RFID Interoperability Working Group

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Pierre Bolduc, Transport Canada ITS Office
Thomas Kwan, Transport Canada Pacific Region
CONTACT

Pierre Bolduc
Senior Development Officer
ITS Office
Transport Canada
Email: pierre.bolduc@tc.gc.ca
Tel: 514-283-0029

Thomas Kwan
Project Engineer
Coordination and Policy Branch, Pacific Region
Transport Canada
Email: thomas.kwan@tc.gc.ca
Tel: 604-666-5336
OVERVIEW

• Metro Vancouver
  • Geography
  • Multiple Transportation Agencies
• RFID Application in Metro Vancouver
• Technology Issues
• Institutional Issues
• RFID Interoperability Working Group
  • Participating Agencies
  • Accomplishments
• RFID Interoperability Best Practice Guideline
• Lessons Learned (So Far)
METRO VANCOUVER

- Population: 2.3 million in 2011
- 22 municipalities
- Just under 1.5 million registered vehicles
- 11 majors crossings (bridges and tunnel)
- 4 major border crossings
- 3 major rapid transit lines and an extensive transit systems
- 4 container terminals – Largest in Canada
- Canada’s Pacific Gateway
MULTIPLE TRANSPORTATION AGENCIES

• There are a number of agencies within the Metro Vancouver providing transportation infrastructure and services:
  • Provincial Government – BC Ministry of Transportation and Infrastructure
  • Regional Transportation and Transit Agency – TransLink
  • Municipalities – 22 to be exact in Metro Vancouver
  • Other transportation service providers – Vancouver International Airport, BC Ferries, Port Metro Vancouver
  • Supply Chain partners – Terminal Operators, Trucking Operators, Couriers
BACKGROUND – RFID

- RFID – Radio Frequency Identification
- Not “new” technology; different variations have been in existence since WWII.
- RFID is already all around us – and you may not realize it. (eg. key fab, keyless entry, anti-theft devices, etc.)
RFID FOR TRANSPORTATION

- RFID technologies offer the possibility of significant efficiency gains for the movement of goods and people
  - Tolling – Highway 407 (Toronto) or MacPass (Halifax);
  - Transit – Smart Card;
  - Safety – Connected Vehicles;
  - Terminal operations; and,
  - Commercial vehicle applications (eg. Weight Scale Bypass)
  - AutoRoute 25 (Montreal)
  - Farm Vehicles on A-31
RFID PROJECTS IN BC – GOLDEN EARS BRIDGE
RFID PROJECTS IN BC – WEIGH2GO
TECHNOLOGY ISSUES

• Many different types of RFID technology and standards. (Active, Passive, different radio frequency, etc…)
• Golden Ears Bridge use the Active Title 21 tag.
• Port Mann Bridge will use the passive ISO 18000-6c sticker tag.
• Weigh2Go use the ASTM V6 tag.
• No one particular technology and standards can practically satisfy all application requirements.
• New technology advancement allows some technology to “talk” to each other
INSTITUTIONAL ISSUES

- Each agency deploying different RFID technology without any coordination.
- Customer (in this case drivers) require multiple transponders on the windshield.
- Customer dealing with multiple invoices with various agencies.
AGENCY COORDINATION?

MAKE SURE YOU COORDINATE WITH THE BRAND MANAGER AND THE CATEGORY MANAGER.

AND ALSO THE CLIENTS, THE ACCOUNT EXECS, THE PROJECT LEADERS, STRATEGIC PLANNING, FACILITIES MANAGEMENT, PRODUCT MANAGERS, MARKETING, AND IT.

ALL I HEARD WAS “GIVE UP.”

LET’S MEET AGAIN IN A YEAR.
• In 2008, TC, PMV, and TransLink completed an environmental scan of RFID technology within the region and abroad and recommended a common approach to a regional policy.

• One of the recommendations is the formation of a RFID Interoperability Working Group.

• Working Group formed in Fall 2010.
RFID INTEROPERABILITY WORKING GROUP OBJECTIVES

• To develop a migration strategy to achieve RFID interoperability from all levels of functional requirements such as technology and business process.

• To minimize the number of onboard devices (i.e. transponders, tags) as practically as possible, but respect individual agencies may have legitimate and compelling business justification to expand the deployment technology components.

• To provide a convenient experience for the users / customers of the various systems, as practically and commercially feasible as possible.

• To ensure that each agencies' system complies with the ITS (Intelligent Transportation Systems) Architecture for Canada V2 guidelines and listed standards to promote and facilitate interoperability.
PARTICIPATING AGENCIES MEMBER

- Transport Canada – ITS Office / Pacific Region
- BC Ministry of Transportation and Infrastructure
  - Transportation Investment Corporation (TI Corp)
  - Weigh2Go Program, Commercial Safety Vehicle Enforcement
- TransLink
- Port Metro Vancouver
- Canadian Border Services Agency
- TSI Terminal on behalf of all Terminal Operators
- Vancouver Airport Authority
- BC Ferries
- BC Trucking Association
- Potential New Members to be Identified
WHAT’S BEEN DONE SO FAR?

• Agree to talk.
• Establish a Terms of Reference for the Working Group.
• Share industry information / initiatives with Working Group:
  • Teleconference with Alliance For Toll Interoperability
  • Presentation by Technology Suppliers
  • Regional ITS Architecture Training
• TransLink Golden Ears Bridge team working with TI Corp on establishing interoperability agreement for both bridges.
• Continue to promote Working Group to other potential agencies.
• Participating agencies agreed to develop a RFID Interoperability Best Practice Guideline.
RFID INTEROPERABILITY BEST PRACTICE GUIDELINE

• Serve as a reference document for any agency in the Metro Vancouver region to promote interoperability when designing and implementing RFID systems.

• Develop a “RFID Interoperability Vision”

• Focus on the “Front End” RFID interoperability issues for consideration by decision makers in selecting RFID technology and standards.

• The “Guideline” would be applicable to other regions elsewhere in Canada.

• Provide input to BC Regional ITS Strategic Plan

• Just a guideline, not a binding document
RFID INTEROPERABILITY BEST PRACTICE GUIDELINE – CONTENT

• RFID Interoperability Vision
• Inventory of Existing and Planned RFID Systems
• Environmental Scan of RFID Interoperability Initiatives and Best Practice
• Environmental Scan of RFID Technologies
• Environmental Scan of non-RFID Technologies for Interoperability Initiative
• High Level “Back Office” Interoperability Issues
• Migration Strategy
LESSONS LEARNED (SO FAR)

- Stick to the mandate
- Not a forum to dictate what other agency should / should not do
- Information sharing
- Strong partnership
- Keep it at working group level
- Keep promoting the value of partnership and the consequence of implementing project in silo
- Try to be as technology neutral as possible
QUESTIONS