



Ministry of  
Transportation  
and Infrastructure

## Surrey-Langley SkyTrain Project

# Procurement Options Identification Report

March 10, 2022

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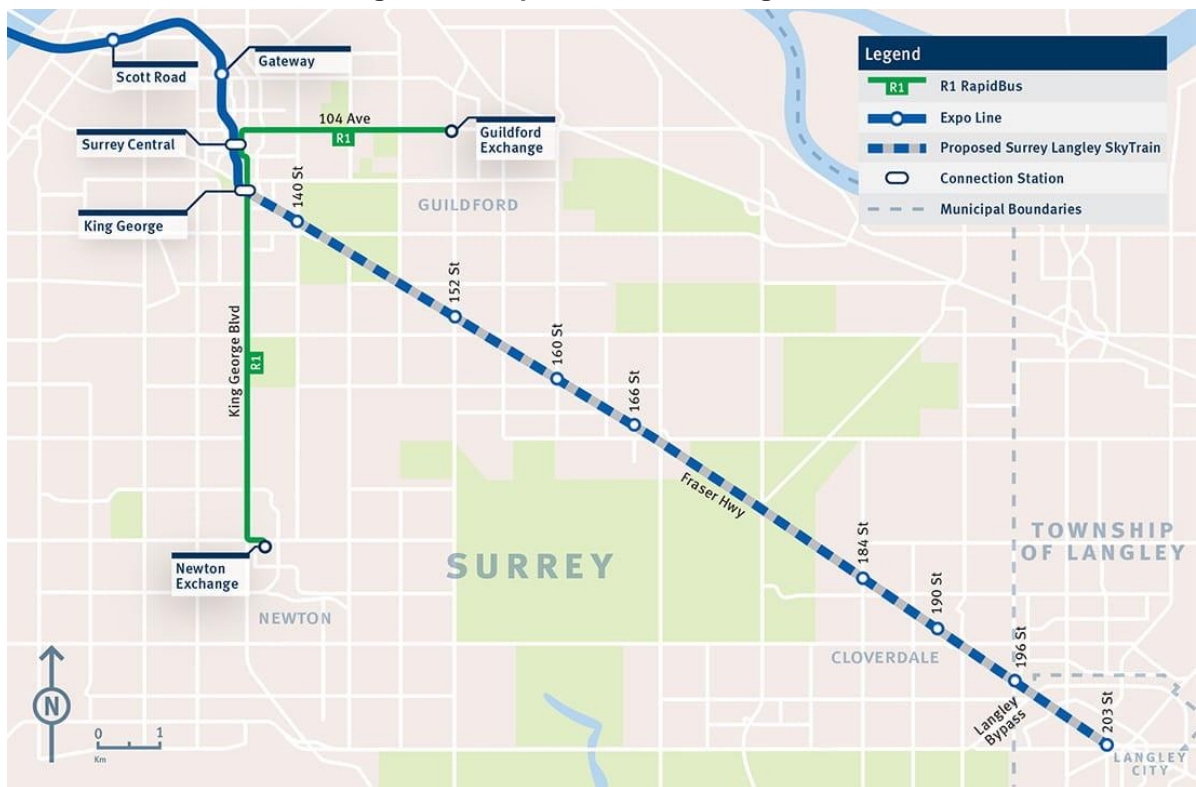
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# 1 INTRODUCTION

## 1.1 PROJECT OVERVIEW

The Surrey Langley SkyTrain Project (SLS Project, or the Project), is a \$3.950 billion 16 km Advanced Light Rapid Transit (ALRT or SkyTrain) extension to the existing Expo Line SkyTrain system. The Project starts from its current terminus at King George Station in the City of Surrey, through the Township of Langley, to a new terminus at Langley City Centre.

**Figure 1 - Proposed SLS LRT Alignment**



The Project represents a significant investment in rapid transportation improvements, and supports provincial and regional strategies, sustainability objectives, and the economic development of the Metro Vancouver region (the Region), the Province, and Canada. These strategies include provincial priorities such as creating affordable housing, meeting the objectives of CleanBC, as well as TransLink’s Transport 2050 Regional Transportation Strategy.

## 1.2 PURPOSE

This report identifies a range of procurement models that could be adopted to deliver the Project, and then narrows the options to a shortlist deemed most appropriate for a more detailed analysis.

The detailed procurement analysis, which includes risk analysis and quantification, market sounding, multiple criteria analysis (MCA) and financial modelling, are presented in the business case and form the basis for recommending a preferred procurement model for the Project.

## 1.3 STUDY APPROACH

The capital planning guidelines set out in the Capital Asset Management Framework (CAMF), Ministry of Finance Core Policies and Procedures, and Infrastructure BC processes support the development of a procurement strategy to successfully deliver the Project.

In recommending the most appropriate procurement options for further detailed analysis in the business case, the following activities were carried out:

- Scope elements – Major components of the Project scope were determined.
- Risks and assumptions – Key risks, timing, coordination, and other procurement considerations were identified.
- Procurement objectives and requirements – Procurement objectives and related criteria for the assessment of the procurement options were established.
- Procurement options – A series of workshops were held and analysis conducted to identify procurement strategies and subsequently the procurement models which align with the goals and procurement objectives of the Project. Four procurement models were identified for assessment.
- Assessment of options – Criteria for comparing the procurement options to one another in terms of how each aligns with the procurement objectives were applied through a qualitative multiple-criteria analysis (“MCA”).

All of these activities involved engagement with key specialists and senior Project personnel. Details of these activities and results are described in this report.

## 2 DESCRIPTION AND SCOPE ELEMENTS

The Project will extend the Expo Line from King George Station to Langley City Centre along the Fraser Highway. The current scope of the Project includes the following:

- Construction of a 16 km elevated guideway with eight new stations for a seamless SkyTrain extension of the Expo Line;
- Roadwork including widening and modifications to accommodate the Project;
- Right of way design to accommodate safe, user-friendly, and accessible facilities for pedestrians and cyclists;
- Utility relocation and protection;
- Purchase of 30 SkyTrain vehicles;
- Funding for the Project's share of the construction of a storage and maintenance centre for vehicles (which will be constructed as a separate project);
- Construction of three new transit exchanges and provision for parking;
- Power supply including power distribution and propulsion power sub-stations;
- Trackwork and all other integrated systems, including automated train control, communication, and power supply systems;
- Environmental Screening Review; and
- Property acquisition to accommodate the expanded right of way.

The Project be fully integrated with existing SkyTrain systems and protocols and will be operated by TransLink.

### 3 PROJECT AND PROCUREMENT OBJECTIVES

The assessment of procurement models requires an understanding of key project features to guide the shortlisting of models and the development of appropriate procurement objectives and evaluation criteria. These features are described in the following sections and include the Project themes and objectives established in earlier studies, and the key considerations and risks relevant to procurement.

#### 3.1 GUIDING PRINCIPLES AND PROJECT OBJECTIVES

The following objectives and assessment criteria described in **Error! Reference source not found.** have been established for the Project. The Project reviewed the project objectives developed by TransLink. The Project added to the objectives developed by TransLink in recognition of evolving government policies such as active transportation, community benefits and affordable housing. With the exception of the three aforementioned objectives, TransLink used the objectives to guide the evaluation of technology and alignment options.

