

Evergreen Line Rapid Transit Project

Project Description Report

BC Ministry of Transportation and Infrastructure

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1. Project Background and Introduction

1.1 Background

This Project Description Report has been prepared for the Evergreen Line Rapid Transit Project (the "Project") as the initial step in the environmental assessment process. The proponent will apply for an environmental assessment certificate (EAC) under the British Columbia *Environmental Assessment Act* (BCEAA) that will consider the potential environmental, economic, social, heritage and health effects of the Project. The application for an EAC will be guided by Terms of Reference (TOR) approved by the BC Environmental Assessment Office (EAO). The Project may also be subject to an environmental assessment under the *Canadian Environmental Assessment Act* (CEAA), in which case a harmonized BCEAA/CEAA review will be carried out, and a CEAA Screening Document issued in addition to a provincial EAC.

The February 2008 "Business Case", jointly prepared by the Province and TransLink, for the Project demonstrated the need for investment in a SkyTrain extension to Coquitlam. The business case also reviewed route options, and undertook a preliminary review of procurement methods and competitive selection process in order to determine what would best meet the Project objectives and achieve value for taxpayer dollars.

The Business Case concluded that:

1. Advanced Light Rapid Transit (ALRT, or Sky Train type technology) is clearly the preferred technology.
2. Both the Northwest (NW) corridor (Lougheed Mall to Coquitlam via Port Moody) and the Southeast (SE) corridor (Lougheed Mall to Coquitlam via Lougheed Highway) options have good results in combination with ALRT technology. The NW corridor, as the previously adopted corridor, has slight technical advantages over the SE corridor and is consistent with current community development plans.
3. A comprehensive procurement and implementation analysis should be undertaken to determine the optimum procurement method for the Project, including public private partnerships. This approach reflects provincial policy that public private partnerships are the preferred procurement method for major capital projects unless there is a compelling reason to do otherwise.

1.2 Purpose of the Evergreen Line

The purpose and need for a rapid transit connection linking the existing rapid transit system to the North East Sector (NES) communities of Metro Vancouver, has long been established, with planning being initiated in the 1990's. It was intended to provide a rapid transit connection between Lougheed Mall in Burnaby with Port Moody and Coquitlam Town Centre, with the main objectives of increasing transportation choice, supporting growth management, and supporting environmentally sustainable initiatives.

Metro Vancouver continues to experience significant population and economic growth that, combined with changing regional travel patterns, and expanding trade, has placed considerable strain on our transportation system. Congestion on regional roads and highways continues to increase, with growing impacts on residents, communities, the environment and the economy. The Project will be one of a series of regional transit and transportation improvements that address these challenges.

Metro Vancouver's North East Sector (NES), which includes the Municipalities of Port Moody, Belcarra, Anmore, Coquitlam and Port Coquitlam, has also experienced rapid population and economic growth over the last several years and continues to be one of the fastest expanding areas in the Metro Vancouver region. This current and anticipated growth is adding pressure to the regional transportation network as traffic volumes build and congestion increases. Without alternative transportation improvements, this trend is expected to continue, resulting in the road network reaching capacity in approximately 2021.

1.3 History of Evergreen Line Planning

During initial project planning for the rapid transit connection to the NES (late 1990's), ALRT was the preferred technology along a NW corridor option and, during construction of the Millennium Line, accommodations were made at Lougheed Station for a connection to the future Evergreen Line Rapid Transit Project. However, due to the projected capital cost of the system exceeding the available project funding envelope, TransLink undertook a study of a broader range of transit alternatives. In 2004, TransLink decided to move forward with a light rail transit (LRT) option through the NW corridor. At that time, the LRT option was selected because the cost of this type of technology fit within the available funding envelope. The NW corridor option was selected because it was consistent with the Greater Vancouver Regional District (GVRD)¹ Liveable Region Strategic Plan and Official Community Plans (OCP's) of the local communities. Between 2004 and 2006, TransLink continued to review and develop the LRT concept within the identified corridor, and consult with the public.

1.4 The Current Evergreen Line ALRT Concept

In 2007, the Province and TransLink undertook a joint project business case review to re-evaluate project scope and delivery including technology choice and route selection. This business case, released in February 2008, concluded that ALRT technology was clearly the preferred technology. Additionally, the Provincial Transit Plan (PTP), announced in January 2008, introduced a comprehensive investment strategy, including an increased provincial funding commitment to the Evergreen Line, aimed at doubling transit ridership by 2020.

Upon the release of the Business Case on February 1, 2008, the Ministry of Transportation and Infrastructure and TransLink established a 45-day period for the mayors and councils in the Northeast sector to provide feedback and indicate their preference for the Northwest (NW) and Southeast (SE) route options. Municipal councils in Port Moody, Port Coquitlam, Coquitlam, Burnaby, New Westminster and Belcarra voiced their

¹ Now referred to as Metro Vancouver

unanimous support for the Northwest route. As a result, in April 2008 the Province and TransLink jointly announced route selection along a NW corridor via Port Moody.

