

# Light Rail Transit in Ottawa: Innovation through Procurement

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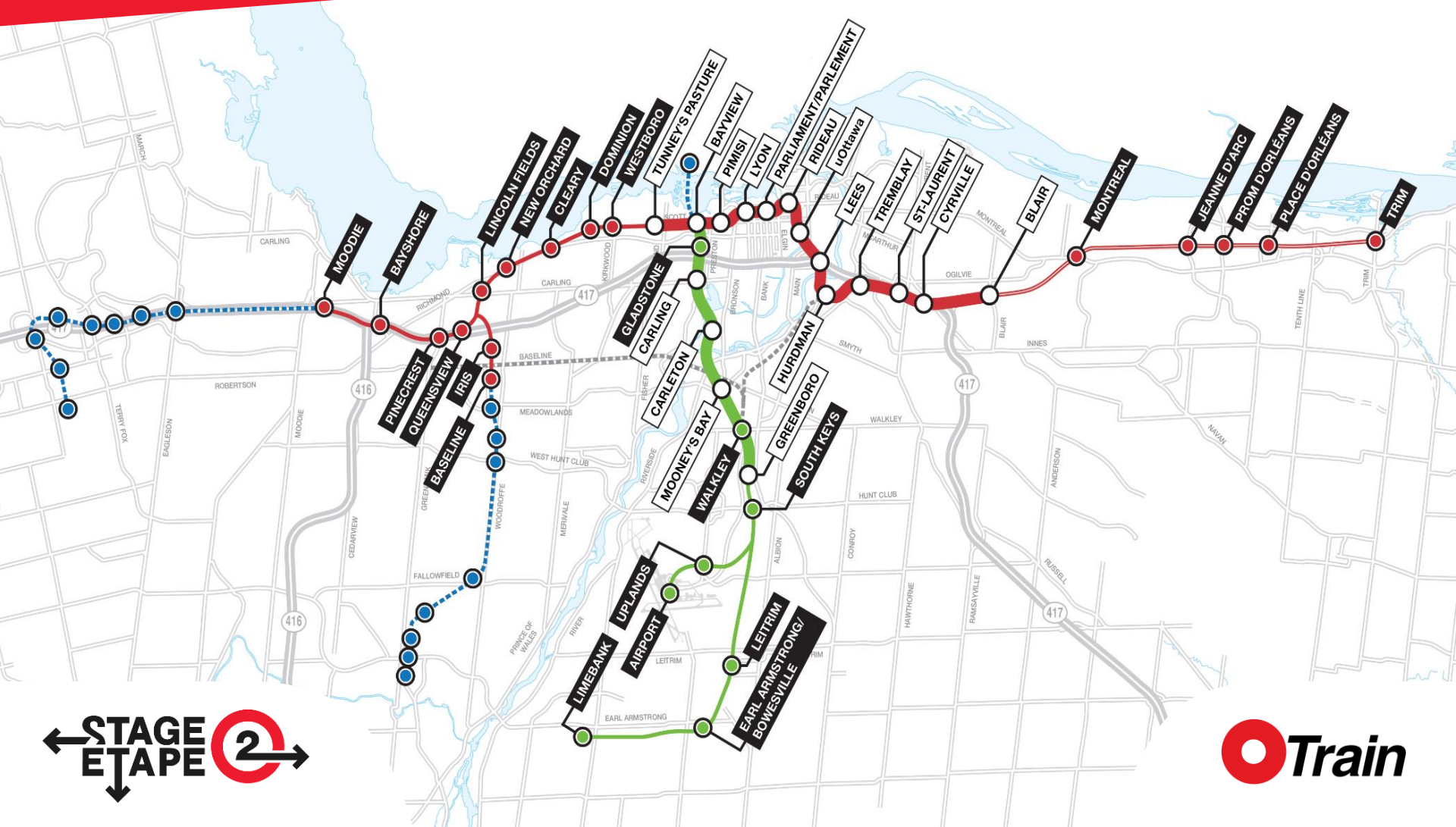
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June 24, 2019