**Table 1: Project Objectives**

| Theme                                   | Project Objective   | Criteria  |
|---|---|---|
| <b>Customer Service/User Experience</b> | <b>Provide users with a positive experience</b>                     | A service that is fast, frequent, reliable, comfortable, and safe, with a superior user experience  |
| <b>Transportation</b>                   | <b>Facilitate increased share of sustainable modes of transport</b> | A service that attracts new transit riders, has the capacity to meet future transportation needs, increases sustainable mode share, and increases access to various opportunities such as employment and post-secondary education |
|   | <b>Support active transportation</b>                                | A service that supports safe, convenient multi-modal travel options for pedestrians and cyclists and connects to existing community active transportation networks  |
| <b>Urban Development and Housing</b>    | <b>Support increased density in the adjacent communities</b>        | A service that encourages mixed-use and higher density development, promotes an increase in a wider range of housing options including rental housing, and supports   |

| Theme                                    | Project Objective  | Criteria   |
|--|--|--|
|  |  | high-quality urban design around the Project stations  |
|  | <b>Support affordable housing</b>                                      | A service that attracts net new affordable housing options adjacent to transit, that also supports new transit riders  |
| <b>Social, Community and Environment</b> | <b>Support a healthy environment</b>                                   | A service that supports healthy and accessible communities and contributes to a healthy environment by reducing vehicle kilometers travelled   |
| <b>Economic Development</b>              | <b>Enhance regional goods movement, commerce and job opportunities</b> | A service that advances local and regional prosperity through job creation and enhances goods movement efficiency and reliability during operation   |
|  | <b>Deliver community benefits</b>                                      | Support Indigenous and other Equity Groups by providing access to work and facilitating training and employment opportunities on select major infrastructure projects that ensures individuals, communities and businesses have full and fair opportunity to participate in the benefits of a project. |
| <b>Financial</b>                         | <b>Provide a service that is good value for money</b>                  | A service that provides good value for public money and is cost-effective  |
| <b>Deliverability and Acceptability</b>  | <b>Provide infrastructure that meets the needs of the community</b>    | A service that is constructible, operable, and publicly acceptable   |

### 3.2 PROCUREMENT OBJECTIVES

The procurement approach should support the effective implementation of the Project. The procurement objectives identified by the Project Team were developed based on precedent transportation projects in B.C., the Project goals and objectives, and the specific needs of the Project. The procurement objectives for the Project are described below:

1. **Timely project delivery:** The Project is delivered within a specific time frame.

2. **Cost-effective implementation (design and construction) & attainable within fiscal constraints:** Provides a cost-effective method to deliver the Project and supports achieving the approved budget.
3. **Allocate key risks to the party best able to manage and mitigate them:** Ensure key risks are allocated in the most cost-effective way to the party that is best suited to manage them.
4. **Owner's Level of Involvement and Ability to Influence:** Support the Owner's corporate goal to build capacity within TIC and by extension the public service, for delivery of major projects.
5. **Ensure strong competition providing innovation and efficient approaches:** The procurement model should consider an approach that optimizes competitive tension, providing innovation, and best value.
6. **Minimizing disruption to the operation of the existing rapid transit (RT) network:** Ensure integration of the RT network expansion has the least impact to the current and future BCRTC operations.



## 4 PROCUREMENT OPTIONS

### 4.1 CONSIDERATIONS IN THE SELECTION OF OPTIONS

#### 4.1.1 Project Size

The design and construction portion of the Project is considerable and creates capacity problems in the construction market where only large international companies would be capable to respond and lead the Project. Due to the nature of the project works it will require multiple specialized contractors to come together to deliver the Project.

#### 4.1.2 Schedule

In identifying which procurement models align with the Project goals and procurement objectives, a key consideration was the speed with which the Project could be constructed and put in service. Capacity constraints and congestion are impacting economic activity and regional livability. Addressing these challenges is a priority for the the Owner. Therefore, procurement models that aid in accelerating the construction schedule were selected for assessment.

#### 4.1.3 Allocation of Risks

Another key consideration in the identification of procurement options is the risk profile of the Project. An urban setting with significant traffic management, important environmental considerations and permitting requirements presents inherent challenges to construction costs and schedule. The attractiveness of the opportunity and ultimate project cost will be affected by the risk allocation and sharing regime. Procurement models that offer flexibility to achieve an optimal risk profile were also selected for assessment.

#### 4.1.4 Competition

Procurement models should consider an approach that optimizes competitive tension, providing opportunities for innovation, and best value. The goal is to receive three compliant technical and financial submissions. Through market soundings, contract options and procurement models considered in this report were discussed with key market participants including national and multi-national contractors, as well as specialised contractors. The indication from the market is that different aspects of the Project would interest different groups of contractors. The reduced size of the individual projects would also allow mid-size contractors to pursue the opportunities as well.

#### 4.1.5 Long-Term Partnership Models

Procurement models that include a long-term operation and maintenance component were not assessed for the Project as this is an extension of an existing network that is managed and operated by TransLink.

#### 4.1.6 Inclusion of Private Finance

The benefits of including a portion of short term private finance in a construction transaction include due diligence by lenders in advance of contract award, due diligence oversight of the contractor by lenders during design and construction, and liquid security for the owner in the event of contractor performance issues. Consequently, the benefits of inclusion of short term private finance have been considered.

## 4.2 PROCUREMENT STRATEGY

A key element of a procurement strategy involves identifying the optimal option(s) from among the full range of feasible options that could be adopted to deliver the Project. Given the considerations related to Project size, schedule, risk, competition and the owner's level of involvement, two major strategies were examined. The first strategy would be to procure the Project under One Contract and the second strategy would be to procure the Project under multiple smaller contracts. The one Contract strategy follows the recent precedents of similar projects, like Evergreen Line Project and Broadway Subway Project, whereas the multiple contracts strategy allows for smaller and or more specialized contractors to be involved in the pursuit as well as provides the Owner with an increased level of influence and involvement.

When examining recent large, single contract transportation projects, the competition pool was notably smaller with only two or three multi-national contractors pursuing each project. Other contractors were no longer bidding based on their past experience of the large international contractors usually winning these jobs. Consistently between these projects, there were heightened difficulties in risk transfer and schedule achievement and depth of local relevant experience leading to claims issues and resulting in significant negative impact to the projects. For these precedential reasons, the Owner would like to analyze another model that allows a larger volume of contractor participation and permits the Owner to directly procure the key subcontractors, such as stations and systems. It also allows the Owner to have an increased level of involvement and influence to select the most important subcontractors involved in the project.

