the western side of the City;
- The target destination areas identified in initial City, stakeholder and public consultations (note: the Avenir area was removed as it not a proposed as a OD anymore);
- Minimizing neighborhood segregation and community intrusion;
- Major existing trip generators;
- Major activity centres;
- Areas with high potential for future re-development to mixed use, higher density population and commercial/retail areas;
- Potential existing corridors, such as existing railways or utility corridors; and
- Feasible connections along a decidedly non-grid transportation/street network.

While this phase is to identify the preferred corridor alternative, there will be opportunity to further refine the corridor in the next phase of the project, once the alignment and potential station locations are examined more in depth.

3.2 Alternative A
Alignment Alternative A travels across Mark Messier Trail west of the Campbell Road Park and Ride, crosses Anthony Henday Drive southwest of the St. Albert Trail interchange and follows a corridor along Levasseur Road, Sir Winston Churchill Avenue, St. Anne Street, then travels north along St. Albert Trail to Neil Ross Road. This alternative has the highest length of travel through the existing Downtown. The full corridor can be seen on Figure 3.1.

This alternative was developed to travel somewhat into the western area of the City before connecting back to Downtown, providing closer access to the South Riel Urban Village and Riel Business Park.

For the purposes of evaluation, five stations are preliminarily shown at select locations, including:
- Near the intersection of Levasseur Road and Sir Winston Churchill Avenue
- Downtown, potentially along St. Anne Street
- Along St. Albert Trail, near St. Albert Centre (common to Alternatives A, B and C)
- Along St. Albert Trail, near the Hospital (common to Alternatives A, B and C)
- Along St. Albert Trail, near Neil Ross Road (common to Alternatives A, B and C)
3.3 Alternative B
Alignment Alternative B is identified on Figure 3.2. This route traverses the Anthony Henday Drive interchange to travel along St. Albert Trail through the City to the north end. This alternative combines the LRT trajectory with St. Albert’s main vehicular transportation corridor, St. Albert Trail. Overall, this provides the most central route through the City.

The requirements for integrating the future LRT with the Anthony Henday have not been reviewed in detail or in conjunction with Alberta Transportation, however, will need to be if this is selected as the preferred corridor for further development. A potential optional crossing of Anthony Henday Drive has been indicated and shown as a dashed line in Figure 3.2. This could involve the LRT crossing east of the existing St. Albert Trail structures, and potential reconstruction of the Anthony Henday Drive interchange ramps and operations to accommodate the LRT.

For comparative purposes, five stations have been conceptually located along Alternative B, including:
- Along St. Albert Trail, near Hebert Road
- Along St. Albert Trail, near Downtown/St. Anne Street/Sturgeon Road
- Along St. Albert Trail, near St. Albert Centre (similar to Alternatives A and C)
- Along St. Albert Trail, near the Hospital (similar to Alternatives A and C)
- Along St. Albert Trail, near Neil Ross Road (similar to Alternatives A and C)

3.4 Alternative C
This route travels across Mark Messier Trail west of the Campbell Road Park and Ride, crosses Anthony Henday Drive southwest of the St. Albert Trail interchange to follow a corridor along Levasseur Road and Grandin Road. It then extends across the Sturgeon River, traversing through Mission Park to St. Vital Avenue, and turns to follow St. Albert Trail to the north end. Alternative C is depicted on Figure 3.3.

This option was developed to provide an alternate corridor to Alternative B south of the Sturgeon River, moving the LRT away from St. Albert Trail along the length where it experiences the most congestion.

