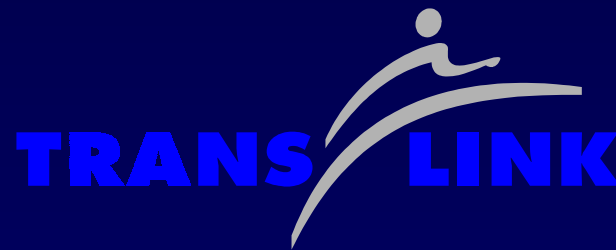


Intelligent Transportation Systems

ISO TC 204 Spring 2004

The Future of ITS in Greater Vancouver

Keenan Kitasaka, P.Eng.



Presentation Overview

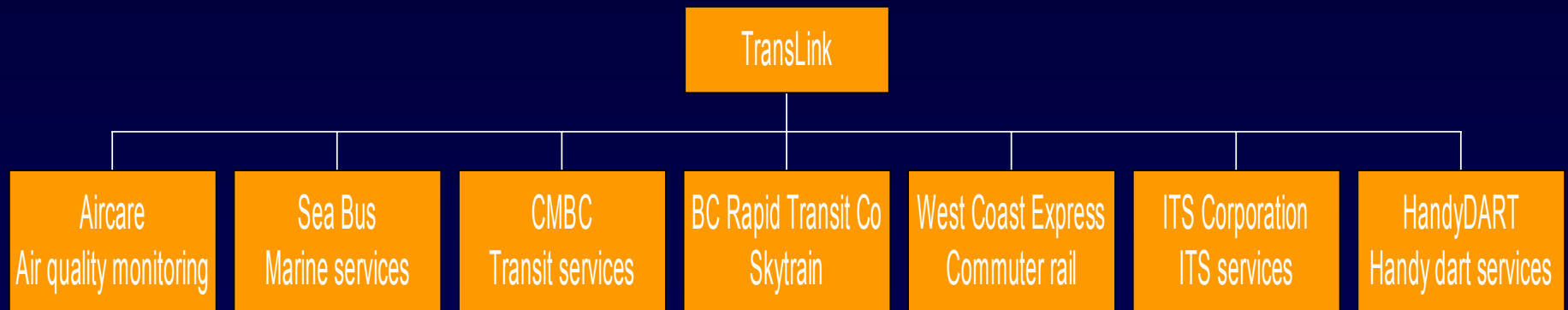
- ITS in the Region
- Projects 2003/04
- Projects - Horizon
- 2010
- Questions & Answers



ITS in the Region

The ITS Corporation

TransLink & Subsidiaries



Other Programs:
Roads & Bridges
Alternative modes
ITS

ITS Corporation

Agencies:

- TransLink
- Ministry of Transportation
- ICBC
- MRTAC (cities)
- Vancouver Airport Authority - YVR
- Vancouver Port Authority - VPA
- BC Trucking Association
- PACE
- UBC
- Transport Canada (Associate) (1)

ITS in the Region

ITS Corporation

- ITS Strategic Plan
Nov.2001
- TransLink Board
approval April 19, 2002
- ITS work packages &
detailed proposals 2003
- ATIS & Regional
Signals projects
underway

Website: www.itsbc.ca



Projects

Completed in 2003

- #98 B-Line Bus Rapid Transit Evaluation
- Smart card reports – current systems, standards, & technologies and case studies
- Cross Border ATIS (MoT)
- ITS work packages

Example - 98B-Line BRT

- Four key elements:
 - Service Design
 - Facilities
 - Vehicles
 - ITS Technology



Service Design

- High frequency
- All day service
- Limited stops
- Simple route



Facilities

- Unique Shelters
- Median Busway
- Bus Lanes



Curbside Bus Lane



Queue Jumper



Signal Pre-emption



Busway

Median Busway



Vehicles



- Distinctive, visible
- Easy to board/ alight
- High capacity

98 B-Line ITS Technology

- Automated vehicle location (AVL)
- Traffic signal priority
- Real time schedule information
- On-board next stop announcements



Automated Vehicle Location (AVL)

- Monitors position using GPS
- Real time station displays show arrival times
- Linked to schedule adherence for real time traffic signal priority



Traffic Signal Priority



Transponder

Roadside Receivers



Traffic Signal Controller Interface



- Activated with bus transponder
- Based on schedule adherence
- 59 intersections are TSP capable
- Check-in/check-out minimizes disruption