- Background
- Stage 1 Procurement & Lessons Learned
- Stage 2 Procurement

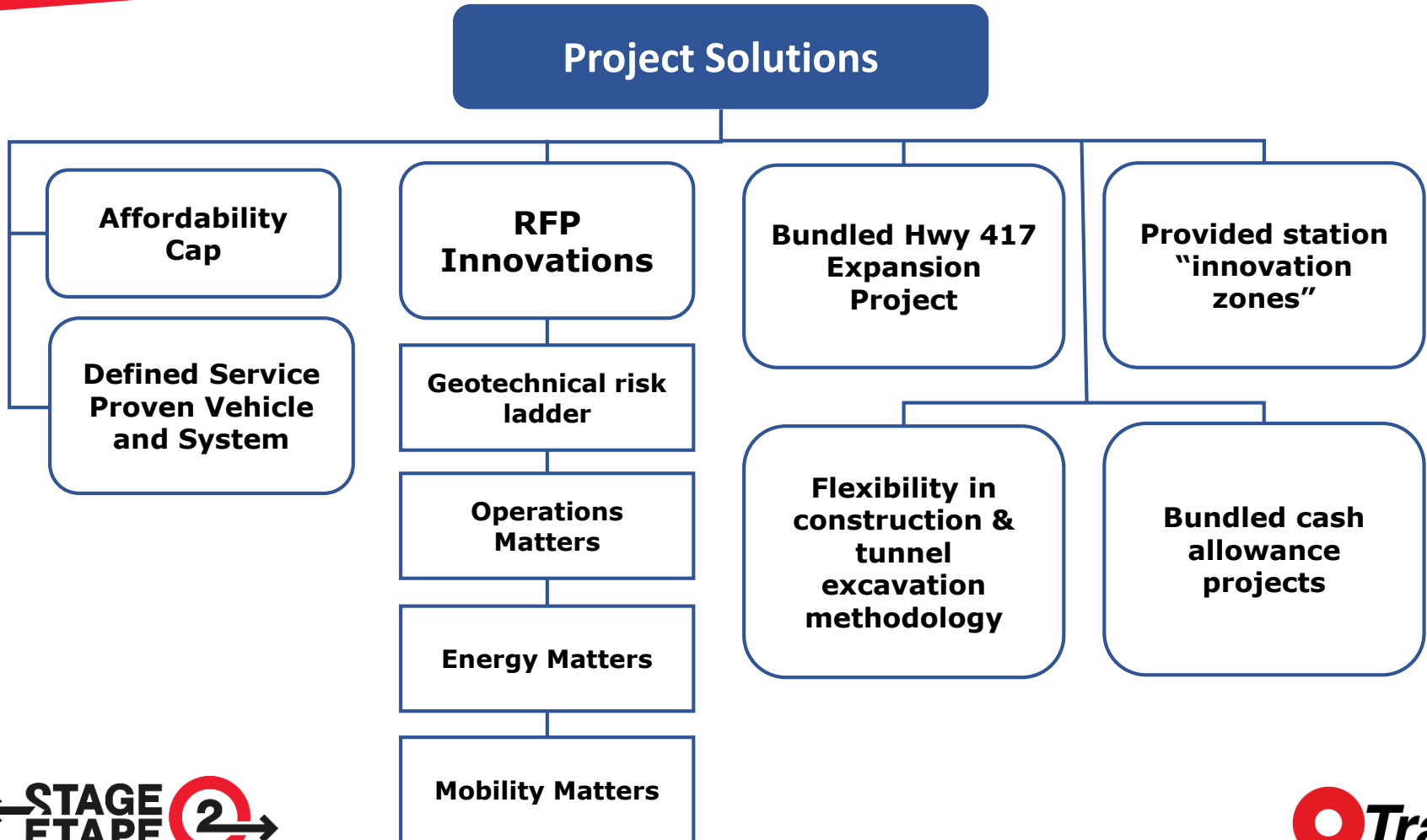




# Confederation Line Stage 1

## Stage 1 Confederation Line

- Conversion of the existing bus “Transitway” to a 12.5km dedicated light rail transit line running;
- 2.5km tunnel through the downtown core;
- 13 stations including 3 downtown underground stations;
- A new Maintenance and Storage Facility where the light rail vehicles will be assembled, maintained and stored; and,
- 30 year maintenance concession period.



