

# GEORGE MASSEY TUNNEL REPLACEMENT PROJECT




## MONTHLY STATUS REPORT AUGUST 2016

FINAL

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## PROJECT STATUS DASHBOARD

Scope	Status*
<ul style="list-style-type: none"> <li>A Project Definition Report draft reference concept has been completed, which includes the main bridge and interchanges at Steveston Highway, Highway 17A and Westminster Highway as well as Highway 99 corridor improvements from Bridgeport Road in Richmond to Highway 91 in Delta. The reference concept incorporates a continuous dedicated transit/HOV lane between Highway 91 in Delta and Bridgeport Road in Richmond, which will also support potential future rapid transit expansion.</li> <li>The Project Definition Report was released on December 16, 2015.</li> <li>The Project scope, along with the draft reference concept, will be refined following technical studies, the environmental review and Concession Agreement development.</li> </ul>	
Schedule	
<ul style="list-style-type: none"> <li><b>Consultation:</b> Public and stakeholder consultation on the Project Definition Report has been completed; the Phase 3 - Project Definition Report Consultation Summary Report was released in March.</li> <li><b>Environment:</b> Finalized EA Application and formally submitted to EAO on July 27, 2016. The Project Team is engaged in the Application Review Phase, including the public comment period and other consultation activities. The ALC Application was submitted to the Agricultural Land Commission for approval on June 24, 2016.</li> <li><b>Technical Studies:</b> Engineering, geotechnical and other technical studies are underway to further inform the draft reference concept and in support of the procurement process.</li> <li><b>Procurement:</b> A business case has been completed. The Request for Qualifications (RFQ) has been issued for registered parties.</li> <li><b>All key Project activities are proceeding on schedule.</b></li> </ul>	
Cost	
<ul style="list-style-type: none"> <li>Oversight of the Project was transferred to Transportation Investment Corporation (TI Corp) as of July 1, 2016. TI Corp is now incurring costs against the capital project budget.</li> <li>The forecast for the current fiscal year is \$31M.</li> <li>To date, \$8.9M has been spent.</li> <li>The estimated capital cost of the Project is \$3.5B.</li> </ul>	

\* **Status Legend:** Green = No issues to report; Yellow = Minor issues to report; Red = Significant issues to report.

## INTRODUCTION

### Project Overview

The George Massey Tunnel is an important link in the regional and provincial transportation system, carrying an average of 80,000 vehicles each day. It connects to key gateways such as Vancouver International Airport (YVR), the Peace Arch and Pacific Canada-U.S. border crossings, BC Ferries' Tsawwassen terminal, Deltaport and the Boundary Bay Airport. It is a vital goods movement route that fuels our local, regional, provincial and national economies, and a key access point for businesses in Delta, Surrey, Richmond, and Tsawwassen First Nation.

Since the Tunnel opened in 1959, Metro Vancouver's population and economy have grown, and its population is forecast to continue to grow by more than one million people over the next 30 years. Without improvements to this crossing, economic growth and regional livability will be constrained by congestion and increasing travel times for commuters, goods movers, commercial traffic and other traffic.

With growing concerns about public safety and congestion in and near the Tunnel, in 2012, the government of B.C. commenced a study of options to address the Highway 99 corridor. After analysis and consultation, a new bridge to replace the Tunnel emerged as the most appropriate and supported solution. Construction is anticipated to begin in 2017.

### Project Goals

Based on the Ministry's mandate and results of consultation to date, six primary goals have been identified for the Project:

1. **Reduce congestion.** Improve travel times and reliability for all users.
2. **Improve safety.** This includes improving traffic and seismic safety, as well as emergency response capabilities.
3. **Support trade and commerce.** Improve access to local businesses and gateway facilities, and improve travel time reliability for goods movers and service providers.
4. **Support increased transit on the Highway 99 corridor.** Provide dedicated transit/HOV lanes on the new bridge to improve travel time reliability and add capacity for long-term transit improvements.
5. **Support options for pedestrians and cyclists.** Provide a multi-use pathway on the new bridge to connect cycling and pedestrian corridors in Richmond and Delta.
6. **Enhance the environment.** Enhance the environment under the new bridge and in the Project right-of-way on Deas Island.

