

Green Line

Finding a Path to Success

1. A Sensible Alternative (Map attached)

2. A Crossroad Project Shaping Calgary's Future

3. Green Line – Summary and Conclusions

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CONFIDENTIAL

GREEN LINE
A SENSIBLE ALTERNATIVE

Stage 1 of the proposed 44 km Green Line current contemplates a new line from 16th Avenue North to Shepard (see map). The proposed sensible alternative suggests Stage 1 be revised from the intersection of 7th Avenue and 3rd Street East, south to 11th Avenue SE, then east following the presently proposed route to the South Health Campus and Seaton.

Advantages of the Sensible Alternative

- Less expensive to build. Could reduce the construction cost by as much as \$1 billion.
- Less risky to build. Eliminates the risk of extensive underground construction.
- Less disruptive to build. No disruption to the Beltline or to Downtown.
- Shorter construction schedule due to elimination of underground work.
- Preserves Centre Street North, Chinatown, Prince's Island Park and Bow River.
- Can proceed immediately because all of the land has been acquired.
- Longer line serves a greater number of suburban communities.
- Connects the South Health Campus to the transportation network.
- Greater ridership potential due to larger catchment area.
- Lower operating costs through elimination of tunnels.

GREEN LINE

A CROSSROAD PROJECT SHAPING CALGARY'S FUTURE

The next 10-20 years are critical to Calgary's future. Calgarians are counting on their elected leaders to make decisions that will stimulate the current economy while enabling a positive future without burdensome restrictions or financial hardship.

The Green Line is a big and important project. It is also a project that our committee supports. However, this support is conditional on a path forward that reflects current realities, and a decision-making process that is based on sound recommendations generated from proper planning, design and execution by experienced staff and contractors.

The Realities

Calgary is suffering its most significant downturn in the last 50 years! And the city's future is uncertain. Proper planning and prudent decision-making regarding mass transit is imperative.

Unfortunately municipal infrastructure projects don't have a great track record; witness Edmonton, Ottawa, Toronto, Honolulu and even Calgary's recent 17th Avenue Rehab project. McKinsey & Co's database of 200 similar projects reveals that 98% are over-budget and/or over-time. We've been warned – Calgary must learn from our past, learn from the data, and learn from the experts.

The estimated price of Stage 1 of the Green Line, as presently proposed, is \$4.9 billion. Experienced sources say the final cost could easily go to \$7 billion – that's the economic size of 14 new NHL hockey arenas!

To date, approximately \$500 million has been spent on the Green Line. And the Green Line team currently employs 200 people at a cost of approximately \$130,000 per day!

The Federal and Provincial governments have each capped their funding support at \$1.5 billion, and recently the Province placed severe conditions on their commitment. And there's no escape clause; 100% of all project costs over this \$3 billion Fed and Province commitment becomes the responsibility of Calgary taxpayers.

Recommendations

The Green Line is an enormous project. Our Committee recommends a prudent and responsible route forward. We propose the implementation of an 'incremental strategy'; a strategy that includes:

1. Begin by focusing on the South Green Line. Planning and consideration of a North Line crossing the Bow River and the associated downtown alignment should be delayed until future circumstances warrant and/or greater certainties can be provided.

2. Employ an experienced operating team guided by a group of advisors with both private and public sector experience on projects of similar size and complexity.
3. Complete an updated cost and rider revenue business case, and provide public disclosure of all case details before construction approval.
4. Consider extending the Saddletown line to the airport if sufficient funds are available, AND after providing for construction costs and risks associated with the South Green Line.
5. If the South Line makes economic sense, then and only then, negotiate with the Province and Feds for funding for the North Line. If the South Line doesn't meet the economic hurdles, delay the project until it does.
6. Plan for a transfer station at the corner of 7th Avenue and 3rd Street SE.
7. Change car design from ground loading to the current platform loading system.

