

## **COST-BENEFIT ANALYSIS FOR GREEN LINE TRANSITWAY EXTENSIONS**

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### **EXECUTIVE SUMMARY**

Council directed Administration to report back as soon as possible with a cost-benefit analysis for Green Line Transitway extensions associated with a new Building Canada Fund application.

### **ADMINISTRATION RECOMMENDATION**

That the SPC on Transportation and Transit recommends that Council receive this report for information.

### **RECOMMENDATION OF THE SPC ON TRANSPORTATION AND TRANSIT, DATED 2014 SEPTEMBER 19:**

That the Administration Recommendation contained in Report TT2014-0690 be approved.

### **PREVIOUS COUNCIL DIRECTION / POLICY**

At the 2014 July 21 Combined Meeting, Council approved revised NM2014-34 (Keating) Re: Extending Green Line Transitway & Preparing for a Potential Additional Provincial Contribution at the 2014 July 21 Combined Meeting.

“NOW THEREFORE BE IT RESOLVED THAT Administration develop a preliminary cost benefit analysis for the following three items:

- 1) Extend the Green Line Transitway from Douglas Glen to McKenzie Towne,
- 2) Extend the Green Line Transitway from 78th Ave N to North Pointe,
- 3) Extend the Green Line Transitway from McKenzie Towne to the South Seton Hospital.

AND FURTHER BE IT RESOLVED THAT in addition to the already approved Green Line Transitway application to the Federal Building Canada Fund's NIC, that the following four items be packaged to the Building Canada Fund's NIC as additional options for funding should the Province decide to make a matching contribution towards the Green Line Transitway:

- 1) Extend the Green Line Transitway from Douglas Glen to McKenzie Towne,
- 2) Extend the Green Line Transitway from 78th Ave N to North Pointe,
- 3) Extend the Green Line Transitway from McKenzie Towne to the South Seton Hospital,
- 4) Construction of the Green Line Transitway bus maintenance facility,

AND FURTHER BE IT RESOLVED THAT the Mayor be requested to write a letter to the Province asking for their financial support towards the Green Line Transitway.

AND FURTHER BE IT RESOLVED THAT the cost benefit analysis come forward to the SPC on Transportation and Transit as soon as possible.”

### **BACKGROUND**

The Green Line is identified in RouteAhead as a transitway between North Pointe in north central Calgary and Seton in the southeast, with future extensions to the north possible in the longer term. The Green Line will ultimately become an LRT line, complementing the existing Red Line and Blue Line. Implementation of bus-based transitway infrastructure on the Green Line will occur within the next 10 years.

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Council approved \$52 million per year of City funds from 2015-2024 for the Green Line fund to be used as matching funds for future provincial/federal transit funding.

RouteAhead, a 30-year strategic plan for transit in Calgary, identifies the extents of the future Green Line as being North Pointe to Seton. Creation of the Green Line transit fund allows other prioritized projects to move ahead with other Provincial grant funding as identified in Investing in Mobility.

As a result, Administration is preparing Building Canada Fund (BCF) applications for the new extents.

Administration is applying under the \$4 billion National Infrastructure Component (NIC) of the Building Canada Fund. The National Infrastructure Component supports projects of national significance, that have broad public benefits, and that contribute to Canada's long-term economic growth and prosperity. The maximum federal contribution is 50 per cent for provincially-owned highways and major roads, as well as public transit projects. The maximum contribution is 25 per cent for projects with for-profit private sector proponents as well as projects procured as public-private partnerships (P3s).

Mayor Nenshi sent a letter to the Province of Alberta dated 2014 August requesting their financial support for the Green Line program. Preliminary cost estimates were included in the letter.

These cost estimates were used in the cost-benefit analysis in Attachment 1 with a couple of exceptions:

- The costs-benefit of land use redevelopment around transit stations was not taken into consideration. More information will become available once investigated in more detail.
- A map showing the extents and costs are shown in Attachment 2.

### **INVESTIGATION: ALTERNATIVES AND ANALYSIS**

The cost-benefit analysis provided in this report is based on estimated ridership, and capital/operating costs. Capital costs for the Southeast Transitway and Center Street Transitway differ due to the infrastructure requirements, advancement in design, and consideration for future LRT conversion.

The analysis is limited in scope, however the results are consistent with the analysis performed for RouteAhead and Investing in Mobility. This analysis does not include as many variables as previous cost-benefit reports; the analysis is an indication of the capital cost per rider, as requested by Council.

Ideally, sufficient funding is received to construct a transitway between North Pointe and Seton. However, it is possible that only a portion of the required funds are available, or that cash flows might be limited in the short-term and higher in the long-term.

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In response to these potential outcomes and on the basis of the cost-benefit analysis in Attachment 1, Administration recommends that after construction of the transitway between 78 Avenue and Douglas Glen, the Green Line extensions be considered in the following sequence/priority:

1. Extend transitway from 78 Avenue to North Pointe
2. Extend transitway between Douglas Glen and McKenzie Towne
3. Extend transitway from McKenzie Towne to Seton (South Health Campus)

Pending provincial and federal funding commitments, conversion of the bus-based transitway to LRT is identified in RouteAhead in the 20-30 year timeframe.

