Advanced Transportation Management System (ATMS)

Presentation and Tour

February 7, 2017

MISSISSAUGA

ATMS Project Background

- Increasing traffic volumes
  - Roadway network is near capacity, and in some areas, at capacity during am/pm peak periods.
- Increased urbanization
- Other transportation agencies
  - Need to integrate our efforts with Region of Peel/MTO who are also stakeholders in the transportation network.

ATMS Project Background

- Public expectations
  - The public expects the City to provide an efficient transportation network, to be able to respond to issues, and to provide timely/accurate information.

ATMS Project Background

- Operational needs
  - The existing Traffic Control System is at the end of its life cycle and needs replacement.
  - There is a need to upgrade to a more robust traffic signal communication.
  - A Traffic Management Centre is needed to provide staff with the workspace/resources to pro-actively manage traffic.

ATMS Project Background

- The Advanced Transportation Management System (ATMS) Project provides a means to meet our operational needs and the expectations of the public.

ATMS Project Vision

- To move from “passive” to “active” management.

ATMS Project Goals

- Maximize the available capacity of the roadway network
- Minimize the impact of roadway incidents to users
- Pro-actively manage traffic
- Assist in the provision of emergency services
- Create and maintain public confidence in traffic management

A well designed ATMS will make it possible to:

- Monitor travel conditions
- Influence the operation of traffic signals
- Disseminate information
- Interact with other transportation modes and agencies

ATMS Project Components

The following components will be phased in over time:

1. Build a Traffic Management Centre (TMC)
2. Upgrade traffic signal communications
3. Replace the traffic control system
4. Implement Intelligent Transportation Systems (ITS)
5. Explore future ATMS initiatives

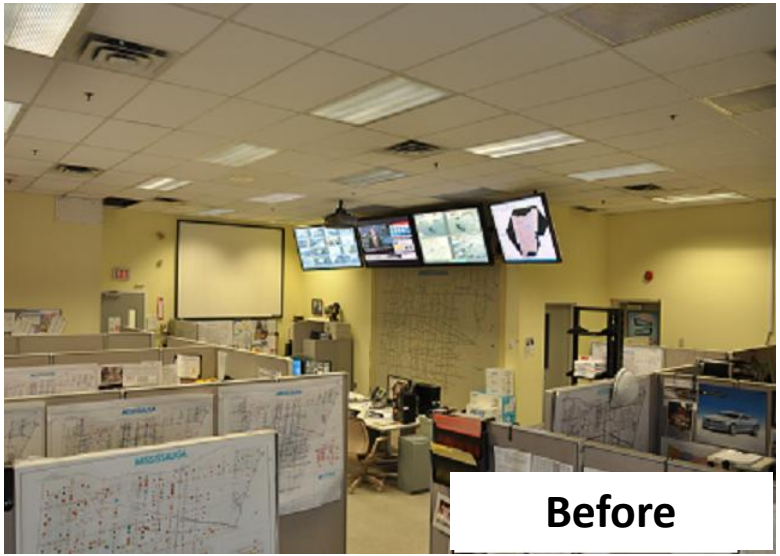
ATMS Project Budget

- Overall capital budget of $16.2 million (gross) has been approved for the Project.
- The Region of Peel and Ministry of Transportation are partners in this project and their respective cost shares are estimated at $4.0 million.

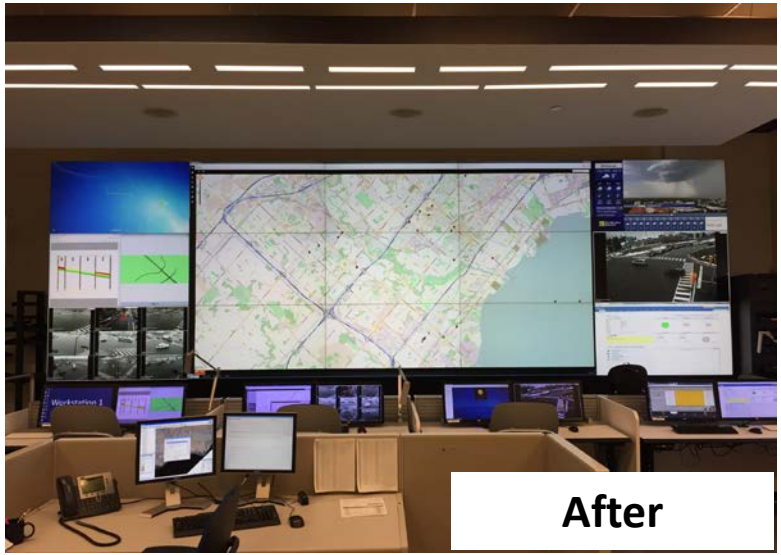
1. Traffic Management Centre (TMC)

- The design and construction of a physical central space where traffic staff can monitor and respond to traffic.
- This component of the project is substantially complete.

