ITS Technology Workshop

Advanced Transportation Management System (ATMS)

February 18, 2016

MISSISSAUGA

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City of Mississauga

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Quick Facts:

- Incorporated in 1974
- Population of over 766,000
- Canada's 6th largest city
- Employment of 420,500
- Area of 292 km^2

The Transportation Challenge

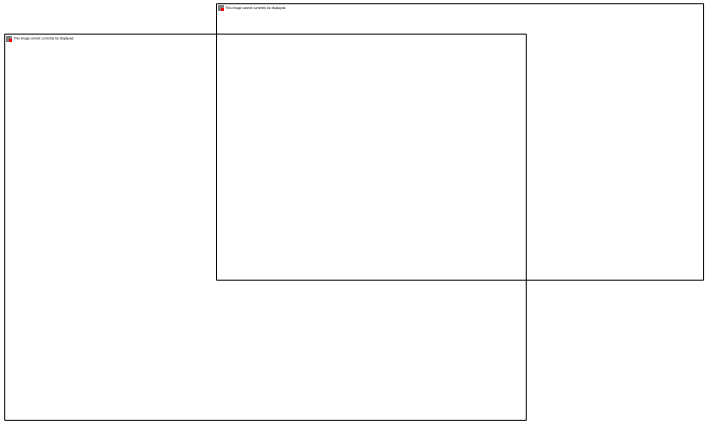
The Problem:

- Increasing traffic volumes and congestion
- Negative impacts on road safety, the environment and the economy
- Pressure on existing road network and current Traffic Control Systems

The Transportation Challenge

Evolving Needs:

- Coordinate all modes of transportation
- Manage competing interests
- Integrate with external agencies



The Transportation Challenge

Public Expectations:

- Provide an efficient transportation network
- Respond to issues
- Provide accurate and timely transportation information

Traffic Management

Needs:

- Replace current Traffic Control System and field equipment
- Upgrade Traffic Signal Communications
- Design and build a Traffic Management Centre
- Deploy Intelligent Transportation Systems (ITS)
- Provide for future smart initiatives

Traffic Management

Advanced Transportation Management System (ATMS):

Travelling better in Mississauga

ATMS Project Overview

Project Structure:

- Directed by way of its Partners and a Steering Committee
- Core Project Team
- Various Working Groups

Traffic Control System

Traffic Control System Replacement:

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

Traffic Control System

Procurement Process:

- Multi-staged

Contract Award:

- Parsons Inc.
- 10 Year Service Agreement (long term relationship)

Traffic Control System

Work Packages:

WP 1 – Traffic Control System

WP 2 – Traffic Signal Controller Proof of Concept

WP 3 – Traffic Signal Controllers Completion

WP 4 – ATMS Demonstration

Project Implementation:

- Commenced January 2015
- Forecast completion in 2018

Traffic Control System

Capital Budget:

- Cash-Flow Capital Budget of $7.1 million (gross)

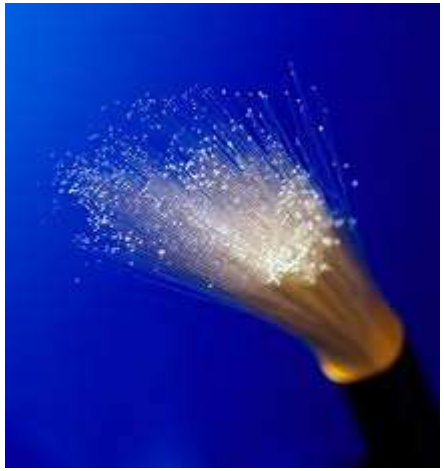
Cost Sharing:

- Shared costs with the Region of Peel and the MTO

Traffic Signal Communications

Leverage the City's Ethernet IP Network:

