



Canada Line Project

Presented by



AGENDA

1. Project Overview
2. Construction
 - Downtown
 - Cambie Corridor
 - Richmond Section
 - Airport Section
3. Operations & Maintenance
4. Financing and Contractual Network
5. Collaboration for Better Results



1. PROJECT OVERVIEW

CANADA LINE IN SHORT

- Automated Light Metro System
- 19 km
- 16 stations
- 3 water crossings
- Approximately 100,000 riders daily by 2010
- Equivalent to 10 road lanes
- Approximately \$2 billion to build
- A partnership between the public and private sectors

OVERVIEW CANADA LINE CORRIDOR



- **1/3 of the region's jobs**
- **20% of its population**
- **Greater Vancouver will grow by one million people by 2035**

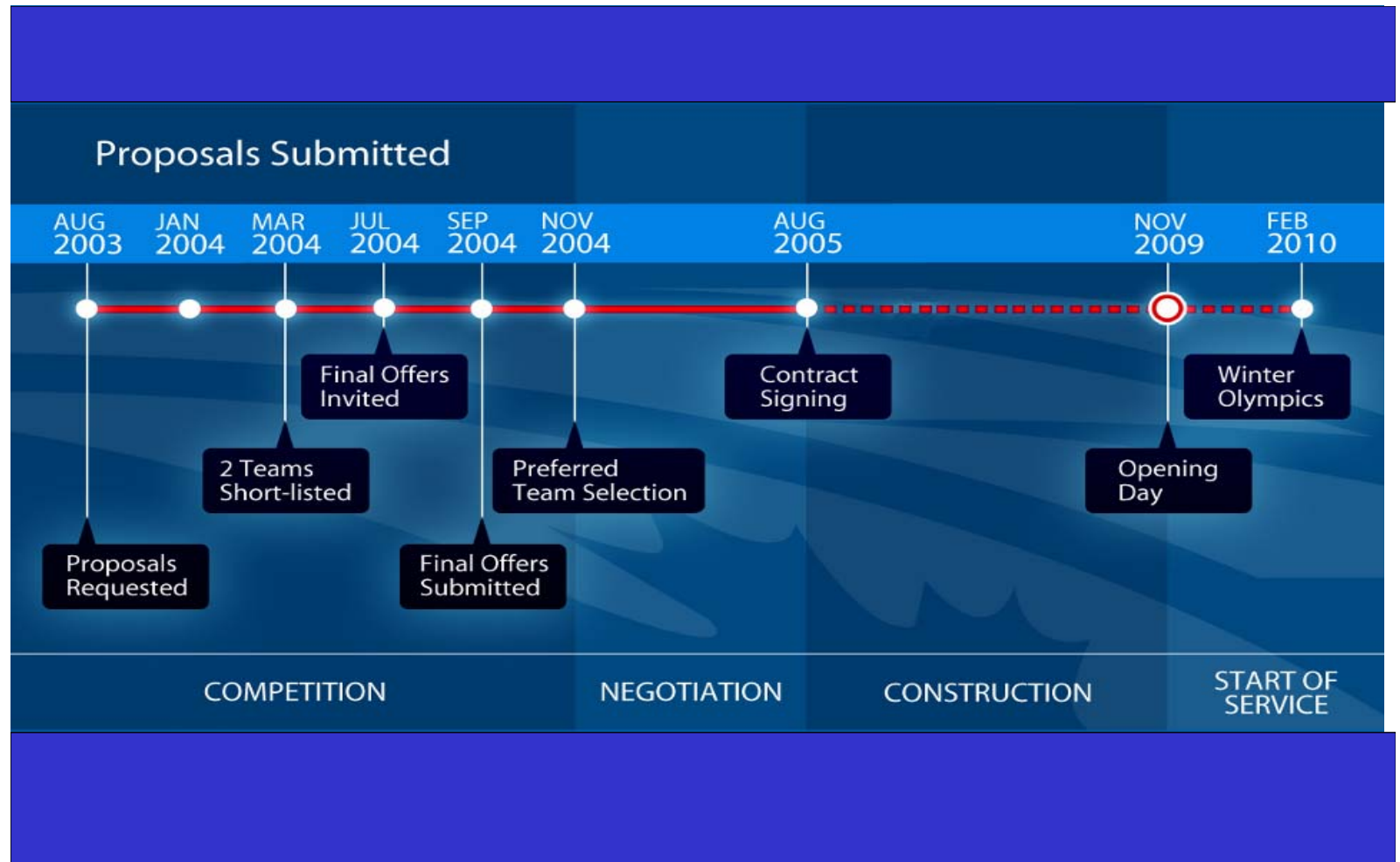
Canada Line - A Transportation Link



PERFORMANCE SPECIFICATIONS

- Waterfront to Airport in 25 minutes
- Waterfront to Richmond Centre 25 minutes
- Peak hour service (after 3 years of revenue service)
 - To Airport about every 6 minutes
 - To Richmond about every 6 minutes
 - Through Vancouver about every 3 minutes

PROJECT TIMELINE





2. CONSTRUCTION - DOWNTOWN

TBM ENTRY PIT (2ND AVENUE)



