



Evergreen Light Rail Transit Project

Project Description

Prepared by:

TransLink

For:

British Columbia Environmental Assessment Office

April 13, 2006

Evergreen Light Rail Transit Project

Project Description

Table of Contents

| | Page |
|--|------|
| 1. Introduction..... | 1 |
| 1.1 Project Proponent..... | 1 |
| 1.2 General Background Information | 1 |
| 2. Project Overview | 2 |
| 2.1 Introduction..... | 2 |
| 2.2 Project Goal, Principles and Objectives..... | 3 |
| 2.2.1 Goal | 3 |
| 2.2.2 Principles and Objectives | 3 |
| 3. Project Description..... | 7 |
| 3.1 Corridor..... | 7 |
| 3.2 Vertical and Horizontal Alignment..... | 7 |
| 3.2.1 Segment 1 – Lougheed Town Centre to Foster Avenue/North Road | 7 |
| 3.2.2 Segment 2 – Foster Avenue/North Road to Elgin Street/St. Johns | 8 |
| 3.2.3 Segment 3 – Elgin Street to Ioco Road/St. Johns | 9 |
| 3.2.4 Segment 4 – Ioco Road to Johnson Street-Mariner Way/Barnet Highway | 9 |
| 3.2.5 Segment 5 – Johnson Street-Mariner Way to Coquitlam City Hall | 9 |
| 4. Proposed Station Locations..... | 10 |
| 5. Operation..... | 11 |
| 5.1 Operating Hours..... | 11 |
| 5.2 Travel Times | 12 |
| 5.3 Reliability..... | 12 |
| 5.4 Frequency of Trains (Operating Headway) | 12 |
| 5.5 Operating Capacity | 13 |
| 5.6 Fare System..... | 13 |
| 6. Modal Integration..... | 13 |
| 6.1 Pedestrians | 14 |
| 6.2 Bicycles..... | 14 |
| 6.3 Buses and West Coast Express | 14 |
| 6.4 Integration with Millennium Line Service..... | 14 |
| 6.5 Automobiles..... | 14 |
| 6.6 Accessibility..... | 15 |
| 7. Security | 15 |

Evergreen Light Rail Transit Project

Project Description

| | | |
|------|--|----|
| 8. | Emergencies | 15 |
| 9. | Potential Future Extensions / Branches | 15 |
| 10. | Property Acquisition | 15 |
| 11. | Public Consultation Activities | 16 |
| 11.1 | Conceptual Planning Phase | 16 |
| 11.2 | Project Definition Phase | 16 |
| 11.3 | Proposed for 2006 | 17 |
| 11.4 | Other Consultation Activities | 18 |
| 12. | First Nations Consultation | 18 |
| 13. | Potential Environmental Issues | 19 |
| 13.1 | Potential Federal Triggers for the Canadian Environmental Assessment Act (CEAA) | 20 |
| 13.2 | Potential Permits and Approvals Required to Construct and Operate the Project | 21 |
| 14. | Proposed Schedule | 22 |

List of Figures

| | | |
|-----------|---|----|
| Figure 1. | Proposed Corridor and Alignment | 8 |
| Figure 2. | Fixed and Potential Station Locations on the Evergreen Line | 11 |

Evergreen Light Rail Transit Project

Project Description

1. Introduction

The Greater Vancouver Transportation Authority (TransLink) is proposing to construct and operate a low-floor Light Rail Transit (LRT) line connecting Coquitlam City Centre, Port Moody, Burquitlam, and Lougheed Town Centre. The specific detailed alignment has not been determined, however the alignment concept shown in this report has been approved by the TransLink Board as the preferred or reference alignment. The alignment provides the best balance between directness of route, opportunities for transit-oriented development and least impact upon the existing transportation infrastructure.

This project description has been prepared to provide government agencies, First Nations and the public with an understanding of the project as it enters into the environmental review phase. TransLink anticipates that this project will be reviewed under the *BC Environmental Assessment Act* and an application for an Environmental Assessment Certificate will have to be prepared. This application includes an environmental assessment of the project that focuses on issues identified by government agencies, First Nations and the public.

1.1 Project Proponent

Greater Vancouver Transportation Authority
1600 – 4720 Kingsway
Burnaby, BC V5H 4N2
Tel 604-453-4500
Fax 604-453-4637

Project Director: Sheri Plewes, P.Eng.

1.2 General Background Information

Regional transit planning studies have looked at various options for providing improved service to the northeast sector (Coquitlam/Port Moody/Port Coquitlam area) since the early 1990's. In the late 1990's plans for connecting Coquitlam Regional Town Center to the Millennium Line using SkyTrain technology were carried out. In 2002, planning of this line was discontinued because of funding constraints. Subsequently, TransLink reviewed rapid transit corridor and technical options for providing a connection between the Millennium Line and the Coquitlam Regional Town Centre.