The announced alignment connects Coquitlam City Centre via Port Moody to Burnaby. It starts at Lougheed Town Centre Station and travels approximately 11 kilometres, through Port Moody ending near Douglas College in Coquitlam. The Project will fully integrate into the existing SkyTrain system, linking directly to the Millennium Line, with connections to the Expo Line, the new Canada Line, the West Coast Express, and regional bus networks. Scheduled for completion in late 2014, the Project will provide fast, frequent and convenient rapid transit service with connection from Coquitlam City Centre to Lougheed Town Centre in 13 minutes and downtown Vancouver in approximately 40 minutes. It will improve the transportation network within Metro Vancouver's North Eastern communities, increase transportation choice, facilitate economic growth and create regional jobs.

2. Proponent Information

2.1 Project Proponent

The Proponent for the Project is the Province of British Columbia as represented by the Ministry of Transportation and Infrastructure (MoT).

2.2 Project Representative

MoT's representative for the Project is:

Mr. Dave Duncan
Executive Project Director
Evergreen Line Rapid Transit Project
BC Ministry of Transportation and Infrastructure
2900 Barnett Highway
Coquitlam, B.C. V3B 0G1

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3. Overview of Project Environmental Review Requirements

3.1 Environmental Assessment and Permitting Requirements

3.1.1 Provincial Requirements

The BCEAA, *Reviewable Projects Regulation* BC Reg., 370/2002, prescribes as a reviewable project new rail projects consisting of 20 or more continuous kilometers of rail, or constructed to accommodate high speed trains traveling at 200 km/hr or faster.

The Project is anticipated to extend 11 km in length, and with a top train speed of approximately 70 to 80 km/hr, the Project does not fall within the category of projects prescribed as reviewable projects under the *Reviewable Projects Regulation*.

In February 2006, TransLink applied to the EAO to have the project as it was then conceived, designated as “reviewable” under the BCEAA. This request was approved in 2006 and draft Terms of Reference were submitted to the EAO and approved prior to the project scope being re-evaluated in 2007.

In July 2008 MoT assumed the role of Project Proponent, and in November 2008, advised the EAO of the change in Project Proponent and requested that the Project with ALRT technology be designated as “reviewable” under the opt-in provisions of the BCEAA.

3.1.2 Federal Requirements

The involvement of a federal authority may trigger an environmental assessment under the CEAA. In the case of this project there are several federal triggers related to funding and regulatory requirements that may apply, including:

- The Project may require an authorization under **Section 35(2) of the Fisheries Act from Fisheries and Oceans Canada (DFO)**. The proposed alignment will cross or pass within proximity of South Schoolhouse Creek, Slaughterhouse Creek, Sutter Brook, Scott Creek and Hoy Creek.
- Approximately 2 km of bored tunnel will be constructed from approximately north of Como Lake Avenue in Coquitlam to the Barnet Highway in Port Moody. If tunnel spoils are to be disposed of at sea, which is a typical disposal practice for clean native materials in the region, a Disposal-at-Sea Permit will be required under the **Part 7, Division 3 of the Canadian Environmental Protection Act, 1999, from Environment Canada**. Alternatively, the tunnel spoils may be disposed of in a designated upland disposal site.
- Project construction may affect lands owned by Canadian Pacific Railway (CPR), requiring potential approval under the federal **Railway Safety Act from the Canadian Transportation Agency**; and
- If any of the creeks along the alignment are considered navigable, new bridges or culverts or modifications to existing bridges or culverts may require **Navigable Waters Protection Act Section 5(1) approval from Transport Canada**. However, Schoolhouse Creek, the largest creek in the study area with an average channel width in the vicinity of Barnett Highway of approximately 4 m, is likely not considered a navigable waterway, based on preliminary discussions with Transport Canada.
- The Project may also trigger the **Canada Transportation Act, 1996**, which is managed by **Transport Canada**, establishes the Canadian Transportation Agency, and outlines various requirements for railway transportation.

3.1.3 Project Location

The proposed Project (**Figure 3.1-1**) is located in the Lower Mainland of British Columbia and will be fully integrated into the regional rapid transit system. The Project will connect Coquitlam City Centre to Burnaby via Port Moody, connecting directly to the

Millennium Line at Lougheed Town Centre Station and ending near Douglas College in Coquitlam.

Figure 3.1-1: Proposed Evergreen Line



3.2 Project Area Boundaries

For the purposes of the environmental assessment, the project area boundaries of the Project will extend 500 m in both directions from the centreline of the planned alignment. Within this area, footprint impact assessments will be localized to the immediate vicinity of project components (e.g., guideway, stations, traction power substations, vehicle storage, bus loops and park-and-ride structures, and dedicated Project-specific ancillary facilities such as fabrication or works yards).

