

## GREEN LINE WORK PLAN DETAIL

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### EXECUTIVE SUMMARY

This report is a response to Council direction to re-examine the timeline of the Green Line to expedite the start of construction and to present opportunities for early works and, where possible, open segments of the transitway targeting an early completion. There are several ways in which segments of the transitway on the Green Line can be accelerated. A number of the opportunities are dependent on land, alignment and station location confirmation; these are tied to Council-directed public engagement and Transit Oriented Development (TOD) studies, and the selection of a delivery/procurement model. This report highlights early works that can be undertaken where dependencies on land and alignment are minimal or already fixed.

### ADMINISTRATION RECOMMENDATION(S)

That the SPC on Transportation and Transit recommends that Council:

1. Direct Administration to report back to the SPC on Transportation and Transit by 2015 October with a project update including schedule; and
2. Approve the recommendation outlined in Attachment 5 to provide internal loan financing, if required, from The City's working capital investments, to finance any deficits due to timing differences of cash flows during Green Line construction.

### PREVIOUS COUNCIL DIRECTION / POLICY

At the 2014 October 06 Combined meeting, Council approved a referral motion by Councillor Keating with respect to TT2014-0676 Green Line Program Work Plan:  
"REFER, Moved by Councillor Keating, Seconded by Councillor Chu, that Report TT2014-0676 be referred to the Administration to re-examine the timeline with an aim to speeding up completion and phasing construction and to return to Council through the SPC on Transportation and Transit no later than the end of 2014."

### BACKGROUND

The Green Line is a rapid transit corridor extending from Seton in southeast Calgary to the future community of Keystone in north Calgary. The Green Line is outlined in RouteAhead, a 30-year Strategic Plan for Transit in Calgary, as being constructed first as a bus-based transitway, subsequently converted to light rail transit (LRT). The transitway will significantly improve capacity, reliability and travel time for transit customers along the corridor.

The execution of the initial phase of the Green Line is made possible through the Green Line fund, a 10-year- \$52 million per year funding stream. The funds will be used to establish the initial segment of what will become a dedicated transitway between North Pointe (Country Hills Boulevard/Centre Street) and the community of Douglas Glen. Report TT2014-0676 provides an overview of the entire Green Line work plan. Attachment 1 is the work plan for the entire Green Line as presented in TT2014-0676. A related report specifically addressing transit oriented development (TOD) planning for the Green Line was presented to the SPC on Planning and Urban Development (PUD2014-0675).

Execution of the next steps on the North Central LRT/Centre Street Transitway is dependent on the approval of the North Central LRT alignment, which will be presented to Council through the SPC on Transportation and Transit in 2014 December (TT2014-0916). Upon receiving approval from Council on a recommended alignment for the North Central LRT, anticipated in 2015

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January, Administration will begin a functional planning study for the bus-based transitway between downtown and North Pointe (the Centre Street Transitway). This functional planning study will include a review of the short-term connection in the downtown between the southeast and north central services. Administration has completed an Expression of Interest to shortlist consultants in advance of the initiation of the functional planning study. This will save time required for issuing and reviewing responses to a traditional request for proposals, allowing Administration to move ahead quicker with the study.

The following tasks are among those completed since the 2014 October work plan report. On the Green Line – North Central LRT, Administration has:

- completed analysis of alignment alternatives between downtown and Beddington Trail;
- engaged the public and key stakeholders on the recommended alignment;
- completed a report with recommendations for Council approval (report TT2014-0916)

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

In preparing the schedule and work plan for Green Line – Southeast Transitway, lessons learned from past projects such as West LRT were incorporated. These include recent decisions at hearings on expropriations, environmental remediation, utility relocations and public engagement. A comparison of timelines proposed for Green Line-Southeast Transitway and West LRT are shown in Attachment 2.

Other factors that influence the schedule as shown on Attachment 3 include the following:

1. The community-based visioning/TOD planning: as outlined in NM2014-14. Council directed Administration to undertake community-based visioning and report back to the SPC on Transportation and Transit no later than 2015 October regarding any potential alignment and station location modifications. In PUD2014-0675, Administration outlined a multi-phase approach to this community visioning that would also allow the preliminary design for the transitway to continue. Attachment 4 outlines the sequence of preliminary design and community engagement that is taking place as part of this direction. This work needs to be completed before detailed design and land acquisition is initiated in these areas.
2. Land acquisition for approved alignment: Based on Administration's experience with land acquisition for recent capital projects, there is potential for unforeseen escalation in project costs if an aggressive schedule is pursued that does not allow for sufficient time for negotiation with directly and indirectly-affected landowners. It is necessary to allow time in the schedule for land acquisition (prior to construction) to mitigate this risk. In some cases, this cannot be initiated until after Council approval of recommendations stemming from community-based visioning as described above and a functional plan.
3. Input required from environmental and geotechnical investigations: several areas require investigation of soil conditions before infrastructure can be designed (and in some cases before land acquisition deals are negotiated). Examples of areas where soil conditions need to be assessed and the extent of remediation understood include CN and CP rights

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of way, Lynnwood former Imperial Oil site, Highfield Landfill, Ogden Landfill, and candidate sites for the future light rail vehicle maintenance facility.