In 2003 and 2004, TransLink conducted an analysis of rapid transit alternatives for servicing the northeast sector. The alternatives included two corridors and four different technologies. The corridors were:

Evergreen Light Rail Transit Project

Project Description

- ‘Northwest Corridor’, essentially the original corridor considered for a SkyTrain link to the Millennium Line, extending from Lougheed Station via North Road and Clarke Road, through Port Moody to Coquitlam Regional Town Centre, with a potential branch to Port Coquitlam.
- ‘Southeast Corridor’, extending from Braid or Sapperton station via Lougheed Highway/CP Rail to Coquitlam Regional Town Centre, with potential branches to Port Coquitlam and Port Moody.

The rapid transit technologies included:

- SkyTrain (primarily for reference),
- Light Rail Transit (LRT);
- Diesel Multiple Units, which operate on existing heavy rail tracks; and
- rubber-tired rapid transit technologies – primarily Guided Light Transit (GLT).

A multiple account evaluation of the alternatives was carried out using the original plan of SkyTrain along the northwest corridor as the reference case. The evaluation considered factors such as capital and operating costs, ridership, travel time, the fit with urban development plans (i.e., GVRD’s Liveable Region Strategic Plan), community effects such as noise and aesthetics, potential environmental effects and ease of implementation. The recommendation from the study was to proceed with an LRT system along the northwest alignment built generally at grade with some underground or elevated sections to minimize traffic impacts or overcome steep grades. The TransLink Board approved this recommendation at its October 2004 meeting.

2. Project Overview

2.1 Introduction

This report describes the essential elements of the Evergreen Light Rail Transit (LRT) line connecting the Lougheed Town Centre SkyTrain Station in the City of Burnaby with the Coquitlam City Centre area in the general vicinity of Pinetree Way and Guildford Way in the City of Coquitlam. The TransLink Board approved a total capital envelope for the project of \$800 million. At the start of operation at the end of 2009, the Evergreen Light Rapid Transit Line will employ a staff of 120 to operate, service and maintain a fleet of 21 vehicles. The ultimate fleet, due to anticipated system expansion, has been estimated to be 40 vehicles which results in an ultimate staffing level of 210 employees.

This project description is based on current information and preliminary design completed to date. Based on input from the Initial Open Houses held at the end of November and December 2005, public and stakeholder input and modeling outputs, the design team will advance the project to about a 60%

Evergreen Light Rail Transit Project

Project Description

preliminary design level by March 2006. The design, and any potential options, will be presented at a series of Design Ideas Open Houses in late March 2006.

Feedback from the March Open Houses and input from stakeholders and municipalities will be used to advance the preliminary design to the 90% level. The 90% design package will be the focus of a series of Preferred Design Open Houses and municipal consultation in June 2006. As the project moves through the Project Definition Phase, elements of this project description will change.

At the 90% preliminary design level, the following elements will be defined:

- Vertical and horizontal alignment;
- Station locations and configuration;
- Property requirements;
- Operating and maintenance centre location and size;
- Location of substations;
- Tunnel portal locations and design;
- Vehicle characteristics;
- Preferred traffic and intersection plans;
- High level construction schedule; and
- Funding options.

2.2 Project Goal, Principles and Objectives

2.2.1 Goal

To design a street-oriented light rail transit system that improves mobility in the Northeast Sector and region while providing significant economic, environmental, and social benefits.

2.2.2 Principles and Objectives

Transportation

Principle: Use the Evergreen Line as the basis for developing a transportation network that offers increased choice toward reducing auto use.

Transportation choices reduce congestion and pollution and allow residents who cannot drive – children, seniors, and people with physical challenges – to access daily services and activities on their own. An attractive, interconnected, and barrier-free system of transit,

Evergreen Light Rail Transit Project

Project Description

streets, sidewalks and trails, bike routes, and public spaces lends itself to transportation choice. Design the Evergreen Line to fully connect to each component of this system. Linked systems, whether they are transportation systems or ecological associations, tend to be more efficient and healthy.

Objectives:

1. Use the Evergreen Line to connect where people live, work, shop and play both locally and regionally.
2. Integrate the Evergreen Line with other transit, walking, biking and driving networks to increase transportation choice and thereby encourage modes of travel other than the private vehicle.
3. Create a transportation network that prioritizes transit while providing sufficient mobility for general purpose traffic.
4. Create an LRT system that gets people where they want to go efficiently, comfortably, affordably and safely.
5. Create an LRT system that is accessible to bicycles and people who are physically challenged.
6. Integrate the LRT system into the community to minimize noise, view and traffic impacts in ways that respond to the local context.
7. Create an LRT system that balances the number and spacing of LRT stops providing local access, with overall travel time.
8. Provide a high level of pedestrian and bicycle access and amenities in and around the LRT stops.

Urban Development

Principle: **Use the Evergreen Line to support the creation of complete communities and a compact region.**

Complete communities – those with a fine-grained and diverse mix of housing, jobs, services, schools, parks, community facilities and natural areas – are self-reliant, inclusive and stable. Compact, complete communities use land and infrastructure more efficiently, while providing more living choices for residents and local employees. Design the Evergreen Line to direct growth to key commercial areas along the line, and to provide access, allowing people of diverse economic, social, lifecycle, and cultural backgrounds to live, work, learn, shop and play within the same local area.

