



transportation  
investment  
corporation

# Monthly Status Report

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Reporting Period: December 2021

# 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 were 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 December 2021 was \$25.6 million and total Project spending to date is \$632.7 million. Total Federal recoveries to date are \$173.1 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 plan is being implemented.</li> <li>Regular project site visits are being performed to oversee health and safety performance.</li> <li>Monitored changes to COVID-19 requirements and implemented a revised communicable disease plan.</li> <li>There has been one lost time injury for the Project.</li> <li>Lost Time Injury Frequency Rate (LTIFR) for the Project is 0.34. The average injury rate for Heavy Construction from 2011 to 2020 is 2.98 per <a href="#">WorkSafeBC</a>.</li> </ul>
	Quality	Implement and maintain an effective Quality Management System.	●	<ul style="list-style-type: none"> <li>Quality auditing of select work activities and processes 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>On-site quantitative noise monitoring initiated.</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, waterline installation, piling and utility work 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>The Indigenous Groups continue to engage 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	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> </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 (2021).</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> <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. December Highlights and Three Month Lookahead

### 4.1 Safety

<b>Scope:</b>	<ul style="list-style-type: none"><li>• Manage relevant Project health and safety management systems.</li><li>• Oversee Project goals, objectives, and performance metrics.</li><li>• Ensure health and safety roles and responsibilities are clearly defined.</li><li>• Plan each Project activity to ensure the safety of workers and the public.</li><li>• Coordinate health and safety activities with all relevant stakeholders.</li><li>• Measure health and safety performance.</li><li>• Ensure compliance with WorkSafeBC, municipalities, and government agencies.</li><li>• Monitor management systems for continual improvements.</li></ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"><li>• Weekly Project site visits performed to observe compliance and areas of improvement.</li><li>• Monitored changes to COVID-19 requirements and implemented a revised communicable disease plan.</li><li>• Lost Time Injury Frequency Rate (LTIFR) for the Project is 0.34, this is less than WorkSafe BC average of 2.98.</li></ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"><li>• Monitor changes to COVID-19 requirements and revise associated plans, as required.</li><li>• Provide health and safety support to involved parties.</li><li>• Perform regular Project site health and safety inspections.</li><li>• Conduct a Project health and safety audit in January 2022.</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>• Quality audits conducted on select processes related to Design Quality Management, Traffic Management, Temporary Shoring Design, CAT II Checker Services, and Construction Quality Management.</li><li>• Quality system audit conducted on Environmental Quality Management.</li><li>• Seven new Nonconformities were initiated this month. These related to general processes and procedures, traffic management, and construction management.</li></ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"><li>• Quality system audit on BSPC's Quality Management System and Design 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 site management information for all stations.</li> <li>Implemented CEMP and weekly/monthly reporting.</li> <li>Completed archeology monitoring/ site specific archaeology impact assessment 80%</li> <li>Advanced permits for City of Vancouver water management and Disposal at Sea being.</li> <li>Auditing of environmental program initiated.</li> <li>Submitted applications for City of Vancouver discharge approval.</li> <li>Site-specific noise monitoring underway.</li> <li>Submitted first annual environmental report.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>On-site environmental surveillance during construction (monthly).</li> <li>Submissions for water management permits (ground water declarations) for remaining station locations planned for early 2022.</li> <li>Monitor volumes of contaminated soils from station locations requiring disposal.</li> <li>EWP for Tunnel Boring Machine installation and operation expected in early 2022.</li> <li>Weekly reporting on quantitative noise monitoring underway.</li> <li>Site visit in January 2022 with Squamish Nation to observe environmental management program.</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>
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<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>Continuing Non-Systems and Systems Design.</li> <li>implemented numerous traffic diversions throughout the corridor to accommodate construction.</li> <li>Completed piling at Mount Pleasant and Broadway City Hall, north side of Oak-VGH and south side of South Granville. Total piling 63% complete. Utility work is continuing throughout the corridor.</li> <li>Continued piling at Arbutus station.</li> <li>Continued shallow excavation at Mt. Pleasant and Broadway City Hall.</li> <li>Continued excavation at Great Northern Way (77% complete).</li> <li>Started shallow excavation at South Granville.</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>Install foundations 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 relocations continuing.</li> </ul> <p><u>Great Northern Way – Emily Carr:</u></p> <ul style="list-style-type: none"> <li>Continue excavation and piling for Tunnel Boring Machine laydown area and station construction at Great Northern Way.</li> <li>Continue to suspend various utilities within the excavation.</li> </ul> <p><u>Mt. Pleasant:</u></p> <ul style="list-style-type: none"> <li>Shallow excavation, girder and decking install.</li> <li>Bulk excavation.</li> </ul> <p><u>Broadway - City Hall:</u></p> <ul style="list-style-type: none"> <li>Shallow excavation, girder, and decking install.</li> <li>Bulk excavation.</li> </ul> <p><u>Oak – VGH:</u></p> <ul style="list-style-type: none"> <li>Continue piling program.</li> <li>Shallow excavation, girder, and decking install.</li> <li>Bulk excavation.</li> </ul> <p><u>Granville:</u></p> <ul style="list-style-type: none"> <li>Continue piling program.</li> <li>Shallow excavation, girder, and decking install.</li> <li>Bulk Excavation.</li> </ul> <p><u>Arbutus:</u></p> <ul style="list-style-type: none"> <li>Continue piling program.</li> <li>Shallow excavation, girder, and decking install.</li> <li>Bulk 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>Project updates materials shared with Indigenous Groups, including environmental management plans and reports, archaeological reports, and construction updates.</li> </ul>

