
TransLink Custom Transit Service Delivery Review

*Prepared for Translink
March 2017*

Public Sector Comparator
Executive Report for Public
Board Meeting





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Executive Summary

This report summarizes the work undertaken in analyzing the procurement models available for delivery of Custom Transit services. The Metro Vancouver Custom Transit service is managed by Coast Mountain Bus Company (“CMBC”) on behalf of TransLink and is predominantly comprised of HandyDART, a door-to-door, shared ride service offered for passengers with physical or cognitive disabilities who are unable to use conventional public transit without assistance.

TransLink is undertaking a service delivery options analysis to identify the most effective and efficient model for HandyDART services. The service delivery analysis will consider a range of options, including in-house, contracted, and hybrid variations.

The procurement options analysis has involved a number of distinct stages. The first stage consisted of a qualitative assessment undertaken by external consultants, Nelson\Nygaard Consulting Associates (“Nelson\Nygaard”). The qualitative assessment defined the business and service objectives of TransLink’s Custom Transit service, and included a policy review that benchmarked HandyDART service standards and operational policies to other jurisdictions. At the conclusion of this stage, five procurement delivery models were identified as the most likely to provide the best value for money (“VFM”) solution and these models were taken forward for quantitative analysis.

At the quantitative analysis stage, a risk workshop was run with subject matter specialists from key operating functions of HandyDART and other project stakeholders with the objective of identifying and quantifying the relative risks associated with the each of the delivery models. The outputs of this risk workshop were used by PwC to develop a financial model that would assess the relative VFM when comparing the in-house model, the contracted and hybrid variations. As part of this exercise, a number of sensitivities were run to test each model under different scenarios. During this phase an additional two variant models were identified and included in the financial analysis. In addition, the existing model was also included in the financial analysis, covering a total of eight options.

At conclusion of this analysis, the majority of the considered service delivery models demonstrated VFM when compared to the full in-house service delivery model. Specifically, alternative service delivery model 1, model 6 and the existing service delivery model provided the highest VFM, followed by model 3. The results of this quantitative analysis will be included for consideration in developing the final recommendation of a service delivery model to the TransLink Board.

1. Background and Purpose

HandyDART service policies and standards have evolved over time without a comprehensive policy review or framework. The lack of a federal legislation in Canada that defines the standard of Custom Transit services for people with disabilities, has made it difficult to benchmark the performance of the service against public policy objectives. Concerns were raised during the TransLink Board meetings in 2015 and 2016 pointing to the need for a comprehensive review of HandyDART policies and the current service delivery model.

In response to these concerns, TransLink initiated the Review which consisted of four main phases:

1. Defining the HandyDART services objectives;
2. Conducting a policy and peer review, benchmarking existing HandyDART service and policies against other comparable Canadian agencies and Custom Transit best practices;
3. Evaluation of service delivery options; and
4. Final recommendation to the TransLink Board

As part of the Custom Transit Service Delivery Review, TransLink retained Nelson\Nygaard and PwC as consultants to support the review process. Nelson\Nygaard completed the first two phases of the review in December 2016, and used their findings to establish alternative service delivery (“ASD”) models that would likely provide VFM.



PwC’s role in the Custom Transit Service Delivery Review was to incorporate the different delivery model inputs into a public sector comparator (“PSC”) and complete a VFM analysis. The cost inputs for the different delivery models were developed using information gathered from Nelson\Nygaard’s review, and through engagement with TransLink. As part of the PSC, scenario analysis examined how effective each delivery model is at managing costs under different scenarios, and who bears the risk associated with this cost. The outputs from the PSC were incorporated into the final Multiple Account Evaluation (“MAE”) used by TransLink and the project Stakeholder Advisory Committee to prepare the final recommendation to the TransLink Board.

2. Financial Analysis

Approach

The financial analysis of the ASD models involved a step by step process with the information gathered at each step being added to incrementally and combined to produce the final results. The first stage involved the identification of potential ASD models and a qualitative screening exercise to shortlist those that should be taken forward for quantitative analysis as part of the PSC work.

The second stage was focused on the quantitative analysis and included the development of a reference cost base for each of the shortlisted delivery models; the identification and quantification of common cost risks associated with delivering Custom Transit services; sensitivity analysis on each of the models; and, the development of a VFM measure for each was completed. The process is summarized below.