Evergreen Light Rail Transit Project

Project Description

Objectives:

1. Use the Evergreen Line to help concentrate development in regional and municipal town centres and along the transit corridor.
2. Use the Evergreen Line to foster a complete and balanced mix of jobs, housing, culture and recreation within these centres and along corridors served by the line.
3. Use the Evergreen Line to connect these centres and connect residents to their needs.
4. Use contemporary precedents to integrate LRT and road network design and to stimulate the development of attractive mixed use communities along the Evergreen Line.

Economics

Principle: **Create an affordable LRT system that contributes to the economic vitality of the community.**

A healthy economy makes wealth from the natural and human capital at hand while preserving it for the future. Design the Evergreen Line to support people of all incomes working and living in their own community both now and in the future; to connect people and jobs and enable the flow of goods; to balance movement within with movement through the community; and, to provide access to local businesses. Design the Evergreen Line to provide a fair return on investment and to protect land value for owners and communities.

Objectives:

1. Maximize value by building a LRT system that balances optimal performance, quality and cost, consistent with world wide best practice.
2. Design an LRT system that is affordable to construct, operate and maintain within existing or expected funding structures.
3. Ensure the costs and benefits are shared equitably among the communities it serves.
4. Use the Evergreen Line to enhance the economic vitality of the communities it serves by providing access to jobs and businesses while maintaining the movement of goods.
5. Design the Evergreen Line such that it highlights development opportunities for properties within walking distance of the line.

Evergreen Light Rail Transit Project

Project Description

Environment

Principle: **Design the Evergreen Line to support environmental sustainability.**

Communities that integrate green infrastructure are more environmentally friendly and cost effective. Green infrastructure reduces pollution, decreases energy use, and respects natural ecosystems. The Evergreen Line will use technology that inherently decreases pollution and energy use. Design the line to be an attractive option toward promoting ridership and decreasing auto use. Envision other ways – including railbed treatments, and trees in the street right-of-way – the line can be designed to support the protection of areas important to maintaining streams and habitat.

Objectives:

1. Use best practices to guide the design and construction of the Evergreen line and the wider transportation network to minimize impacts on the natural environment and the built environment.
2. Educate about the role of the Evergreen Line and other alternative modes of travel in supporting compact communities, reducing congestion and pollution in the district and the region, and preserving green zone lands.
3. Promote ridership – particularly among young people – on the Evergreen Line and other alternative modes of travel.
4. Find ways to encourage young people to use the LRT to build lifetime transit loyalty.
5. Create an LRT system that is designed and operated to achieve energy efficiency.

People

Principle: **Use the Evergreen Line to support the creation of identifiable, accessible and vibrant communities.**

Healthy communities are animated, diverse and have a strong local identity. Design the Evergreen Line to support the development of neighbourhood and town centres as focal points for community interaction, where residents can find work, shopping and other activities close to home. Produce an overall design vision that respects and celebrates in meaningful ways important view sheds, historical and cultural heritage, and local knowledge.

Evergreen Light Rail Transit Project

Project Description

Objectives:

1. Use the development of the Evergreen Line, particularly LRT stops, as an opportunity to create attractive, safe, and high-quality public spaces.
2. Design these public spaces, stops and streets to reflect historic character, to support natural systems, and to otherwise reinforce community identity, scale and form.
3. Create safe, vibrant, attractive and accessible station nodes and feeder streets.
4. Ensure the Evergreen Line is accessible to all people and by all modes of transportation.
5. Involve local residents in developing the Evergreen Line to maximize benefits and minimize negative impacts to their communities.

3. Project Description

3.1 Corridor

The Evergreen LRT Line generally follows North Road and Clarke Road from Lougheed Town Centre Station through to Port Moody, then travels along St. Johns Street and Barnet Highway to Coquitlam Central Station, and turns north on Pinetree Way, terminating in the general vicinity of Coquitlam City Hall at Pinetree Way and Guildford Way. Figure 1 illustrates the corridor.

3.2 Vertical and Horizontal Alignment

The following describes the general vertical and horizontal (Figure 1) alignment for the Evergreen Line. This alignment will be further defined and may change slightly during the Project Definition Phase, as noted in Section 2 above.

3.2.1 Segment 1 – Lougheed Town Centre to Foster Avenue/North Road

At the Lougheed Town Centre Station, the line will connect to the Lougheed SkyTrain Station above ground to provide convenient LRT to SkyTrain transfers and optimal integration from both customer and operational perspectives. From the station platform, the line extends above-grade over Austin Avenue and returns to grade on North Road between Austin Avenue and Cameron Street, utilizing a centre median along North Road to Foster Avenue. A station is being considered in the vicinity of Cameron Street.

Evergreen Light Rail Transit Project
Project Description

Figure 1. Proposed Corridor and Alignment



3.2.2 Segment 2 – Foster Avenue/North Road to Elgin Street/St. Johns

Along North Road and Clarke Road from Foster Avenue to the vicinity of Clarke Road and Como Lake Avenue, the line will be at-grade, in a centre median. Based on the approved Board alignment, the tunnel portal will be north of Como Lake Avenue. However, an option being considered for the tunnel portal location is south of Como Lake. An at-grade station will be located near Burquitlam Shopping Plaza.