TUNNEL BORING MACHINE CUTTING HEAD

TBM BREAKTHROUGH APRIL 2007



TBM EXIT PIT ON GRANVILLE STREET AT WEST PENDER STREET

BORED TUNNEL



VANCOUVER CITY CENTRE STATION



STATION CONSTRUCTION ON GRANVILLE STREET NORTH OF ROBSON STREET



2. CONSTRUCTION – CAMBIE CORRIDOR

CUT-AND-COVER TUNNEL CONSTRUCTION



TUNNEL CONSTRUCTION

CUT-AND-COVER TUNNEL CONSTRUCTION



BROADWAY-CITY HALL STATION



STATION CONSTRUCTION ON CAMBIE AT BROADWAY

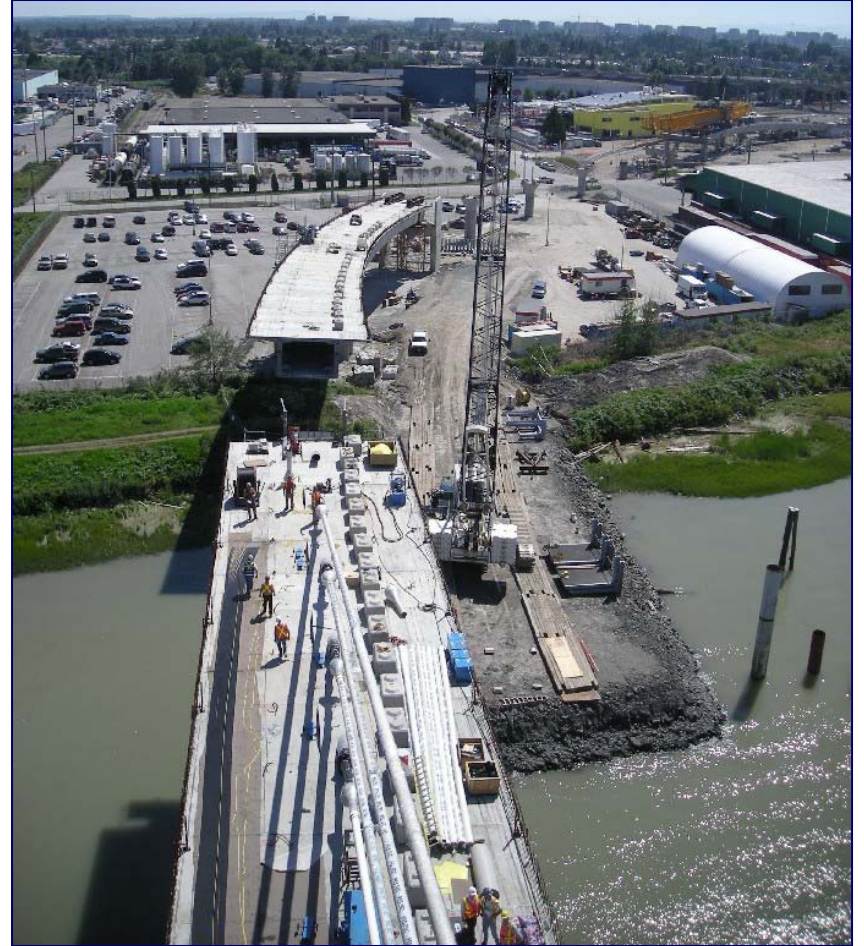
RESTORATION WORK



ON CAMBIE STREET AT 17TH AVENUE



2. CONSTRUCTION – RICHMOND SECTION



RICHMOND NO. 3 ROAD GUIDEWAY



SUPERSTRUCTURE WORK ON NO. 3 ROAD AT CAMBIE ROAD

LANSDOWNE STATION



STATION ON NO. 3 ROAD AT LANSDOWNE ROAD



2. CONSTRUCTION – AIRPORT SECTION

MIDDLE ARM BRIDGE



BRIDGE CONSTRUCTION

AIRPORT/RICHMOND ELEVATED GUIDEWAY



AT-GRADE SECTION



AT-GRADE SECTION TRACKWORK - YVR AIRPORT

YVR-AIRPORT STATION



STATION CONSTRUCTION



3. OPERATIONS & MAINTENANCE

CANADA LINE VEHICLE

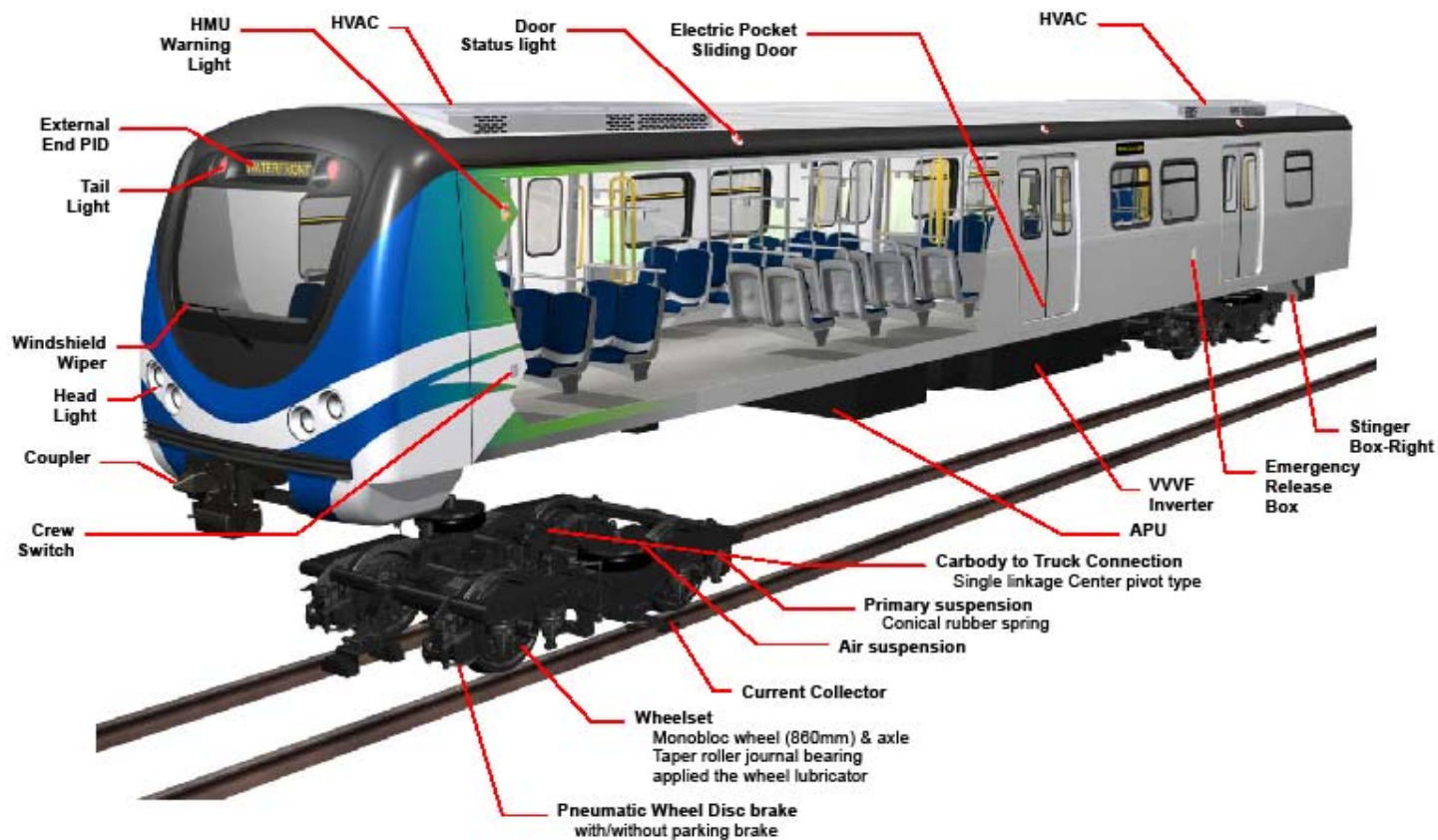


CANADA LINE VEHICLE



INTERIOR VIEW

CANADA LINE VEHICLE



OPERATION & MAINTENANCE CENTRE



- Staff moved into the Canada Line Operations & Maintenance Facility (OMC) in the late spring of 2008.
- Set up of the facility for operations and admin of the Canada Line is largely complete.

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

SERVICES TO BE PROVIDED BY THE OPERATING COMPANY

Operations

- Train and station operations and all associated control and activities
- Customer Service and Safety

