



transportation  
investment  
corporation

# Monthly Status Report

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Reporting Period: April 2022

# 1. Introduction

## 1.1 Project Overview

The Broadway Subway Project (“BSP” or “the Project”) is a 5.7-kilometre Advanced Light Rapid Transit (ALRT or SkyTrain) extension to the existing Millennium Line SkyTrain system from its current terminus at VCC-Clark Station to a new western terminus station at Arbutus Street and West Broadway. The Project scope includes:

- 700 m of elevated guideway extending west from the existing VCC-Clark Station
- 5 km of underground tunnel
- 6 new underground stations:
  - Great Northern Way – Emily Carr Station;
  - Mount Pleasant Station;
  - Broadway – City Hall Station – designed to integrate with the Canada Line Broadway-City Hall Station;
  - Oak – VGH Station;
  - South Granville Station;
  - Arbutus Station – designed to allow for a future phase of investment to connect rapid transit to UBC.

The Broadway Subway is scheduled to open in 2025.

Additional information and updates about the Project can be found on the Project’s website at <https://www.broadwaysubway.ca/>.

## 1.2 Project Delivery

Transportation Investment Corporation, a provincial Crown corporation, is delivering and overseeing this \$2.827 billion Project. The Project is being delivered under B.C.’s Community Benefits Agreement and the skilled trades workforce will be provided by B.C. Infrastructure Benefits Inc.

Broadway Subway Project Corporation (BSPC) has been selected as the design-build contractor.

The Broadway Subway Project is a key part of the rapid transit program in Metro Vancouver’s Mayors’ Council 10-Year Vision. The Vision is funded by the governments of B.C. and Canada, TransLink, and City of Vancouver. Once constructed, the Broadway Subway will be integrated with the regional transit network and operated and maintained by TransLink.

## 1.3 Project Goals

Based on the mandate and results of consultation, seven primary goals have been identified for the Project:

- **Transportation:** Fast, reliable, and efficient service that meets current and future capacity needs and integrates with the regional transit network and other modes of transportation.
- **Financial:** Affordable and cost-effective.
- **Environment:** Attracts new riders and reduces vehicle kilometres travelled.
- **Urban Development:** Supports current and future land use development along the Broadway Corridor and integrates with the surrounding neighbourhoods through high-quality urban design.
- **Economic Development:** Creates jobs and facilitates the efficient movement of goods and services during operation.
- **Social and Community:** Safe, secure, and accessible service that improves access to rapid transit for all, while managing impacts on heritage and archaeology.
- **Deliverability:** Constructible and operable.

## 2. Project Dashboard

		Objectives	Project Status	Comments
Project Delivery	Scope	Project delivered within the approved scope.	●	<ul style="list-style-type: none"> <li>The delivery is within scope. The Project includes the delivery of a primarily tunneled extension to the existing Millennium Line SkyTrain system from VCC-Clark Station to a new station at Arbutus Street and is on track.</li> </ul>
	Schedule	Project delivered within the approved schedule.	●	<ul style="list-style-type: none"> <li>The start of piling activities was delayed at some construction locations.</li> <li>Recovery measures have been implemented by Broadway Subway Project Corporation and is being monitored closely.</li> </ul>
	Budget	Project delivered within the approved budget of \$2.827 billion.	●	<ul style="list-style-type: none"> <li>The project spending for the month of April 2022 was \$21.1 million and total Project spending to date is \$729.7 million. Total Federal Recoveries to date are \$209.5 million and City of Vancouver contribution is \$100.3 million. The Project is forecast to be delivered within budget.</li> </ul>
	Safety	Take every reasonable step to ensure that work is performed safely and in compliance with all applicable safety regulations, and in accordance with government policy.	●	<ul style="list-style-type: none"> <li>The health and safety management program is being monitored.</li> <li>Regular project site visits are being performed to oversee health and safety performance.</li> <li>Monitored conformance to COVID-19 safety requirements.</li> <li>There has been one (1) lost time injury for the Project.</li> <li>Lost Time Injury Frequency Rate (LTIFR) for the Project is 0.23. The average injury rate for Mechanized Tunnel Boring Construction in 2020 was 1.7 per <a href="#">WorkSafeBC</a>.</li> </ul>
	Quality	Implement and maintain an effective Quality Management System.	●	<ul style="list-style-type: none"> <li>Quality monitoring and auditing of select work activities and processes continues.</li> <li>Review of quality documents submittals, as they are received, continues.</li> </ul>
	Environmental	Ensure work is performed in an environmentally responsible manner.	●	<ul style="list-style-type: none"> <li>Site specific environmental workplans are being followed.</li> <li>Weekly environmental monitoring reports being submitted.</li> <li>Ongoing work to update contaminated sites management plans for all stations.</li> <li>Ongoing monthly Province led audits of environmental program.</li> </ul>
	Design and Construction	Provide design and technical oversight, coordinate and manage activities on site, and conduct compliance reviews.	●	<ul style="list-style-type: none"> <li>Ongoing design and construction activities as per the recovery schedule.</li> <li>Excavation, piling, utility work and traffic decking is progressing.</li> </ul>
	Community Benefits	Work collaboratively with BC Infrastructure Benefits Inc. (BCIB) to successfully implement the Community Benefits Agreement (CBA).	●	<ul style="list-style-type: none"> <li>Ongoing coordination with BCIB on permitting and future BCIB resource requirements.</li> </ul>