Alternative Service Delivery Models

The policy review by TransLink and Nelson\Nygaard established five potential alternative service delivery models that could be used to deliver HandyDART services. Following an initial review of the considered alternative service delivery models, an additional two service delivery models (#6 and #7) were identified. These models were included in the VFM analysis. These are models are summarized below:

Table 1 – Potential Delivery Models

Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Single Contractor, Most Functions, including Customer Service	Single Contractor, Most Functions, Customer Service In-house	Multiple Contactors, Most Functions (Functions shared amongst Contractors)	Single Contractor, Trip Delivery, and Fleet Maintenance	Multiple Contractors, Trip Delivery, Fleet Maintenance, and Facility Ownership	In-House (Public Sector Comparator)	Multiple Contractors, Most Functions (Functions individually allocated to separate Contractors)	Multiple Contractors, Call Centre, Trip Delivery, Fleet Maintenance, and Facility Ownership

The seven models under consideration included an almost completely in-house model (Model 5) with the majority of services under the direct control of TransLink and Coast Mountain Bus Company (“CMBC”) and a range of other options with varying levels of contracting out of specific functions.

Existing Service Delivery Model

In addition to the new model alternatives, the existing service delivery model was included in the VFM analysis as a potential service delivery model.

Qualitative Screening

TransLink and Nelson\Nygaard performed a qualitative screening of these eight models to determine which should be taken forward for quantitative analysis based as part of the PSC work.

The qualitative screening process evaluated the eight service delivery models by applying Custom Transit objectives to each service model function.



At the conclusion of the qualitative screening, it was determined that Model 2 would not be taken forward for quantitative analysis. Below is a summary of the models that were determined to likely provide VFM, and taken forward for quantitative analysis:

Table 2 – Model Description and Qualitative Evaluation Results

Alternative Service Delivery Model	Description	Taken Forward
Existing	A single contractor is responsible for performance of all major functions, from reservations through service delivery, asset maintenance, and post-trip complaints and commendations. TransLink would retain responsibilities for registration, facility ownership, and facility ownership.	Yes
1: Single Contractor (Most Functions)	A single contractor would be responsible for performance of all major functions, from reservations through service delivery, and asset maintenance. TransLink would retain responsibilities for registration, facility ownership, facility ownership and post-trip complaints and commendations.	Yes
2: Multiple Contactors, Most Functions (Functions shared amongst Contractors)	Multiple contractors would be responsible for trip taking, service delivery, fleet maintenance, and facility ownership. TransLink would be responsible for facility ownership, post-trip complaints and commendations.	No
3: Single Contractor (Trip Delivery, and Fleet Maintenance)	A single contractor would be responsible for service delivery, and fleet maintenance. TransLink would retain responsibilities for registration, call center functions (e.g. reservations, scheduling, dispatching and same-day issues), facility ownership, and post-trip complaints and commendations.	Yes
4: Multiple Contractors (Trip Delivery, Fleet Maintenance, and Facility Ownership)	Multiple contractors would be responsible for service delivery, fleet maintenance, and facility ownership. TransLink would retain responsibilities for registration, call center functions, and post-trip complaints and commendations.	Yes
5: In-House	TransLink would deliver all services ranging from registration through ride delivery, asset maintenance, and customer service. This model is the public-sector comparator.	Yes
6: Multiple Contractors (Most Functions)	This is a variant of Model 1, whereby one contractor would be responsible for performance of all call center functions, and a second contractor would provide ride delivery services. TransLink’s responsibilities would remain unchanged compared to Model 1.	Yes
7: Multiple Contracts (Call Centre and Trip Delivery, Fleet Maintenance, and Facility Ownership)	This is a variant of Model 4, whereby one contractor would be responsible for call center functions, and two additional contractors would be retained to provide service delivery, fleet maintenance, and facility ownership.	Yes

Quantitative Analysis

Six service delivery models plus the existing service delivery model were selected for quantitative analysis as part of the PSC work. A reference cost base was developed for each of the service delivery models that estimated the sum of variable model costs of delivering the service over a fixed period of time.

For the purpose of the PSC analysis, only the variable model costs have been included as these are the cost components that have been identified to vary depending on the service delivery model used. Fixed model costs such as vehicle parts and fuel have been excluded for the purposes of the PSC analysis; these costs would not vary or change TransLink’s risk exposure under the different service delivery models. For instance, TransLink’s exposure to

fuel costs and fuel related risks would be the same regardless of the service delivery model used. Thus, fixed model costs have been excluded from the PSC analysis since it will not impact on the relative rankings of the service delivery models or end results.

