

# Transit ITS Deployment

## Top Ten Essentials for Success



Transit ITS Workshop

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# OUTLINE OF PRESENTATION

- Background
- The Top Ten
- Closing



# BACKGROUND



- Proven applications
- Active market
- Changing market pressures:
  - GPS & digital wireless
  - Sustainable cities
- AVL as a commodity?
- Importance of a systems engineering approach



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## Know Your Needs

- Important to engage stakeholders

Operations	Maintenance
Supervision	Traffic
Customer Service	IT
Planning	Other . . .





## Do the Business Case

- Look for tangible benefits in the form of:

Customer Service	Planning & Scheduling	Supervision & Control	Maintenance
<ul style="list-style-type: none"> <li>•Reduction in complaints</li> <li>•Ability to respond to calls</li> <li>•Increased demand</li> </ul>	<ul style="list-style-type: none"> <li>•Optimize fleet allocation</li> <li>•Avoid cost of manual data collection</li> </ul>	<ul style="list-style-type: none"> <li>•Improve efficiency of supervision</li> </ul>	<ul style="list-style-type: none"> <li>•Reduce effort in fault diagnosis</li> <li>•Improve efficiency of tracking service intervals</li> </ul>

- Opportunities for cost avoidance over system life cycle



## Look for Cost Sharing Opportunities

- Partnering with others can reduce costs
  - Internal to City (AVL for works/emergency services, Smart Cards for city services, etc.)
  - External to City (transit agencies in region)
- Economies of scale for procurement
- Rationalize communications
- Reduce risk of investment

**PASS** Integrated Mobility Systems *The Concept*

**Local Transit**  
• Buses  
• Subway  
• Streetcars

**Inter-City Transit**

**Regional Transit**

**Ferries**

**Tourism Discounts**

**Bicycle Rentals, Parking, Storage and Delivery**

**Parking**

**Automobiles**  
• Car Sharing  
• Rental Cars  
• Car Pooling  
• Toll Highways  
• Professional Use Vehicles

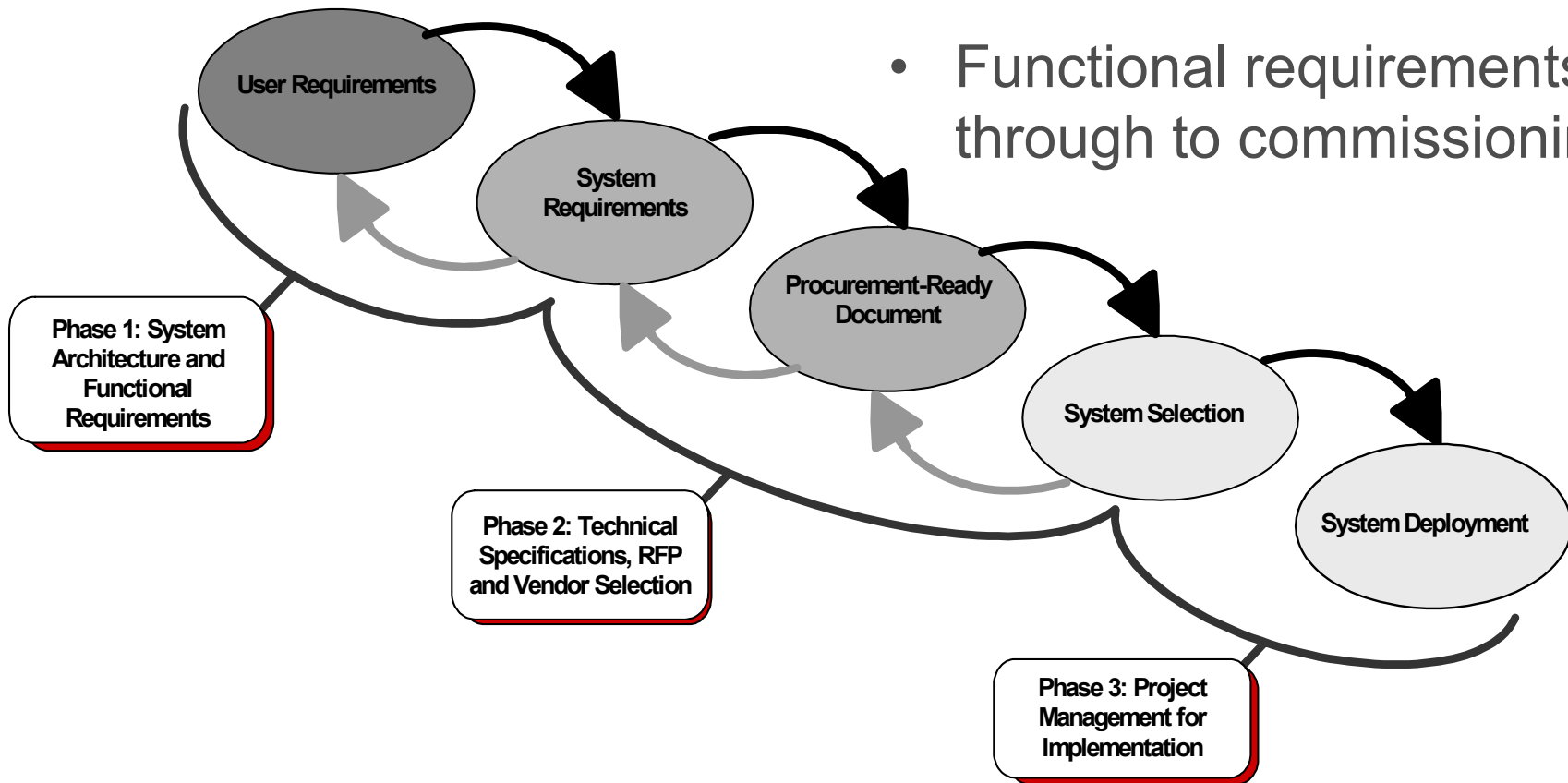
**Pass One Card**  
*Your Ticket to Seamless Access*