From the vicinity of just north of Como Lake Avenue and Clarke Road, the line will be in a twin bored tunnel with a maximum grade of 6% and emerging into Port Moody at the bottom of Clarke Hill at the vicinity of St. Johns and Barnet Highway. Alternate tunnel portal locations are being explored in an effort to reduce visual and noise impacts, and to improve constructability and operational performance. The LRT will cross Barnet Hwy either at-grade or below-grade returning to grade near Douglas in a centre median.

Evergreen Light Rail Transit Project

Project Description

3.2.3 Segment 3 – Elgin Street to Ioco Road/St. Johns

From Elgin Street, the line will remain at-grade in the centre median along St. Johns Street. Three at-grade stations will be located along St. Johns in the vicinity of Queens Street, Williams Street and Moray Street.

3.2.4 Segment 4 – Ioco Road to Johnson Street-Mariner Way/Barnet Highway

The line will cross the CP Rail tracks, requiring widening of the existing bridge west of Ioco, and will continue to run at-grade in a centre median along Barnet Highway to Johnson Street-Mariner Way. The line will elevate as it approached Johnson Street-Mariner Way and move to the south side of Barnet Highway. An at-grade station will be located in the vicinity of Falcon Street.

Alignment options are being considered south of Barnet Highway, either along the south side of Barnet Highway or parallel to and north of the CP ROW from Ioco to the Coquitlam Transit Exchange, located immediately east of Mariner Way. The alignment would transition from the centre alignment along St. Johns to the alignment south of Barnet or north of the CP Rail ROW near Dewdney Trunk Road and remain at-grade to the transit exchange.

3.2.5 Segment 5 – Johnson Street-Mariner Way to Coquitlam City Hall

At Johnson Street-Mariner Way, the line elevates over the eastbound lanes of Barnet Highway to the Coquitlam Transit Exchange, with an elevated station at the exchange. Turning north, the line continues elevated over the intersection of Pinetree Way and Barnet-Lougheed Highways, where the line returns to grade in the centre median of Pinetree Way. The line continues to run at-grade in a centre median, terminating at Coquitlam City Hall. At-grade stations will be located in the vicinity of Lincoln Avenue and Guildford Way. An extension to Douglas College, with an additional at-grade station, is identified as an option.

The alignments south of Barnet Highway or parallel to the CP Rail ROW would begin to elevate through the south portion of the Coquitlam Transit Exchange to cross the southbound lanes of Lougheed Highway, returning to grade in the centre median of Lougheed Highway south of Barnet Highway. The station will be located at the Coquitlam Transit Exchange.