The spatial boundary for each aspect of the environmental assessment (e.g., fisheries, terrestrial, socio-economic) will vary somewhat, depending on the nature of the resources that are being assessed. The terms of reference for these studies will be developed with input from regulatory agencies, First Nations, local government and the public during the Pre-Application stage of the environmental assessment process.

4. Project Corridor Description

The Project will extend north from Lougheed Town Centre Station on an elevated track along North and Clarke Roads before entering a bored tunnel in the vicinity of Como Lake Avenue and emerging near Barnet Highway north of Clarke Road in Port Moody. Through Port Moody, the route will travel predominantly at grade adjacent to the CPR right-of-way with an elevated crossing required at some point along the corridor. The Project will continue adjacent to the CPR line to the West Coast Express Station in Coquitlam and then will run on an elevated guideway along Pinetree Way, terminating near Douglas College in Coquitlam.

4.1 Proposed Station Locations

The Project will have up to eight stations on opening day. Six primary stations (**Figure 4.2-1**) have been identified to date including:

- Expansion of the existing Lougheed Town Centre Station
- Burquitlam
- Port Moody/West Coast Express
- Ioco (near intersection of Barnett Highway and Ioco Road)
- Coquitlam/West Coast Express
- Coquitlam City Centre (Coquitlam City Hall/Douglas College)

These stations will drive system ridership growth by serving major destinations, connecting existing population and employment centres, and integrating with the existing transit network.

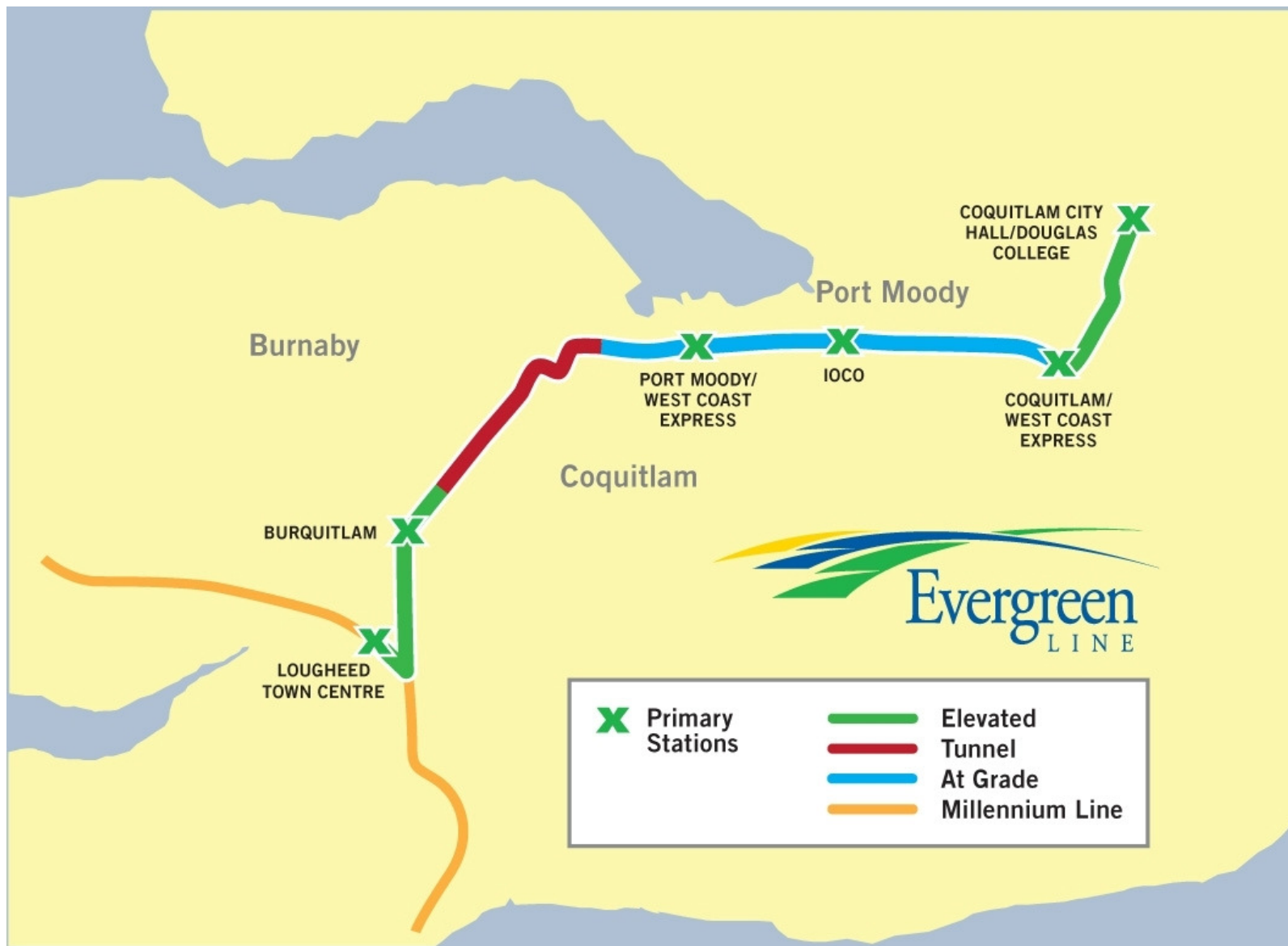
Up to two additional station locations for opening day will be considered based on their ability to shape land use, stimulate increased ridership, promote transit-oriented development, and be affordable.