- Design Build Finance Maintain
- Owned and operated by the City of Ottawa
- \$2.1B project including \$300M in private financing
- 30-year maintenance term with performance incentives
- Rideau Transit Group (RTG):



# Tunney's Pasture Station











Extensive analysis of the execution of Stage 1 and a comprehensive “lesson learned” report was prepared in advance of Stage 2 procurement.

Major takeaways from Stage 1 that were applied to Stage 2 include:

**1** Focused preliminary engineering to create reference concept from the outset

**3** Notification penalties/missed project completion notifications will result in penalties

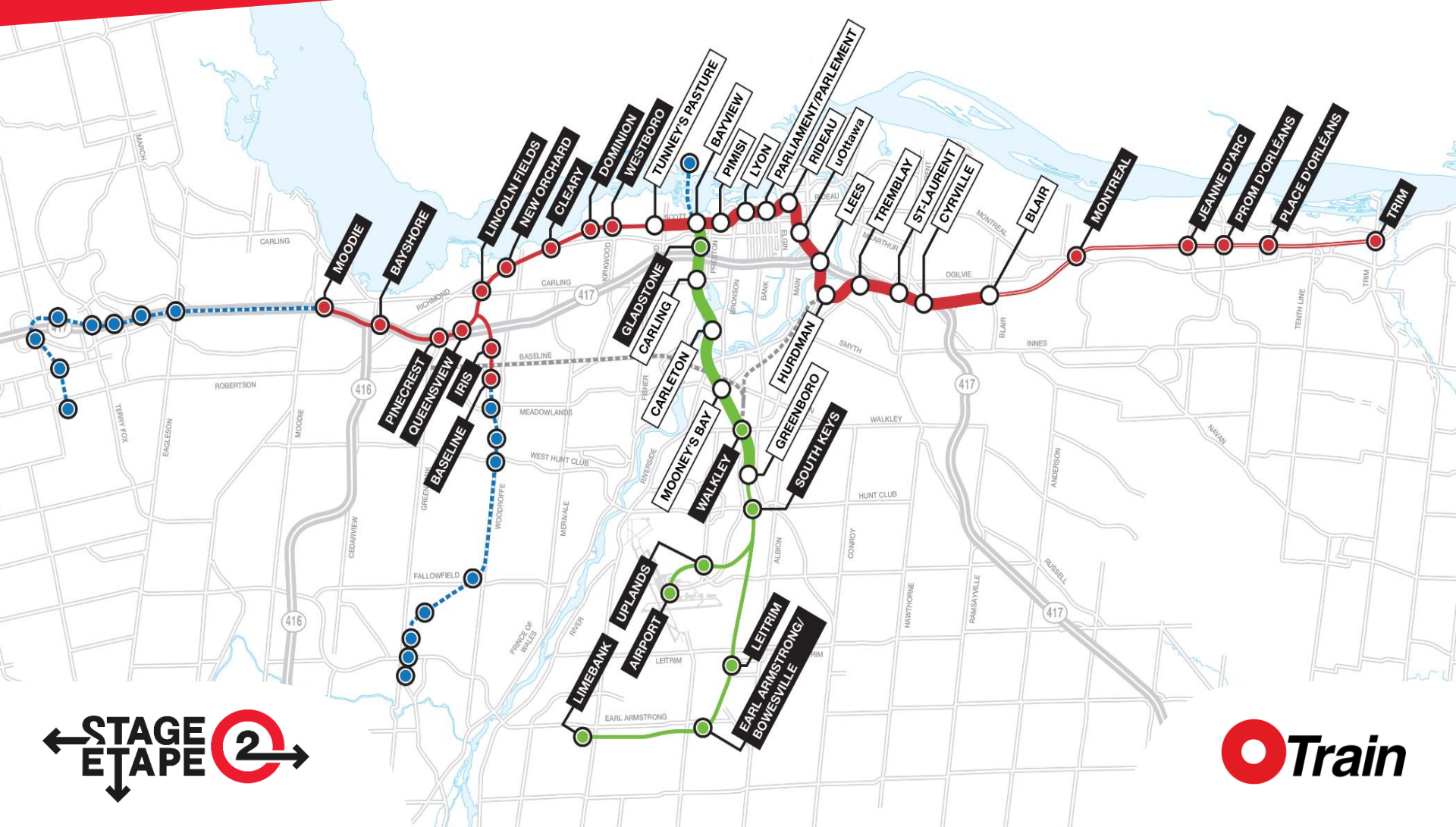
**5** Bundled Projects incorporated City projects to benefit from full risk transfer, cost and schedule certainty of the P3 contract