Evergreen Light Rail Transit Project

Project Description

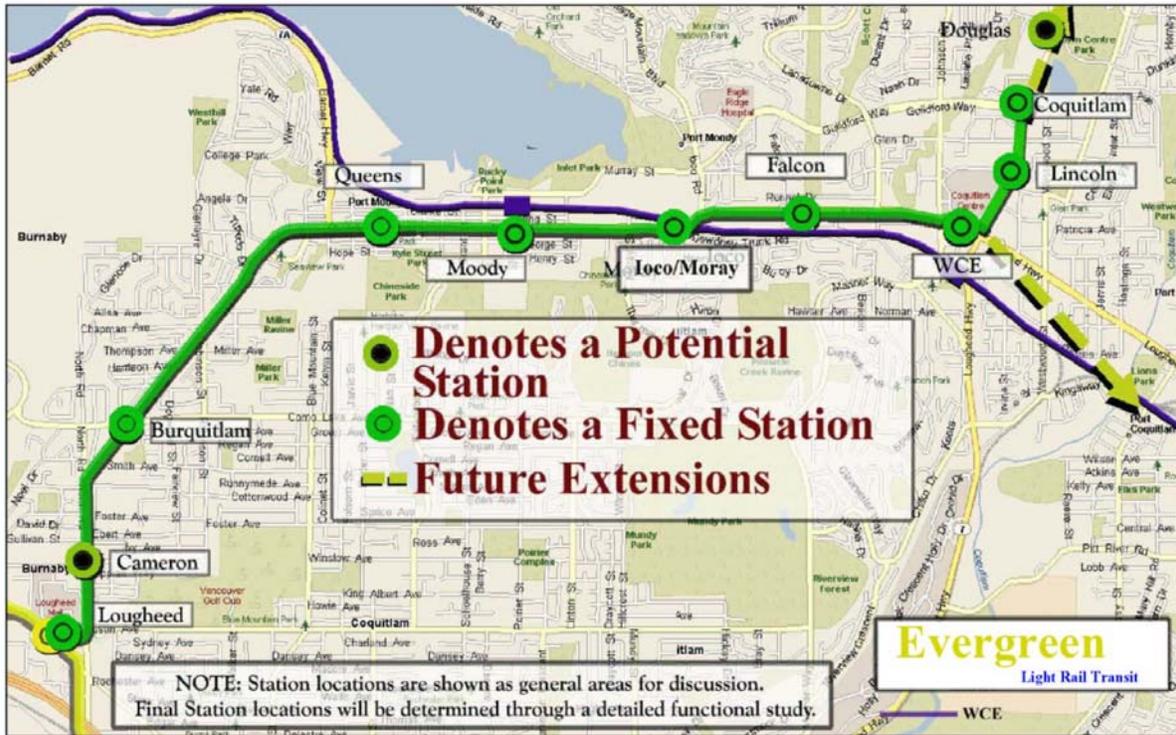
4. Proposed Station Locations

The Evergreen Line will have ten stations with nine stations identified and two candidates for the potential additional station. The location of the stations described below and shown on Figure 2 are general areas where stations would be located. The stations will be fully accessible, community-friendly, safe and secure. The design will utilize Crime Prevention Through Environmental Design (CPTED) standards. The final specific station locations and preliminary design will be identified through the process described in Section 2.

| Station | Station Comment – Fixed Locations |
|--|--|
| 1. Lougheed Town Centre | <ul style="list-style-type: none"> ▪ Maximize convenience of transfers to Millennium Line ▪ Maximize the potential for development in the immediate vicinity ▪ Minimize the impact of adequate turnaround requirements for trains that terminate at the station |
| 2. Burquitlam Plaza | <ul style="list-style-type: none"> ▪ Use street location on Clarke Road at-grade ▪ Maximize opportunity for integrated development |
| 3. Queens Street -Kyle Street | <ul style="list-style-type: none"> ▪ At-grade on St. Johns in the vicinity of Queens Street and Kyle Street ▪ Potential for station to enhance character of Port Moody Old Town |
| 4. Port Moody Station (near existing West Coast Express Station) | <ul style="list-style-type: none"> ▪ At-grade on St. Johns in the vicinity of Moody Street and Williams Street ▪ Potential bus and West Coast Express transfers |
| 5. Moray Street -Ioco Road | <ul style="list-style-type: none"> ▪ At-grade on St. Johns-Barnet Highway in the vicinity of Moray Street to Ioco Road ▪ Station should be developed to maximise pedestrian access to new developments North of St. John’s and to Port Moody Old Town |
| 6. Barnet Highway and Falcon Drive | <ul style="list-style-type: none"> ▪ At-grade on Barnet Highway at Falcon Drive |
| 7. Coquitlam Central Station (existing West Coast Express Station) | <ul style="list-style-type: none"> ▪ At-grade or elevated ▪ Substantial bus transfer facility ▪ Connections to West Coast Express ▪ Park & Ride facilities ▪ Should maximize the opportunity for integrated development |
| 8. Lincoln Avenue/Coquitlam Centre (North) | <ul style="list-style-type: none"> ▪ at-grade in the vicinity of Pinetree Way and Lincoln Avenue ▪ Should maximize the opportunity for integrated development |
| 9. Coquitlam City Hall | <ul style="list-style-type: none"> ▪ At-grade terminus in the vicinity of Pinetree Way and Guildford Way (Potential to combine with Douglas College) |
| Location | Station Comment – Potential Additional Locations |
| 1. Cameron | <ul style="list-style-type: none"> ▪ At-grade on North Road at Cameron Street |
| 2. Douglas College | <ul style="list-style-type: none"> ▪ At-grade on Pinetree Way at the entrance of Douglas College north of Town Centre Boulevard |

Evergreen Light Rail Transit Project
Project Description

Figure 2. Fixed and Potential Station Locations on the Evergreen Line



5. Operation

5.1 Operating Hours

The system will operate continuously between the hours defined below for first arrivals and the last departures from each of the terminal stations. The last scheduled departure from Loughheed Town Centre Station and Coquitlam City Centre will provide service along the full length of the line to the terminal station before going out of service. The first arrivals at the terminal stations must have completed a full journey from the other terminal station. This means that the first train has not started in the middle of the line at the start of service.

Evergreen Light Rail Transit Project

Project Description

Evergreen Line Operating Hours

| Station | Monday-Friday | Saturday | Sunday/Holidays |
|---|-----------------------------------|------------------------|-------------------------|
| Coquitlam City Hall/ Douglas College | First 5:10 a.m. Last 1:30 a.m. | 6:10 a.m. 1:30 a.m. | 7:10 a.m. 12:30 a.m. |
| Lougheed Town Centre Station | First 5:30 a.m. Last 1:50 a.m. | 6:30 a.m. 1:50 a.m. | 7:30 a.m. 12:50 a.m. |

5.2 Travel Times

The system will be designed to achieve the following target travel times:

- Coquitlam City Centre (Coquitlam City Hall) to Lougheed Town Centre Station – 20 minutes.
- Lougheed Town Centre Station to Coquitlam City Centre (Coquitlam City Hall) – 20 minutes.

The travel times are from the time of departure at the originating terminus to the time of arrival at the destination terminus including all station dwell times and any delays incurred at intersections as a result of at-grade on street right-of-way operation.

5.3 Reliability

To attract and retain customers, the system must be reliable, which means that the customers have a high confidence level in the ability of the system to meet the planned travel times between stations in order to make key transfers. The system will be designed to maintain reliable service.