#### **One Contract Strategy:**

Given the history of similar projects in British Columbia; for example, Evergreen Line Project and Broadway Subway Project, the procurement option used for projects procured under one contract in the past was the Design-Build-Finance ("DBF"). This option is selected as one of the procurement options included in the analysis. Another option examined for One Contract strategy is the Competitive

Alliance (CA). This procurement model is commonly used in other jurisdictions to procure projects of similar scope and size.

| Procurement Strategy | Procurement Models |    |
|----------------------|--------------------|----|
| One Contract         | DBF                | CA |

**Multiple Contracts Strategy:**

Under a Multiple Contracts strategy, the Project would be broken into three subprojects based on the technical analysis identified in Appendix B to this report. Contract 1 will include Guideway Substructures and Guideway Superstructures. Contract 2 will include Stations & Propulsion Power Substations (PPS) and Contract 3 will include Trackwork & Systems components of the Project.

Contract 1 is high in value (approximately \$1B) and more complex in terms of scope and risk transfer. The on-time delivery of Contract 1 is very important since the other Contracts' milestones are highly dependent on the Contract 1 schedule. Therefore the procurement options examined for Contract 1 are the DBF model and the Design Build ("DB") model since they have a history of schedule certainty.

Contract 2 is smaller (approximately \$370M or \$125M and \$245M if two contracts) when compared to the rest of the Project and there is a possibility of breaking Contract 2 into two smaller contracts to attract more competition from local contractors. By breaking the Project geographically between municipal boundaries it would allow each contract to engage with a single municipality in terms of permitting, code compliance, and occupancy. For this reason the DBF option is not considered as the financing amount would be small and therefore inefficient. The procurement options examined for Contract 2 are the DB model and the Design-Bid-Build ("DBB") procurement model.

Contract 3 is valued at approximately \$780M. On-time testing and commissioning is important in Contract 3 as the completion of Contract 3 will also result in the completion of the overall Project. While the DBF model has a history of on time completion and was originally considered as one of the procurement models for this contract, after a second market sounding was held specifically for this option, the market participants disclosed that they would not pursue this work if it is procured under a DBF contract model since they have no experience with the model. In addition, some of the participants noted that they would be unable to pursue this contract as a fixed price contract due to their companies' policy. The market of expertise for this particular contract is smaller and more specialized in order to attract a stronger market interest, a collaborative model (Target Price) and the DB model were examined.

| Procurement Strategy |            | Procurement Models |    |              |
|----------------------|------------|--------------------|----|--------------|
| Multiple Contracts   | Contract 1 | DBF                | DB |              |
|                      | Contract 2 |                    | DB | DBB          |
|                      | Contract 3 |                    | DB | Target Price |

### 4.3 PROCUREMENT MODELS ASSESSED

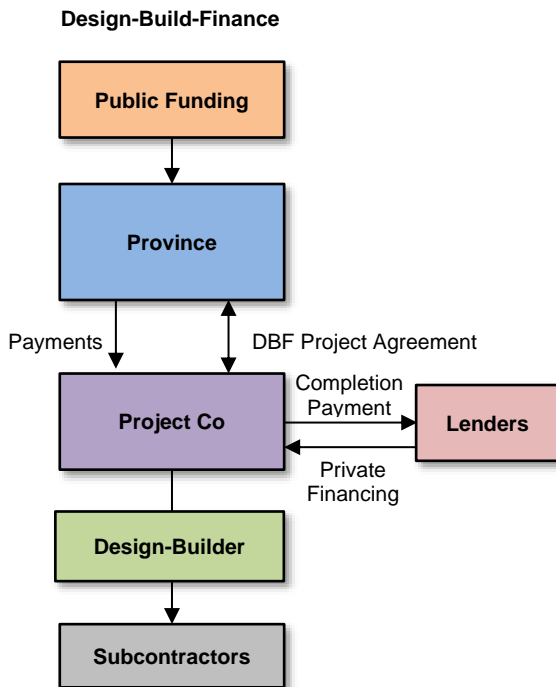
The procurement models considered for both strategies are described below.

#### 4.3.1 Design-Build-Finance (DBF)

The DBF model mirrors the DB model in terms of inviting a short-list of up to three bidders to submit a proposal, and the Owner entering into a fixed price contract with the bidder submitting the highest ranked proposal. This model involves a performance specification and well-understood project risks. The DBF differs from the DB due to the requirement for the contractor to advance a portion of private financing (usually in the range of 20% to 30% of the contract value) during the construction period, to be repaid at completion milestones. Third party lenders are engaged by bidders during the procurement process to provide lending terms and rates under competitive tension. Private financing is advanced during the early stages of design and construction and remains at risk until the contractor achieves one or more completion milestones, at which time the financing is repaid by way of a completion payment(s).

The DBF model typically involves the creation, by the contractor, of a Project Co entity that enters into the project agreement with the owner. Project Co is accountable to the lenders and will enter into a drop-down agreement with the design-builder. The lenders will carry out their due diligence on the contractor, during both procurement and implementation.

Given that the contract price is fixed at award, the Owner receives best value for this model when project risks are well understood and can be efficiently priced during procurement under competitive tension. Consequently, procurement is best timed to coincide with having obtained baseline geotechnical data, signed third party agreements, environmental approvals and/or other risk-defining outcomes.



#### 4.3.2 Competitive Alliance (CA)

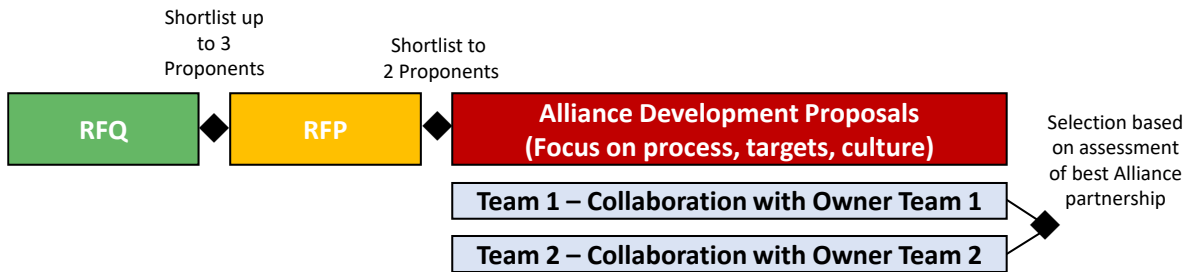
The Competitive Alliance model is commonly used by the public sector in Australia, New Zealand, and the UK. It has successfully delivered complex infrastructure projects in many different sectors. BC has completed two Competitive Alliance contracts in the past (early 2000s). Both were in transportation.

The competition is structured such that up to three proponents are shortlisted through a request for qualifications (RFQ) phase. The shortlisted proponents then compete during an RFP phase to be one of two bidders to enter into an alliance development contract with the Owner. A preferred proponent is then selected based on an approximately equal weighting of people, price, and technical solution criteria.

Rather than fixing price and risk allocation as with a DB contract, an alliance contract involves costs and risks being shared amongst the owner, the contractor(s), within an overall target budget.

The owner will enter into a project alliance agreement with the preferred proponent.