The Benefits

This 'incremental strategy' delivers many great benefits to Calgary and Calgarians:

- Construction can begin quickly thereby creating jobs and stimulating investment
- The large, under-serviced population in South Calgary will be provided with access to downtown
- Accesses Federal and Provincial funds that are currently available
- Buys time to see how the provincial and city economy develops
- Buys time to see how downtown Calgary matures as the business community transitions from a predominantly energy economy
- Risk (financial, political and community support) is contained and controlled thereby providing peace-of-mind to Calgarians and city leaders
- The project team develops experience and confidence that can be utilized in future developments

Responsible Leadership

The Green Line is a crossroad project that will determine the fate and future of the City of Calgary. City Council has an opportunity to demonstrate insightful, prudent leadership and implement a responsible route forward – a route that will provide Calgary and Calgarians with the benefit of jobs, investment and improved transportation without the burden of massive debt that could cripple the city and Calgarians for generations.

Let's make the right decision that enables a positive future.

GREEN LINE DISCUSSION AND BACKGROUND

Calgary has chosen a most inappropriate time to be considering a 10 to 15 year, \$10 to \$12 billion new LRT infrastructure project.

Inappropriate, firstly because Calgarians are suffering the most severe economic downturn they have had to endure in the last 60+ years and, second, similar LRT megabillion-dollar LRT projects in Canada and elsewhere have a chronic and nasty habit of going over budget, often to between 50 & 100%.

We simply must be highly disciplined and very careful. We must ask tough questions. We must be prepared to make hard, often uncomfortable, decisions. Council and managers have a primary obligation to taxpayers to always factor in the least cost solutions when considering alignment options.

If we fail to be one of the very few jurisdictions who successfully execute such a large and technically challenging project, the failure to do so will fall on the taxpayers resulting in dramatically higher and unsustainable increase in city taxes and severely damage our city for a generation.

There is a conservative and sensible alternative strategy that could lead to success and minimize the risks of failure while, at the same time, being responsive to the challenges which will remain substantial and improve our existing LRT system.

Recommendations

1. It is recommended that Calgary's Green Line strategy for Stage One focus exclusively on its south component, from 7th Avenue and 3rd Street East south to Seaton.

2. It is further recommended that all planning and consideration of a North line crossing the Bow together with an associated downtown alignment be delayed until future circumstances warrant serious consideration – probably 5-10 years.
3. Assuming sufficient funding is available, after provision for Stage 1 construction, **including fully funded risk**, of the South GL, serious consideration be given to extending the Saddletown Line north to the airport through the recently completed (under runway) tunnel.

Discussion

1. Similar Municipal LRTs

- Projects:
 - ♦ Similar LRT projects have, with very few exceptions, a terrible history of cost overruns and unscheduled delays; witness Edmonton, Ottawa, Hamilton, Toronto, Honolulu, Boston, etc., etc.
 - ♦ 98% are over time and over budget. The average delay is 2 years (Ottawa presently 3 years) and the average cost overrun is 80%. Source: McKinsey & Co based on databank of 200 similar mega-projects.
- Project advocates consistently under-estimate costs and over-estimate ridership (Oxford data)

2. Recent Calgary Experience - 17th Avenue Rehab (2019)

- Simple cut and fill, etc., rehab of sub-street services
- Original budget:
 - ♦ \$44 million, 2018 - 2019
 - ♦ August 2019 had spent \$52 MM and project not yet completed
 - ♦ will end up \$55-60 MM
 - ♦ \$55 MM is 25% over budget; \$60 MM is 36%
- 17th Avenue 25-35% over budget (a simple cut and fill project)

3. Calgary's Present LRT system was built in digestible, incremental segments

(costs to come)

- South first – 1970s (Anderson Rd to downtown)
- NE – early 1980s
- NW – mid 1980s
- Extended all 3 – 1990s
- Built 91 Street – 2000s

4. Calgary Today

- Suffering - city is suffering its most significant downturn in last 50 years
- 25% downtown office space is empty
- Another 25% is paying OP costs and a % of rent
- Rest paying rent – there is significant downward pressure on all renewals
- City taxpayers have absolutely no capacity for increase in taxes for a Green Line overrun or anything else.

5. GL – Present Plan

We wish it clearly understood: our Committee supports the overall vision of the Green Line. That said, we vehemently disagree with the strategy presently proposed for Stage 1 as described in the January 28th Calgary Herald article. It is very bad planning and runs the great risk of a massive cost overrun.