### Key Milestones Achieved to Date

Key milestones achieved to date are listed by category below. The reports can be found within the Document Library of the George Massey Tunnel Replacement Project website.

<b>Consultation</b>	<ul style="list-style-type: none"> <li>• Project Definition Report</li> <li>• Completion of Phase 1, Phase 2 and Phase 3 Consultation, including summary reports</li> </ul>
<b>Environmental Review</b>	<ul style="list-style-type: none"> <li>• Baseline studies</li> <li>• Application Information Requirements</li> <li>• Environmental Assessment Application</li> </ul>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>• ALC Application</li> </ul>
<b>Design/Engineering</b>	<ul style="list-style-type: none"> <li>• Draft reference concept for EA application</li> <li>• Project Definition Report Draft Reference Concept</li> <li>• Multiple traffic data and analysis reports</li> <li>• Multiple geotechnical studies</li> </ul>
<b>Procurement</b>	<ul style="list-style-type: none"> <li>• Business Case</li> <li>• Capital Cost Estimate Report</li> <li>• Operations, Maintenance and Rehabilitation Base Cost Estimate Report</li> <li>• Procurement Options Report</li> <li>• Risk Report</li> <li>• RFQ Issued</li> </ul>

### August 2016 Highlights

<b>Environment</b>	<ul style="list-style-type: none"> <li>• Participated in EAO-led public open house on August 17<sup>th</sup>.</li> </ul>
<b>Construction</b>	<ul style="list-style-type: none"> <li>• Completed static load testing and gathered all related data.</li> </ul>
<b>Procurement</b>	<ul style="list-style-type: none"> <li>• Received RFQ responses and commenced evaluation.</li> </ul>