1. Traffic Management Centre



Before



After

2. Traffic Signal Communications

- Leverage the City's Ethernet IP Network
  - Hybrid of wired fibre, Wi-Fi and cellular
- 120 traffic signals have migrated to the new communication network
- Remaining signals to be completed by the end of 2018

3. Traffic Control System Replacement

- Replace Traffic Control System
- Replace Traffic Signal Controllers in the field

3. Traffic Control System Replacement

Objectives:

- Accommodate future modules and technology advancements (ex. traveler information)
- Ability to share information with the Region of Peel, MTO and neighbouring municipalities
- Ability to integrate with Transit and Fire (ex. traffic signal priority)
- Use the City's network to communicate to Traffic Signal Controllers and other devices (ex. traffic cameras)
- Pro-actively manage traffic signals

4. Intelligent Transportation Systems (ITS)

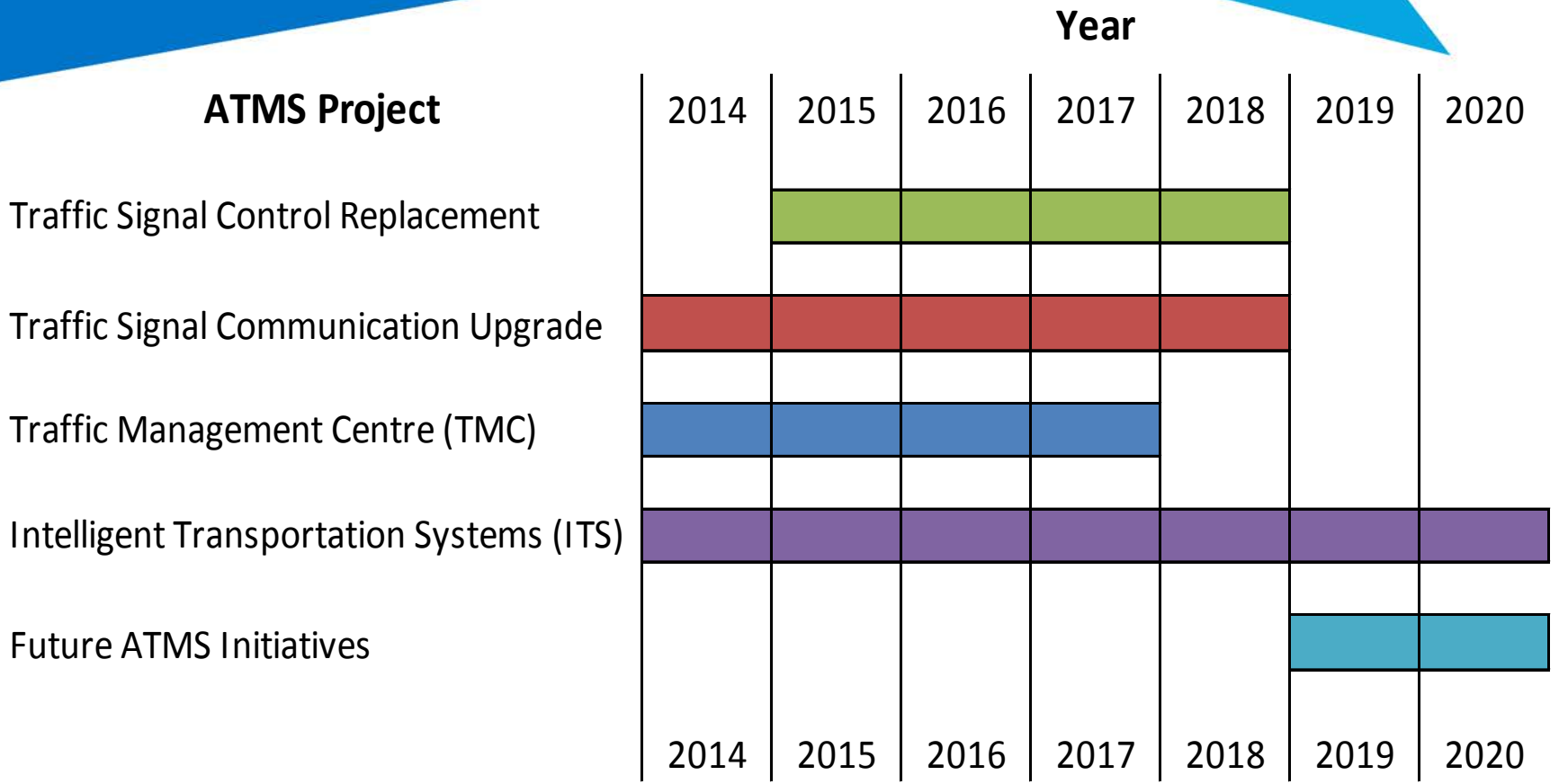
- ITS involves the use of smart technologies.
- Currently, 38 traffic monitoring cameras set-up along high profile corridors.
  - Target: 150 cameras throughout the City in the long term
- Piloting new detection technology (i.e. Radar) to detect vehicles, bicycles and pedestrians.

4. Intelligent Transportation Systems

- ATMS Demonstration to take place along Dundas Street (Ninth Line to Mississauga Road)
- Test and evaluate different traffic management technologies (ex. adaptive traffic control, incident management, traveller information)
- Targeted to start in 2017

5. Future ATMS Initiatives

- Awareness of future smart technologies to ensure that our Traffic Control System has the ability to incorporate these and other advancements.
- Subject to the business planning process.


Year
ATMS Project
2014
2015
2016
2017
2018
2019
2020
Traffic Signal Control Replacement
Traffic Signal Communication Upgrade
Traffic Management Centre (TMC)
Intelligent Transportation Systems (ITS)
Future ATMS Initiatives
2014
2015
2016
2017
2018
2019
2020

Tour followed by Q&A.