To enable evaluation of this alternative versus the others, five stations have also been preliminarily indicated along the route in the following areas:
- Near the intersection of Levasseur Road and Grandin Road
- Downtown, prior to river crossing
- Along St. Albert Trail, near St. Albert Centre (similar to Alternatives A and B)
- Along St. Albert Trail, near the Hospital (similar to Alternatives A and B)
- Along St. Albert Trail, near Neil Ross Road (similar to Alternatives A and B)

3.5 Alternative D
Alternative Alignment D was developed to assess a corridor that travels in closer proximity to target destinations (“touch points”) in both the east and west portions of the City, while still providing a station in the Downtown core. Its route entails curving northeast to travel along Campbell Road over Anthony Henday Drive, turning west to follow Boudreau Road, then connecting along Sir Winston Churchill Avenue to angle downtown. The line would then curve near St. Anne Street to cross the Sturgeon River, parallel the railway corridor toward Ville Giroux, turning northbound along Giroux Road, then following Hogan Road to Fowler Way, where the line would ultimately end near St. Albert Trail/Highway 2. Figure 3.4 outlines the full corridor.
FIGURE 3.2

LEGEND

ALTERNATIVE B
NW LRT
CONCEPTUAL STATION LOCATION

HIGHEST PRIORITY TARGET DESTINATION AREAS
PRIORITY TARGET DESTINATION AREAS

EXHIBIT 3.2- Oct/29/2014 4:29:53 PM
J:\13900\13976_St. Albert LRT Planning\CAD\02_CADD\02_Drafting\13976_cad.dgn
FIGURE 3.3

LEGEND

ALTERNATIVE C

NW LRT

CONCEPTUAL STATION LOCATION

* *

HIGHEST PRIORITY TARGET DESTINATION AREAS

DESTINATION AREAS

PRIORITY TARGET DESTINATION AREAS
FIGURE 3.4

LEGEND

ALTERNATIVE D

NW LRT

CONCEPTUAL STATION LOCATION

PRIORiTY TARGET DESTINATION AREAS

HIGHEST PRIORiTY TARGET DESTINATION AREAS
This option would require that the future NW LRT alignment, station, park & ride in the vicinity of Campbell Road be revised to allow the extension along Campbell Road to the northeast, as opposed to heading west. The Edmonton plans have already been approved, therefore, this may be a significant constraint to this option.

For the purpose of evaluation, six conceptual stations have been shown along the route in the following locales:

- Near the intersection of Campbell Road and Boudreau Road
- Along Sir Winston Churchill Avenue in the vicinity of Fountain Park
- Downtown, prior to the Sturgeon River crossing
- In proximity to Giroux Road, near the convergence of the North Ridge, Lacombe and Ville Giroux neighborhoods
- Near the intersection of Hogan Road and Villeneuve Road
- Along Fowler Way, approaching St. Albert Trail

### 3.6 Other Alignments Considered

Two other alignments were contemplated early on in the project process, as shown on Figure 3.5, Other LRT Alignment Alternatives, and discussed below:

#### 3.6.1 West Alternative

The West Alternative would see the LRT travel across Anthony Henday Driver to Levasseur Road, where it would turn north to travel along Ray Gibbon Drive, then along Fowler Way to Highway 2. While this alternative would travel adjacent to some future higher density housing and employment areas (South Riel, Avenir and Ville Giroux), travelling along the ultimate freeway is of concern for walkable access.

#### 3.6.2 East Alternative

The East Alternative routes the LRT through the east area of St. Albert, crossing Anthony Henday Drive at the Campbell Road interchange, turning west onto Boudreau Road where it extends to St. Albert Trail and turns north toward Neil Ross Road. This corridor would provide better access to the Campbell Business Park and Servus Place, as well as pass by the Woodlands spray and skateboard park.

### 3.7 Initial Screening of Alternatives

Both the East and West Alternatives were rejected and eliminated from further consideration in the process, based on the following:

- They do not meet the essential requirement of providing connection to the City’s Downtown. The routes would miss connecting to the revitalization are planned for the heart of the City;
- They touch some of the newer and emerging employment areas, however, they’re not considered as high priorities as target destinations and revitalization areas along St. Albert Trail would be;
- The employment numbers anticipated in these locations, such as Employment Lands and the Campbell Business Park, are not significant in comparison with other employment destinations along the LRT Line. Therefore, the draw to these other alternatives will pale in comparison with other areas, such as Downtown Edmonton, making these other routes less viable for the St. Albert LRT; and
- Transit connections to the LRT involve significantly higher out of the way travel, which would increase travel time and minimize ridership due to the decreased convenience.