COMUNICATIONS UNIT  
UNITE DE COMMUNICATION

EMERGENCY

## Promote Traceability

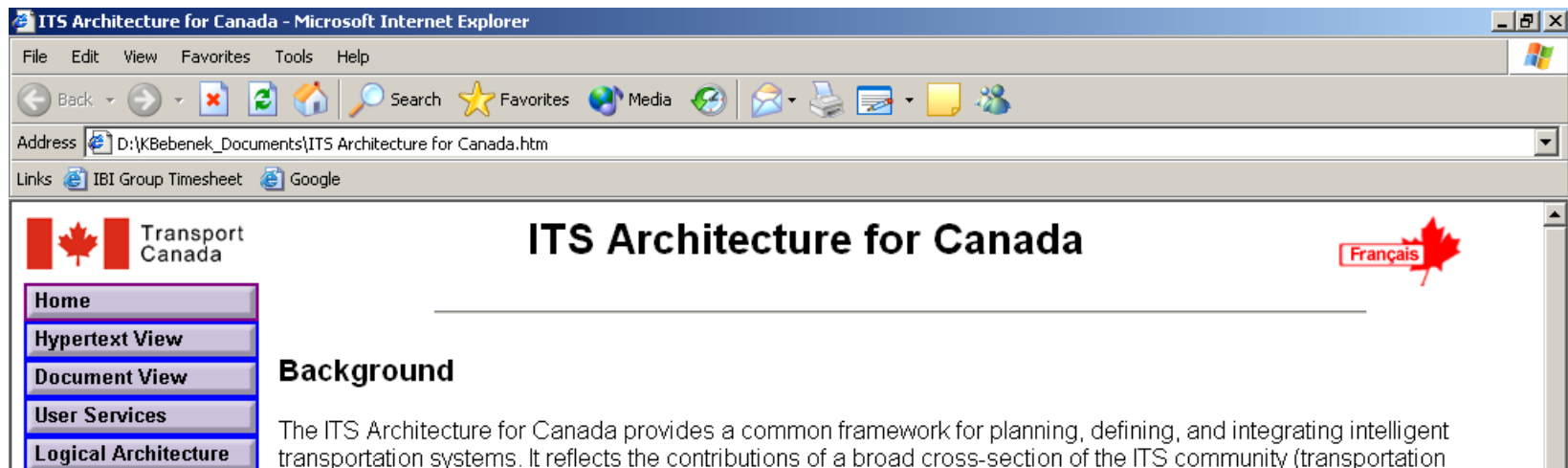
- Functional requirements through to commissioning





## Create a Realistic Plan

- Timelines respective of procurement practices and availability of staff/resources
- Implementation staging over time
- System architecture provides the framework




ITS Architecture for Canada - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media Recycle Bin Mail Print Send To Favorites

