

Green Line - Southeast Work Plan

1.0 INTRODUCTION

The Green Line fund work plan highlights the schedule, budget, risks, opportunities, mitigation strategies and includes an overview of future work tasks. The work plan has been developed in coordination with various stakeholders.

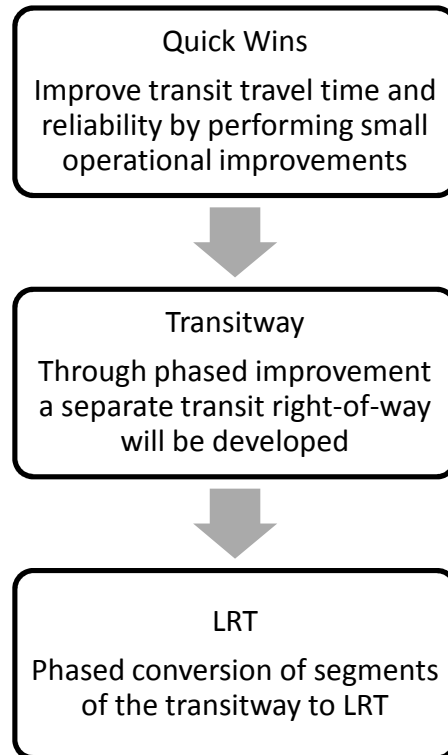
Green Line Transitway remains a top priority rapid transit project as outlined in the Transportation Department's 10 year capital plan – Investing in Mobility. The Southeast Transitway project, as part of the Green Line Program, will be the first transitway project for The City and will initially be constructed as a dedicated bus-based transitway. Infrastructure will be built to allow for a rail convertible design to low floor LRT technology in the future (see figure on this page).

2.0 PROGRESS TO DATE

Functional planning studies for the future Southeast LRT started in 1983 and were completed in 2012. These studies examined existing transit service, identified the need for LRT based on future demand, and established the future LRT horizontal and vertical alignment, station locations, high-level land requirements, and costs for high floor LRT. In 2011 and 2012 a review of previously completed work was undertaken and presented to Council in December 2012. At that time, Council approved:

- The recommended ultimate service plan to use low floor LRT along the length of the southeast alignment
- The interim service plan of a staged introduction of a combination of a transitway and low floor LRT
- Continued engagement with key stakeholders and the public to finalize station locations and transit oriented development (TOD) sites

The concept plan for the Green Line - Southeast was developed based on using a modern low floor LRT system that would be constructed in stages over three decades. The implementation of the LRT required funding for the estimated \$2.6 billion program. It was determined that the current ridership demand could be served with bus-based transit service, so the transitway option is being pursued in the short term. The Southeast and North Central LRT will be operated independently from the existing LRT system and allows the use of low floor light rail vehicles (LRV).



Since 2012, The City has led a number of workshops as part of the planning process including funding and financing options analysis, reviews of similar projects from other transit agencies, and partnering with Edmonton's Valley Line project team to gather and share information.

The scoping and proposed staging of the project has been verified to match available funds while identifying segments for advancement, such as the "quick win" projects, that realize immediate transit user benefits, such as a reduction in transit travel time.

3.0 PLANNED WORK

The City has now begun the preliminary design on the southeast portion of the line and has selected consultants for geotechnical investigation, environmental investigation, preliminary design, a TOD planning study, and quick win projects. The preliminary work will include:

- Continued engagement with key stakeholders and the public;
- North Central Transitway connection to the Southeast Transitway (BRT and LRT);
- Evaluation of alternate alignments and station locations;
- Evaluation of TOD potential at stations;
- Refinement of property requirements and development of land strategy;
- Development of bus service plan;
- Coordination with adjacent projects;
- Further evaluation of environmental and geotechnical conditions and utility relocation requirements;
- Identification and evaluation of future maintenance facility locations;
- Refinement of detailed staging plan including transition periods;
- Development of Bus Rapid Transit (BRT) and Low Floor LRT Design Guideline Manuals; and
- Refinement of cost estimates and construction schedule (dependent on delivery model).

Geotechnical and Environmental consulting services are underway on impacted and alternate alignment options for the Green Line - Southeast Transitway. Investigation work is intended to inform the pre-design, TOD station area site selection, and refinement of cost estimates.

As part of the preliminary design and TOD planning study, alternate alignments and station locations are being evaluated. The findings of the review will be presented to Council no later than October 2015 as per Notice of Motion 2014-14 (Councillors Carra and Keating).