Station Real-Time Displays



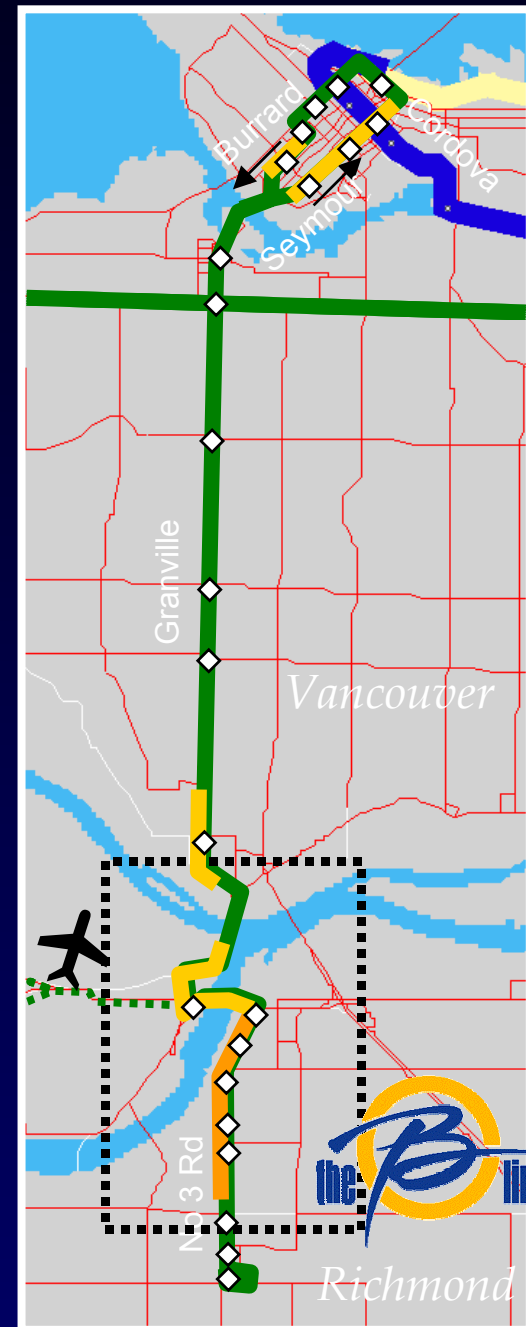
#98 B-Line

Capital Cost \$52 million

Legend

- Median Busway
- Curbside Bus lane

- ❖ Route Length 16 kms
- ❖ Travel Time 40 - 44 minutes one-way
18,000 daily (2002)
- ❖ Ridership 22,000 current est.
- ❖ Frequency (minutes)
 - Peak Every 5-6 (future 4-5)
 - Midday Every 7-8
 - Evening Every 10-15
- ❖ Peak Buses 16 to start (23 available)
- ❖ Operating Cost \$5 million annual