4. Stakeholder engagement and integration of stations/right-of-way into new development: in locations such as the Bonnybrook Waste Water Treatment Plant expansions (City facilities), Railtown (4<sup>th</sup> St/10<sup>th</sup> Ave), South Hill, Quarry Park, Shepard, and Seton, there are opportunities to integrate the alignment and or stations into development plans for facilities that are in the early stages of design. Coordination between the project team and these developers/land owners needs to continue before preliminary design/detailed design can be completed in these areas.
5. Refinement of alignment: The alignment through Inglewood/Ramsay, Ogden Road, and adjacent to 24 St near Quarry Park are currently under evaluation to maximize TOD potential and to mitigate or avoid environmentally sensitive and restrictive land. The alignment review will be done in coordination with the TOD planning to ensure proper alignment with land use and station locations.

Of the above listed influencing factors, land acquisition is critical path on the project schedule, because of the alignments dependency on the heavy rail lines which makes up 9.5 km of 13 km. Assuming critical dependencies are resolved over 2015/2016, it is feasible to introduce staging of improvements along the transitway. Bus-based transitway infrastructure offers flexibility in this regard that light rail transit does not; buses can move from segments of transitway to in-street operation where required. Administration has identified ways in which segments of the transitway on the Green Line can be accelerated; these are described below.

Where concurrent projects offer synergy with the approved alignment, Administration will be able to move ahead of the overall completion timeline. An example is the interchange at Glenmore Trail and Ogden Road, where transit queue jumps and transitway elements will both be delivered in 2017.

Early work contracts such as utility relocations, building demolitions, structural pre-work and detour construction will also be considered as part of the preliminary design and contracting strategies process. These early works may be in advance of the proposed schedule where land is available, the alignment is set, and where contracting efficiencies can be realized. On West LRT this resulted in time and effort saved in later years.

Administration is also implementing and reviewing additional opportunities for quick wins projects, where land acquisition is not an issue, primarily in areas between Douglas Glen and Seton. These projects will be constructed in 2015 and will result in significant improvements to reliability and travel time in Southeast Calgary.

The most significant segment of the transitway that may be advanced is located between the proposed Crossroads Station and Lynnview Station. Design options for this segment are currently under review. After substantial completion of negotiations and design options Administration will be in an opportunity to report back on the opportunities to advance completion of this segment.

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Administration will report back with an updated list of completion dates in 2015 October as part of the reporting on the outcomes from TOD planning.

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

Public engagement has been conducted along the Green Line as part of recent planning projects (North Central LRT Route Study and Southeast Transitway Scoping Study). Engagement will continue as outlined in detail in Attachments 1 and 4, meetings held since report TT2014-0676 in October include Main Streets engagement in Inglewood on 9 Avenue SE Corridor and meetings with developers and major landowners. Broader public engagement will commence in Q1 2015.

### **Strategic Alignment**

The Green Line is identified as part of 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 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 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.

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.

### **Financial Capacity**

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

This report has no immediate operating budget implications.

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

Future capital budget adjustments and/or requests will be identified once a response is received regarding the Building Canada Fund application.

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A high-level cost estimate has been identified in Investing In Mobility for the Centre Street Transitway (\$120 million). This estimate will be refined in 2015 through the functional planning process assuming the North Central LRT alignment is approved. A Class 4 estimate of \$505 million has been developed for the Southeast Transitway (4 Street SE to Douglas Glen). The available funds for the Green Line Program (Phase 1) are \$520 million, resulting in a \$105 million shortfall. Administration's first funding priority is to secure Building Canada Fund (BCF) money to eliminate the project shortfall and to potentially extend the project further north and south as directed by Council. An application was submitted to the Federal government in 2014 November.

Acceleration of land acquisition, design and construction has implications for cash flows. Administration has reviewed financial solutions that can be applied to match accelerated infrastructure delivery. Attachment 5 provides cash flow analysis for Phase 1. It includes a recommendation that any cash flow shortfall during construction be temporarily financed from internal investments with interest charged to the project to offset foregone investment income to City reserves.

### **Risk Assessment**

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

- Applied for Federal Government funding which may impact the procurement options analysis
- Identification of unforeseen environmental or geotechnical obstacles
- Barriers to land acquisition (cost, time)
- Community impacts of alternative alignments
- Protracted community visioning process

These have been included in the project charter and mitigating strategies have been identified; however, all could have an impact on the schedule, cost and/or quality of infrastructure on the Green Line.

### **REASON(S) FOR RECOMMENDATION(S):**

Administration has identified opportunities to expedite completion of Green Line infrastructure, which will improve the reliability and speed of transit service in Southeast Calgary. More opportunities might arise as work progresses through 2015, and Administration recommends reporting back in 2015 October with an update.

### **ATTACHMENT(S)**

1. Green Line Work Plan (2014 October)
2. Comparison of Southeast Transitway and West LRT Timelines
3. Southeast Transitway Timeline Issues and Opportunities
4. Southeast Transitway Pre-design-TOD Planning Work Plan Detail
5. Green Line Program Loan Financing