5.4 Frequency of Trains (Operating Headway)

At no time will the frequency of service be longer than those specified in the following table.

Evergreen Light Rail Transit Project
Project Description

Evergreen Line Maximum Allowable Headways
(minutes between trains by segment)

| Time Period | Hours | Minutes Between Trips |
|----------------------|--|------------------------------|
| Peak | 6:30 – 9 :00 a.m. – <i>Monday - Friday</i> 3:00 – 6 :00 p.m. – <i>Monday - Friday</i> | 6 |
| Mid-day | 9:00 a.m. – 3:00 p.m. – <i>Monday - Friday</i> 10:00 a.m. – 6:00 p.m. – <i>Weekend & Holidays</i> | 7.5 |
| Evenings | 6:00 – 11:00 p.m. – <i>All days</i> | 10 |
| Early Morning | Start of service – <i>All days</i> | 15 |
| Late Night | End of service – <i>All days</i> | 15 |

Note: Headway times are expressed as the maximum allowable minutes between scheduled trains.

5.5 Operating Capacity

The system will deliver a capacity that exceeds the forecasted peak hour demand at the maximum load point on the line by 15%. The maximum capacity delivered will be no less than:

- 2010:** 2,500 passenger spaces per hour per direction at the maximum load point
- 2021:** 3,500 passenger spaces per hour per direction at the maximum load point

5.6 Fare System

All aspects of the Evergreen Line 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.

6. Modal Integration

Pedestrians, buses, bicycles, cars, and West Coast Express modes will provide access and distribution for Evergreen Line customers. To maximize the system’s ridership and revenue potential high quality modal integration is required.

Evergreen Light Rail Transit Project

Project Description

6.1 Pedestrians

With the exception of pedestrian facilities directly impacted by the construction of the light rail transit line, pedestrian facilities are largely the responsibility of the municipalities. However, the project will work closely with the municipalities to ensure safe, attractive and convenient connections including ensuring pedestrian facilities within the station areas as well as on pedestrian routes to the stations.

6.2 Bicycles

Access to stations for bicycles will be provided to ensure safe, attractive and convenient connections. Every train will have identified space for two bicycles at all times of the day including peak hours. This area should be separate from the wheelchair area. Bicycle storage at stations including racks and lockers will be provided where it is appropriate given the likely demand and available space.

6.3 Buses and West Coast Express

The line will provide for off-street bus facilities at four stations, including the following:

1. Lougheed Town Centre
2. Burquitlam
3. Port Moody (West Coast Express Station)
4. Coquitlam Central Station (West Coast Express)

Bus connections at other stations along the line are also important however, these will be accommodated through careful placement of on-street bus stops near station entry points. There must be convenient pedestrian connections with the West Coast Express at the Coquitlam transit exchange and Port Moody Station.

6.4 Integration with Millennium Line Service

The next stage of the project will examine the extent to which the Evergreen Line and the Millennium Line can be optimally integrated from both customer and operational perspectives.

6.5 Automobiles

Park & Ride will be provided for the LRT line at the Coquitlam and Port Moody West Coast Express Park & Ride lots.

Evergreen Light Rail Transit Project

Project Description

6.6 Accessibility

All stations and vehicles on the Evergreen Line will be accessible to people with disabilities. Each vehicle will accommodate up to two mobility aids.

7. Security

The system will be designed to allow for efficient and effective security operations. This includes use of electronic surveillance, emergency access and provisions for security staff. Station designs will reflect the application of Crime Prevention Through Environmental Design (CPTED) standards.

8. Emergencies

The system will be designed to ensure safe and prompt evacuation of riders from vehicles, the tunnel and at stations.

- Separate access for emergency crews is also required to be appropriately designed and provided as defined by code requirements.

9. Potential Future Extensions / Branches

The line will be designed and constructed to allow extensions to the:

- City of Port Coquitlam
- Burke Mountain area of Coquitlam

10. Property Acquisition

The Evergreen Line route will be located primarily on municipally owned streets. In certain areas this will require widening of the roads and some property will have to be acquired to do this. Preliminary assessment of the property acquisitions along the alignment indicate that 47% of the properties required are residential, 48% are commercial and the remaining 5% are municipal owned lands. Most acquisitions

Evergreen Light Rail Transit Project

Project Description

will be portions of properties but some will require the purchase of the entire parcel. Other property acquisitions include lands for the Operations and Maintenance Center (OMC) and construction lay-down areas required for tunnel construction. Both may be located on privately held lands.

11. Public Consultation Activities

The following is a summary of the consultation activities held in the Conceptual Planning Phase in 2004 and the initial stages of the Project Definition Phase in 2005.