Going forward, all references to base cost refer only to the sum of model variable costs. Given that the PSC analysis only incorporates the model variable costs, the cost base referenced does not represent the total cost of HandyDART operations, but provides a point of reference for calculating VFM. The figure below illustrates the relationship between variable, fixed model costs and total HandyDART operating costs.



Assumptions

In developing the cost base for each model the following assumptions were used:

- Employee work hours was assumed to be consistent for each service delivery model at 1,950 per annum;
- A consistent number of trips was assumed for each service delivery model of 1,271,000 per annum;
- The total number of taxi trips will remain constant for each service delivery model, and the planned growth in future service volume will be delivered through HandyDART vehicles; and,
- The underlying assumptions for each cost type was developed by referring to current costs of the service implementation with adjustments made to reflect the amount and type of contracting out or contracting in for each service delivery model.

To develop the cost base for each service delivery model, TransLink, CMBC and Nelson\Nygaard referred to the current contract and invoices for HandyDART services with MVT Canadian Bus, Inc. ("MVT"). In reviewing this information, the following types of costs were identified to be included in the cost base. These are shown in the following table.

Table 3 - Model Description and Qualitative Evaluation Results

Function	Description
Facility Ownership	Amortized purchase cost of facility or facilities that would house all operations and maintenance functions.
Lease Cost for Gateway Office	Costs paid for leasing the space required to house call centre functions at the Gateway location on the 5 th Floor.
Call Centre Labour and Other Admin Costs	Labour and other administrative costs for reservations, scheduling, and dispatching functions at the call centre. This includes Labour costs for staff that handle customer same-day issues such as fielding and responding to estimated vehicle arrival times.
Dedicated Vehicles Labour Costs	Dedicated vehicle consists of a fixed and variable Labour attributable to operation of HandyDART vehicles: <ol style="list-style-type: none"> 1. Fixed component – This consists of Labour costs that are assumed to be fixed regardless of service volume. Employees included in this category consist of road depot supervisors, instructors, transit physical security inspectors, operational managers, and operations supervisors. 2. Variable component – This component consists solely of vehicle operator Labour costs which is assumed to fluctuate based on service volume.
Fleet Maintenance Labour Costs	Fleet maintenance Labour costs consist of costs required to service and perform maintenance on HandyDART vehicles. Costs in category is split into a fixed and variable component <ol style="list-style-type: none"> 1. Fixed component: The fixed component consists of Labour and fringe rates of non-mechanics (i.e. maintenance clerks). 2. Variable component: The variable component consists of Labour and fringe of mechanics.
Post-Trip Complaints Labour Costs	This category consists of Labour costs for customer service agents who are responsible for responding to post-trip issues. This cost component is assumed to be nil for delivery models where the function is retained by TransLink. This is due to the fact that customer feedback services would be absorbed by TransLink’s current customer service department; hence no additional cost is required.
Taxi Dispatcher Labour Costs	This cost category consists of Labour costs of taxi dispatchers who are responsible for assigning trips to taxis and other communications.
Additional TransLink Labour Costs to Monitor Multiple Contractors	For service delivery models where multiple contractors are retained, an additional TransLink staff is required to monitor and coordinate with contractors.
Additional Labour Contractor Costs for 8 Operations Management Staff	For service delivery models where multiple contractors are retained to deliver trips, eight additional operations management staff are required to monitor and coordinate overall operations.

Based on this information, a cost input schedule was produced by Nelson\Nygaard which details the number of staff, and experience level required to perform each function. The number of staff required was multiplied by their respective salary to determine total cost by function. This cost schedule served to be the cost base estimate for functions under the “contracted” category. TransLink and Nelson\Nygaard subsequently developed a cost base estimate for the “in-house” category by determining the equivalent number, and level of TransLink staff required to undertake each function.

These two cost schedules were used to form the cost base for each service delivery model, based on its respective mix of contracted and in-house functions. The base cost figures for each service delivery models were forecasted over a five year operating period. Additional assumptions were made regarding mobilization and procurement



activities required for each service delivery model. Further, to support the development of the financial model used to perform the financial analysis, general assumptions were made around timing and inflation. The financial model is a monthly cash flow model that covers the operational contract term, which is estimated to be five years for the purposes of this financial analysis. Cash flows are assumed to occur at the end of the financial period in which they are incurred.

Risk Analysis and Quantification

A risk analysis process was performed once a reference cost base was established for each service delivery model.