These station locations will promote use by ensuring the line is fast, convenient and competitive with other travel choices. The stations will be fully accessible, community-friendly, safe and secure. The design will utilize the principles of Crime Prevention Through Environmental Design (CPTED) standards.

4.2 Vertical and Horizontal Alignment

The following describes the general vertical and horizontal alignment for the Project (**Figure 4.2-1**). This alignment is being further defined during the Preliminary Design Phase.

Figure 4.2-1: Evergreen Line Rapid Transit Project Alignment and Station Locations



4.2.1 Segment 1 – Burquitlam

Fully integrated into the existing Millennium Line system at Lougheed Town Centre Station, the Project will extend eastward from Lougheed Station transitioning on a curve to continue north on an elevated guideway on North Road. The elevated guideway will transition from North Road to Clarke Road continuing along Clarke Road, crossing Como Lake Avenue and entering the tunnel at the South Portal, in the vicinity of Clark Road and Como Lake Avenue.

One of the primary stations will be located near Burquitlam Plaza, adjacent to Clarke Road.

4.2.2 Segment 2 – Port Moody

From the South Portal, located on the west side of Clarke Road north of the Como Lake intersection, the Project enters a bored tunnel approximately 2 km in length. The tunnel alignment will generally follow Clarke Road until the first sharp corner towards the bottom of hill where the tunnel alignment continues north and east before emerging at the North Portal located near Barnet Highway, north of Clarke Street in Port Moody.

Extending eastward from the North Portal, the alignment will cross North Schoolhouse Creek, then continue adjacent to the CPR corridor through Port Moody predominantly at-grade. The alignment will include an elevated crossing of the tracks at some point along the CPR corridor, before continuing on the north side to the Coquitlam West Coast Express Station.

Two primary stations are proposed in the Port Moody segment, one in proximity to the West Coast Express Station and a second near the Barnet Highway/loco Road intersection.

4.2.3 Segment 3 – Coquitlam / Pinetree

The alignment will continue along the north side of the CPR corridor from east of the Port Moody / Coquitlam border. The alignment will cross both Hoy and Scott Creeks, will then pass under the Johnson/Mariner Overpass and curve north near the Coquitlam West Coast Express Station. The guideway will be elevated in this vicinity to cross over Barnet Highway and continue elevated along Pinetree Way, terminating near Douglas College.

Two primary stations have been identified on the Coquitlam / Pinetree segment, one near the Johnson/Mariner Overpass in the vicinity of the Coquitlam West Coast Express station location and one at the north end of the line near Douglas College.

4.3 Construction Access

Access to the Project for the purposes of construction will primarily be from public roadways or facilities for the majority of the alignment, the primary exception being from the east end of Aberdeen Avenue to the West Coast Express Park and Ride, where access will be gained through existing industrial sites and through the construction right-of-way. Special measures may be required for construction access near South

Schoolhouse Creek. Further assessment will be carried out to define construction access requirements.

4.4 Ancillary Facilities

Anticipated ancillary facilities required to complete the Project include a Tunnel Boring Machine (TBM) works and staging area at the North end of the tunnel, at the East side of Barnett Highway in the vicinity of Andres Wines, Reichold Chemical, and North Schoolhouse Creek, traction power substations, a Vehicle Storage Facility, a potential pre-cast yard, construction lay down areas, construction access roads, park and ride facilities, and bus loops.

4.5 Project Development Schedule

A preliminary project schedule has been developed by MoT.

Anticipated milestones and estimated completion periods are listed as follows by quarter (e.g., Q2) of each year²:

- | | |
|--|---------|
| ▪ Project Description Report Submission to EAO | Q2 2009 |
| ▪ Municipal Liaison on Reference Concept | Q3 2009 |
| ▪ Preliminary Design Consultation | Q4 2009 |
| ▪ Reference Concept Development | Q4 2009 |
| ▪ EAC Application Submission | Q4 2009 |
| ▪ Initiate Procurement | Q4 2009 |
| ▪ EA Certificate | Q3 2010 |
| ▪ Conclude Procurement | Q4 2010 |
| ▪ Start Construction | Q4 2010 |
| ▪ Construction Completion | Q3 2014 |
| ▪ Testing and Commissioning | Q4 2014 |
| ▪ Operational Service | Q4 2014 |

In addition to these milestone activities, First Nations consultation commenced Q1 2009.