### Competitive Alliance Contracting

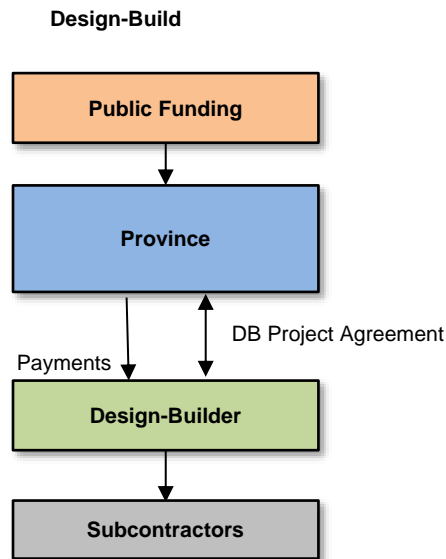


#### 4.3.3 Design-Build (DB)

The DB model is widely utilized in BC for procurement of transportation infrastructure. With this model, a short-list of up to three bidders are invited to submit a proposal. The Owner enters into a fixed price contract with a contractor with the highest ranked proposal to design and construct the infrastructure. By combining responsibility for design and construction and utilizing a performance-based specification, design and construction-related risks can more readily be transferred to the contractor.

Given that the contract price is fixed at award, the Owner receives best value for this model when project risks are well understood and can be efficiently priced during procurement under competitive tension. Consequently, procurement is best timed to coincide with having obtained baseline geotechnical data, signed third party agreements, environmental approvals and/or other risk-defining outcomes.

The Owner will enter into a DB project agreement directly with the design-builder.



#### 4.3.4 Design-Bid-Build (DBB)

In a DBB, construction risks are transferred to the contractor; however, there is no integration between the contractor and the design team.

In a DBB, the owner engages the design team to develop a detailed design (working drawings). Once the working drawings are complete, the tender is issued to obtain construction pricing. The lowest qualified price must be selected, and a fixed price construction contract (typically an industry-standard form) is executed with the successful contractor. The industry-standard construction contract may include supplementary conditions to address owner risks and practices; however, because the tender process focuses solely on the construction of the asset based on an owner-developed design, it is not well suited to consider non-price factors (e.g., quality) in the determination of the successful bid.

The construction contractor is responsible for constructing to the specifications and the working drawings developed for the owner by the architect. The owner is liable to the contractor. The Owner's architect is responsible for any design errors or omissions. The owner makes monthly progress payments to the contractor.

Critical success factors when implementing a DBB include involvement of the owner's internal asset maintenance teams during the development of the design, and strong planning with a team that is able to make decisions quickly.

#### 4.3.5 Target Price

A collaborative, risk sharing delivery model with commercial terms based on collective responsibility of the Owner and Contractor for full delivery of the Project.

The competition is structured such that up to three proponents are shortlisted through a request for qualifications (RFQ) phase. Once qualified, the selected proponents are then invited to prepare submissions to a Request for Proposals (RFP). The preferred proponent is then selected at the end of the RFP phase based on an approximately equal weighting of people, target price, and technical solution criteria.

Rather than fixing price and risk allocation as with a DB contract, a Target Price contract involves costs and risks being shared amongst the Owner and the contractor.



## 5 ASSESSMENT OF OPTIONS AND RESULTS

### 5.1 ASSESSMENT

The procurement options described in Section 4.2 were assessed using the procurement objectives described in Section 3.

#### 5.1.1 Assessment Scale

An assessment scale was applied to represent the extent to which each procurement model option addresses each procurement objective or criterion. The following scoring framework provided the basis for the qualitative assessment:

- ✓ Partially effective in satisfying the criteria.
- ✓✓ Substantially effective in satisfying the criteria.
- ✓✓✓ Fully effective in satisfying the criteria.

### 5.2 SUMMARY OF RESULTS

#### 5.2.1 One Contract

The results of the One Contract procurement options assessment are detailed in Appendix A and summarised in Table 2 below.

**Table 2 - Summary of Assessment Results for One Contract Strategy**

| Assessment Criteria  | DBF | Alliance |
|--|-----|----------|
| Timely project delivery  | ✓✓✓ | ✓✓       |
| Cost effective implementation (design and construction) & attainable within fiscal constraints | ✓✓✓ | ✓✓       |
| Allocate key risks to the party best able to manage and mitigate them                          | ✓✓  | ✓✓       |
| Owner's Level of Involvement and Ability to Influence  | ✓   | ✓✓✓      |

| Assessment Criteria   | DBF | Alliance |
|---|-----|----------|
| Ensure strong competition providing innovation and efficient approaches           | ✓   | ✓        |
| Minimizing disruption to the operation of the existing rapid transit (RT) network | ✓✓  | ✓✓       |

The results of the qualitative analysis indicate that the DBF option better meets the Owner’s procurement objectives when compared to the Competitive Alliance option. The inclusion of private finance in the DBF option provides an incentive for the contractor to pay close attention to Project risks, cost, and schedule and to deal with any unexpected delays and issues immediately. The DBF model was also assessed because it offers the market a familiar procurement approach, contract terms and contractor obligations and should generate sufficient competition. For the Competitive Alliance option, scores overall reflect considerable uncertainty in terms of how well the processes and contracts would perform, despite their anticipated benefits, given there is less of a competitive element and lack of recent experience in BC with this procurement model. Alliance contracts are best when there are risks that cannot be transferred or can only be transferred at a very high cost. This does not apply to the Project.

The DBF is recommended for further analysis in the business case under the One Contract procurement strategy.

### 5.2.2 Multiple Contracts

#### Contract 1

*Note: Contract 1 will include Guideway Substructures and Guideway Superstructures.*

The results of the Multiple Contracts procurement options assessment for Contract 1 are detailed in Appendix B and summarised in Table 2 below.

**Table 3 - Summary of Assessment Results for Multiple Contracts Strategy – Contract 1**

| Assessment Criteria  | DBF | DB |
|--|-----|----|
| Timely project delivery  | ✓✓✓ | ✓✓ |
| Cost effective implementation (design and construction) & attainable within fiscal constraints | ✓✓✓ | ✓✓ |

| Assessment Criteria   | DBF | DB  |
|---|-----|-----|
| Allocate key risks to the party best able to manage and mitigate them             | ✓✓✓ | ✓✓  |
| Owner's Level of Involvement and Ability to Influence                             | ✓✓  | ✓✓  |
| Ensure strong competition providing innovation and efficient approaches           | ✓✓✓ | ✓✓✓ |
| Minimizing disruption to the operation of the existing rapid transit (RT) network | ✓✓  | ✓✓  |

The results of the qualitative analysis for Contract 1 indicate that the DBF option better meets the Owner's procurement objectives when compared to the DB option. The inclusion of private financing in the DBF option provides incentive for the contractor to pay close attention to Project risks, cost, and schedule and to mitigate any unexpected delays and issues immediately. The DB model relies on surety bonding and liquidated damages to influence behaviour and incent the Design-Builder to complete the Project on budget and on schedule; however, the claims process can be complex and time-consuming. Private financing also means the contractor and its lenders are investing in the project so that the Owner does not incur significant costs at the early stages of construction, when risks can be greater, should something go wrong.

The DBF is recommended for further analysis in the Business Case under the Multiple Contracts procurement strategy for Contract 1.

## Contract 2

*Note: The scope of Contract 2 includes Stations & Propulsion Power Substations.*

The results of the Multiple Contracts procurement options assessment for Contract 2 are detailed in Appendix B and summarised in Table 3 below.