11.1 Conceptual Planning Phase

Information Displays

- May 4, 2004 – Douglas College
- May 8, 2004 – IKEA
- May 10, 2004 – Port Moody City Hall, Galleria
- May 13, 2004 – Coquitlam Centre, Coquitlam
- May 18, 2004 – Place des Arts, Coquitlam
- May 20, 2004 – Lougheed Mall, Burnaby

Public Meetings

- November 24, 2004 – City of Coquitlam Town Hall Meeting (hosted by the City of Coquitlam), Coquitlam
- November 30, 2004 – Public Meeting, Executive Plaza Hotel, Coquitlam
- December 1, 2004 – Public Meeting, Port Moody City Hall, Port Moody

11.2 Project Definition Phase

Council of Councils Meeting

- April 23, 2005 – Mini Council of Councils
- September 17, 2005 – Mini Council of Councils

Information Displays

Evergreen Light Rail Transit Project

Project Description

- June 16 & 17, 2005 – Coquitlam Centre, Coquitlam (2 days)
- July 1, 2005 – Village of Anmore, Council Chambers, Anmore (1 day)
- July 2 & 3, 2005 – Port Moody Golden Spike Days, Rocky Point, Port Moody (2 days)
- July 5 to 7, 2005 – Port Moody City Hall, Galleria, Port Moody (3 days)
- July 11 to 13, 2005 – Coquitlam City Hall, Coquitlam (3 days)
- July 15 to 17, 2005 – Lougheed Shopping Centre, Burnaby (3 days)
- July 22 to 24, 2005 – IKEA, Coquitlam (3 days)
- October 5 & 6, 2005 – Douglas College, David Lam Campus, Coquitlam (2 days)
- October 11 & 12, 2005 – Dogwood Pavilion, Coquitlam Rec. Centre, Coquitlam (2 days)

Public Meetings

- September 16, 2005 – Tri-Cities Chamber of Commerce, Coquitlam
- September 17, 2005 – Evergreen Cultural Centre, Coquitlam
- December 13, 2005 – School District #43

Open Houses

- November 23, 2005 – Executive Plaza, Coquitlam (Segment 1)
- November 24, 2005 – Seaview Elementary - Port Moody (Segment 2)
- December 1, 2005 – Kyle Centre, Port Moody - (Segment 3)
- November 29, 2005 – Port Moody City Hall Galleria, Port Moody (Segment 4)
- December 7, 2005 – Pinetree Community Centre, Coquitlam (Segment 5)

11.3 Proposed for 2006

A series of Open Houses will be held in March and early April when TransLink will present the current design ideas developed from the input received at the November/December 2005 Open Houses and the ongoing engineering studies. The dates for these Open Houses are:

- March 23, 2006 – (Segment 1)
- March 28, 2006 – (Segment 2)
- March 30, 2006 – (Segment 3)
- April 4, 2006 – (Segment 4)
- April 6, 2006 – (Segment 5)

A second series of open houses will be held in June 2006 for the public to review and comment on the project design at the 90% preliminary design. The proposed dates are:

Evergreen Light Rail Transit Project

Project Description

- June 13, 2006 – (Segment 1)
- June 15, 2006 – (Segment 2)
- June 20, 2006 – (Segment 3)
- June 22, 2006 – (Segment 4)
- June 27, 2006 – (Segment 5)

11.4 Other Consultation Activities

As well as open houses and the information display that moves around the community (shopping centres, libraries, city halls, etc.), the public is welcome to provide input/feedback to TransLink at any time by calling Carol Evans at 604-453-4548, emailing directly to carol_evans@translink.bc.ca or via the website, and/or mailing/faxing (604-453-4632).

Community, neighbourhood, strata councils, businesses, special interest groups, etc. are encouraged to contact Carol to arrange meetings with TransLink staff.

Approximately 1,000 requests are on file to receive Project updates electronically or via mail. Roughly 500 people have made comments in writing to TransLink about the Project.

Meetings with municipal councils, municipal staff and key stakeholders are ongoing and are not listed.

12. First Nations Consultation

The Evergreen Line is planned for an area that is in close proximity to the Kwayhquitlum First Nation's reserves No. 1 and 2, and the Katzie First Nation's asserted traditional territory. As well, the project falls within the asserted traditional use areas of at least the following First Nations:

- Musqueam Nation
- Squamish Nation
- Sto:lo Nation¹
- Tsawwassen First Nation
- Tsleil-Waututh Nation

¹ *Sto:Lo Nation is an affiliation of 17 First Nation communities: Aitchelitz, Chawathil, Kwantlen, Kwaw-kwaw-Apilt, Lakahahmen, Matsqui, Popkum, Scowlitz, Seabird Island, Shxw'ow'hamel, Skawahlook, Skowkale, Soowahlie, Squiala, Sumas, Tzeachten, and Yakweakwoose.*

Evergreen Light Rail Transit Project

Project Description

TransLink will undertake notification and consultation activities with these and any other identified First Nations during the Environmental Assessment Certificate application process. Consultation initiatives will be undertaken during the preparation of the Application for an Environmental Assessment Certificate and subsequently during the public comment period following submission of the Application for technical and public review. Consultation deliverables will include:

- Project overview document;
- Invitation to meet;
- Opportunities for input to the First Nations consultation process;
- Regular project updates;
- Opportunities for First Nations to comment on the Application; and
- Notification of Ministry decision.