4.6 Project Capital Cost

The total construction cost for this project is expected to be \$1.4 billion. The budget includes the estimated costs of construction, systems, vehicles, property, engineering, project management, environmental work, public consultation and contingencies.

4.7 Project Employment

² EA milestones are based on the assumption that the Project may be either excluded from CEAA or subject to substituted BCEAA process.

It is anticipated that an estimated 4,000 direct and 4,400 indirect jobs will be created during construction of the Project. Additional induced employment benefits will also be generated as a result of the Project. Up to 30 additional jobs are also expected to be created during operations of the project.

4.8 Project Construction

It is anticipated that the major project construction elements that make up the Project will include the guideway (elevated, in tunnel and at-grade), stations, traction power substations (TPS), vehicle storage and light maintenance facility (VSF), train operating systems, and additional construction elements such as park-and-ride facilities, passenger pick-up and drop-off areas, and bus loops at key stations. Project construction may require ancillary support facilities, that may or may not be located off the alignment, including pre-cast yards for fabrication of guideway segments and tunnel ring segments.

It is anticipated that guideway construction will be carried out using three major methods.

- The elevated section, accounting for approximately 50% of the approximately 11-km length of the alignment, is anticipated to be a concrete horizontal guideway beam supported on columns.
- The tunnel section, will account for approximately 20% of the approximately 11-km length of the alignment. It is anticipated that the tunnels will be constructed using one, or possibly two, tunnel boring machine(s).
- The remainder of the guideway will be at-grade, likely constructed from either cast-in-place or pre-cast concrete segments, with ground improvement measures as required to provide the necessary load bearing.

Anticipated guideways, stations, traction power substations, and vehicle storage , may be constructed from pre-cast and cast-in-place concrete, structural steelwork, roof systems, glazing, and finishing materials, together with mechanical and electrical systems as necessary to complete an operating facility.

Systems to operate the transit project will comprise trackwork, power supply and distribution systems, automatic train controls, communications, and security installations all tied into the existing SkyTrain network. The work will involve direct construction, together with software development, procurement, installation of specialized equipment, and testing and commissioning.

4.9 Project Operations

Operations for the Evergreen Line will include train operations, heavy vehicle maintenance and administration functions. These will be carried out at the existing SkyTrain Operations and Maintenance facility located near the Edmonds Station on the Expo Line in Burnaby, which will be updated as part of the Project. A VSF is anticipated

as part of the Project, to provide for additional SkyTrain for the Evergreen Line. An analysis of potential sites is currently underway.

4.9.1 Operating Hours

It is assumed that operating hours for the Evergreen Line will be consistent with the existing SkyTrain operations as follows:

- first departures from Coquitlam terminus at approximately 05:00hrs Monday through Friday; 06:00hrs Saturdays; 07:00hrs Sundays and holidays; and
- final arrivals in Coquitlam terminus at approximately 02:00hrs Monday through Saturday nights and 01:00hrs Sundays and holidays

4.9.2 Travel Times

The system will be designed to achieve a target travel time of approximately 13 minutes between Lougheed Town Centre Station and the terminus near Douglas College at Coquitlam City Centre .

4.9.3 Reliability

System reliability, availability and maintainability design parameters will be similar to those built into the existing Millennium and Expo lines. Customers will expect a high confidence level in the system as they have come to rely on with the existing lines.

4.9.4 Frequency of Trains (Operating Headway)

It is anticipated that operating frequency will result in a train every three minutes during peak travel times. Peak travel times are identified as follows:

- weekday peak: westbound from Coquitlam 06:00 – 09:00; eastbound from Lougheed 15:30 – 19:00;

4.9.5 Operating Capacity

The system will be capable of delivering a peak hour capacity of 10,400 passengers in 2021. The capacity can be increased by increasing the length of the train, or the frequency of trains during peak hours. Review of ridership at proposed stations will be ongoing.

4.9.6 Fare System

All aspects of the Evergreen Line's fare system will be determined and specified by TransLink including establishing fare policy, structure, levels, technology and media (e.g., tickets and passes). Fares will be fully integrated with the regional transit system and the line will use a proof-of-payment system that incorporates controlled access gates (Faregates) and electronic fare cards (Smartcards) on the Lower Mainland's transit system, such as announced jointly by Federal and Provincial governments and Translink on 09 April 2009.

Projected fare rates for transit operated by TransLink are listed in TransLink's 10-year Transportation and Financial Plan.