Partners / Stakeholders	Indigenous Groups	Continue to build and maintain a positive collaborative working relationship.	●	<ul style="list-style-type: none"> <li>Continued engagement with Indigenous Groups in relation to the Project and cultural recognition.</li> <li>Continued Project-specific agreement discussions with Indigenous Groups.</li> </ul>
	Third Parties	Continue to build and maintain positive relationships with Project Partners and other third parties.	●	<ul style="list-style-type: none"> <li>Ongoing third-party engagement for successful implementation.</li> </ul>
	Public and Stakeholder Engagement	Continue to build and maintain positive relationships with the community and other stakeholders.	●	<ul style="list-style-type: none"> <li>Ongoing engagement with local businesses, stakeholders, residents, and the public continued.</li> </ul>

Status	Description
●	Managing critical issues, negotiating resolution; action required immediately
●	Managing some issues, negotiating resolution; action required in the near term
●	On track; no action required

### 3. Project Documents and Achievements to Date

Project Delivery	Project Planning and Development	<ul style="list-style-type: none"> <li>Business Case released (2018).</li> <li>Cost Report released (2018).</li> <li>Project Overview released (2018).</li> <li>Risk Report released (2018).</li> <li>Strategic Options Whitepaper released (2018).</li> </ul>
	Environmental	<ul style="list-style-type: none"> <li>Environmental technical studies complete (2017-2018).</li> <li>Environmental Socio-Economic Report complete (2020).</li> <li>BSPC Construction Environmental Management Plan finalized (2021).</li> <li>Environmental Workplans complete (2021).</li> <li>First annual environmental report submitted (2021).</li> </ul>
	Design and Construction	<ul style="list-style-type: none"> <li>Geotechnical studies complete (2016-2017).</li> <li>Reference concept design complete (2018).</li> <li>Traffic modelling complete (2017-2019).</li> <li>Geotechnical Subsurface Baseline Report complete (2019).</li> <li>Geotechnical investigations commenced (2020).</li> <li>Building abatement complete (2021).</li> <li>Building demolitions at station sites complete (2021).</li> <li>Piling complete at Mount Pleasant Station and Broadway City Hall (2021).</li> </ul>

Partners/ Stakeholders		<ul style="list-style-type: none"> <li>• Piling complete on north side of Oak-VGH, south side of Granville station, and south side of Arbutus station (2022).</li> <li>• Traffic deck installation complete on Mount Pleasant station, north side of Broadway City Hall, north side of Oak-VGH, south side of South Granville (2022).</li> <li>• Excavation at Great Northern Way complete. (2022)</li> </ul>
	Province/Other Works	<ul style="list-style-type: none"> <li>• Tunnel Boring Machine power – BC Hydro (2019).</li> <li>• Propulsion Power Substations including upgrade to dedicated power at VCC-Clark Station – BC Hydro (2019).</li> <li>• Utility relocate at Main Street – TELUS (2019).</li> <li>• Utility relocates at Great Northern Way – TELUS/FortisBC/BC Hydro (2019).</li> <li>• Civil construction and utility relocate at Arbutus and Cambie – TELUS (2020).</li> <li>• Trolley overhead relocations of bus routes 14, 16, and 17 – Coast Mountain Bus Company (2020).</li> <li>• Trolley overhead removals of trolley infrastructure on Broadway – Coast Mountain Bus Company (2020).</li> <li>• Utility relocate at Cambie – FortisBC (2020).</li> <li>• Electrical duct utility relocate at South Granville and Arbutus – City of Vancouver (2021).</li> <li>• 901 Great Northern way building modification completed (2021).</li> </ul>
	Community Benefits	<ul style="list-style-type: none"> <li>• BCIB Contractor and BCIB Subcontractor Agreements in the RFP (2019).</li> <li>• Received BSP appendix to CBA (2019/2020).</li> <li>• Execution of the BCIB Contractor Agreement (2020).</li> <li>• Granted subcontractor permits (2020-2021).</li> <li>• BCIB labour supply ongoing for the Project (2022).</li> </ul>
	Third Parties	<ul style="list-style-type: none"> <li>• Memorandum of Understanding – City of Vancouver (2017).</li> <li>• Memorandum of Understanding – TransLink (2018).</li> <li>• Canada Line Amending Agreement – InTransit BC Phase 1 (2019).</li> </ul>