3.1 Project Delivery Option Review

An assessment on how the project is financed, constructed, and operated will be conducted as part of the pre-design process. It will include a risk assessment of the project and a market review to determine industry capacity and preferences. Examples of delivery methods include traditional Design-Bid-Build, Design-Build, Construction Management, and P3 (such as Design-Build-Finance and Design-Build-Finance-Maintain).

Since the allocation of the Green Line fund, Administration has developed a number of options to provide matching funds for provincial and/or federal transit contributions such as the Building Canada Fund. Administration anticipates recommending a delivery model pending

the confirmation from the Province and Federal government on additional funds available. Depending on a source of additional funds, P3 screening may be required.

3.2 Transit Oriented Development Planning Study

A number of land use planning initiatives are underway to realize transit oriented development opportunities along the future Green Line - Southeast Transitway as outlined in Report PUD2014-0675 to be presented at the 2014 September 10 SPC on Planning & Urban Development meeting.

TOD is an integral consideration to the preliminary design and evaluation of opportunities for development areas at station locations. The TOD planning study will be undertaken in two phases to help inform and confirm the alignment and station locations. The TOD phasing and scope as outlined in Report PUD2014-0675 includes the following:

- **TOD Phase 1- Land Use Study between 4 Street SE Station and Seton Station**
The purpose of TOD Phase 1 is to provide a high level study for the entire transitway and specific character areas. The study will be done with the assistance of The City's TOD working team using community and stakeholder visioning workshops. The results of the workshops will be incorporated into the project design to ensure the transitway alignment meets the final project objectives. At the end of this phase priority stations areas will be identified.
- **TOD Phase 2 – Plan Preparation for Priority Sites**
TOD Phase 2 would involve more detailed land use planning for the priority sites identified in TOD Phase 1. Possibly three (3) to five (5) station areas that are considered candidates for future more detailed planning and feasibility analysis. TOD Phase 2 will focus efforts within the priority areas and will:
 - Prepare concept plans for priority station areas;
 - Coordinate with corporate TOD initiatives; and
 - Conduct station area design charrettes.

At the conclusion of the TOD planning study, gaps are anticipated to be identified within the Area Redevelopment Plans (ARP) and Area Structure Plans (ASP) along the corridor. A recommendation will be brought to Council to amend or produce ASP/ARPs for the highest rated TOD sites for development within the 10 year timeline. The public engagement process for the transit oriented development planning study will begin in 2015.

3.3 Stakeholder Engagement

Stakeholder engagement has been ongoing since 2011, including internal workshops, councillor briefings, and discussions with major landowners such as Canadian Pacific Railway, Canadian National Railway and the Province.

In 2015 the project team is planning to hold community visioning workshops along the Southeast Transitway on alignment and station locations. As well, up to five design charrettes will be held along the proposed transitway alignment from the downtown area to Seton to gather stakeholder input on TOD planning.

Engagement on the LRT with the Green Foundation, a group that which represents communities and transit users has been ongoing. A stakeholder group comprised of representatives from the development industry is being formed. Coordination across impacted

business units and respective projects include; Bonnybrook expansions (UEP), Glenmore/Ogden Interchange (Transportation), 9th Avenue SE Corridor Study (PDA), and Seton Recreation Centre (CNS).

In addition, the commencement of construction activity for the “quick win” projects will require public communication as this is the launch of the Green Line - Southeast Transitway. In 2016, additional public information sessions and open houses will be held as the project moves into the detail design phase.

3.4 Land

The land strategy for the Green Line - Southeast includes an assessment and prioritization of land parcels impacted by the approved alignment and station locations. In order to mitigate the need for expropriation, critical lands are prioritized to allow adequate time to achieve negotiated agreements. Discussions have commenced with the three largest land owners accounting for 70 per cent of the required land between 4 St. SE and Douglas Glen: Canadian Pacific Railway, Canadian National Railway, and The Province. Additionally, a number of opportunity purchases have taken place with funding from the Corporate Properties and Buildings' Revolving Fund.

Total land cost estimates previously reported to Council are under review and through the preliminary engineering process land requirements and cost estimates will be refined. The land acquisition process represents one of the highest risks to the project delivery schedule, and additionally poses a significant risk to the project budget. Administration's experience shows a correlation between the length of time available and the ability to reach negotiated agreements (longer timelines lead to more successful negotiated agreements). Identifying and funding the critical land requirements during preliminary engineering enables The City to meet the construction schedule and provides information for property owners along the alignment.

