

**Presentation to City of Calgary**  
**Standing Policy Committee on Transportation and Transit**  
**Key Submission Points**



This short submission of key points is from a group of committed Calgary champions who, after substantial examination of applicable studies and advice from various experts, have very deep concerns regarding the proposed, underfunded mega-project, the Green Line LRT.

**Recommendations and Conclusions**

We respectfully submit that the economic consequences of this project (Stage One) as planned embodies an unacceptably high risk of becoming an economic catastrophe for the City.

Accordingly, we urge:

1. That all spending on the project as currently planned be immediately halted.
2. That the Provincial and Federal governments be asked to confirm their funding commitments of \$1.5B each should the City decide to suspend the project for one year in order to study lower cost (capital and operating) and lower risk alternatives to the current plan.
3. That the project be formally suspended for one year, upon such confirmations as noted in #2 above being received.
4. That the one-year pause be used to carry out an in-depth, high-level project review to ensure that the ultimate Green Line solution is in the best interests of all Calgarians.

**Critical Considerations**

**1. Current Economy**

- Calgary is presently in an extended period of deep economic distress.
- Over 27% downtown office vacancies.
- Office rental costs substantially reduced.
- Higher property taxes and record bankruptcies.
- Over 100,000 people have been "downsized" with energy cutbacks.
- We must plan for an extended period of economic stress - ±10 years to recover. It can get worse before it gets better.
- Cutting costs, increasing efficiencies and reducing risks must be our discipline.

**2. The Green Line**

- a) The Green Line is the largest and most technically challenging mega-infrastructure project Calgary has ever attempted, i.e., (no) experience in highly technical

underground stations & tunnels of this magnitude and (no) experience on a project of this scale.

- b) \$5B of funding; 30% from each of Province of Alberta and Government of Canada (\$3B), and 40% City of Calgary (\$2B).
- c) In 2017, City's external engineering consultants (Hatch/Stantec) estimated (Class 5 estimate) the costs of Stage One (tunnel alignment) to be as high as \$7.0B (including 50% for complete engineering, design and all risks).
- d) In 2017, City Council was requested by administration and approved Stage One (tunnel alignment) at \$4.65B (including all to be completed engineering, design and all risks).
- e) In December 2018, City Council was updated by administration that Stage One increased cost (tunnel alignment) at \$5B (including all to be completed engineering, design and all risks).
- f) External (Hatch/Stantec) and internal risk estimates of costs indicate that we must plan for Stage One costs of \$7B – which is \$2B underfunded (i.e., over-funded budget).
- g) No work should commence on Stage One until the necessary engineering is completed and reconciles the above ~\$2B shortfall in funding.
- h) Calgary taxpayers are at risk to fund 100% of all overruns, including the \$2B underfunding.
- i) Present plans call for two 4km (underground/tunnel alignment) under the Bow River. Global experience is crystal clear – tunnels (including large underground stations with extra elevator, escalator access and continuous air handling and lighting) are substantially more costly and risky to build, and operate than elevated alignments.
- j) Oxford University has a database of approximately 200 comparable projects to the Green Line and 400 tunnel projects in their database. They estimate that the cost of elevated above-ground alignments is between 33% and 50% of the costs of going underground with tunnels.
- k) The primary risks to the proposed tunnels are:
  - variable and unpredictable lithology, i.e., river sands, gravels, boulders and shales.
  - The known, verified impacts of placing underground stations in existing ancient lake beds containing poor soils.
  - The known verified costly impacts of deep station excavation on the foundations of adjacent buildings.
  - the risk of flooding during and after construction.
- l) Stage One, when completed, will require substantial operational subsidies. The ridership estimates, vintage 2012-2013, need to be revisited in the light of the collapse of employment in downtown Calgary together with probability that it will be 10 years before employment levels fully recover.

- m) There are presently approximately 200 people working on the Green Line project with expenditures in the order of \$36MM/year, or \$100,000/day.
- n) Direct project expenditures to date are ±\$350MM, including land acquisition.

### 3. General Comments

- a) We must be disciplined and work strictly within the context of what we can afford - no solution over the funded amount of \$5B can be tolerated! Existing elevated solutions that meet this criteria exist.
- b) We must be patient and complete a thorough planning and due diligence of the various creditable solutions at the front end – before construction starts. Front-end planning is the least expensive and highest return component of the project.
- c) We must have the courage to rethink and reassess the scope of the entire project as necessary.
- d) Third party advice and oversight is critically important.

#### We Must Never Forget:

- Once construction starts on Stage One, the City will find itself committed to build both Stages One and Two for a cost of approximately \$10B. Once started, these projects cannot be stopped.
- The only time to critically examine and confirm the economic case for such projects is before they start. In the case of the Green Line, that time is now – we simply must get this right.

Sincerely,

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Jim Gray

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Brian Felesky

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Steve Allan

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Barry Lester