**Table 4 - Summary of Assessment Results for Multiple Contracts Strategy – Contract 2**

| Assessment Criteria     | DB | DBB |
|-------------------------|----|-----|
| Timely project delivery | ✓✓ | ✓   |

| Assessment Criteria  | DB  | DBB |
|--|-----|-----|
| Cost effective implementation (design and construction) & attainable within fiscal constraints | ✓✓  | ✓   |
| Allocate key risks to the party best able to manage and mitigate them                          | ✓✓  | ✓✓  |
| Owner's Level of Involvement and Ability to Influence  | ✓✓  | ✓✓✓ |
| Ensure strong competition providing innovation and efficient approaches                        | ✓✓✓ | ✓✓✓ |
| Minimizing disruption to the operation of the existing rapid transit (RT) network              | ✓✓  | ✓✓  |

The results of the qualitative analysis for Contract 2 indicate that the DB option better meets the Owner's procurement objectives when compared to the DBB option as the DB option provides more certainty on Project risks, cost, and schedule. The DBB option scored better with regards to the Owner's involvement as the Owner would be working directly with the designer and manage the interfaces between the designer, the contractor, the stakeholders and the municipalities.

The DB is recommended for further analysis in the Business Case under the Multiple Contracts procurement strategy for Contract 2.

### Contract 3

*Contract 3 will include Trackwork & Systems components of the Project.*

The results of the Multiple Contracts procurement options assessment for Contracts 3 are detailed in Appendix B and summarised in Table 2 below.

**Table 5 - Summary of Assessment Results for Multiple Contracts Strategy – Contract 3**

| Assessment Criteria     | Target Price | DB |
|-------------------------|--------------|----|
| Timely project delivery | ✓✓           | ✓✓ |

| Assessment Criteria  | Target Price | DB |
|--|--------------|----|
| Cost effective implementation (design and construction) & attainable within fiscal constraints | ✓✓           | ✓✓ |
| Allocate key risks to the party best able to manage and mitigate them                          | ✓✓           | ✓✓ |
| Owner's Level of Involvement and Ability to Influence  | ✓✓           | ✓✓ |
| Ensure strong competition providing innovation and efficient approaches                        | ✓✓           | ✓  |
| Minimizing disruption to the operation of the existing rapid transit (RT) network              | ✓✓           | ✓✓ |

The results of the qualitative analysis for Contract 3 indicate that the Target Price option better meets Owner's procurement objectives when compared to the DB option. The option scores better as it allows for increased competition based on the market sounding.

The Target Price is recommended for further analysis in the Business Case under the Multiple Contracts procurement strategy for Contract 3.

### 5.2.3 Summary

The two procurement strategies were examined for the Project, the One Contract strategy and the Multiple Contracts strategy. It is recommended that each will further be analyzed in the Business Case.

For each of these strategies, two procurement options were assessed for every contract. The preferred procurement option for the One Contract is the DBF model. The preferred procurement options for the Multiple Contracts are the DBF model for Contract 1, the DB model for Contract 2, and Target Price for Contract 3.

Finally the table below summarizes the comparison of the one contract DBF procurement approach to the Multiple Contracts approach, based on the Procurement Analysis in Appendix A and B.

**Table 6 - Summary of Recommendation for Business Case**

| Assessment Criteria  | One Contract | Multiple Contracts |            |              |
|--|--------------|--------------------|------------|--------------|
|  |              | Contract 1         | Contract 2 | Contract 3   |
|  | DBF          | DBF                | DB         | Target Price |
| Timely project delivery  | ✓✓✓          | ✓✓✓                | ✓✓         | ✓✓           |
| Cost effective implementation (design and construction) & attainable within fiscal constraints | ✓✓✓          | ✓✓✓                | ✓✓         | ✓✓           |
| Allocate key risks to the party best able to manage and mitigate them                          | ✓✓           | ✓✓✓                | ✓✓         | ✓✓           |
| Owner's Level of Involvement and Ability to Influence  | ✓            | ✓✓                 | ✓✓         | ✓✓           |
| Ensure strong competition providing innovation and efficient approaches                        | ✓            | ✓✓✓                | ✓✓✓        | ✓✓           |
| Minimizing disruption to the operation of the existing rapid transit (RT) network              | ✓✓           | ✓✓                 | ✓✓         | ✓✓           |

## 6 NEXT STEPS

The preferred procurement options identified in this report are analyzed in detail through risk quantification, financial modelling and other procurement options assessment activities described in the Business Case. This detailed analysis provides a substantive basis for recommending the procurement model(s) most appropriate for the procurement of the Project.

**APPENDIX A – DETAILED NOTES IN SUPPORT OF PROCUREMENT OPTIONS ASSESSMENT RECOMMENDATIONS FOR ONE CONTRACT STRATEGY**

| Qualitative Criteria  | Design Build Finance Procurement  | Competitive Alliance Procurement   |
|---|---|--|
| <p><b>Timely project delivery</b></p> <p><i>Ensure that the Project is delivered on time.</i></p>   | <p style="text-align: center;">✓✓✓</p> <ul style="list-style-type: none"> <li>Has a track record of providing shorter overall project deliveries by achieving a fixed price and schedule that incentivizes proponents to optimize their designs with a focus on schedule.</li> <li>Schedule risk transfer is more effective due to commitments to financiers, with the contractor liable for incremental interest costs associated with late delivery.</li> <li>Risk transfer of design and constructability, combined with a performance regime support schedule performance.</li> <li>Additional level of due diligence and oversight from the financier's representatives regarding schedule adherence.</li> <li>Reduced risk of changes impacting schedule due to approval requirements from financiers.</li> </ul> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>Promotes an early procurement and aligns contractor's and owner's interest to meet targets, including schedule.</li> <li>Design is developed in collaboration with the owner to address project requirements including environmental and permitting issues. This model is developed to provide shorter project deliveries and achieve target timelines.</li> <li>Less incentive for schedule and price performance with pain share gain share payment mechanism.</li> <li>No dispute resolution process may delay resolution if disputes happen.</li> <li>Given the unfamiliarity with this model in BC, the schedule will likely include a larger float (contingency) to cover the risk to the private partner.</li> </ul> |
| <p><b>Cost-effective implementation (design and construction) &amp; attainable within fiscal constraints</b></p> <p><i>Provides a cost-effective method to deliver the Project and supports</i></p> | <p style="text-align: center;">✓✓✓</p> <ul style="list-style-type: none"> <li>During the design development stage of procurement there is integration between designer and builder to identify the lump sum price and work towards this price.</li> <li>Competition on price, design solution and financing cost. Contract is fixed price.</li> <li>Greater constraints on Owner's scope changes due to private financing and contractual/process/cost implications.</li> <li>Private financing introduces an additional level of due diligence and oversight driving budget adherence and providing due diligence on reasonableness of the price proposal.</li> </ul>  | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>During the design development there is integration between designer and builder to identify the lump sum price and work towards this price.</li> <li>Costs are not certain until at the end of the Project when pricing is confirmed.</li> <li>Pain/gain share mechanism provides less support for achieving target pricing compared to fixed price under models with a DB component</li> </ul>   |

