A REGIONAL ITS ARCHITECTURE
FOR PUBLIC TRANSPORT IN GREATER MONTRÉAL

Vincent Morency, Senior Manager - Planning & ITS, AMT
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BACKGROUND
MOBILITY CHALLENGES AND ISSUES IN GREATER MONTRÉAL
BACKGROUND
MOBILITY: A METROPOLITAN CHALLENGE

Persistent road congestion
Precarious infrastructure
Limited funding
Complex governance
Growing customer expectations
PUBLIC TRANSPORT ISSUES

COMMON AND REGIONAL CHALLENGES

Service quality
Intermodality
Traveller information
Costs (capital / operating)
Fares / payment
Comfort / appeal
Transparency / sound management

Terminus centre-ville (downtown bus terminal)
COLLABORATION BETWEEN PARTNERS
A MAJOR CHALLENGE AND OPPORTUNITY
INTELLIGENT TRANSPORTATION SYSTEMS
ADDRESSING CHALLENGES THROUGH INNOVATION
How can we maximize the contribution of technology to address mobility issues, increase cooperation between transport actors and optimize resources?
APPROACH

TO AN INNOVATIVE REGIONAL ARCHITECTURE
OBJECTIVES

Improve **regional planning** and collaboration between partners

**Optimize** financial, human and technological **resources**

**Stimulate innovation** in public transport
ITS ARCHITECTURE FOR PUBLIC TRANSIT
REGIONAL PLANNING TO OPTIMIZE AND MOBILIZE

VISION
ARCHITECTURE
ROADMAP

2014 2021
HORIZON

2013

TRANSIT AGENCIES
PRIVATE / AGENCIES
MUNICIPALITIES

PRIVATE / AGENCIES
TRANSIT AGENCIES
MUNICIPALITIES

2014
APPROACH

INGREDIENTS FOR AN INNOVATIVE METROPOLITAN ROADMAP

Context
- Regional challenges
- Consultations with partners
- Common objectives

Existing / deployed components

Ongoing / planned projects

ITS architecture

Vision / principles
- Concept
- High growth potential sectors
- Components / interfaces

Partner plans / architecture

Best practices / success

Roadmap
MAIN PARTNERS
A CONCERTED AND REGIONAL APPROACH

* Financial partner for the architecture process
VISION, TARGETS AND GUIDING PRINCIPLES
INNOVATION-DRIVEN MOBILITY STRATEGY
VISION

INNOVATION IS CHANGING THE WAY PEOPLE GET AROUND

Public transport is the most effective, rapid and user-friendly means to get around the metropolitan region. It transforms mobility.

Intelligent transportation systems are central to this transformation. They optimize the customer experience, improve service quality, promote intermodality, facilitate the exchange of information and reduce costs.

They transcend geographic, technical and institutional limitations.

They place the customer at the heart of the decision-making process.
GUIDING PRINCIPLES
5 PILLARS OF INNOVATION FOR PUBLIC TRANSPORT

KNOW
- History
- Real time
- Trends

INFORM
- Quality
- Relevance
- Integrity

SHARE
- Transparency
- Interoperability
- Community

ACT
- Reaction
- Prediction
- Pro-action

OPTIMIZE
- Resources
- Processes
- Services
IDENTIFIED HIGH-POTENTIAL TARGETS

MAXIMIZE THE BENEFITS OF INNOVATION

- Operating Support / Intermodal Coordination
- Electronic Payment (via Opus Governance)
- Advanced Passenger Information
- Sharing Data Between Partners
- Terminals / Park-and-Ride Facilities
- Safety / Emergency Measures / Special Events
- Integrated Corridors / Transit Priority Measures
A CUSTOMER-CENTRIC VIEW OF INNOVATION
THE FUTURE TRANSIT TRIP
TRANSFORMING THE END-TO-END CUSTOMER EXPERIENCE

- Plans multimodal trip ahead of departure
- Is notified of traffic obstructions and conditions
- Is notified of available services and next departures
- Benefits from active preferential measures and integrated corridors

- Easily buys transit fare and parking ticket
- Is notified of available spaces at park-and-ride facilities
- Is shown vehicle / car occupancy for optimal positioning
- Benefits from synchronized transfers

- Is notified of service disruptions and available alternatives
- Through integrated mobile services
- Knows time of arrival at destination
2014-2021 ROADMAP

12 PROPOSED MAJOR INNOVATION PROJECTS TO TRANSFORM MOBILITY IN GREATER MONTRÉAL
PROPOSED MAJOR PROJECTS (1/4)

1. Regional open data portal
2. Regional data exchange platform
3. Regional and multimodal trip planner
4. Intermodal coordination assistance

5. Integrated management of park-and-ride facilities

6. Real-time management and traveler information at terminals
7. Integrated Corridor Management and Transit Signal Priority

8. Regional public transport user information service

9. Next-generation electronic ticketing (OPUS 2.0)
PROPOSED MAJOR PROJECTS (4/4)

10. Real-time ridership analysis

11. Ongoing microsimulations and predictions

12. Integration of ITS with major projects, heavy modes and partner projects
12 MAJOR INNOVATION PROJECTS

- Regional open data portal
- Regional data exchange platform
- Regional and multimodal trip planner
- Intermodal coordination assistance
- Integrated management of park-and-ride facilities
- Real-time management and traveler information at regional terminals
- Integrated Corridor Management and Transit SignalPriority
- Regional public transport user information service
- Next-generation electronic ticketing (via OPUS 2.0)
- Real-time ridership analysis
- Ongoing microsimulations and predictions
- Integration of ITS with major projects, heavy modes and partner projects
SUCCESS FACTORS
FOR A PROMISING METROPOLITAN ROADMAP

Consistent with the **vision** and **principles**

**Metropolitan** and **multimodal** range

Respects the **roles** of partners

**Customer**-focused

Benefits as **many partners** as possible

Capitalizes on **existing components**

Optimizes **resources**

Stimulates **innovation**
NEXT STEPS

COMPLETE THE PROCESS AND BEGIN THE IMPLEMENTATION

Adopt and define areas for innovation

Formalize partner support

Identify conditions for success (financing, execution, governance, etc.)

Complete the roadmap (Q3 2014)

Submit the roadmap (Q4 2014)

Implement the roadmap (2015+)