Maintenance

- Maintenance of all facilities, vehicles and systems
- System cleanliness

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE



MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

KEY MOBILIZATION REQUIREMENTS

- Staff Recruitment
- Training
- Facilities Set Up
- Maintenance Equipment, Tools, and Test Equipment
- Spare Parts and Consumables
- Business Systems
- Support Contracts
- Plans and Documentation

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

STAFF RECRUITMENT

- Under the accelerated staffing plan, the Operator is expected to have 118 employees by February 2009 and 202 employees by May 2009 (full staffing).
- As of the beginning of February, PROTRANS had 110 employees working. We will have 124 working by the end of February, 60% of the total required at SCD.
- PROTRANS currently has 60 full time equivalent employees assigned to support the EPC Contractor for Testing & Commissioning and system maintenance.
- Our current recruitment and hiring plan is to have a total staff complement of 215 employees in place by May 2009 which includes 28 part-time employees giving the total of 202 full time equivalents.

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

STAFF RECRUITMENT / TRAINING

- The operation will be fully staffed (202 employees) by the end of May
- Training of control room operators is ongoing.
- Recruitment for Canada Line Attendants targeted individuals with previous customer service experience and mechanical aptitude. An extensive in-house training program has been developed and is currently being executed.
- Recruitment for maintenance technicians targeted journeyman tradesman in various crafts. The majority of vendor training has been completed and system familiarization for technicians is ongoing.

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

MAINTENANCE EQUIPMENT, TOOLS AND TEST EQUIPMENT



- The majority of major maintenance equipment has been procured and all will be delivered prior to service commencement.
- The majority of shop equipment has been delivered and is in place at the OMC.
- The majority of small tools and test equipment has been procured and is on hand at the OMC.



MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

SPARE PARTS AND CONSUMABLES

- Spares for the Canada Line vehicles have been procured and are presently being delivered.
- Spares for other systems are presently being identified and procured and are expected to be available for service commencement.
- The OMC has been set up with appropriate inventory storerooms and shelving, and is ready to commence receipt and organization of parts inventories.

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

BUSINESS SYSTEMS

- The integrated Enterprise Resource Planning system (Oracle's JD Edwards E1 application) for business support is now live.
- Document management, Training Records, and all non-conformance reporting will be accomplished using MS Sharepoint which has now been implemented. A handover plan for all required transfer documentation is in place with the EPC Contractor.