**2** Early operator involvement

**4** Earned value payment mechanism instead of milestone payments

**6** Expanded Mobility Matters requirements to include pedestrians and cyclists

# Stage 2 Project Procurement



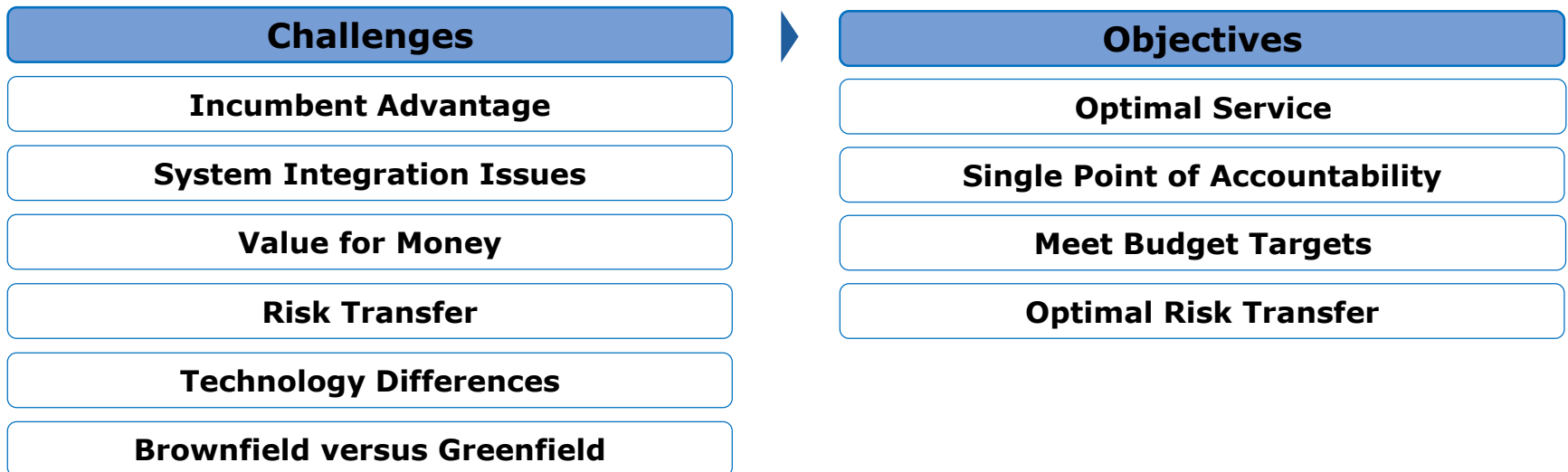
## Confederation Line East and West Extensions

- Confederation Line East Extension (5 stations + 12 km track)
- Confederation Line West Extension (11 stations + 15 km track)
- Expanded maintenance facilities to support a larger fleet
- Additional vehicles to support expanded service
- Additional maintenance scope

## Trillium Line Project

- Trillium Line Extension, including Airport Link (8 new stations + 16 km track)
- Takeover of brownfield assets including existing six (6) Alstom LINT vehicles
- Procurement of additional vehicles to expand system capacity
- Maintenance for the existing and expanded Trillium Line

The project's procurement faced unique challenges in order to maximize value to the City and limit the City's risk exposure. Addressing these challenges help shape the procurement objectives.