4.10 Modal Integration of Project

4.10.1 Pedestrians

Pedestrian accessibility to stations will be maximized by working with the relevant authorities to ensure that pedestrian routes to stations consider the following attributes:

- Direct
- Active
- Safe
- Legible (clearly defined and signed)
- Connected to main origins and destinations

A key objective of the Project is for station locations to be closely linked to concentrations of jobs and housing, thereby promoting pedestrian access, with a focus on the provision of a high quality pedestrian realm in the vicinity of stations.

4.10.2 Bicycles

Cycle integration and accessibility will be considered by working with communities to link into the existing regional and local cycling network, and by ensuring that sufficient bicycle storage is included at stations.

4.10.3 Buses and West Coast Express

Integration with West Coast Express and other transit services will be facilitated as part of the station location, layout and design considerations. Location, layout and design which promotes direct, easy and safe integration between service types, is a key objective.

4.10.4 Integration with Millennium Line Service

The Project will be fully integrated with the Millennium and Expo lines, allowing passengers to seamlessly connect, between the Millennium and Evergreen lines at Lougheed Town Centre Station.

4.10.5 Automobiles

The potential for park and ride facilities will be explored at selected station locations to maximize system ridership.. It is anticipated that existing facilities will be modified to ensure efficient connections between modes, drop-off and pick-up areas, taxi parking and disabled parking/drop-off facilities will also be included as part of the overall station layout and design.

4.10.6 Accessibility

Universal accessibility respects the dignity of all potential users. Station design will consider the needs and abilities of the widest possible range of users including those with physical or cognitive impairments.

Station design will meet the building requirements of the British Columbia Building Code for persons with disabilities.

4.11 Security**4.11.1 During Construction**

Security measures will be taken to ensure safety for the construction personnel and public during the construction period. Examples may include the use of video surveillance, security fencing and gates, controlled access, and security guards. Access to the construction sites will be restricted to authorized personnel only.

4.11.2 During Operations

Urban design component of both street design and station design will rely upon the widely accepted framework of CPTED. CPTED principles, such as the use of appropriate lighting, good sightlines, video surveillance, and access control, have site specific application. They help to ensure that the design of the public realm adds to the security and safety of users, while discouraging unwanted and negative behaviour.

TransLink conducted a crime analysis and undertook a public opinion survey on SkyTrain security issues in late 2008. Public suggestions on improvement of the SkyTrain security system include: improved lighting; having stores within stations; closed-circuit TV monitoring and turnstiles. Findings from the analysis and survey will be taken into consideration when developing a security program for the Project.

4.12 Emergencies**4.12.1 During Construction**

An emergency response plan will be prepared prior to the start of construction. Information to be included in the plan will include, but not be limited to, the following:

- Local emergency contact information;
- Lines of communication and reporting procedures in the event of an emergency;
- Location and details of emergency facilities; and
- Evacuation procedures for tunnel and underground work.

4.12.2 During Operations

Emergencies such as earthquakes, fires, power failures, may occur during the operations of the Project. An emergency response plan will be developed that is consistent with the current BC Rapid Transit Company's (BCRTC) policies, practices and

procedures. Cross-passages will be installed at regular intervals in the guideway tunnel, along with emergency lighting, walkways, and refuge areas to facilitate evacuation in the event of an emergency.

5. Environmental Features

5.1 Land Use

The Project corridor is situated in the municipalities of Burnaby, Port Moody and Coquitlam. These municipalities offer a typical assortment of dense, highly impacted and altered inner urban mixed land use. Current land use includes municipal property for transportation, public services, parks and recreation, multi-unit complex residential private properties, retail, and commercial/ industrial (light and heavy) property. With the exception of some clearing and logging of merchantable timber to accommodate primarily new residential developments within the communities, there are no large scale natural resource extractive industries in operation within the three municipalities. Some long serving small and large industrial complexes are located on, or within the vicinity of, Moody Inlet to serve the surrounding communities and established customer base. There is no established commercial fishery.

The Project is anticipated to be located primarily on privately held property and public streets and rights-of-way. In certain areas, this may require the widening of some roads. A preliminary assessment indicates that the property required for the Project will be comprised mainly of public streets, and residential, commercial, industrial parcels, and rail right-of-way. Property acquisition will consist of both partial and whole parcels as well as rights-of-way. Other anticipated property acquisitions will include land for a Vehicle Storage Facility and possibly for construction staging and laydown areas.

5.2 Environmental Setting

5.2.1 Physical and Geological Setting

Generally, the Project lies within the Fraser Lowland physiographic region, a subdivision of the Georgia Lowland Physiographic region. The Fraser Lowland subdivision is depositional in origin and extends in a triangular shape from Georgia Strait eastward approximately 110 km and southwest to the coast at Bellingham, Washington. The Pacific Ranges of the Coast Mountains and the Skagit Range of the Cascade Mountains border the region to the north and southeast, respectively. The Georgia Lowland Region is characterized by gently rolling and flat topped uplands, ranging in elevation from 15 to 300 m, separated by wide, flat bottomed valleys.