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

SUPPORT CONTRACTS

- We intend to subcontract many specialized services in the maintenance and operation of the Canada Line.
- The elevator/escalator maintenance contract has been awarded.
- The cleaning contract has been awarded

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

DOCUMENTATION AND REQUIRED PLANS

Safety Management System

- Regulatory requirement for a Safety Management System (SMS).
- The SMS has been developed and is being reviewed with the BC Safety Authority.

Quality Management

- Contractual requirement for a Plan and ISO 9001 Registration of a Quality Management System (QMS).
- A QMS has been developed and the registration process has started.

Environmental Management Plan

- The plan is completed.
- An environmental management system will be registered to ISO 14001.

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

DOCUMENTATION AND REQUIRED PLANS

Security Management

- A Terrorism Security Risk Assessment has been completed.
- A Security Management System (SeMS) is being finalized following the Security Risk Assessment report.

Five Year and Initial Operations and Maintenance Plans

- These plans are presently being developed and are targeted for completion by the end of May 2009.

MOBILIZATION STATUS – OPERATIONS AND MAINTENANCE

DOCUMENTATION AND REQUIRED PLANS

Failure Management Plan

- An initial draft plan has been prepared and is being revised as information about system performance and function becomes available.

Standard Operating Procedures

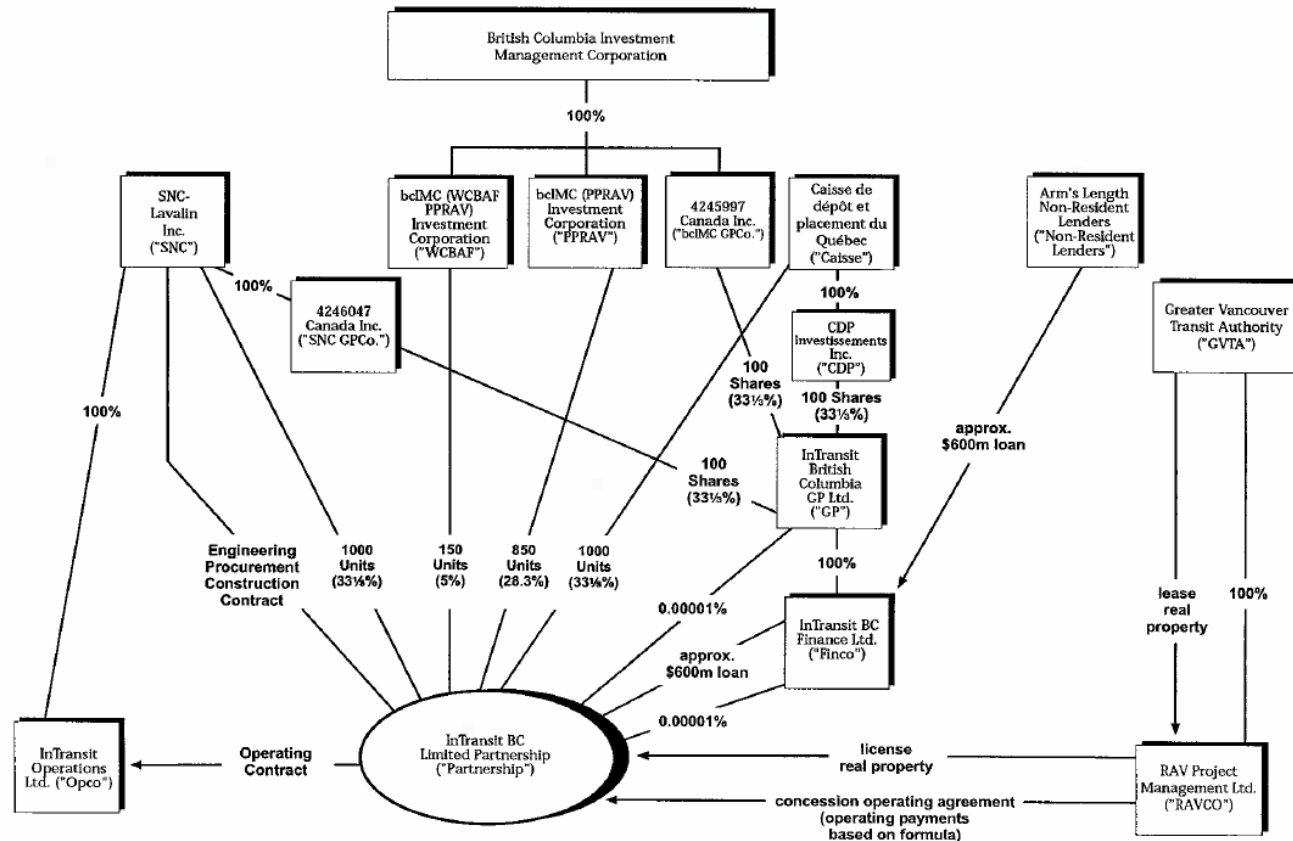
- All Canada Line Operating and Maintenance Rules have been developed and reviewed by the BCSA.
- Standard Operating Procedures (SOP) have been developed to:
 - underpin all training
 - satisfy the SMS and QMS;