13. Potential Environmental Issues

The following is a preliminary list of issues that will likely have to be addressed in the Environmental Assessment Certificate Application Report:

Contaminated Sites

- Particularly associated with the purchase of commercial properties for the project

Socio-economic & Community

- Effects on communities near the line
- Community attitude toward the project
- Economic benefits and impacts
- Health effects – input from air quality, noise and electro-magnetic field effects studies

Climate/Air Quality

- Climate Change
- Air quality during construction and operation
- Effects on greenhouse gas production

Noise Assessment

- Ambient vs. predicted during construction and operation
- Noise sensitive areas – schools, hospitals, community centres, parks, etc.

Evergreen Light Rail Transit Project

Project Description

Geotechnical

- Slope stability
- Tunnel waste material
- Groundwater and tunnel dewatering

Biophysical: Terrestrial and Aquatic

- Species at Risk
- Tree removal
- Critical habitats, riparian areas, etc.

Archaeology, Traditional Use and Heritage Resources

Electric and Magnetic Field Emissions (EMF)

As consultation with government agencies, First Nations and the public proceed, other issues will likely be added to this list.

13.1 Potential Federal Triggers for the Canadian Environmental Assessment Act (CEAA)

The project description is used by the federal agencies to determine the need for a CEAA review of a project. A CEAA review is triggered if a federal authority:

- is the proponent;
- provides financial assistance to a proponent;
- grants an interest in land; and/or
- will be required to issue a permit or licence pursuant to a regulation identified in the “*Law List Regulations*” that is required for a project to proceed.

The Evergreen Project may trigger CEAA because a federal authority is required to issue some form of approval for the project to proceed and/or there may be federal funds allocated to the construction of the project.

The agencies that may have a regulatory responsibility are Fisheries and Oceans Canada (DFO) and Environment Canada. Under the *Fisheries Act*, DFO may have to issue an authorization for works that could affect fish and fish habitat. Section 3.2 provides a description of the proposed alignment of the

Evergreen Light Rail Transit Project

Project Description

LRT. The current alignment will cross over or next to several creeks in Port Moody and Coquitlam. The creeks include:

- School House Creek – passes under St. Johns St. near the Barnet Highway/St. Johns intersection
- Slaughter House Creek – crosses St. Johns between Williams and Buller Streets.
- Sutter Brook – in the vicinity of the Ioco/Barnet intersection
- Scott Creek – passes under the Barnet Highway near Lansdowne St
- Hoy Creek – passes under the Barnet Highway near Dufferin St.

At each of these crossings there are various alternatives being considered for the final alignment but in all cases the crossings will likely involve extending existing culverts under the roadways or building new culverts or bridges next to the roadways. The minimum width of these extensions or new crossings will be 8.5 m with the requirement for fill slopes or other support structures resulting in wider crossings. The current level of design information does not provide any greater detail on potential crossings at this time.

Environment Canada would be involved if the selected option for disposal of spoil from tunnel excavation is ocean dumping under the *Disposal at Sea Regulations*. Decisions about disposal of tunnel spoil will likely be made by the end of the Project Definition stage in September 2006.

Transport Canada could have a trigger if any of the creeks along the alignment are considered navigable and the modification of existing bridges or culverts or new bridges or culverts are proposed. If that were the case, approval under the *Navigable Waters Protection Act* may be required. However, Scott Creek, the largest creek in the study area, has a channel width of approximately 4 m in the vicinity of the Barnet Highway and would be difficult to navigate even in a whitewater kayak.

Infrastructure Canada could have a trigger as a funding agency. At this time project funding details have not been finalized but the potential exists for the federal Government to provide a block of funding for the project and it would likely come through Infrastructure Canada.

The current alignment does not appear to involve any First Nations reserve land or trigger other concerns for Indian and Northern Affairs Canada.

13.2 Potential Permits and Approvals Required to Construct and Operate the Project

The following is a preliminary list of permits, licences and approvals that may be required to construct and operate the Evergreen Line:

Evergreen Light Rail Transit Project

Project Description

Provincial

- Approval or permit under the Environmental Management Act (i.e., for contaminant waste management);
- Section 9 approvals under the Water Act to work in and about a stream; and
- Safety permits issued under the BC Safety Authority.

Federal

- Authorization under Section 35(2) of the Fisheries Act to alter or harm fish habitat;
- Authorization under Section 5 of the Navigable Waters Protection Act for any works that could affect navigation on a navigable waterway; and
- Approval under the Environmental Protection Act for disposal at sea of tunnel spoil.

Municipal/Regional

- Permit to discharge to storm sewers or sanitary sewers;
- Zoning amendments;
- Development Permits;
- Building Permits; and
- Adherence to applicable by-laws such as tree removal, noise, street access, and traffic control.

14. Proposed Schedule

The following provides an approximate timeline for project development, construction and start of operation:

- | | |
|---|-------------------------------|
| • Project Definition Phase | September 2005 – October 2006 |
| • Environmental Assessment Process | January 2006 – May 2007 |
| • Detailed Design Phase | December 2006 – February 2008 |
| • Vehicle Specification, Procurement and Delivery | February 2006 – October 2009 |
| • Construction , Testing, Commissioning | July 2007 – October 2009 |
| • Start of Operation | November 2009 |