

## RFID Interoperability Working Group

IMTC Steering Committee Meeting  
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Canada

## CONTACT

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## OVERVIEW

- 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)

## 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 fob, keyless entry, anti-theft devices, personal identification etc.)



# RFID FOR TRANSPORTATION



- RFID technologies offer the possibility of significant efficiency gains for the movement of goods and people
  - Tolling – Golden Ears Bridge (Vancouver) or SR 520 Bridge (Seattle);
  - Transit – Smart Card;
  - Safety – Connected Vehicles;
  - Terminal operations; and ,
  - Commercial vehicle applications (eg. Weight Scale Bypass)



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5

# RFID PROJECTS IN BC



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6



## RFID PROJECTS IN BC – GOLDEN EARS BRIDGE



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7



## RFID PROJECTS IN BC – PORT MANN BRIDGE / HIGHWAY 1



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8

## RFID PROJECTS IN BC – WEIGH2GO



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9

## 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.



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10



## 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.

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11



## AGENCY COORDINATION?



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12

## RFID INTEROPERABILITY WORKING GROUP



- In 2008, Transport Canada, Port Metro Vancouver, 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

- 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.





## DATA SHARE AND RECIPROCAL BYPASS PROGRAM

- In Fall 2011, BC Ministry of Transportation and Infrastructure and Washington Department of Transportation signed an agreement on a Datashare and Reciprocal Bypass Program for BC Weigh2GO and WA CVISN.
- This is the first of its kind.
- BC MoT and Transport Canada co-sponsored a \$400k project to facilitate the data exchange.
- Proof of concept is working.
- Weigh2GO Transponder works in Washington State.
- CVISN Transponder (Norpass) works in BC.



## 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

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19



## 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

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20



# QUESTIONS

