Canadian Municipal ITS Technology Scan

Transport Canada

Presented by
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Date

Study Purpose

- Transport Canada Innovation Policy Directorate identified a need to better understand domestic landscape of ITS technology
  - Essential for Transportation 2030
- Help to understand current processes to promote subsequent innovation approaches

Study Objective

- Objective was to provide an understanding of ITS procurement trends across Canada
- How are municipalities relying on traditional ITS components vs. new
- How are current and upcoming automated and transformative transportation systems impacting procurement decisions

Study Approach

Municipality	Literature Scan	Interview
Vancouver	x	
Calgary	x	x
Edmonton	x	
Winnipeg	x	x
Toronto	x	x
Ottawa	x	
Montreal	x	x
United States	x	
ITS Suppliers		x

Categories Focus

- ITS Planning & Strategy
- ITS Technologies
- Traffic Signal Control System
- Traveler Information Services
- Connected and Autonomous Vehicles
- ITS Roll-Out Plans
- Innovative and Transformative Initiatives

Key Takeaways - ITS Planning & Strategy

- Newer technologies being classified as operating cost (e.g. SaaS)
- Focus has expanded beyond ITS (e.g. “Smart Mobility”, MaaS)
- Select cities have a desire to be a leader in ITS field through a forward-looking ITS strategic plan

Key Takeaways - ITS Technologies

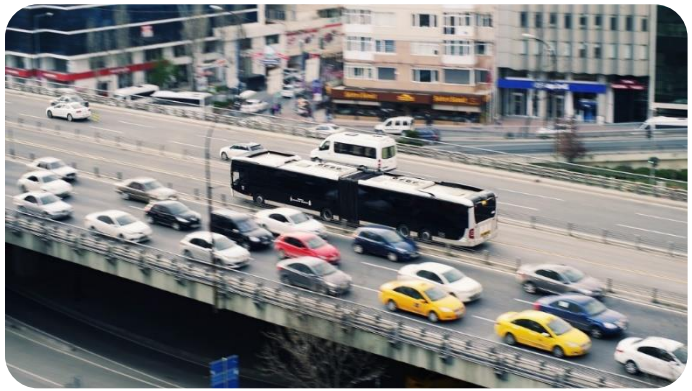
- Non-intrusive detection very common
- Utilization of third-party data
    - Google, Waze, INRIX, HERE etc.
- Increased focus on safety and detection for pedestrians and cyclists
- Video analytics

Key Takeaways - Traffic Signal Control System

- Adaptive signal control/synchronization becoming more prominent
- Transitioning to 100% connectivity, primarily through cellular
- Crowd-sourced data for adaptive control for special events
- TMC software and resources better suited to manage and optimize signal operations

Key Takeaways - Traveller Information Services

- VMS usage continues to become more and more prevalent
  - Incident, emergency, safety, traveller information, etc.
- Waze Connected Citizens partnerships
- Twitter primary social media outlet for traffic updates
- Interactive 511 websites continue
  - Multi-system integration (transit, parking)
- Open data sharing



Key Takeaways - Connected and Autonomous Vehicles

- Municipalities are being involved in local pilot testing initiatives
- All future planning includes CAV
- Studying and considering impacts
    - Low-speed autonomous pilot
    - Non-profit used for managing pilots
- Urban laboratories for testing AVs
- Level 5 AVs not as close as perceived

Key Takeaways - Innovative and Transformative Initiatives

- Future technologies/services already being considered in planning
  - MaaS, Drones, IoT, Hyperloop, Solar Roadways, EVs
- Expanding multi-stakeholder integration and data sharing
  - Data Scientist role
- Smart Cities focus

ITS Vendor Comments

- More guidance from higher levels of government
- Importance of cameras maintained
- Some instances of radio and cellular services
    - Faster responses to incidents and changing conditions
- High value on ability to integrate

Analysis & Conclusion

- ITS plans updated for new and traditional services
    - Focused on safety, sustainability and economic growth
- Acquiring transportation data to widen coverage
    - Through third party and real-time connectivity
- Academic and private research partnerships into AVs & CVs
    - Widespread adoption still 5-10 years away

In short, emerging technologies are being actively adopted by Canadian Municipalities, which is helping the transportation sector to evolve rapidly.

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