The region's upland areas are composed of various landforms: hummocky till and glacio-marine deposits; glacial outwash terraces; thin mantles of glacial and glacio marine deposits; and raised marine deltas. The Fraser River Delta has a complex history involving marine and non marine, glacial and non glacial deposition. In recent geological history, deltaic, channel, and flood plain deposits have been accumulating at the delta front at a rate of approximately 8.5 m/year (Holland 1964).

The Georgia Lowland has a complex geologic history that has resulted in a variety of geologic deposits of Pleistocene origin including various marine and glacio marine deposits, glacial till and glacial outwash terraces, plains and deltas.

Of more recent origin, there are colluvium, silt and sand fluvial deposits and organic accumulations.

5.2.2 Biophysical Setting

The Project alignment passes through a highly urbanized environment. There are several semi-natural green spaces that extend into the Project corridor which are associated with watercourses.

Several fish-bearing water bodies, which the alignment crosses or is within close proximity to, include North Schoolhouse Creek, Burrard Inlet, Slaughterhouse Creek, Pigeon Creek, Sutter Brook, Scott Creek, Hoy Creek, and Lafarge Lake (a man-made lake).

The Project's elevated guideway will cross over or run parallel to several fish (including salmonid) bearing streams in Port Moody and Coquitlam, in particular - Schoolhouse Creek, Scott Creek, and Hoy Creek. Preliminary review of the proposed alignment indicates that the Project can achieve a no net loss of fish habitat through adequate design, mitigation, compensation and implementation of best management practices. Detailed environmental management plans that include appropriate best management practices will be developed to avoid construction related activities from contributing sediment and other deleterious substances into these creeks.

At this time, there are no known species at risk that occupy the limited remaining habitat found within the Project corridor. Further assessment of the likelihood of encountering SARA listed species will be undertaken as part of the environmental assessment studies that are currently underway.

5.2.3 Biogeoclimatic Setting

The Project is located within the Coastal Western Hemlock Dry Maritime (CWHdm) biogeoclimatic subzone, which is found at low elevations throughout southern coastal BC. The CWHdm is characterized by warm, dry summers and moist, mild winters. Forested zonal sites are typically dominated by Douglas-fir, western red cedar and western hemlock.

5.2.4 Socio Economic/ Socio Community Setting

The three municipalities to be directly served by the Project are Burnaby, Port Moody and Coquitlam. These three municipalities, along with 20 other Lower Mainland municipalities, and one Lower Mainland electoral area, are members of Metro Vancouver. Metro Vancouver is a regional partnership that delivers coordinate planning and services for the Greater Vancouver area. In addition to delivering utility services (e.g, drinking water, sewage treatment, recycling and garbage disposal), Metro Vancouver manages and plans regional growth and development, and protects

green zones and manages air quality. The Project alignment will utilize existing linear transportation corridors, private lands – both commercial and residential – as well as Municipal properties in Burnaby, Port Moody and Coquitlam.

5.3 Proposed Environmental Program

In anticipation of developing environmental assessment documents, draft work plans for the requisite environmental assessment studies have been prepared and various studies initiated. The EAO has indicated that it will establish its EAO Working Group(s), and convene a first meeting to review the Project Description Report and study work plans likely in spring 2009. The Project's environmental assessment studies may be adjusted as applicable to address additional appropriate requirements that may be identified by the EAO Working Group(s).

To date, the following studies have been initiated in support of an EAC Application:

- air quality (including greenhouse gas) assessment;
- arboreal assessment;
- archaeology assessment;
- electromagnetic fields assessment;
- fisheries and aquatic resources assessment;
- noise and vibration assessment;
- screening level contaminated sites assessment;
- socio-economic assessment;
- socio-community assessment; and
- wildlife and wildlife habitat (including vegetation) assessment.

6. Consultation

6.1 Public and Stakeholder Consultation

The Project Team recognizes the importance of consultation and ongoing communication with stakeholders and interested parties. The Project Team is committed to a consultation program, as well as an ongoing community relations program to ensure that community, public and key stakeholder input is considered in project planning and development.

The Project Team will continue to consult with municipalities, residents, businesses and other key stakeholders as the Project proceeds through the environmental assessment review process to construction.

Public consultation will seek input into project development by providing opportunities for input through discussions with the public and stakeholders. A range of communication tools and activities will be included as part of Community consultation including: the Project Office in Coquitlam; a Project Information E-mail (e-mail: info@evergreenline.gov.bc.ca) and Information Line (phone: 604-927-4452); preparing discussion guides and feedback forms; hosting open house events and stakeholder meetings; holding meetings with Mayors and Councils, and municipal technical staff; and preparing and presenting community displays.

Public consultation will take place in various settings, including at the Project Office, one-on-one and small group meetings, open houses, standing committees and feedback mechanisms such as print and online feedback forms on the Project website. Consultation results, along with technical and financial analyses, will provide important input to Project scope and design.