The following procurement solutions for the various elements of Stage 2 were implemented after having weighed the various options and objectives:

## Memorandum of Understanding with RTG

- Limited extension to Confederation Line Scope (in areas contemplated by existing contract);
- Additional vehicles; and
- MSF Expansion

## Confederation Line East and West Extensions

- Design Build Short-term Finance (DBF) competitive tender;
- RTG, via MOU, to provide maintenance services; and
- RTG *will not* compete

## Trillium Line Extension

- Design Build Finance Maintain (DBFM) competitive tender; and
- RTG is *permitted* to compete.

# Challenge: Single Maintainer

The specific challenge of retaining a single maintainer for the extended Confederation Line required a number of solutions in order to protect the pricing and to ensure matching of Stage 1 and Stage 2 quality.

## Challenges

**Handover of new assets to RTG**

**Retain risk profile for maintenance**

**Protect costing assumptions**



## Solutions

**RTG procurement oversight**

**RTG design & construction oversight**

**Warranty / Interface Agreement**

**Dispute resolution mechanism**

# Challenge: Signals Integration

The project's procurement faced unique challenges in order to maximize value to the City and limit the City's risk exposure. Addressing these challenges help shape the procurement objectives.

## Challenges

**Extension of existing signal system**



## Solutions

**Extension of signals stays with DB Co**

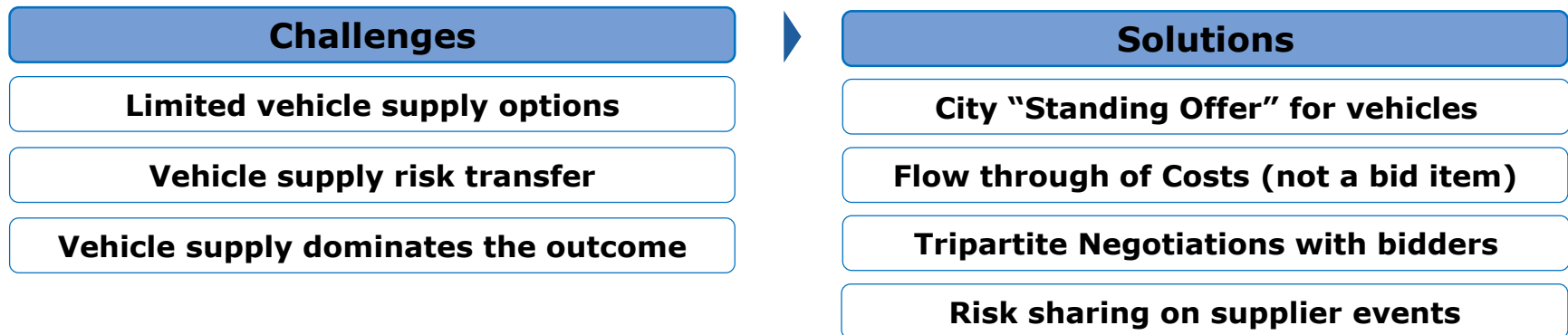
**Flow through of costs (not a bid item)**

**Tripartite negotiations with bidders**

**Gain share incentive post-award**

# Challenge: DMU Vehicle Supply

The project's procurement faced unique challenges in order to maximize value to the City and limit the City's risk exposure. Addressing these challenges help shape the procurement objectives.





# Stage 2 Confederation Line Fleet Expansion



# Belfast Yard Expansion





# Fleet Expansion to 72 Vehicles



# Stage 2 Confederation Line East and West Extensions



EAST ♦ WEST  
CONNECTORS  
—————  
CONNECTEURS  
EST ♦ OUEST













# Stage 2 Trillium Line South Extension

# *TransitNEXT*



**SNC • LAVALIN**











# Thank you