Validation process is on-going for critical procedures.



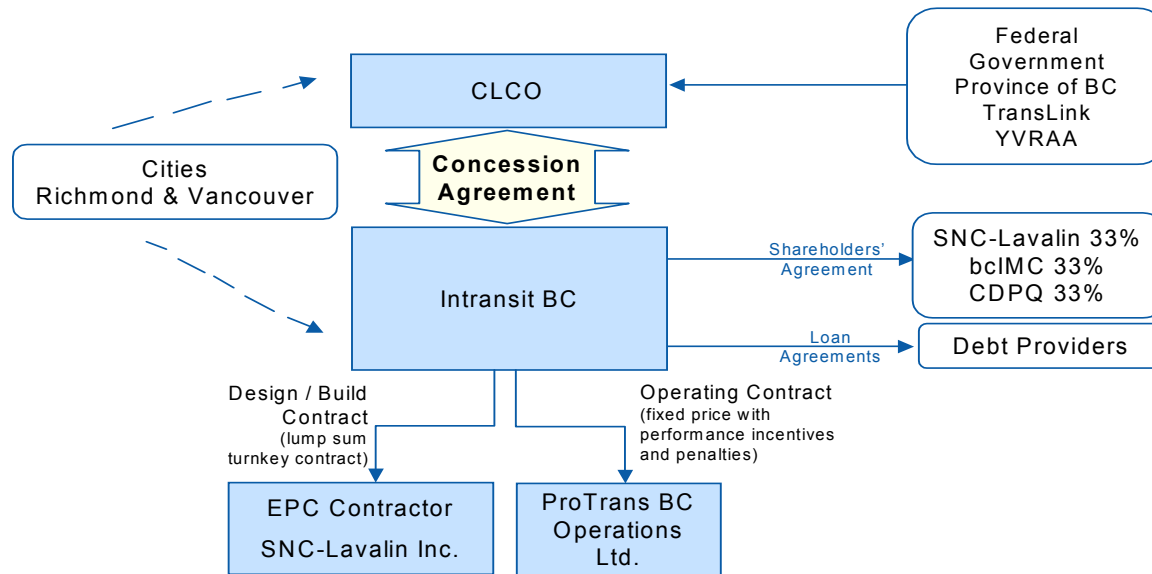
4. FINANCING AND CONTRACTUAL NETWORK

CORPORATE AND CONTRACTUAL NETWORK

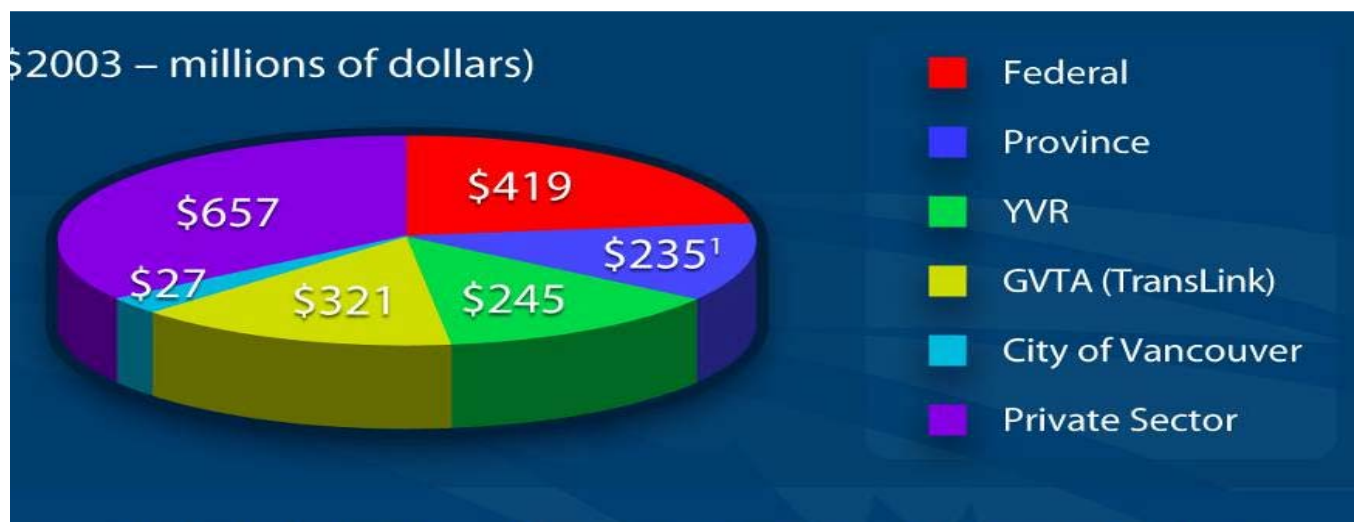


drb-sncdavalin-RAV project-structure-2005.fh8 (August 11, 2005)
prepared by Davis & Company (vss)

CORPORATE AND CONTRACTUAL NETWORK



FINANCE OVERVIEW



FINANCE DETAILS

- Equity - \$120 million
- Facility
 - Term – 28 years
 - Amount - \$600 million
 - Hedged over the full term of the facility

RISK ALLOCATION

Risk	Allocation	Phase
Land acquisition cost and schedule	Public	Construction
Municipal and regulatory permitting, cost	Public	Construction
Municipal and regulatory permitting, delay	Private	Construction
Undisclosed environmental or archaeological liabilities	Public	Construction
Cost of design build	Private	Construction
Inflation	Private	Construction
Construction delay	Private	Construction
Utility relocation cost/delay	Public/Private	Construction
Changed ground condition	Private	Construction
Design Integration	Private	Construction

RISK ALLOCATION

Risk	Allocation	Phase
Integration between civil works and systems	Private	Construction
Public protest, legal action, embargo or blockade	Public	Construction/Operating
Reasonableness of behavior of Agencies and Cities	Public	Construction/Operating
Force Majeure	Public/Private	Construction/Operating
Insurance costs	Public/Private	Construction/Operating
Condition of civil assets	Private	Construction/Operating