6.1.1 Consultation Timelines

The proposed timeline for consultation is anticipated as follows:

- Environmental Assessment Public Comment Period – Draft Terms of Reference (late Q3 2009)
- Preliminary Design Public Consultation (Q4 2009)
- Environmental Assessment Public Comment Period – Application Review (Q1 2010)
- Detailed Design Public Consultation (Q2 2010)

6.1.2 Project Office

The provincial and federal governments announced the opening of the Project Office in Coquitlam, B.C. on February 28, 2009. The Project Office is located near the West Coast Express Station at Coquitlam Town Centre – 2900 Barnet Highway – and is open Monday through Friday, 8:30 a.m. – 5:00 p.m.

The purpose of the Project Office is to advance the Project through planning and design to provide an opportunity for the public to learn more about the Project, meet with Project Staff, and give feedback and input as development and construction proceed.

6.2 First Nations Consultation

6.2.1 First Nations Consultation to Date

The Government of BC has a legal requirement to consult with First Nations whenever it has knowledge, or should have knowledge, of the potential existence of an Aboriginal right (including title) and contemplates conduct that might adversely affect it. During the planning stage of the previous TransLink-sponsored LRT project, TransLink in consultation with the EAO, identified eight First Nations as having potential Aboriginal Interests in the specific area of the Project:

- Katzie First Nation
- Kwikwetlem First Nation
- Musqueam Indian Band
- Qayqayt (New Westminster) First Nation
- Squamish First Nation

- Sto:lo Nation
- Tsawwassen First Nation
- Tsleil-Waututh Nation

Kwantlen First Nation, was subsequently identified as a ninth First Nation with potential Aboriginal Interests in the area of the Project.

Since assuming the proponent role for the ALRT project, MoT has directed that the above First Nations will be consulted, along with any other First Nations that may be identified through discussions with the EAO (e.g., Hwiltsum First Nation; Hul'qumi'num Treaty Group), as having potential Aboriginal Interests in the area of the Project, and which might be affected by the Project. In early April 2009, treaty rights were accorded to the Tsawwassen First Nation. MoT will assess the extent to which these treaty rights may trigger special consideration.

6.2.2 On-going First Nations Consultation Program

First Nations consultation has been underway on the Project since early 2009, and will continue throughout the development of the Project. The intent of this consultation is to ensure that Aboriginal interests are considered in relation to the Project and the Province's obligations to First Nations are met.

6.3 Agency Consultation

6.3.1 Conceptual Planning

Conceptual planning has been initiated through limited agency consultation, including meetings with the EAO, CEA Agency, and Transport Canada (Ottawa).

6.3.2 Project Definition

A Project preliminary design is underway and will be further developed in the coming months. The Proponent intends to provide regular periodic updates regarding design development and refinements made to the Project Definition to the EAO, CEA Agency, other federal, provincial and regional/municipal agencies, and First Nations. It is expected that by the time the EAC Application is submitted to the EAO for review that the Project preliminary design will be essentially complete.

6.3.3 Ongoing Consultation

Once this Project Description Report has been submitted to and accepted by the EAO and CEA Agency, it is understood that it will be circulated to potential federal, provincial, regional/municipal agencies and First Nations organizations for review, and that these agencies and First Nations will be invited to participate as members of the EAO coordinated environmental assessment process as members of the EAO Working Group(s). The Project Team, will actively participate in Working Group activities and consult with agencies and First Nations on the full range of issues that may arise in the course of preparing and reviewing the Environmental Assessment Certificate Application.

7. References

Greater Vancouver Regional District. 1996. Liveable Region Strategic Plan (LRSP)

Government of British Columbia. 2008. Provincial Transit Plan.

Government of British Columbia, and TransLink. 2008. Evergreen Line Rapid Transit Project Business Case

Government of British Columbia, and TransLink. 2008. News Release: Northwest Route Decided for Evergreen Line

8. List of Acronyms

ALRT	Advanced Light Rapid Transit
BCEAA	BC Environmental Assessment Act
BCRTC	BC Rapid Transit Company
CEAA	Canadian Environmental Assessment Act
CPR	Canadian Pacific Railway
CPTED	Crime Prevention Through Environmental Design
CWHdm	Coastal Western Hemlock Dry Mountain biogeoclimatic subzone
EAC	Environmental Assessment Certificate
EAO	BC Environmental Assessment Office
GVRD	Greater Vancouver Regional District (Metro Vancouver)
LRT	Light Rail Transit
MoT	BC Ministry of Transportation and Infrastructure
NES	North East Sector
OCP	Official Community Plan
P3	Public Private Partnership
PTP	Provincial Transit Plan
Q	Quarter (as in Q2 of 2009)
TBM	Tunnel Boring Machine
VSF	Light Maintenance and Vehicle Storage Facility