- **Stage 1:**
 - ♦ 16th Avenue N south to Shepard – see attached
 - ♦ in terms of ridership, this alignment does not access higher volumes of potential new riders
 - ♦ present funds available \$4.9B (+\$500MM already spent)
 - ♦ the proposed cut and cover alignment from the 2nd Avenue SW station south under the CP tracks, then east along 11th Avenue is very expensive (17th Avenue experience) and high risk due to:
 - water incursion due to excavating depth of 70'

- relocating multiple services
 - destabilizing adjacent buildings
 - high cost of material handling
- **Stage 2:**
 - ◆ 16th Avenue north to 160th Avenue
 - ◆ Shepard south to Seaton
 - ◆ vast majority, probably 80%, of riders are in the Stage 2 areas
 - ◆ cost \$5-\$7B
- **Funding – Stage 1**
 - ◆ Feds & Provincial \$1.5B each (capped)
 - ◆ Provincial budget (November 2019) - \$550MM over 5 years; can cancel on 90-day notice without cause
 - ◆ Feds - Calgary trying to get up front funding, not “as spent” as presently called for to backfill funds delayed by Province
- 100% of all funds over \$3B (Prov + Fed) is the responsibility of Calgary taxpayers; that responsibility can translate into dramatic increases in future taxes to Calgary businesses and taxpaying residents
- Tunnels
 - ◆ This ill-considered strategy has been abandoned

6. GL Today

- Spent to date - \$500MM - much on land for South GL
- 200 people presently on GL team – burn rate ±\$130,000/day

7. Prudent and Responsible Route Forward - Recommendations

a) Focus exclusively on South GL

- Terminate immediately:
 - ◆ downtown alignment planning
 - ◆ Stage 1 - 16th Avenue North to Shepard South

- ♦ tunnels
- b) Change car design from ground loading to platform loading

8. Recommended Incremental Strategy

a) Discussion

This project is very large. Stage 1 is 4x bigger and far more complex than anything ever undertaken by the City. The successful execution of this strategy will require an experienced operating team and advisors with both private and public sector experience on projects of similar size and complexity.

- ♦ we recommend focusing initially on the south line - 7th Avenue to Seaton
- ♦ complete an updated (cost and rider revenue) business case
- ♦ public disclosure all details of case before construction approval
- ♦ transit hub at 7th Avenue & 3rd Street E
- ♦ elevated south line between library and City Hall over the CP tracks, then east and south along present alignment to Seaton
- ♦ consider extending Saddletown line north through the existing tunnel to airport **only if sufficient funds are available** after providing for construction costs **and risks** of South GL.
- ♦ if (big IF) the revised line makes economic sense, then, and only then, negotiate with the Province and Feds re: funding
- ♦ if doesn't make, or surpass, acceptable economic hurdles, then delay project until it does. **Must pre-fund all risk.**

b) Benefits

- ♦ start construction on the modified model, i.e., jobs, investment, etc.
- ♦ provides access to downtown to a large, under-served population in South Calgary (south of Shepard)
- ♦ buys time to see how economy in Province and City develops – presently very uncertain
- ♦ buys time to see how downtown matures as we transition from a predominantly energy economy to a balanced energy and digital economy

- ♦ provides access to Federal and Provincial funds. We make no overture to either for funding until City agrees to revise alignment and City funding for initial Stage
- ♦ contains and controls risk
- ♦ develop downtown transportation hub
- ♦ conforms to the proven, successful, phased approach that the City has used to build out the present system

9. Strategy – North Calgary

- The present strategy of locating the North GL on the surface between 2nd Street SW station and 16th Avenue makes absolutely no planning sense and is very expensive and technically risky:
 - ♦ no load and no parking at 16th Avenue at Centre Street
 - ♦ no station between 16th Avenue and downtown
 - ♦ seriously reduces Centre Street as a high volume, efficient BRT route to downtown
 - ♦ the proposed bridge over Prince's Island destroys esthetics of the sensitive parkland
 - ♦ no logic whatsoever in building a very expensive, ± ___B, 2 km LRT with minimal prospects of attracting new riders

10. Additional Observations

- As mentioned, almost all municipal LRT projects similar to the GL go substantially over budget and over time. The project management and team are primarily good and well-intentioned people. It is the basic design and construction management system, and its lack of critical and well-informed governance that results in failed costly projects.
- The project management, in every case, assures their Councils that the projects are entirely doable, are within their abilities and experience, and “will not go over budget by a single nickel.” Then almost every one promptly runs their project into the ditch. Why does this happen again and again?