Operating performance	Private	Operating
Operating costs	Private	Operating
Maintenance costs	Private	Operating
Useful life of trains and other systems	Private	Operating
Ridership Revenues	Public/Private	Operating



5. COLLABORATION FOR BETTER RESULTS

STRENGTHS OF THE ORGANIZATION

- One single entity representing the public sector
- A lump sum turnkey contract with one single entity
- One Independent Engineer acting on behalf of each party
- Risk allocation is based on the best party able to manage the risk

POSITIVE RESULTS

- On time
- On budget
- New vision for No. 3 Road in Richmond
- New vision for the corridor in Vancouver
- Wireless network inside the tunnel
- A private/public network of Optic Fibre
- Retail and Art Program
- Advertising and public information

APTA PEER REVIEW REPORT - CONCLUSIONS

“The panel applauds all the partners for their professionalism, diligence, and commitment in bringing the Canada Line to reality and for crossing a new transit frontier in public-private partnership.

The peer review panel was very impressed with the experience, credentials, and teamwork exhibited by the entire staff structure of CLCO, the concessionaire, and TransLink employees and contractors working on this project. The remaining tasks on the project are under control and are being effectively managed. The panel has utmost confidence in the ability of the contractors and management to overcome any challenges of the remaining work to meet an advanced revenue start date.”