| Qualitative Criteria  | Design Build Finance Procurement  | Competitive Alliance Procurement   |
|---|---|--|
| <p><i>achieving the approved budget.</i></p>  |   |  |
| <p><b>Allocate key risks to the party best able to manage and mitigate them</b></p> <p><i>Ensure key risks are allocated in the most cost-effective way to the party that is best suited to manage them.</i></p>          | <ul style="list-style-type: none"> <li>• <i>PP</i></li> <li>• <i>Allows for defined risk allocation, more risks are allocated to industry partners than most models as the contractor is responsible for design and construction.</i></li> <li>• <i>Will likely involve holdback provisions through private financing to secure performance of risk allocation.</i></li> <li>• <i>Past experience on similar transportation projects shows that there were heightened difficulties in risk transfer.</i></li> <li>• <i>Owner retains long term risk associated with operations, maintenance, and rehabilitation.</i></li> </ul> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>Most risks are jointly managed by the Owner and Non-owner entities. No blame model.</i></li> <li>• <i>No private financing to secure performance which is based on pain/gain share on target outcomes.</i></li> <li>• <i>Owner retains some risks associated with potential cost overruns and schedule delays, e.g. undisclosed utilities, permits.</i></li> <li>• <i>Owner retains long term risk associated with operations, maintenance, and rehabilitation.</i></li> </ul> |
| <p><b>Owner's Level of Involvement and Ability to Influence</b></p> <p><i>Support the Owner's corporate goal to build capacity within TI Corp and by extension the public service, for delivery of major projects</i></p> | <p style="text-align: center;">✓</p> <ul style="list-style-type: none"> <li>• <i>The design and construction is expected to be managed by the Design Builder and the Owner has no direct involvement in the Project delivery after the contract is signed.</i></li> </ul>   | <p style="text-align: center;">✓✓✓</p> <ul style="list-style-type: none"> <li>• <i>Owner is fully integrated in the Alliance team and part of all the decision making and ability to influence the overall process including the administration of aspects of the implementation.</i></li> <li>• <i>All decisions are by consensus and Owner has to agree in order for the decision to be implemented.</i></li> </ul>  |



| Qualitative Criteria  | Design Build Finance Procurement   | Competitive Alliance Procurement   |
|---|--|--|
| <p><b>Ensure strong competition providing innovation and efficient approaches</b></p> <p><i>The procurement model should consider an approach that optimizes competitive tension, providing innovation, and best value.</i></p> | <p style="text-align: center;">✓</p> <ul style="list-style-type: none"> <li>• <i>This procurement option would be expected to attract the interest of large multinational contractors only.</i></li> <li>• <i>Recent history on other similar projects shows only two contractors submitting the financial proposal.</i></li> <li>• <i>There is significant bid cost and some market reluctance to accept current risk transfer.</i></li> <li>• <i>Market may be less interested in projects requiring private finance.</i></li> </ul> | <p style="text-align: center;">✓</p> <ul style="list-style-type: none"> <li>• <i>Proponents are attracted by the opportunity to share the risks and profit.</i></li> <li>• <i>This procurement option would be expected to attract the interest of local and international contractors due to its collaborative nature. However, market sounding states that there is an unfamiliarity with this model in the Owner which may cause market reluctance to participate.</i></li> <li>• <i>Market is uncertain as to how well it will work given the owner's lack of familiarity and large size of the Project</i></li> </ul> |
| <p><b>Minimizing disruption to the operation of the existing rapid transit (RT) network</b></p> <p><i>Ensure integration of the RT network expansion has the least impact to the current and future BCRTC operations.</i></p>   | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>Integration and Interoperability can be prescribed in the contracts.</i></li> <li>• <i>Integration will be facilitated by the output specifications and the contractor's detailed design.</i></li> <li>• <i>Design and construction integration and overall responsibility for operation integration are included as part of the fixed price.</i></li> </ul>   | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>Integration and Interoperability can be jointly managed.</i></li> <li>• <i>Integration will be facilitated by the output specifications and the contractor's detailed design.</i></li> <li>• <i>Design and construction integration and overall responsibility for operation integration are included as part of the agreed price.</i></li> </ul>  |

**APPENDIX B – DETAILED NOTES IN SUPPORT OF PROCUREMENT OPTIONS ASSESSMENT RECOMMENDATIONS FOR MULTIPLE CONTRACTS STRATEGY**

**Contract 1**

| Qualitative Criteria   | Design Build Finance Procurement   | Design Build  |
|--|--|---|
| <p><b>Timely project delivery</b></p> <p><i>Ensure that the Project is delivered on time.</i></p>                | <p style="text-align: center;">✓✓✓</p> <ul style="list-style-type: none"> <li>• Has a track record of providing shorter overall project deliveries by achieving a fixed price and schedule that incentivizes proponents to optimize their designs with a focus on schedule, and by starting construction before final design.</li> <li>• Schedule risk transfer is more effective due to commitments to financiers, with the contractor liable for incremental interest costs associated with late delivery.</li> <li>• Risk transfer of design and constructability, combined with a performance regime to support schedule performance.</li> <li>• Additional level of due diligence and oversight from the financier's representatives regarding schedule adherence.</li> <li>• Reduced risk of changes impacting schedule due to approval requirements from financiers.</li> </ul> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• Has a track record of providing shorter overall project deliveries by achieving a fixed price and schedule that incentivizes proponents to optimize their designs with a focus on schedule, and by starting construction before final design.</li> <li>• Risk transfer of design and constructability, combined with a performance regime support schedule performance.</li> <li>• Bonding claims process can be complex and time-consuming and realizing security when a major event occurs is difficult to achieve.</li> </ul> |
| <p><b>Cost-effective implementation (design and construction) &amp; attainable within fiscal constraints</b></p> | <p style="text-align: center;">✓✓✓</p> <ul style="list-style-type: none"> <li>• During the design development there is an integration between designer and builder to identify the lump sum price.</li> <li>• Competition on price, design solution and financing cost. Contract is fixed price.</li> <li>• Greater constraints to the owner scope changes due to private financing and contractual/process/cost implications.</li> <li>• Private financing introduces an additional level of due diligence and oversight driving budget adherence.</li> </ul>   | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• During the design development there is an integration between designer and builder to identify the lump sum price.</li> <li>• Competition on price and design solution. Contract is fixed price.</li> <li>• Owner retains some risks associated with potential cost overruns as it is easier to implement scope changes. Due to the nature of transit projects where the operator (TransLink) and the stakeholders (multiple municipalities) change orders are very common.</li> </ul>   |