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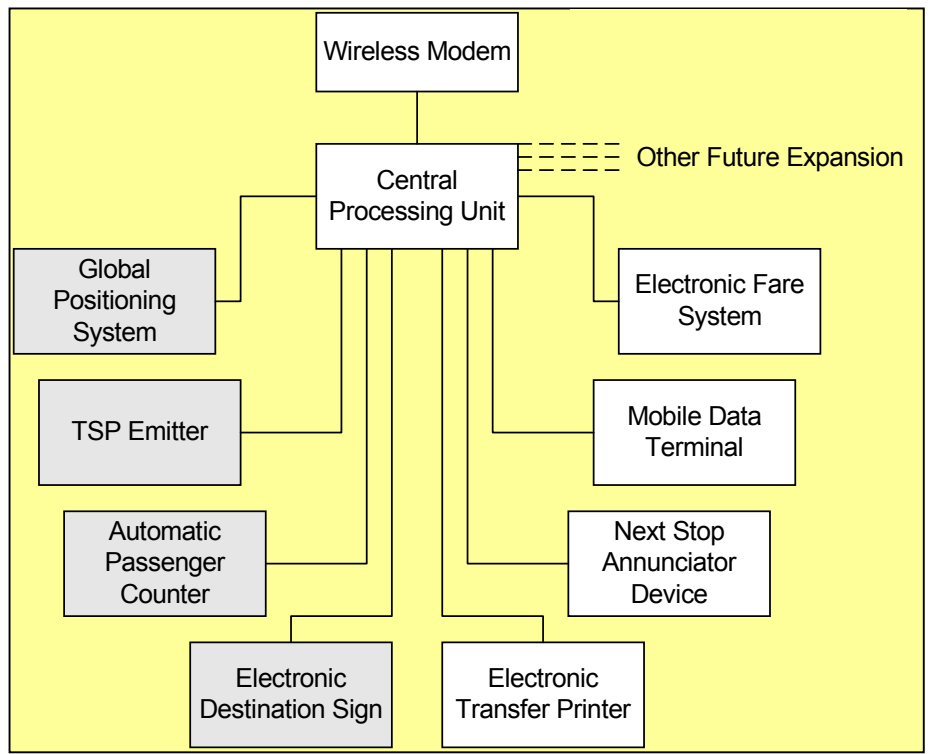
**Background**

The ITS Architecture for Canada provides a common framework for planning, defining, and integrating intelligent transportation systems. It reflects the contributions of a broad cross-section of the ITS community (transportation



## Walk Before Run

- AVL as the foundation
- Flexible and scalable to incrementally add functions and roll-out
- Pilot deployment as early winner
- Build confidence before disseminating real time information





## Identify Internal Actions

- Who is responsible for :
  - Facilitating central system installation?
  - Interfacing with other applications such as Web and TOS?
  - Coordinating access to vehicles?
  - Communicating with staff?
  - Managing/analyzing the data?



## Hit the Ground Running

- Use the procurement process to assemble draft:

Functional Compliance Matrix	Test Plan
System Design Document	Training Plan
Project Work Plan	O & M Plan
Quality Plan	Warranty

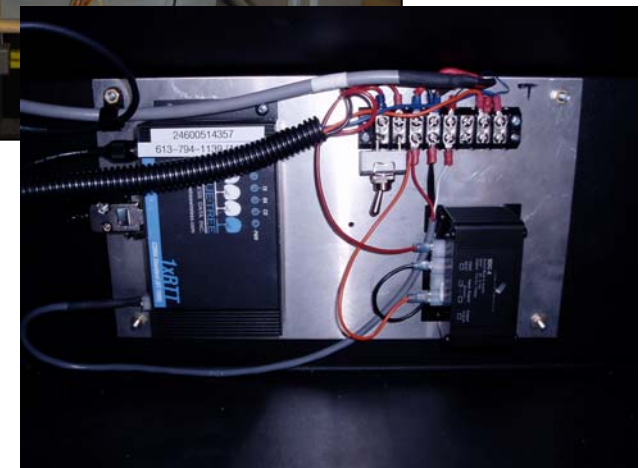
- Finalize documentation at outset of the work



# NUMBER 2

## Emphasize the Integration Role

- Broad systems reach
- In-house systems interfaces
- Roles
  - Transit
  - IT
  - Engineering Services
  - Vendor
- Systems engineering approach to avoid loss of confidence



# ...AND THE NUMBER 1 ESSENTIAL FOR SUCCESS

## Show Results

- Accountable to business case
- On-line performance monitoring
- Make the case for further investment and returns





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# IN CLOSING ...

- Real opportunities for benefits
- Active market
- Systems engineering approach
- Needs driven
- Engage partners
- Plan & build incrementally
- Make the business case