Each service delivery model will manage risks associated with the delivery of Custom Transit services differently. To enable a like-for-like comparison between the costs of delivering the services under the different service delivery models, an adjustment was incorporated into the VFM analysis to compare delivery models on a risk adjusted basis. A review identified and quantified potential service delivery risks, as well as the relative impact that each risk would have under the different delivery models. For this exercise, service delivery risk was defined as potential events that may have a direct impact on delivery costs. To the extent that TransLink retains these risks, they are included in the estimated service delivery costs. It is generally accepted that the key to achieving VFM is the allocation of risks to the party that be best placed to manage them by undertaking effective and cost-effective risk mitigation strategies.

The initial step in the process was to identify all risks that would be relevant to HandyDART services and populate these into a draft risk matrix under each of the delivery models. The risk matrix was developed by PwC, Nelson\Nygaard, TransLink and CMBC. The potential risks were separated into three themes:

- **Operations and Maintenance** – risks that would materially impact the cost of delivering the forecast Custom Transit service as expressed through operating costs and maintenance costs;
- **Procurement** – risks associated with securing a service delivery model that is able to meet the project objectives. This would include issues related to the ability to run a strong competitive procurement that would deliver competitive bids and an ability of potential bidders to perform and meets its obligations through the contract length; and,
- **Service Volume** – risks related to changes in demand for Custom Transit.

Risks were quantified after identification by: Assigning a probability that the risk would occur between 0% to 100%;

- Estimating the cost impact if the risk were to occur under the following three scenarios:
 - Most likely outcome – cost of the most likely outcome
 - Low Case – cost estimated in upside outcome that occurs in 1 in 20 events
 - High Case – cost estimated in downside outcome that occurs 1 in 20 events
- Assigning the portion of risk that is retained by TransLink (and the portion transferred to the third-party service providers) under each delivery model. Risk allocation was assigned to the party best placed to manage a particular part of the project.

The risk assessments were discussed and challenged by the working group and project team until consensus on each of the risks was reached. The expected allocation of each risk to either TransLink or contractors was also discussed and agreed. At this stage, all risks associated with the cost base are assumed to be retained by TransLink.

Sensitivity Analysis

Following the completion of the risk analysis a number of sensitivities were run to test how the results would adjust for changes in certain assumptions. The sensitivity analysis considered how changes to procurement cost, mobilization cost, contractor and TransLink cost, and inflation, and discount rate would affect the results.

Preliminary VFM Assessment

The table below presents the VFM of HandyDART services under the different service delivery models.



Table 4 – Value for Money Results (\$Millions)

Value for Results (5 year operating period)							
	Existing	Alternative 1	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7
Value for Money (%)	2.7%	3.2%	2.0%	-1.7%		3.0%	0.7%

*Alternative 5 is the PSC. Therefore, no VFM calculation is required.

The results of the VFM analysis show that with the exception of Model 4, all service delivery models provide value for money when compared to the PSC. These savings may be modest when considered in the context of TransLink’s overall budget but, at the top end, show a variance of 3.2% between models. The results of the quantitative analysis can now be taken forward and considered alongside the other evaluation criteria that has been developed prior to a final decision being taken by the TransLink board.

3. Conclusion

Summary Findings

The results of the PSC analysis indicated that with the exception of Model 4, all other ASD models provide value for money when compared to the PSC. Comparing the ASD models that provide value for money, the Existing Model, Model 1, and Model 6 are the superior performers. The financial analysis detailed within this report has been developed using assumptions that consider the most likely outcomes in terms of project costs for each ASD model. The process has included undertaking detailed risk analysis on how each model may respond to certain events over a contract term in addition to the running of sensitivities. Each of these steps has helped to reduce the inherent uncertainty that comes when making financial forecasts based on the available assumptions. The difference in performance across ASD models is significant at the top end with a 3.2% variance between the best performing model and the PSC. However, the total cost differential may be viewed as modest when considered in the context of TransLink’s overall budget. The results of the sensitivity analysis show that the greatest risk to the conclusions presented here are related to increases in the labour costs of a contractor that would be reflected in its bid price should the project proceed to procurement. There are numerous possible causes of this with one of the more pertinent being issues that may prevent TransLink from running an effective procurement.

Based on these results the Existing Model, Model 1 and Model 6 are best placed to meet the financial objectives of TransLink, followed by Model 3. These results should be considered in aggregate with other criteria in preparation of a final recommendation to the TransLink Board.