| Qualitative Criteria   | Design Build Finance Procurement  | Design Build   |
|--|---|--|
| <p><i>Provides a cost-effective method to deliver the Project and supports achieving the approved budget.</i></p>  |   |  |
| <p><b>Allocate key risks to the party best able to manage and mitigate them</b></p> <p><i>Ensure key risks are allocated in the most cost-effective way to the party that is best suited to manage them.</i></p> | <p style="text-align: center;">✓✓✓</p> <ul style="list-style-type: none"> <li>• <i>Allows for defined risk allocation, risk allocated to industry partners is typically higher than most models.</i></li> <li>• <i>Will likely involve holdback provisions through private financing to secure performance of risk allocation.</i></li> <li>• <i>Owner retains long term risk associated with operations, maintenance, and rehabilitation.</i></li> </ul> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>Allows for defined risk allocation, risk allocated to industry partners is typically higher than most models.</i></li> <li>• <i>Will likely involve holdback provisions but there is no private financing to secure performance of risk allocation.</i></li> <li>• <i>Owner retains long term risk associated with operations, maintenance, and rehabilitation.</i></li> </ul> |
| <p><b>Owner's Level of Involvement and Ability to Influence</b></p> <p><i>Support the Owner's corporate goal to build capacity within TI Corp and by extension the public</i></p>                                | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>The design and construction for each Contract is expected to be managed by the Design Builder and the Owner has limited involvement in the Project delivery after the contract is signed.</i></li> <li>• <i>The Owner retains control of the overall Project integration and Project management for all Contracts.</i></li> </ul>                                       | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>The design and construction for each Contract is expected to be managed by the Design Builder and the Owner has limited involvement in the Project delivery after the contract is signed.</i></li> <li>• <i>The Owner retains control of the overall Project integration and Project management for all Contracts.</i></li> </ul>  |

| Qualitative Criteria  | Design Build Finance Procurement  | Design Build   |
|---|---|--|
| <p>service, for delivery of major projects</p>  |   |  |
| <p><b>Ensure strong competition providing innovation and efficient approaches</b></p> <p><i>The procurement model should consider an approach that optimizes competitive tension, providing innovation, and best value.</i></p> | <p style="text-align: center;">✓✓✓</p> <ul style="list-style-type: none"> <li><i>This procurement option would be expected to attract the interest of large international contractors and possibly some large/mid-market local builders if the Project is split into smaller Contracts.</i></li> <li><i>Market is familiar with the model and commercial terms based on precedent projects.</i></li> <li><i>There is significant bid cost and some market reluctance to accept current risk transfer which needs to be addressed.</i></li> <li><i>Market may be less interested in projects requiring private finance but overall strong competition is still expected..</i></li> </ul> | <p style="text-align: center;">✓✓✓</p> <ul style="list-style-type: none"> <li><i>This procurement option would be expected to attract the interest of large international contractors and but possibly some large/mid-market local builders as now the Project is split into more manageable Contracts.</i></li> <li><i>Market is familiar with the model and commercial terms based on precedent projects.</i></li> <li><i>There is significant bid cost and some market reluctance to accept current risk transfer which needs to be addressed.</i></li> </ul> |
| <p><b>Minimizing disruption to the operation of the existing rapid transit (RT) network</b></p> <p><i>Ensure integration of the RT network expansion has the least impact to the current and future BCRTC operations.</i></p>   | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li><i>Integration and Interoperability can be prescribed in the contracts.</i></li> <li><i>Integration will be facilitated by the output specifications and the contractor's detailed design.</i></li> <li><i>Design and construction integration and overall responsibility for operation integration as part of the fixed price.</i></li> </ul>   | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li><i>Integration and Interoperability can be prescribed in the contracts.</i></li> <li><i>Integration will be facilitated by the output specifications and the contractor's detailed design.</i></li> <li><i>Design and construction integration and overall responsibility for operation integration as part of the fixed price.</i></li> </ul>  |

**Contract 2**

| Qualitative Criteria   | Design Build Procurement  | Design Bid Build   |
|--|---|--|
| <p><b>Timely project delivery</b></p> <p><i>Ensure that the Project is delivered on time.</i></p>  | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• Has a track record of providing shorter overall project deliveries by achieving a fixed price and schedule that incentivizes proponents to optimize their designs with a focus on schedule, and by starting construction before final design.</li> <li>• Risk transfer of design and constructability, combined with a performance regime support schedule performance.</li> <li>• Bonding claims process can be complex and time-consuming and realizing security when a major event occurs is difficult to achieve.</li> </ul> | <p style="text-align: center;">✓</p> <ul style="list-style-type: none"> <li>• Owner retains a significant portion of schedule risk, as enforcement of schedule certainty is difficult to achieve under this contracting approach.</li> <li>• Finishing on time is typically in the contractor's interest as it will minimize their costs, but changes or design related issues can create opportunities to extend the schedule and make delay claims.</li> </ul> |
| <p><b>Cost-effective implementation (design and construction) &amp; attainable within fiscal constraints</b></p> <p><i>Provides a cost-effective method to deliver the Project and supports achieving the approved budget.</i></p> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• During the design development there is an integration between designer and builder to identify the lump sum price.</li> <li>• Competition on price and design solution. Contract is fixed price.</li> <li>• Owner retains some risks associated with potential cost overruns as it is easier to implement scope changes.</li> </ul>  | <p style="text-align: center;">✓</p> <ul style="list-style-type: none"> <li>• During design phase the builder does not provide input.</li> <li>• While the Project is tendered to secure the lowest stipulated price, the costs related to owner's retained risks can impact its ability to deliver on cost certainty.</li> <li>• Likelihood of more change orders. Competition on a single design only.</li> </ul>  |

| Qualitative Criteria  | Design Build Procurement   | Design Bid Build   |
|---|--|--|
| <p><b>Allocate key risks to the party best able to manage and mitigate them</b></p> <p><i>Ensure key risks are allocated in the most cost-effective way to the party that is best suited to manage them.</i></p>          | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>Allows for defined risk allocation, risk allocated to industry partners is typically higher than most models.</i></li> <li>• <i>Will likely involve holdback provisions but there is no private financing to secure performance of risk allocation.</i></li> <li>• <i>Owner retains long term risk associated with operations, maintenance, and rehabilitation.</i></li> </ul> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>The Owner retains a greater number of risks associated with potential cost overruns and schedule delays as 100% design is priced and construction costs are not certain until later in the Project when price for each package is confirmed.</i></li> <li>• <i>Design will be managed by the Owner's architect which will assist with the cooperation with other Contracts during the design phase.</i></li> <li>• <i>Owner retains long term risk associated with operations, maintenance, and rehabilitation.</i></li> </ul> |
| <p><b>Owner's Level of Involvement and Ability to Influence</b></p> <p><i>Support the Owner's corporate goal to build capacity within TI Corp and by extension the public service, for delivery of major projects</i></p> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>The design and construction for each Contract is expected to be managed by the Design Builder and the Owner has limited involvement in the Project delivery after the contract is signed.</i></li> <li>• <i>The Owner retains control of the overall Project integration and Project management for all Contracts.</i></li> </ul>  | <p style="text-align: center;">✓✓✓</p> <ul style="list-style-type: none"> <li>• <i>The design will be managed by the Owner's designer and the Owner will be fully involved in the day to day development.</i></li> <li>• <i>This procurement method will allow the Owner more influence on the overall design.</i></li> <li>• <i>The Owner retains control of the overall Project integration and Project management for all Contracts.</i></li> </ul>   |
| <p><b>Ensure strong competition providing</b></p>   | <p style="text-align: center;">✓✓✓</p>   | <p style="text-align: center;">✓✓✓</p>   |