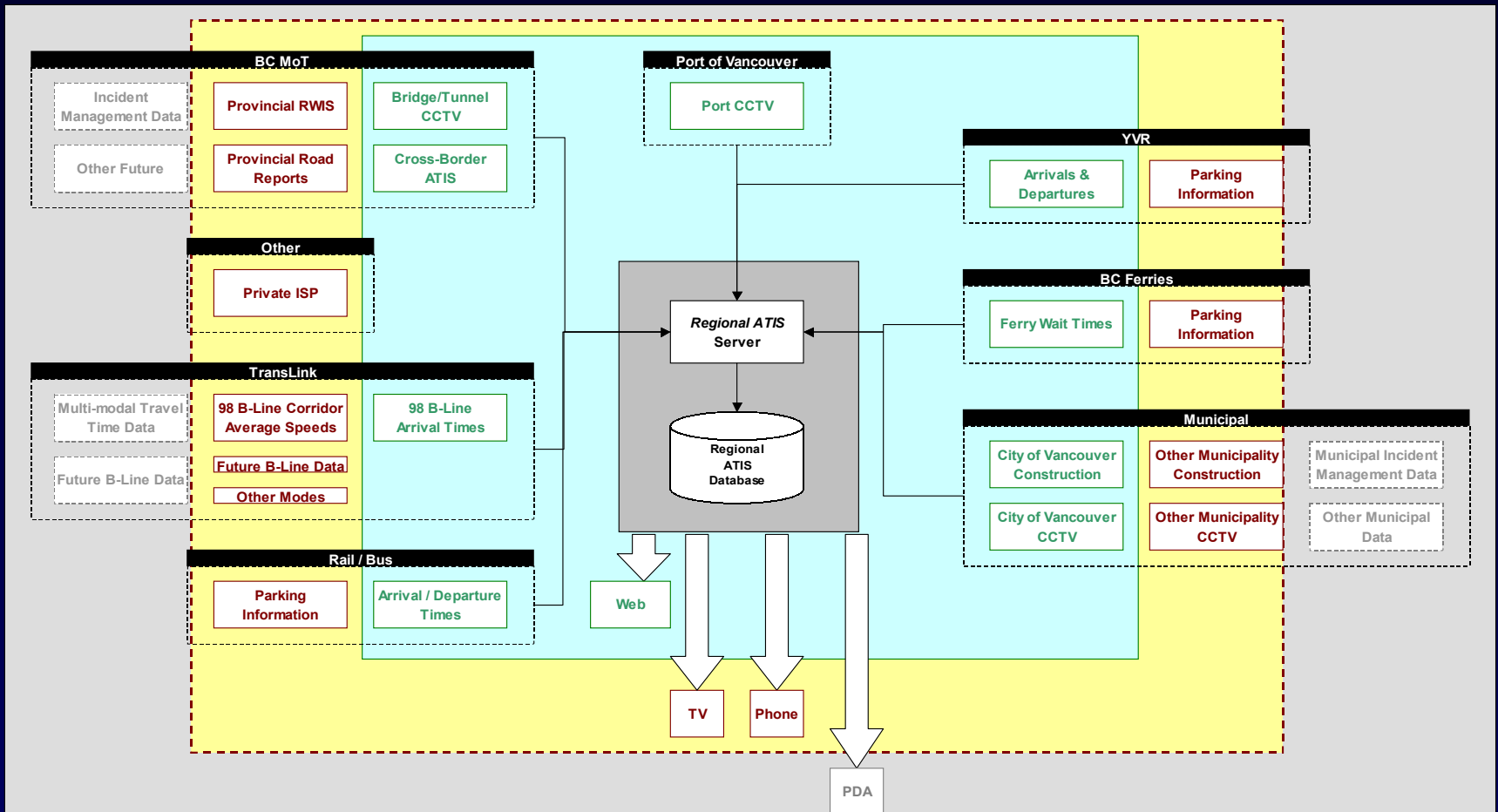


Projects

Projects Started in 2003 into 2004

- Regional Advanced Traveler Information System (ATIS) – Phase 1
- Integrated Regional Signal System (IRSS)
- Automated Passenger Counters (APC) – 2004 deployment across 15% of fleet
- Port access control (VPA)
- Smart Card business case
- Smart Bus research project
- Electronic payment – tolls (FRC, gateway)
- Border crossing – 11 projects @ \$30 M

Example – ATIS Phases 1-3



Projects

Upcoming in 2004

- Review of ITS Strategic Plan & development of implementation plan
- Preparation of Regional Telecommunications Plan to support implementation
- Conceptual program development of multi-agency traffic management centre
- Smart card pilot project subject to business case

Projects

On the Horizon (1-3 years)

- Smart card deployment – 2005 - 2007
- ATIS Phase 2 – 2005
- Data warehousing – 2005/06
- Regional signal coordination pilot - 2005
- BRT strategy + 97/99 B-Lines + Main St Priority Corridor – 2006/07
- FRC toll system – 2007
- ITS applications (Highway 91, TCH) – 2007/08
- Provincial Transportation Plan – CVO applications

Projects

2010 and the 10 Year Outlook

- ATIS Phase 3 & 2010
- Transit vehicle tracking AVL – 2008
- Traffic management centre – 2008/09
- ITS applications (Hwys 17, 99) - 2009
- Sea-to-Sky Highway – 2009
- RAV - 2009
- Fraser Gateway Program – 2010 +
- CVO applications – WIM, preclearance
- King George Highway Busway – 2013

Projects

2010 and Beyond

- Transit information systems – real time, schedules, different media
- Intermodal freight management – container tracking and JIT pickup
- Regional emergency management

Conclusions

- ITS is a key program for 2010 and TransLink 10 Year Outlook
- Work is being driven by major projects & 2010
- Success stories support future projects

Questions & Answers

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Greater Vancouver Transportation Authority