- The primary reason for the persistent failure is the total absence of consequences for failure. No one gets fired. Shoulders are shrugged and all heads turn to the taxpayer and offer a raft of time-tested excuses and, typically, no apologies.
- Rarely does a Council encompass the experience and confidence to question the technical elements of the project.
- Political considerations, without including clearly-stated financial consequences, inevitably drive costly mistakes – witness our recent flirtation with tunnels.
- Council members all realize that they will not be around when bills start arriving. Succeeding Councils blame their predecessors and say, “We would never have done this!”
- Most consultants have long ago learned all the tricks at scheming the weaknesses of the system to their benefit and the taxpayers’ chagrin. For instance, Hatch, a very large and experienced engineering company, presented the City with a large bill for estimating the cost of Stage 1 with a risk factor of $\pm 50\%$.
- Comprehensive pre-planning, detailed engineering and critically analyzed inputs, i.e., costs, ridership, etc., into the business plan are essential for success and assumptions **must be made public**.
- Once started, these projects are very hard to amend and impossible to stop.
- Too often, Councils blithely accept the recommendations of staff and focus their energies and strategies at marshalling the financing.
- Councillor Ward Sutherland said that while he’s opposed to the 90-day termination clause, he understands the Province’s stand on the Green Line. Quote: *“I don’t blame the province’s position on the Green Line because we have not ever, in how many years now, come out and said ‘here’s the final route, here’s what it’s going to cost and we’re going to guarantee it’s going to be on budget’. We’ve been going in circles. We’re not giving the answers and if I’m going to invest and give that money out as a third party, I would want to know these things beforehand.”*

11. Summary

- In the globe's rapidly changing environment, locking our city and its taxpayers into a long-term, i.e., 10-15 years, high cost, \$10-\$15B, project is absolutely wrong and a very dangerous strategy.
- Calgary is in the early years of an extended transition from an economy anchored on energy to one based on digital technology, much sourced on our energy heritage.
- Calgarians are transitioning, as are all Albertans, from a rich and prosperous, oil-based economy to one characterized on global competition for ideas, people, resources and technology.
- Further, the planet is entering a new normal characterized by rapid "change".
- Change brings uncertainty, anxiety, opportunity and challenge.
- In a changing world, large, long-term and fixed solutions give way to small and flexible ones. Long-term is out. Short-term is in.
- The present GL strategy (16th Avenue N south to Shepard), if pursued, will lock Calgary taxpayers into the entire 44 km GL concept without an off-ramp. It would abandon flexibility and the ability to adjust to unanticipated future circumstances.
- Focusing on the South GL up front and delaying the commitment to other additions, i.e., downtown alignment and the North GL, preserves our options and keeps our initial commitment to a digestible, lower technology (lower risk) strategy.
- Stage One remains an immense and complicated undertaking fraught with risk (i.e., 17th Avenue). Stage 1 is the economic size of 10 new hockey arenas. The whole line as presently planned is the size of 20+ hockey arenas.
- We must be exceedingly cautious and careful. If we screw this up, like Edmonton, Ottawa, Honolulu and a host of others have done, we run the high risk of taking our city down for a generation. The next 10/20 years are critical to Calgary's future. We must not weaken our financial and intellectual strengths as we fiercely compete on a global basis for the assets needed to transition our city in the changing economy.

- We must never forget: Flexibility, resilience and strong resources are the necessary ingredients of successful change.
- We must keep our options open and flexible.
- Our GL strategy must be to consider only incremental, digestible, low-risk and least cost segments which pass the test of a rigorous and disciplined business plan.
- The future of Calgary is at stake in this project.

12. Recommendations - Restated Point 7a)

7. Prudent and Responsible Route Forward

- a) Focus exclusively on South GL
 - Terminate immediately:
 - ♦ downtown alignment planning
 - ♦ Stage 1 - 16th Avenue North to Shepard South
 - ♦ tunnels
- b) Change car design from ground loading to platform loading

**Ad Hoc Citizen's Committee – Green Line
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NEVER GIVE UP!