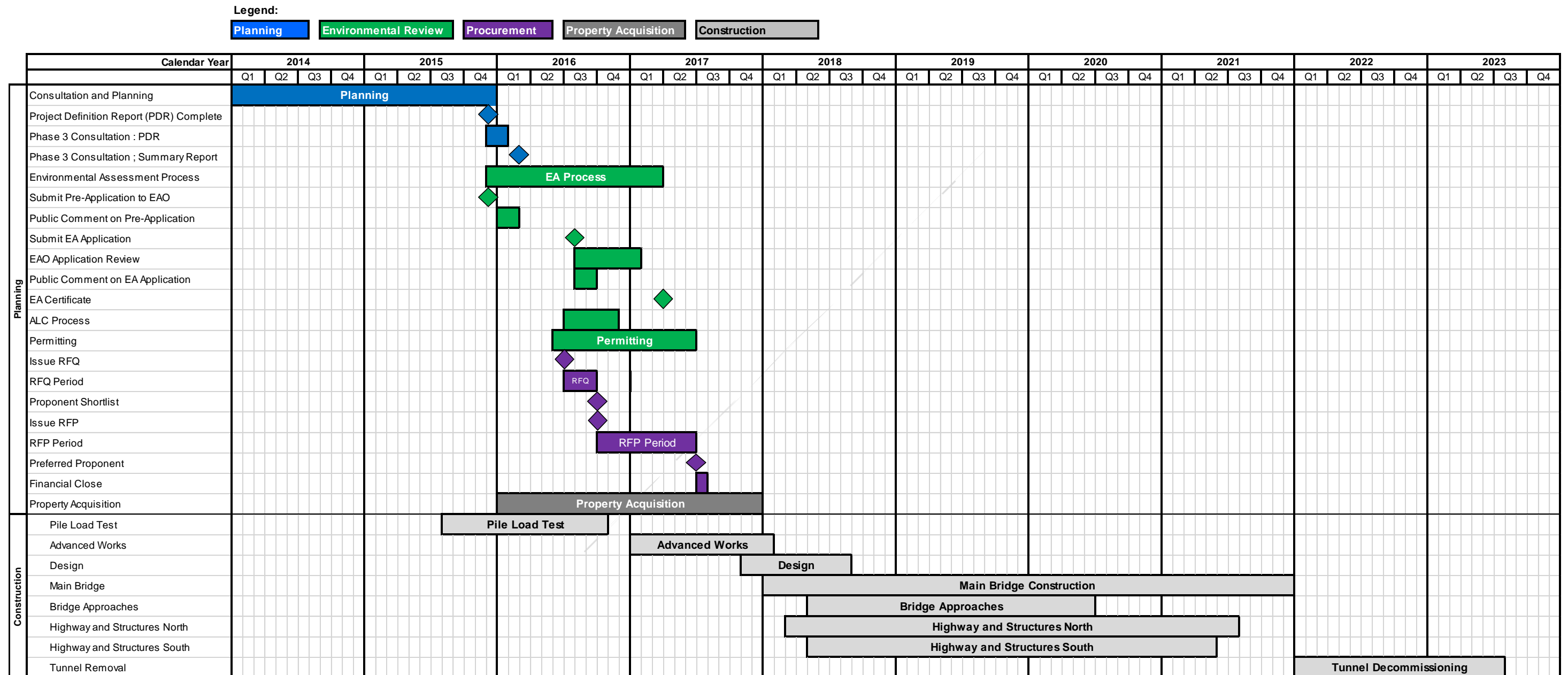
### Report Structure

The table below provides a brief description of the contents of this report.

<b>1. Schedule</b>	<ul style="list-style-type: none"> <li>• High-level Project schedule including major milestones and deliverables</li> </ul>
<b>2. Project Management</b>	<ul style="list-style-type: none"> <li>• Objectives, monthly accomplishments and upcoming activities related to Safety, Quality and Project Controls</li> </ul>
<b>3. Project Development</b>	<ul style="list-style-type: none"> <li>• Scope, monthly accomplishments and upcoming activities for the each of the major disciplines: Stakeholders, Environment, Agriculture, Aboriginal Groups, Procurement, Engineering, Construction and Property</li> </ul>
<b>4. Cost Report</b>	<ul style="list-style-type: none"> <li>• Fiscal year cost summary</li> </ul>
<b>5. Risk Management</b>	<ul style="list-style-type: none"> <li>• Key risks and mitigation strategies</li> </ul>

# 1 SCHEDULE

The following schedule depicts deliverables, milestones and associated dates and timelines for the planning and procurement phases of the Project as well as high-level construction timelines.



## 2 PROJECT MANAGEMENT

### 2.1 Safety

<b>Objectives:</b>	<ul style="list-style-type: none"> <li>• Provide clear information on health and safety responsibilities.</li> <li>• Ensure all required training is provided and evaluated.</li> <li>• Ensure a safe worksite at all times.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Conducted Occupational Health and Safety Committee meeting.</li> <li>• Conducted Project safety orientations at the Project Office.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Provide ongoing safety training to project team.</li> <li>• Conduct Occupational Health and Safety Committee meetings.</li> </ul>

### 2.2 Quality

<b>Objectives:</b>	<ul style="list-style-type: none"> <li>• Ensure design services and construction works delivered to the Province are implemented within a quality standard consistent with Ministry standards and ISO 9001.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Provided Quality Management input to draft Project Agreement and RFP.</li> <li>• Conducted one internal audit on Health and Safety Management.</li> </ul> <p>For the Pile Load Test:</p> <ul style="list-style-type: none"> <li>• Ongoing quality management input as required.</li> <li>• Ongoing review and monitoring of contractor quality management activities including quality control and quality assurance activities per contractor's Quality Management Plan, and work plans for Adjacent Structures Monitoring, Pile Installation, Static Load Test and Construction Site Health, Safety and Environment Management.</li> <li>• Ongoing daily site surveillance monitoring.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Continue quality management input and support to procurement activities.</li> <li>• Carry out internal audits.</li> </ul> <p>For the Pile Load Test:</p> <ul style="list-style-type: none"> <li>• Continue ongoing daily site surveillance monitoring; the focus will be on completing the static load test and final reporting.</li> <li>• Complete project close out activities such as review of final reporting and records handover.</li> </ul>

### 2.3 Project Controls

<b>Objectives:</b>	<ul style="list-style-type: none"><li>• Effectively manage the Project's contracts, scope, schedule and cost.</li></ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"><li>• Held regular monthly Project controls meetings with all discipline leads.</li><li>• Ongoing development and updates to the Project schedule.</li></ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"><li>• Conduct monthly project controls meetings with all discipline leads.</li><li>• Monitor project schedule.</li></ul>



