Adventures with Automated Trains, Electric Buses, Smart Roadways and Supportive Land Use in Metro Vancouver

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The Geographic Context
TransLink and the Metro Vancouver Region
TransLink and the Metro Vancouver Region

2010 BUDGETED REVENUE

Fuel Tax $319m (28%)
Property & Replacement Tax $289m (25%)
Transit Fares $413m (36%)
Parking Sales Tax $47m (4%)
GEB Tolls $29m (3%)
Other $49m (4%)

Total approx. $1,146 Million
TransLink and the Metro Vancouver Region

Metro Vancouver Annual Transit Ridership

- Ridership increased 52% between 1998 and 2009
- Population increased by 15%

1998: 124 million transit trips
2009: 188 million transit trips
TransLink’s Long Range Plan
TransLink and the Metro Vancouver Region

Over 1 million more people by 2040

2009
2.3 million

2040
3.4 million

100,000 people =
Note: these projections are currently being reviewed as part of Metro Vancouver’s regional growth strategy review process.

Source: Metro Vancouver
Future vision of Transport 2040

GOAL 1 - Greenhouse gas emissions aggressively reduced.

GOAL 2 - Most trips are by transit, walking and cycling

GOAL 3 - Most jobs and housing located along frequent transit network

GOAL 4 - Traveling is safe, secure, and accessible for everyone

GOAL 5 - Economic growth and efficient goods movement are facilitated

GOAL 6 - Funding is stable, sufficient and influences choices.
T2040... A Great Start.

- Provides high-level vision and directions
- Goals help shape our annual 10-year plans
- A need still exists for:
  - performance targets
  - investment and funding strategies
  - implementation priorities and strategies
  - supporting policies and actions by others
Long Range Planning Agenda

- Achieve Sustainable Funding
- Maintain and Optimize the System
- Integrate Land Use with Transport
- Enhance Investment
- Encourage Sustainable Transportation Choices
1. How much more efficiency can we get out of existing investments?

2. What are the things that should be done, where and when?

3. What is the goods movement challenge in this region?
Steps Taken to Leverage Existing Resources

- Buses serve as important data collection devices
Automatic Passenger Counter (APC) equipped buses record passenger activity by stop, trip, time period, etc.
Area Transit Plans

- Provide local involvement in transit planning
- Recognize regional differences
- Inform regional plans
- Create a vision for the future
- Shape the Frequent Transit Network
Area Transit Plans

North Shore
Northeast Sector
Maple Ridge
Pitt Meadows
South of Fraser
Richmond
Burnaby
New Westminster
Vancouver
UBC
1. How do we encourage municipalities to take complementary actions?

2. How can TransLink and municipalities work together to coordinate land use activities with transportation investments?

3. What is the linkage to Official Community Plans and major development proposals?
The Land Use & Transportation Connection
Frequent Transit Network (FTN)

- At least every 15 min throughout the day; 7 days/week
- Framework for a conversation around transit and land use coordination
### Frequent Transit Network

<table>
<thead>
<tr>
<th>Transit Service Type</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTN Limited Stop w/exclusive ROW</td>
<td>Fixed Guideway Rapid Transit Lines, Nodal Development, 800M (half mile) Catchment</td>
</tr>
<tr>
<td>FTN Limited Stop</td>
<td>Limited Stop Bus Lines, Nodal Development, 600M (3 block) Catchment</td>
</tr>
<tr>
<td>FTN Local Stop</td>
<td>Trunk Line Frequent Bus Routes, Linear Development, 400M (2 block) Catchment</td>
</tr>
<tr>
<td>Local Stop</td>
<td>Local Bus Routes, No Specific Development, 400M (2 block) Catchment</td>
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</tbody>
</table>
1. Supply-side
   • More strategic investment in service and infrastructure
   • Frequent Transit Network (FTN) as the key organizing framework

2. Demand-side
   • Work with municipalities to support transit-oriented land use planning and design
   • Seamlessly integrate transit facilities into community

3. Performance-Based Investment
   • Linking scope, timing & phasing of TransLink investment to partner action
Transit-Oriented Communities in Metro Vancouver

Transit-Oriented Communities:

- are places that facilitate a decreased reliance on driving by focusing:
  - higher-density development,
  - diversity of uses, and
  - pedestrian-friendly design,
  - within walking-distance of frequent transit
  - employ demand management techniques.
- are really pedestrian-oriented communities connected by transit.
Transit-Oriented Communities in Metro Vancouver

What are the Benefits?

- More cost-effective transit service
- Higher quality transit service
- Improved public realm & livability
The Land Use & Transportation Connection
Design Guidelines
Partnerships with Cities and Municipalities

Newton Exchange Transit Exchange Concept

Transit Exchange incorporated into neighbourhood plan

TransLink works in partnership with Cities and Municipalities to integrate transit and land use
Transit-Integrated Development

Plaza 88 Development, New Westminster
Transit Neighbourhoods Area Planning

Commercial-Broadway Transit Village Plan
Encourage Sustainable Transportation Choices

1. How much demand can be shifted to different time periods or modes? How much reduced?

2. What kind of policies and initiatives are the most cost-effective and implementable?

3. What is the overall grouping and timing of different initiatives to achieve maximum result?
The Olympic Experience
1. How much investment, type, where and when?

2. What actions will be required of others as a prerequisite?

3. Do the investments
   – in different modes work synergistically with each other? Or compete?
   – support overall policy directions?
Priority Setting

Maintaining Services
State of Good Repair
Upgrades
Expansion

Funding Stabilization Plan
Additional Funding Required
Road Network
Cycling Network
Enhancing Core Carrying Capacity: The Expo Line Upgrade Study
Serving Existing Need: The UBC Line Study
Alternatives Analysis Phases

**Scope of Analysis**
In the initial phases of the study, many alternatives are subject to a high-level analysis.

- high-level analysis
- many alternatives
- shortlist alternatives
- high-level design and detailed analysis
- preferred alternative
- design

As the study progresses, the number of alternatives decreases as the level of analysis increases.
Multiple Account Evaluation

- Economic Development
- Environmental
- Financial
- Social and Community
- Transportation
- Urban Development
- Deliverability
Diverse Range of Urban Transport Technologies
How will we Shape *and* Serve?
Achieve Sustainable Funding

1. What are the objectives to be achieved?

2. What mix of funding sources will be needed over the short and long term?

3. What is a fair and reasonable approach that achieves regional objectives?
Various Funding Mechanisms

User Fees and Taxes
- Transit fares
- Gas tax
- Parking pricing
- Road pricing
- Transportation Improvement Fee
- Vehicle-km travelled fee
- Flat levy (e.g. Hydro Levy)

Beneficiary Fees
- Land value capture levy
- Property tax
- Employer/Payroll tax
- Development charges

Other Taxes and Financing Tools
- Carbon tax
- Debt instruments
- Regional sales tax
- Vehicle sales tax

Direct Government Grants
- Provincial grant program
- Federal grants
- Federal-provincial national transit strategy program
- Social service
Public Policy
- Encourage sustainable travel behaviour
- Encourage sustainable land use
- Encourage vehicle efficiency
- Address fairness concerns

Financial
- Revenue potential
- Diversity of funding
- Stable, reliable revenue stream

Implementation/Administration
- Public acceptance
- Administrative ease and efficiency
- Legislative or regulatory requirements
Long Range Planning Agenda

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Concluding Thoughts & Discussion
Thank you.

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