		<ul style="list-style-type: none"> <li>• South Granville Station Integration Agreement – PCI (2019).</li> <li>• Vancouver Municipal Agreement – City of Vancouver (2020).</li> <li>• Metro Vancouver Accommodation Agreement (2020).</li> <li>• Broadway Subway Project Support Agreement – TransLink (2020).</li> <li>• Canada Line Amending Agreement – InTransit BC Phase 2 (2020).</li> <li>• Integration Agreement – TransLink (2020).</li> <li>• Great Northern Way Station Integration Agreement – PCI (2020).</li> </ul>
	<b>Indigenous Groups</b>	<ul style="list-style-type: none"> <li>• Capacity Agreement for the Environmental and Socio-Economic Review (2018).</li> <li>• Contracting and employment requirements finalized (2020).</li> <li>• Cultural recognition opportunities selected by Indigenous Groups (2021).</li> </ul>
	<b>Public and Stakeholder Engagement</b>	<ul style="list-style-type: none"> <li>• Phase 1 and 2 engagement (led by TransLink and City of Vancouver) <ul style="list-style-type: none"> <li>○ Phase 1 engagement (December 2016 – February 2017).</li> <li>○ Phase 2 engagement (May 2017 – July 2017).</li> </ul> </li> <li>• Broadway Subway Project Engagement (Province-led) <ul style="list-style-type: none"> <li>○ Local business survey (July 2019 – December 2019).</li> <li>○ Community engagement (October 2019 – December 2019).</li> <li>○ Opened Community Office (Fall 2019).</li> <li>○ Established 24/7 construction information line (December 2019).</li> </ul> </li> <li>• Station Design Advisory Process (BSPC-led) <ul style="list-style-type: none"> <li>○ First engagement occurred (November-December 2020).</li> <li>○ First engagement summary report released (2021).</li> <li>○ Second engagement (April 29-May 12, 2021).</li> </ul> </li> </ul>

## 4. April Highlights and Three Month Lookahead

### 4.1 Safety

<b>Scope:</b>	<ul style="list-style-type: none"><li>• Oversee and monitor health and safety:<ul style="list-style-type: none"><li>○ Management plans and systems.</li><li>○ Goals, objectives, and performance metrics.</li><li>○ Roles and responsibilities.</li><li>○ Planning and coordination of major project activities.</li><li>○ Compliance with WorkSafeBC, municipalities, and government agencies.</li><li>○ Continual improvement process.</li><li>○ Risk management.</li><li>○ Statistics and trends.</li></ul></li></ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"><li>• Performed weekly site visits to observe compliance and areas of improvement.</li><li>• Monitored COVID-19 safety requirements.</li><li>• Focused on monitoring the management of public safety.</li><li>• Received the reported Lost Time Injury Frequency Rate (LTIFR) for the Project. The current LTIFR is 0.23, which is less than the 2020 WorkSafe BC average of 1.7, as compared to similar projects.</li></ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"><li>• Monitor changes to COVID-19 safety requirements.</li><li>• Provide health and safety support to involved parties.</li><li>• Perform regular health and safety inspections at project sites.</li><li>• Conduct a project health and safety audit in May 2022.</li><li>• Monitor the management of public safety.</li></ul>