| Qualitative Criteria  | Design Build Procurement   | Design Bid Build   |
|---|--|--|
| <p><b>innovation and efficient approaches</b></p> <p><i>The procurement model should consider an approach that optimizes competitive tension, providing innovation, and best value.</i></p>                                   | <ul style="list-style-type: none"> <li><i>This procurement option would be expected to attract the interest of mid-market local builders as this Contract is now a medium size Project.</i></li> <li><i>Market is familiar with the model and commercial terms based on precedent projects.</i></li> <li><i>There is significant bid cost and some market reluctance to accept current risk transfer which needs to be addressed.</i></li> </ul> | <ul style="list-style-type: none"> <li><i>This procurement option would be expected to attract the interest of mid-market local builders as this Contract is now a medium size Project.</i></li> <li><i>Market is familiar with the model.</i></li> <li><i>There is no significant bid cost and time commitment to the pursuit of the Project which should lead to strong market interest.</i></li> </ul>  |
| <p><b>Minimizing disruption to the operation of the existing rapid transit (RT) network</b></p> <p><i>Ensure integration of the RT network expansion has the least impact to the current and future BCRTC operations.</i></p> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li><i>Most of the Integration and Interoperability can be transferred.</i></li> <li><i>Integration will be facilitated by the output specifications and the contractor's detailed design.</i></li> <li><i>Design and construction integration and overall responsibility for operation integration as part of the fixed price.</i></li> </ul>                          | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li><i>Integration and Interoperability can be jointly managed.</i></li> <li><i>For DBB the contractor will be given the detailed design the Owner has developed so the risks associated with the design will be retained by the Owner.</i></li> <li><i>Design and construction integration and overall responsibility for operation integration as part of the fixed price.</i></li> </ul> |

**Contract 3**

| Qualitative Criteria   | Target Price   | Design Build  |
|--|--|---|
| <p><b>Timely project delivery</b></p> <p><i>Ensure that the Project is delivered on time.</i></p>  | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>Aligns contractor's and owner's interest to meet targets, including schedule.</li> <li>Less incentive for schedule and price performance with pain hare gainshare payment mechanism.</li> <li>No dispute resolution process may delay resolution if disputes happen.</li> </ul>   | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>Has a track record of providing shorter overall project deliveries by achieving a fixed price and schedule that incentivizes proponents to optimize their designs with a focus on schedule, and by starting construction before final design.</li> <li>Risk transfer of design and constructability, combined with a performance regime support schedule performance.</li> <li>Bonding claims process can be complex and time-consuming and realizing security when a major event occurs is difficult to achieve.</li> </ul> |
| <p><b>Cost-effective implementation (design and construction) &amp; attainable within fiscal constraints</b></p> <p><i>Provides a cost-effective method to deliver the Project and supports achieving the approved budget.</i></p> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>During the design development there is an integration between designer and builder to identify the target price and work towards this price.</li> <li>Costs are not certain until later as the contractor is selected based on the Target Price only.</li> <li>The costs related to owner's retained risks can impact its ability to deliver on cost certainty.</li> <li>Pain/gain share mechanism provides less support for achieving target pricing compared to fixed price under models with a DB component</li> </ul> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>During the design development there is an integration between designer and builder to identify the lump sum price.</li> <li>Competition on price and design solution. Contract is fixed price.</li> <li>Owner retains some risks associated with potential cost overruns as it is easier to implement scope changes.</li> </ul>  |



| Qualitative Criteria  | Target Price   | Design Build  |
|---|--|---|
| <p><b>Allocate key risks to the party best able to manage and mitigate them</b></p> <p><i>Ensure key risks are allocated in the most cost-effective way to the party that is best suited to manage them.</i></p>          | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• Most risks are jointly managed by the Owner and contractor as the price is not fixed; however, with the painshare/gainshare principle the contractor is motivated to manage risks well.</li> <li>• Performance is based on pain/gain share on target outcomes.</li> <li>• Owner retains some risks associated with potential cost overruns and schedule delays.</li> <li>• Owner retains long term risk associated with operations, maintenance, and rehabilitation.</li> </ul> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• Allows for defined risk allocation, risk allocated to industry partners is typically higher than most models.</li> <li>• Will likely involve holdback provisions but there is no private financing to secure performance of risk allocation.</li> <li>• Owner retains long term risk associated with operations, maintenance, and rehabilitation.</li> </ul> |
| <p><b>Owner's Level of Involvement and Ability to Influence</b></p> <p><i>Support the Owner's corporate goal to build capacity within TI Corp and by extension the public service, for delivery of major projects</i></p> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• The Owner is more closely involved with the team but it is only one part of the team so has less ability to influence the overall process.</li> <li>• The Owner retains control of the overall Project integration and Project management for all Contracts.</li> </ul>   | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• The design and construction for each Contract is expected to be managed by the Design Builder and the Owner has limited involvement in the Project delivery after the contract is signed.</li> <li>• The Owner retains control of the overall Project integration and Project management for all Contracts.</li> </ul>                                       |
| <p><b>Ensure strong competition providing</b></p>   | <p style="text-align: center;">✓✓</p>  | <p style="text-align: center;">✓</p>  |

| Qualitative Criteria  | Target Price   | Design Build  |
|---|--|---|
| <p><b>innovation and efficient approaches</b></p> <p><i>The procurement model should consider an approach that optimizes competitive tension, providing innovation, and best value.</i></p>                                   | <ul style="list-style-type: none"> <li>• <i>This procurement option would be expected to attract the interest of mid-market local builders as this Contract is now a medium size Project.</i></li> <li>• <i>Market sounding confirmed strong interest of two contractors currently active in BC t in this model.</i></li> <li>• <i>A bid cost and procurement phase will be lower.</i></li> </ul>                              | <ul style="list-style-type: none"> <li>• <i>The contractors for this particular Contract usually work for a prime contractor and have limited experience with bidding on fixed price contracts</i></li> <li>• <i>Most of the interested contractors have no experience with financial on the project and thus unable to bid on DBF model.</i></li> <li>• <i>Some of the contractors are unable to pursue fixed price contract due to their company policies.</i></li> <li>• <i>There is significant bid cost and some market reluctance to accept current risk transfer which needs to be addressed.</i></li> </ul> |
| <p><b>Minimizing disruption to the operation of the existing rapid transit (RT) network</b></p> <p><i>Ensure integration of the RT network expansion has the least impact to the current and future BCRTC operations.</i></p> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>Most of the Integration and Interoperability can be transferred.</i></li> <li>• <i>Integration will be facilitated by the output specifications and the contractor's detailed design.</i></li> <li>• <i>Design and construction integration and overall responsibility for operation integration as part of the target price.</i></li> </ul> | <p style="text-align: center;">✓✓</p> <ul style="list-style-type: none"> <li>• <i>Most of the Integration and Interoperability can be transferred.</i></li> <li>• <i>Integration will be facilitated by the output specifications and the contractor's detailed design.</i></li> <li>• <i>Design and construction integration and overall responsibility for operation integration as part of the fixed price.</i></li> </ul>   |