### 3 PROJECT DEVELOPMENT

#### 3.1 Stakeholders

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Management of phased and ongoing public and stakeholder consultation, community relations and Project communications.</li> </ul>
<b>Accomplished in month:</b>	<p><i>Meetings were held with the following stakeholder groups:</i></p> <p>Agriculture</p> <ul style="list-style-type: none"> <li>• Delta Farmers Institute</li> <li>• Richmond Farmers Institute</li> </ul> <p>Government</p> <ul style="list-style-type: none"> <li>• Metro Vancouver</li> <li>• City of Richmond</li> <li>• Corporation of Delta</li> <li>• Environmental Assessment Office</li> </ul> <p>Other</p> <ul style="list-style-type: none"> <li>• Cycling Working Group</li> <li>• Canadian National Railway</li> <li>• Fraser River Industrial Association</li> <li>• Vancouver Airport Fuel Facility</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Complete EA Public Comment Period.</li> <li>• Continued stakeholder engagement.</li> <li>• Business and community group presentations on request.</li> </ul>

#### 3.2 Environment

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Development of the Environmental Assessment (EA) Application as well as management of the Project monitoring and permitting process.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Participated in August 17<sup>th</sup> public Open House in Delta as part of the EA Application public comment period.</li> <li>• Received and reviewed comments from the public on the EA Application.</li> <li>• Received and reviewed comments from the Technical Working Group on the EA Application.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Participate in EAO-led public open houses.</li> <li>• Participate in EAO-led Technical Working Group meetings</li> <li>• Review and respond to public comments on the EA Application.</li> <li>• Review and respond to comments from the Technical Working Group on the EA Application.</li> <li>• Continue consultation with stakeholders on the EA Application.</li> <li>• Submit permit applications to the Ministry of Forests Lands and Natural Resources and the Department of Fisheries and Oceans.</li> </ul>

### 3.3 Agriculture

<b>Scope:</b>	<ul style="list-style-type: none"> <li>Identify and work with farmers and other agricultural stakeholders potentially affected by the Project.</li> <li>Prepare and submit the application to the Agricultural Land Commission (ALC).</li> <li>Continue to revise detailed Project design and prepare appropriate plans to mitigate agricultural effects to enhance agricultural land use.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>Participated in August 17<sup>th</sup> Delta Open House as part of the Environmental Assessment Application.</li> <li>Met with Agricultural Land Reserve (ALR) property owners and operators.</li> <li>Met with the City of Richmond and the Delta Farmers Institute.</li> <li>Continued detailed agricultural ditch mapping and drainage system analysis.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>Meet with ALR property owners and operators.</li> <li>Meet with farmers and stakeholders including the City of Richmond (CoR), the Corporation of Delta (CoD), the Ministry of Agriculture, the Richmond Farmers Institute (RFI) and the Delta Farmers Institute (DFI).</li> <li>Arrange and participate in drainage/irrigation system workshops with the CoR, the CoD, the RFI and the DFI.</li> <li>Attend the ALC application hearing.</li> </ul>

### 3.4 Aboriginal Groups

<b>Scope:</b>	<ul style="list-style-type: none"> <li>Consultation and engagement with Aboriginal Groups.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>Conducted EA Application and Project update meetings with 4 Aboriginal Groups.</li> <li>Supported Aboriginal Groups in their review and comment on draft documents required for the environmental assessment (EA) process.</li> <li>Responded formally to comments received from Aboriginal Groups on EA Application.</li> <li>Responded to questions and information needs of Aboriginal Groups through the Ministry's ongoing consultation program.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>Continue consultation with Aboriginal Groups including meetings, community meetings and other activities in accordance with each group's Aboriginal Consultation Plan.</li> <li>Revise each Aboriginal Group's Aboriginal Consultation Plan as required.</li> <li>Respond to and consider input from Aboriginal Groups on the Effects Assessment (Part B) and Aboriginal Consultation (Part C) sections of the EA Application, as well as appendices to the Application.</li> <li>Support Aboriginal Groups in their review of the EA Application.</li> <li>Respond to questions and information needs of Aboriginal Groups through the EAO-led working group process and through the Ministry's consultation program.</li> <li>Prepare draft Aboriginal Consultation Report 3 for Aboriginal Groups' input.</li> </ul>