### 4.2 Quality

<b>Scope:</b>	<ul style="list-style-type: none"><li>• Establish quality management Project objectives and performance measures.</li><li>• Manage Project quality management activities.</li><li>• Monitor relevant quality management performance metrics.</li><li>• Outline relevant quality management processes and activities.</li></ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"><li>• BSPC conducted quality audits on select processes related to construction management, systems interface management, design management, and environmental management.</li><li>• The Province's planned audit of BSPC's Environmental Quality Management was delayed to May 2022.</li><li>• Nine new nonconformities were initiated this month. These generally related to construction, health and safety, civil, quality, utilities, traffic, and surveying processes.</li></ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"><li>• Quality system audit on BSPC's Environmental Quality Management.</li><li>• Continue scheduled quality system audits and surveillances.</li><li>• Continue to review quality documentation submissions.</li></ul>



## 4.3 Environmental

<b>Scope:</b>	<ul style="list-style-type: none"> <li>Oversee delivery of measures to manage risk identified in the Environmental and Socio-Economic Review (ESR).</li> <li>Review environmental submissions including the Construction Environmental Management Plan (CEMP) and Environmental Work Plans (EWPs).</li> <li>Monitor CEMP implementation through review of weekly environmental monitoring.</li> <li>Support engagement with Indigenous Groups on CEMP implementation.</li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>Continued collecting contaminated soil information for all stations.</li> <li>Implemented CEMP and weekly/monthly reporting.</li> <li>Advanced permits for City of Vancouver water management and Disposal at Sea.</li> <li>Continued monitoring site-specific noise.</li> <li>Received draft EWP for tunnel boring works.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>Increased on-site environmental surveillance during construction to bi-monthly.</li> <li>Obtain city water management permits for remaining station locations by Q2 of 2022.</li> <li>Finalize EWP for tunnel boring works.</li> <li>Monitor volumes of contaminated soils from station locations requiring disposal.</li> <li>Increased focus on noise monitoring and mitigation to support extended hours of construction.</li> </ul>

## 4.4 Design and Construction

<b>Scope:</b>	<ul style="list-style-type: none"> <li>Provide technical input to the procurement processes.</li> <li>Develop a design concept, technical requirements/specifications, and related technical studies for the Project.</li> <li>Conduct Project related traffic operations modelling, data collection, and other related engineering services.</li> <li>Conduct compliance reviews of work by BSPC.</li> <li>BSPC Design and Construction Activities include: <ul style="list-style-type: none"> <li>Non-Systems Design</li> <li>Systems Design</li> <li>Enabling Works including site preparation, building demolitions and utility relocations</li> <li>Construction of 6 Stations</li> <li>Elevated Guideway Construction</li> <li>Underground Guideway Construction by tunnel boring machine</li> <li>Systems Installation</li> <li>Testing and Commissioning</li> </ul> </li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>Continued Non-Systems and Systems Design.</li> <li>Continued to implement numerous traffic diversions throughout the corridor to accommodate construction.</li> <li>Total piling 80% complete. Utility work continued throughout the corridor.</li> <li>Continued caisson drilling at the elevated guideway.</li> <li>Poured first slab at Great Northern Way station.</li> </ul>

	<ul style="list-style-type: none"> <li>Excavation continuing at Mt. Pleasant station.</li> <li>Traffic Deck panels have been installed on the south side of Oak-VGH station, and north side of South Granville.</li> <li>Excavation ongoing at Broadway City Hall station and cross-over.</li> <li>Piling and excavation began on south side of Oak-VGH station.</li> <li>Piling and excavation began on north side of South Granville station.</li> <li>Shallow excavation continued at south side of Arbutus station.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>Non-Systems and Systems Design continues.</li> </ul> <p><u>Elevated Guideway</u></p> <ul style="list-style-type: none"> <li>Continued caisson installation for guideway columns and bents.</li> <li>Modify QLT parking lot to construct guideway foundations and columns within the footprint of the parking lot.</li> <li>Utility relocation continuing at Carolina Street.</li> </ul> <p><u>Great Northern Way – Emily Carr:</u></p> <ul style="list-style-type: none"> <li>Piling for U Channel and transition box at Great Northern Way.</li> <li>Station structure construction continuing including waterproofing, rebar installation and concrete slab pours.</li> </ul> <p><u>Mt. Pleasant:</u></p> <ul style="list-style-type: none"> <li>Bulk excavation continuing.</li> </ul> <p><u>Broadway - City Hall:</u></p> <ul style="list-style-type: none"> <li>Excavation at Broadway City Hall station and Cross-over block.</li> <li>Remaining girder, and traffic decking install.</li> </ul> <p><u>Oak – VGH:</u></p> <ul style="list-style-type: none"> <li>Continue piling program on south side of Broadway.</li> <li>Excavation south side, girder, and traffic decking install.</li> <li>Bulk excavation.</li> </ul> <p><u>Granville:</u></p> <ul style="list-style-type: none"> <li>Continue piling program on south side.</li> <li>Excavation on south side, girder, and traffic decking install.</li> <li>Bulk excavation.</li> </ul> <p><u>Arbutus:</u></p> <ul style="list-style-type: none"> <li>Continue shallow excavation on south side.</li> <li>Install girder and traffic decking.</li> <li>Commence piling program on north side.</li> <li>Excavate north side, install girder and traffic decking.</li> <li>Capilano Main number 4 excavation.</li> </ul>