	<ul style="list-style-type: none"> <li>Continued discussions with Indigenous Groups on art and cultural recognition, including calls for artists and confirmation of selected opportunities.</li> <li>Reduced barriers to Indigenous candidate registration with BCIB.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>Ongoing information sharing, issues identification and resolution, and identification of 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>

## 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>Finalize design coordination with PCI.</li> <li>Oversight of integration.</li> <li>Coordination of interface between BSPC and third parties.</li> </ul>

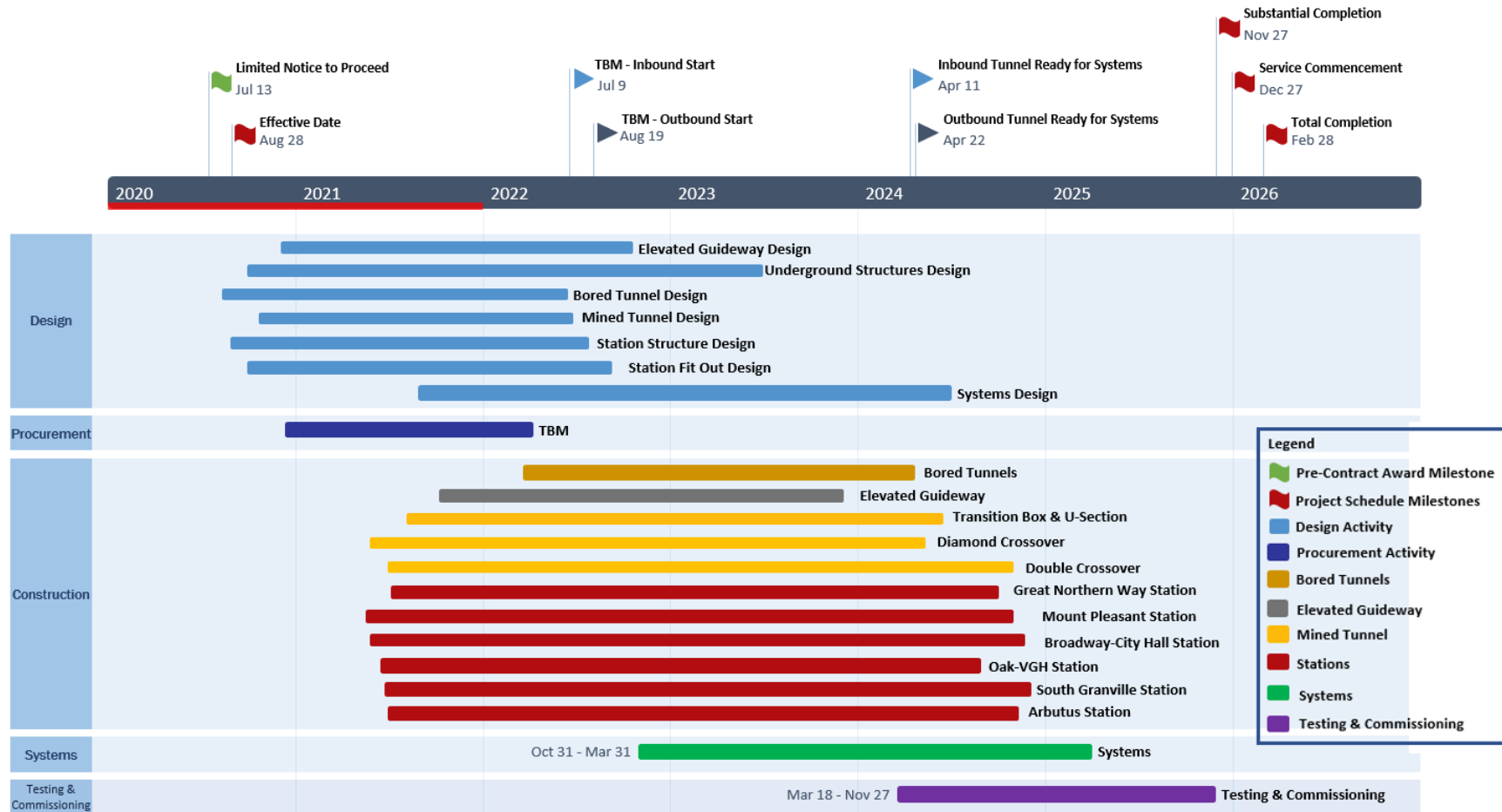
## 4.7 Public and Stakeholder Engagement

<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>Distributed construction notifications, responded to public and stakeholder enquiries, and met with businesses and stakeholders – all materials available on website.</li> </ul>

	<ul style="list-style-type: none"> <li>• Over 11,500 newsletter subscriptions</li> <li>• Responded to 105 public inquiries.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>• Provide progress updates on construction of traffic decks and elevated guideway, and utility relocations.</li> <li>• Celebrate completion of the first traffic deck.</li> <li>• Regular meetings with the Business Improvement Associations, traffic advisory and Arbutus Schools Traffic Liaison groups; establish Health Precinct advisory group.</li> <li>• Ongoing meetings and correspondence with local businesses, residents, and key stakeholders, 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: Great Northern Way-Emily Carr Station: Progressing with excavation, installation of wall anchors and piles.





Figure 2: Mount Pleasant Station: Traffic decking installed on the north side of W. Broadway from Main to Quebec street.



Figure 3: Broadway City Hall Station: Progressing with the excavation of the station box near the north-east corner of W. Broadway and Cambie street.





Figure 4: Oak VGH Station: Progressing with the relocation of underground utilities and installation of temporary utilities.



Figure 5: South Granville Station: Progressing with the excavation of the station box near the south-east corner of W. Broadway and Granville street..





Figure 6: Arbutus Station: Progressing with the installation of piles for the traffic decking.