Extending the transitway beyond the extents currently funded by the Green Line funding program will connect more Calgarians with the places they live, work, shop, and play. To support and achieve the goals of the Municipal Development Plan, Calgary Transportation Plan, RouteAhead, and Council's Priorities for Action Plan, it is important to develop the rapid transit network. If Calgary's population continues to grow at a rate similar to the previous year there will be approximately 200,000 additional residents by 2020. Calgary Transit will provide mobility, support economic growth in the region, and reduce congestion.

The transitway will also provide an enhanced customer experience, with transit trips taking less time, and vehicle arrival/departures being more punctual. By improving transit operations, increasing vehicle speeds, operating costs can be reduced, and passenger capacity can be increased on routes using the transitway.

Improving travel options in established communities makes them more attractive to live in and provides development opportunities in the city. This in turn can slow the rate of urban expansion, which then reduces the associated loss of natural habitat and agricultural land. The longer extents of transit infrastructure help create complete communities in suburban areas. Build-out of the Green Line as a rapid transit corridor tied to the Centre City will also help to attract and retain international investment and in-migration in a competitive world market.

The information in Attachment 1 indicates that the best capital cost to rider extension would be the North Pointe extension. This reflects the right of way The City has in place as well as existing assets such as the park and ride lot at County Hills Towne Centre.

The extension from Douglas Glen to McKenzie Towne has the best operating cost to ridership of the three extensions evaluated. This is a reflection of the large ridership growth forecast along the Southeast Transitway corridor over the next decade.

### **Stakeholder Engagement, Research and Communication**

The Building Canada Fund application is based on the foundation of engagement conducted as part of RouteAhead, Investing in Mobility and Action Plan.

### **Strategic Alignment**

The Green Line is identified in the RouteAhead 30-year Strategic Plan for Transit in Calgary. The RouteAhead plan is aligned with the policy direction and strategic goals of the Municipal Development Plan and Calgary Transportation Plan, the 2020 Sustainability Direction and

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Council's Action Plan priorities. RouteAhead was developed in coordination with Investing in Mobility to ensure strategic alignment within the Transportation Department capital plans. The identification of priorities in this report is consistent with the Growth Management Framework and the balance of growth between established communities and new green field communities.

### **Social, Environmental, Economic (External)**

The Green Line Transitway extensions identified in this report will contribute directly to The City's social, environmental and economic goals. Infrastructure investments that facilitate the more compact development patterns contained in the Municipal Development Plan will mitigate risks to The City and taxpayers by minimizing increases in capital and operating costs, while still accommodating population and employment growth. Extending the Green Line infrastructure will improve social outcomes through health benefits from reduced emissions and physical activity such as walking and cycling. There will be increased safety in some areas by facilitating more 'eyes on the street'. Investing in transitways also supports Calgarians who rely on public transit as their primary mode of transportation.

### **Financial Capacity**

#### **Current and Future Operating Budget:**

Operating costs are included in the cost-benefit analysis in Attachment 1. New infrastructure projects will increase operating budget requirements. Due to the timelines associated with design, land acquisition and construction, operating impacts will be realized in the next Action Plan period (2019-2023). These costs are offset partially by increased revenues from increasing transit ridership.

#### **Current and Future Capital Budget:**

There are some potential constraints on the ability of The City to move forward with all of the extensions to the Green Line project. The Building Canada Fund business case guide identifies several ineligible expenditures. These ineligible costs will need to be covered by the City's Green Line fund. In addition, there are stacking limits for federal contributions that could limit the overall extents of the Green Line. For all traditionally-procured projects in the public transit category, the maximum federal contribution from all sources will be 50 per cent of the total eligible costs. For all projects that are delivered as P3, the maximum federal contribution from all sources will be 25 per cent of the total eligible costs. The combination of ineligible costs, procurement options (which are reviewed/administered by PPP Canada), and stacking limits will affect what can ultimately be built under this funding program. These constraints will be reviewed when Administration hears back on its application to the federal government.

The Building Canada Fund guidelines require that projects having total eligible costs over \$100 million undergo a P3 screen, which will be administered by PPP Canada. If the P3 screen determines that a project could be successfully procured through a public-private partnership and P3 procurement would generate better value for money, the determination is binding and federal funding will be contingent upon the project being delivered as a P3. A suitability assessment has been conducted by Administration as part of the Building Canada Fund application. The results of the suitability assessment are that, "the project presents a mix of favorable and unfavorable indicators for P3 delivery. Further discussion with PPP Canada is necessary." If directed by PPP Canada, Administration will undertake a procurement options

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analysis and will incur additional costs associated with the detailed review of value for money analysis (approximately \$500,000). The costs associated with a procurement options analysis have not been incorporated into Action Plan.

### **Risk Assessment**

There are no significant risks associated with the recommendations.

### **REASON FOR RECOMMENDATION:**

Addresses Council direction to report back as soon as possible on cost-benefit analysis for new Green Line Transitway extents associated with the Building Canada Fund application.

### **ATTACHMENTS**

1. Cost-Benefit Analysis for Green Line Transitway Extensions
2. Green Line Transitway Costs for Building Canada Fund (BCF) Application