4.0 “QUICK WIN” PROJECTS

In an effort to build the market for Calgary Transit service, work continues on improvements along the line. The project team has undertaken a review of the existing BRT Route 302 corridor to determine “quick wins” where small investments could be made in the short term to improve the customer experience. The travel times for BRT Route 302 were analyzed to assess and identify locations along the corridor where current travel time delays are occurring and, from these locations, individual projects were identified to reduce these delays. Below are the proposed project sites evaluated to be the highest benefit and are currently proceeding to design and construction:

- Widen 52 Street SE from 130 Avenue to Stoney Trail from four to six lanes to implement transit-only lanes.
- Relocate bus routes from Deerfoot Trail SE to 114 Avenue SE using 40 Street SE plus 530 metres of new roadway.
- Widen 130 Avenue SE from 48 Street SE to 52 Street SE from four to six lanes to implement transit-only lanes.
- Widen Ogden Road SE from Millican Road to 69 Avenue SE from two to four lanes to provide two transit-only curb lanes (this project will be reviewed against alternative alignment options prior to proceeding).
- Construct transit queue jumps at various locations.
- Reprioritize signals and install transit signal priorities at various locations

The travel times of other routes that currently travel along the same alignment as the BRT Route 302 will also benefit from these improvements.

Consulting services for the design and construction of the “quick win” projects is underway and construction is expected to commence in 2015 with construction completed by 2016.

5.0 BUDGET

In November 2013 Council dedicated \$520 million to the Green Line fund for both the Centre Street Transitway and Southeast Transitway. In May 2014 Investing in Mobility allocated \$120 million to Centre Street Transitway and \$400 million to Southeast Transitway.

The Green Line - Southeast project estimate (Class 4) for 4 Street SE to Douglas Glen is \$505 million. In an effort to address the shortfall and meet the current budget allocation of \$400 million, the project team investigated ways to reduce the project scope. The Lynnwood to South Hill section has been identified as a segment that could be deferred as a result of work that will be completed with the “quick win” projects where buses will continue to operate on existing mixed-traffic roads and transition to dedicated segments where available. This concept will be reviewed and confirmed as part of the preliminary design process. Funding to commence pre-design and TOD studies for the Southeast Transitway is from GreenTrip in the amount of \$12 million.

Funding for the “quick win” projects is recommended to come from various programs that have surplus funds. The request for budget transfer will be included in the September mid-year budget adjustments to Priorities and Finance Committee.

The Green Line Program budget is shown in Attachment 2. A BCF application will be submitted to request additional funds for the Green Line program in an effort to close the funding gap. That application will be submitted in Q3 2014. No timeline has been provided by the federal government for a reply.

6.0 SCHEDULE

The high level schedule for the Green Line - Southeast includes major milestones such as land purchases, critical project decisions, Council reporting and schedules for design and construction activities (see Attachment 1)

7.0 RISK ASSESSMENT

There are several risks that could generate the need for alternatives to the work plan as currently envisioned. These include:

- Land negotiations and increased costs and time if expropriation is required;
- Alternative alignment impacts to communities, land requirements, and other City projects;
- Increased public engagement;
- Funding gap (\$105 million shortfall);
- Changes to funding sources;
- Staff resourcing;

- Environmental and geotechnical issues identified during investigation and associated remediation costs;
- Utility relocations;
- Coordination with other City projects; and
- Delivery model and impact to cost and schedule, such as the P3 Canada screening.

In order to mitigate the high level risks a number of actions have been taken including:

- A land strategy that is targeted to be completed by Q1 2015 with implementation to be initiated upon confirmation of alignment and station locations. This will minimize The City's exposure and ensure that all required properties are secured in time.
- Long term resource plans have been developed and coordinated with business unit partners to identify efficiencies and future needs.
- A contingency has been carried in budgets for potential high level risks.

A detailed strategy to mitigate the above risks will be completed as part of the preliminary design.

8.0 NEXT STEPS

The next steps for the Green Line - Southeast Transitway project from 2014 September to 2015 October are:

- Staffing and set up of Green Line - Southeast Transitway project office;
- Land acquisition;
- Preliminary engineering and TOD planning study;
- Public consultation and stakeholder engagement for the preliminary engineering and transit oriented development study; and
- Preparation of vehicle specifications, technical guidelines and operating plans.
- Build Canada Fund application and follow-up.