## 4.5 Indigenous Groups

<b>Scope:</b>	<ul style="list-style-type: none"> <li>Consultation and engagement with Indigenous Groups on Project materials as well as cultural recognition at stations.</li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>Shared project updates and materials with Indigenous Groups, including environmental management plans and reports, archaeological reports, and construction updates.</li> <li>Continued discussions with Indigenous Groups on art and cultural recognition, including calls for artists and confirmation of selected opportunities.</li> </ul>

<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>• Continue sharing information, identifying and resolving issues, and identifying Project-related opportunities for Indigenous Groups.</li> <li>• Continue engagement with Indigenous Groups related to art and cultural recognition at stations, including supporting the selection of artists by Indigenous Groups.</li> <li>• Work with Indigenous Groups to identify training programs that support Project employment and update labour forecasting.</li> </ul>
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## 4.6 Third Parties

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Engage with TransLink, the City of Vancouver, PCI, InTransit BC, and other third parties during the Project implementation phase.</li> <li>• TransLink Agreement. <ul style="list-style-type: none"> <li>◦ Broadway Subway Project Support Agreement.</li> </ul> </li> <li>• Municipal Agreement. <ul style="list-style-type: none"> <li>◦ Vancouver Municipal Agreement with the City of Vancouver.</li> </ul> </li> <li>• Agreements with InTransit BC and TransLink for technical integration of the new Millennium Line Broadway-City Hall Station with the existing Canada Line Broadway-City Hall Station. <ul style="list-style-type: none"> <li>◦ Canada Line Amending Agreement – InTransit BC Phase 1 (between TransLink and InTransit BC).</li> <li>◦ Canada Line Amending Agreement - InTransit BC Phase 2 (between TransLink and InTransit BC).</li> <li>◦ Integration Agreement with TransLink.</li> </ul> </li> <li>• PCI Agreements. <ul style="list-style-type: none"> <li>◦ South Granville Station Integration Agreement with PCI.</li> <li>◦ Great Northern Way Station Integration Agreement with PCI.</li> </ul> </li> <li>• Accommodation Agreement with Metro Vancouver.</li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>• Continued to engage third parties to ensure successful implementation of executed agreements.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>• Oversight of systems integration.</li> <li>• Coordinate design and construction interface between BSPC and third parties.</li> </ul>