### 3.5 Procurement

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Development of a business case, Request for Qualifications (RFQ), Request for Proposals (RFP) and subsequent evaluation of submissions.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Finalized RFQ evaluation materials.</li> <li>• Received RFQ qualification responses from interested parties.</li> <li>• Commenced evaluation of RFQ qualification responses.</li> <li>• Ongoing development of the draft Concession Agreement with further advancement of technical specifications including traffic management during construction.</li> <li>• Continued to review RFP data room materials.</li> <li>• Continued to advance Instructions to Proponents (RFP: Volume 1).</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Complete review of RFP data room.</li> <li>• Continue RFQ evaluation and select shortlist.</li> <li>• Finalize Instructions to Proponents (RFP: Volume 1) and draft Concession Agreement (RFP: Volume 2).</li> </ul>

### 3.6 Engineering

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Development of a reference concept, technical requirements/specifications and related technical studies for the Project.</li> <li>• Travel demand forecasting, traffic operations modelling, traffic data collection, and other related services in support of the Project.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Completed highway reference concept.</li> <li>• Completed structures reference concept.</li> <li>• Completed drainage report.</li> <li>• Completed cyclist/pedestrian facilities reference concept.</li> <li>• Completed staging concepts.</li> <li>• Reviewed Pile Load Test results.</li> <li>• Continued drafting technical schedules for RFP.</li> <li>• Provided technical support to EA process, procurement and stakeholder consultation.</li> <li>• Supported review of RFQ submissions.</li> <li>• Completed 17A Interchange model.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Review reference concept including Road Safety Audit.</li> <li>• Complete draft technical schedules for RFP – Schedule 4 (Design and Construction) and Schedule 5 (Operations, Maintenance and Rehabilitation).</li> <li>• Revise reference concept to reflect results of Pile Load Test.</li> <li>• Review and update Project Risk Registry.</li> <li>• Provide technical support for procurement including ongoing participation in RFQ evaluations and drafting of technical schedules for RFP.</li> </ul>

### 3.7 Construction

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• The overall planning, coordination and implementation of construction activities.</li> <li>• Current construction works include: Pile Load Test (Geotechnical Investigations).</li> </ul>
<b>Accomplished in month:</b>	<p>Pile Load Test Update:</p> <ul style="list-style-type: none"> <li>• Completed on site assembly of load frame.</li> <li>• Completed initial static load testing and gathered all related data.</li> <li>• Completed additional static load test.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Complete demobilization and site reinstatement.</li> <li>• Complete final technical report.</li> </ul>

### 3.8 Property

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Review of properties along the Project corridor and development of a property acquisition plan.</li> <li>• The acquisition of land required to deliver the Project.</li> <li>• A total of 36 properties have been identified for acquisition, the majority of which are partial acquisitions.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Received four draft appraisals and began preparation of offers to owners.</li> <li>• Completed two property surveys.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Continue property negotiations with owners to secure final agreements or agreements in principle.</li> <li>• Meet with affected stakeholders.</li> <li>• Finalize property acquisition plans on remaining properties.</li> <li>• Requisition appraisal reports on selected properties.</li> <li>• Conduct legal surveys on selected properties.</li> </ul>

## **4 COST REPORT**

### **4.1 Project Cost Estimate**

Capital costs are estimated to be \$3.5 billion. The detailed cost estimate will be refined and finalized after completion of the Pile Load Test and the Environmental Assessment public comment period.

### **4.2 Current Fiscal Year Financials**

- Oversight of the Project was transferred to Transportation Investment Corporation (TI Corp) as of July 1, 2016. TI Corp is now incurring costs against the capital project budget.
- The forecast for the current fiscal year is \$31M.
- To date, \$8.9M has been spent.

## **5 RISK MANAGEMENT**

The Project team has developed a risk register for the Project, including risk mitigation strategies. The risk register is reviewed on a regular basis and will evolve as project development progresses.

Soft soil conditions have been identified as a risk. The ministry undertook additional geotechnical investigations (Pile Load Test project) to test soil conditions and confirm foundation requirements for the bridge. The Pile Load Test was completed in August and the final report is expected in September/October.

## 6 APPENDIX A – PROJECT PHOTOS



*August 17<sup>th</sup> Delta Open House*





*Instrumentation testing prior to static load test*



*Setup for static load testing*