THE EVERGREEN LINE:
A EUROPEAN PERSPECTIVE OF VANCOUVER’S FIRST LRT LINE

New Approaches to Corridor Planning
Rail~Volution Conference, Chicago 2006

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Vancouver

A survey by the Economist Intelligence Unit assessing the “liveability” of 127 cities worldwide has found Vancouver to be the most attractive location.
Greater Vancouver - Planning Context

- Greater Vancouver Regional District (GVRD)
- Livable Region Strategic Plan
- Growth Concentration Area
  - protect the Green Zone
  - build complete communities
  - achieve a compact Metropolitan Region
  - increase transportation choices
- Designated Regional Town Centres
- Growth forecasts
  - Population: 2.1 million (2005) to 2.6 million (2021)
  - Employment: 1.1 million (2005) to 1.5 million (2021)
- Municipalities - Official Community Plans
  - delivery of growth targets at local level
Greater Vancouver Transportation Authority (TransLink)

TransLink is responsible for:
- SkyTrain
- SeaBus
- Buses
- West Coast Express
- HandyDART
- Bridges
- Major Road Network
- Demand management initiatives

It is also the promoter of the Canada and Evergreen Lines
Transit Oriented Development - The SkyTrain Experience

- The implementation of the SkyTrain has been an effective tool to encourage concentrated population growth.
- Between 1991 and 2001, the population within 500 metres of a SkyTrain line increased by 37% compared to a regional average of 24%.
SkyTrain - Main Street
SkyTrain - Joyce
The Northeast Sector

Cities of Burnaby, Port Moody, Coquitlam

Key Features:
- Lougheed Mall - 185 stores, 7.3 million shoppers/year
- Port Moody - Historic Arts District
- Major through route
- Schools and colleges
- Coquitlam Centre - 200 stores, 11.5 million shoppers/year
- Douglas College - 9,500 students

A High Growth Corridor - population increase 46% from 197,000 in 2001 to 288,000 in 2021 (regional average 25%)
The Northeast Sector - Earlier Studies

Northeast Sector Rapid Transit Alternatives Study
- examined SkyTrain, LRT and BRT options
- reviewed alternative alignments

Conclusion: LRT linking Lougheed, Port Moody and Coquitlam

“Essential Elements” defined for project
- 11km route
- 9 stations + one of two additions
- 20 minute end-to-end run time
- 2,500 passenger capacity in 2011
- 3,500 passenger capacity in 2021
- ultimate peak capacity of 9,000 passengers
- 28 - 32m Light Rail Vehicles carrying 200 passengers
Evergreen Process Map

Essential Elements
December 2004

PRELIMINARY DESIGN PROCESS

Preferred Preliminary Design
Fall 2006

technical
- municipal staff
- Project Team (technical)
- design charrette

public
- stakeholder meetings
- open houses
- information displays
- group presentations
- community relations
Technical Development: A Multi-Disciplinary Approach

- Ridership Forecasts and Essential Elements Review
- Preliminary Civil & Urban Design
- System Development
- Traffic & Transportation Analysis
- Environmental Assessment
Steer Davies Gleave’s (European) Approach to Corridor Planning

- LRT as a city-shaping tool
- PUT THE PASSENGER FIRST
  - Walk Access
  - LRT Service Planning - run time & reliability
  - Station locations
  - Waiting Environment
  - Integration
    - with other modes
    - with land use (TOD)
Public Consultation

- Public Consultation used to inform the system design
- Regular Open House events
- Linked to 30, 60 and 90% design completion stages
The Evergreen Line Design Charrette

- A five day intensive Design Forum
- Led by Design Experts/Peer Review
  - Alan Jones (Steer Davies Gleave)
  - David Pollock (Steer Davies Gleave)
  - Troy Russ (Glatting Jackson)
  - Paddy Tillet (Zimmer Gunsul Frasca)
  - Ulrich Ludtke (Light Rail Transit Consult)
  - Fred Dock (Iteris Inc.)
- 70+ participants- TransLink, Municipalities, Residents’ groups, Police, School Board, Public Artists
A ‘Wider Corridor’ Approach

- Needs a User Hierarchy - pedestrians, cyclists, transit, local traffic and parking, through traffic
- Transit priority essential
Evergreen Line - Typical Cross-Section

- Design the whole street - not just the trackway
- Outcome: a pedestrian scale ‘civilised street’
Ridership Forecasts and Essential Elements Review

- Starting point - the Essential Elements option
- Examination of station locations
- Bus Integration Plan
- Run time determinants - dwell times at stations, signal priority
- Population & employment forecasts
- 17 scenarios tested including alignment alternatives
- ‘Put the Passenger First’ assessment
Lougheed Town Centre - Existing Conditions
Lougheed Town Centre - Evergreen Future

- A major new interchange between the Evergreen Line and the SkyTrain network with potential for an increased density of commercial development
Burquitlam Transit Village - Existing Conditions
Burquitlam Transit Village - Evergreen Future

The existing Burquitlam Plaza is recognized by Coquitlam to be a major opportunity to introduce a new mixed use development focused on the Evergreen line station.
Port Moody - Existing Conditions
The Evergreen Line station will act as a catalyst for further 2-3 storey commercial/residential development in this area.
Coquitlam Exchange - Existing Conditions
Coquitlam Exchange - Evergreen Future

This station will become a major transfer point linking the Evergreen Line, West Coast Express services, local buses, and Park & Ride. The station is being designed to maximize the amount of development land to allow a TOD to be taken forward on the Coquitlam Exchange site.
Coquitlam Regional Town Centre - Existing Conditions
A new “downtown” is envisaged for Coquitlam supported by the Evergreen Line with three new stations at Lincoln, Civic Centre/Guildford, and Douglas College.
Douglas College
Evergreen Line - the Preferred Scheme

**Essential Elements**
- 9 stations + one of two options
- Average station spacing 1200m
- Run time 20 minutes

**Preferred Scheme**
- 12 stations + one option
- Average station spacing 930m
- Run time 24 minutes

- 11.2km
- 14 (40) LRVs
- CDN$ 970 million
- 2011 Opening Year
Evergreen Line: Way Forward

- Preliminary Design Phase now complete
- TransLink Board approval received October 18th
- Detailed design stage to start
- Procurement method and financing to be finalized
- Detailed work required to ensure Livable Region, and Official Community Plan targets are translated into real TOD outcomes
Conclusions for Successful Corridor Planning

- The planning framework has to be in place for TOD
- Put the Passenger First- consider all details from outset
- Adopt a “wider corridor” approach
- Engage with local communities early in the process
- Multi-disciplinary approach gives an Integrated Solution
- Do not compromise on system design standards
Dublin

- Homes close to both Luas Dublin LRT lines saw an additional 15% price rise over and above the general increase in prices during the period 2002-2004

(Source: Douglas Newman Good Property Agency)
Strasbourg
Thank you
For More Information...

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