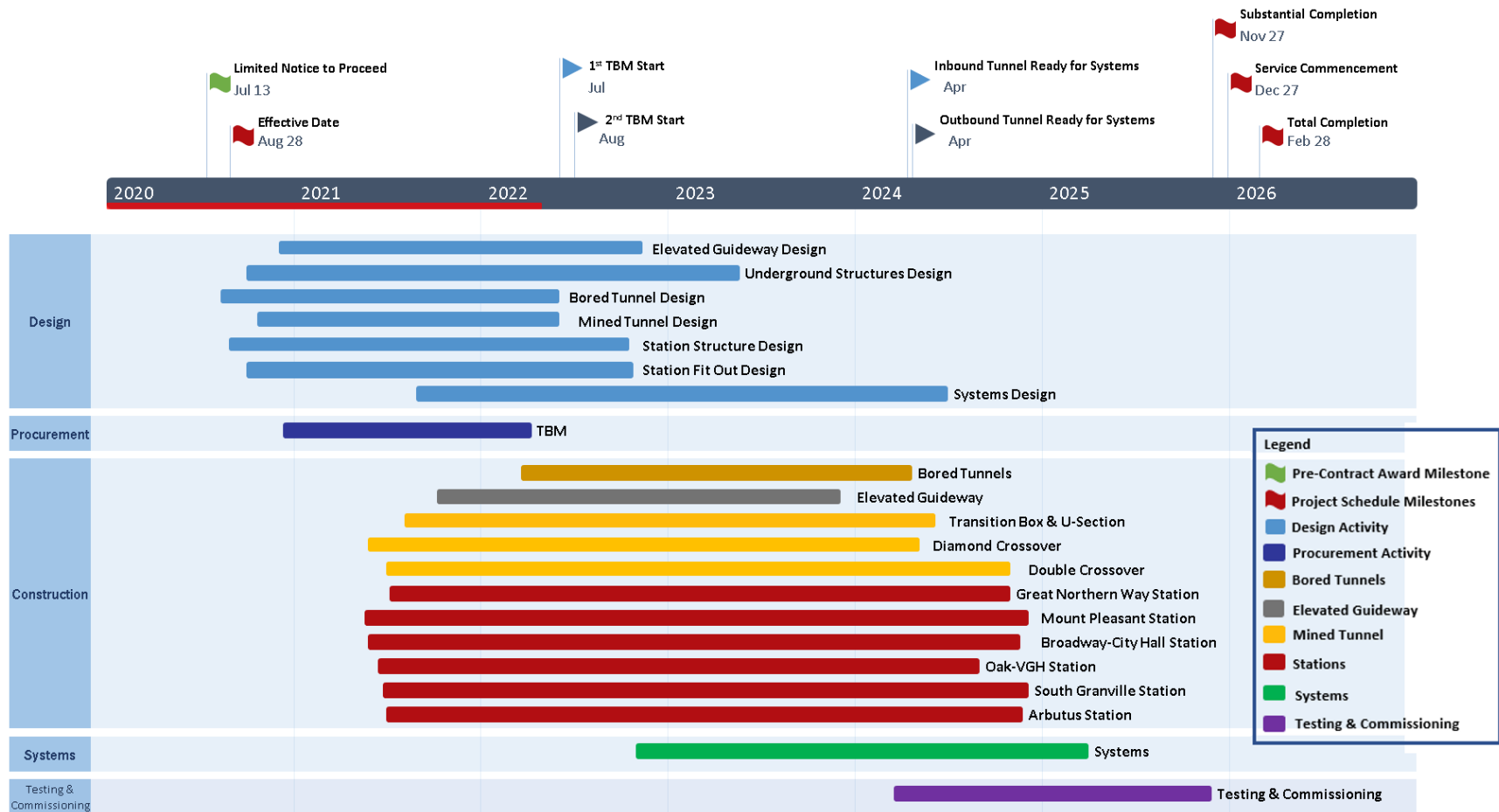
## 4.7 Public and Stakeholder Engagement

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Manage ongoing public and stakeholder communications and community and business relations.</li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>• Celebrated completion of the first traffic deck at Mount Pleasant, including information kiosk in neighbourhood.</li> <li>• Announced arrival of first shipment of Tunnel Boring Machine components.</li> <li>• Distributed construction notifications (available on website), responded to public and stakeholder enquiries, and met with businesses and stakeholders.</li> <li>• 12,870+ newsletter subscriptions</li> </ul>

	<ul style="list-style-type: none"> <li>• Responded to 75 public inquiries.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>• Coordinate artwork for plywood construction hoarding, beginning with Mount Pleasant and Great Northern Way-Emily Carr station sites.</li> <li>• Neighbourhood engagement on traffic pattern changes.</li> <li>• Continue frequent business outreach walks given high level of construction activity.</li> <li>• Announce TBM names.</li> <li>• Develop education outreach plan and initial resources.</li> <li>• Provide progress updates on construction of traffic decks, elevated guideway, excavation of stations, utility relocations and prepare for tunneling.</li> <li>• Regular meetings with the Business Improvement Associations, Traffic Advisory and Arbutus Schools Traffic Liaison groups.</li> <li>• Ongoing meetings and correspondence with local businesses, residents and key stakeholders, and construction notifications and responses to public enquiries.</li> </ul>

## 5. Schedule

The following schedule depicts the estimated deliverables, milestones, and timelines from the design to commissioning phase of the Project.





## 6. Project Photos



Figure 1: Elevated Guideway: Progressing with the installation of caissons for the columns.



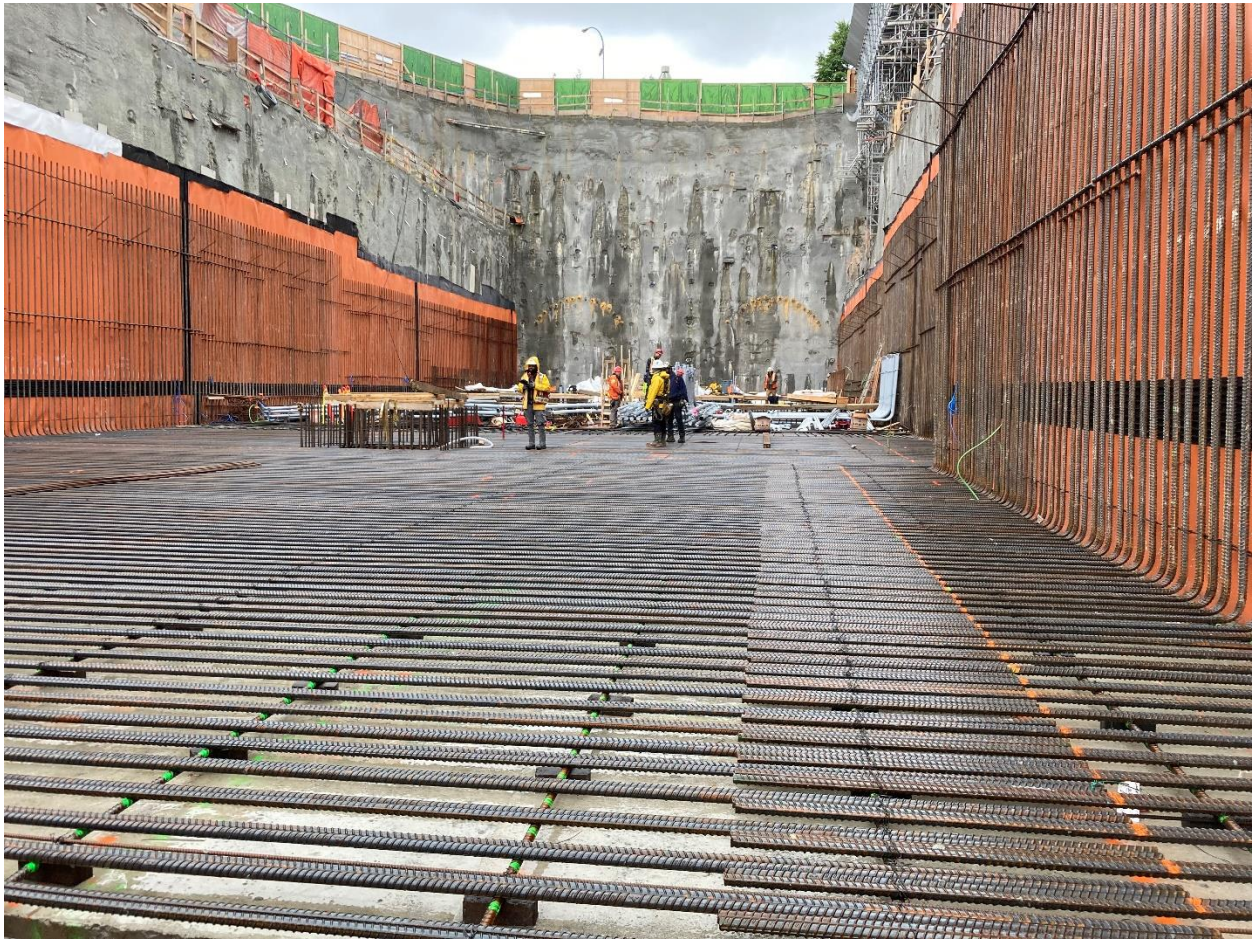


Figure 2: Great Northern Way-Emily Carr Station: Progressing with the installation of waterproof lining and rebar for the station box.





Figure 3: Mount Pleasant Station: Progressing with the excavation and shoring of the station box and headhouse.





Figure 4: Broadway City Hall Station: Excavation for the headhouse begins.



Figure 5: Oak VGH Station: Initial start of piling for the headhouse.





Figure 6: South Granville Station: Installation of the traffic decking from Hemlock St to Granville St.





Figure 7: Arbutus Station: Progressing with the shallow excavation for the traffic deck.