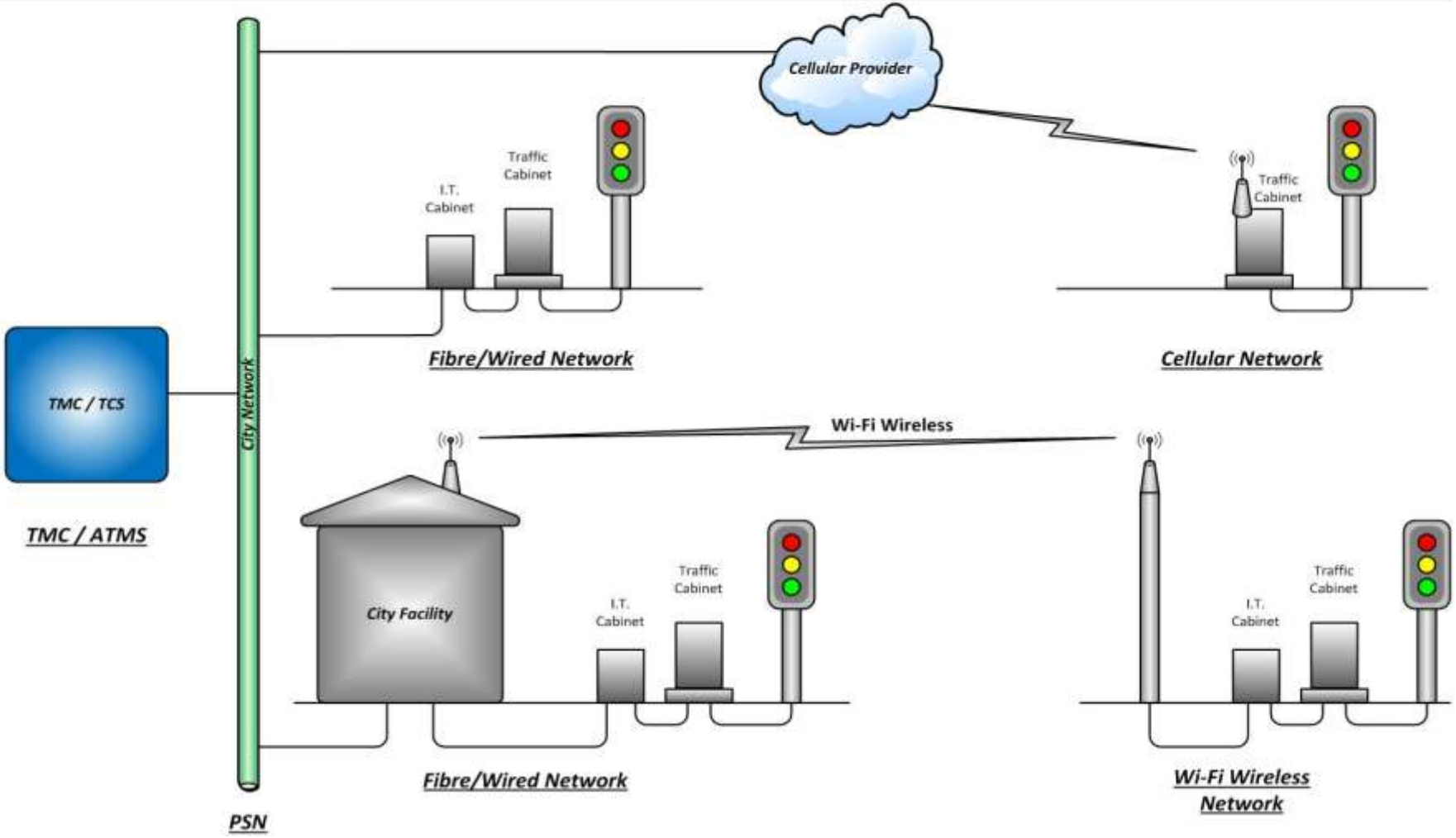
- Hybrid of wired fibre, Wi-Fi and cellular



MISSISSAUGA

CITY OF MISSISSAUGA

TRAFFIC SIGNAL COMMUNICATIONS SCHEMATIC



Traffic Signal Communications

Service Provider:

- City's IT Division is responsible to deploy, operate and maintain the outdoor IP communication network

Project Status:

- To date 120 Traffic Signals have migrated to new IP communications network
- Remaining Traffic Signals to migrate over next 3 years (2016-2018)

Traffic Signal Communications

Capital Budget:

- Cash-Flow Capital Budget of $5.2 million (gross)

Operational Budget:

- Annual operational savings of $200,000 by 2018
- Two (2) full-time positions

Cost Sharing:

- Shared costs/savings with the Region of Peel and the MTO

Traffic Management Centre

Building a Traffic Management Centre (TMC):

Traffic Management Centre

Project Status:

- Substantially completed in June 2014
- Video Wall Display installed in the Fall of 2015

Traffic Management Centre

Capital Budget:

- Cash-Flow Capital Budget of $2.5 million (gross)

Operational Budget:

- Four (4) full-time positions

Cost Sharing:

- Shared costs with the Region of Peel and the MTO

Intelligent Transportation Systems

ITS Initiatives:

- Traffic Monitoring Cameras
- Traffic Detection Technology

Intelligent Transportation Systems

Project Update:

- To date 24 Traffic Monitoring Cameras installed
- Additional 14 Cameras to be installed in 2016
- Future 150 to 200 cameras projected
- Piloting detection technology

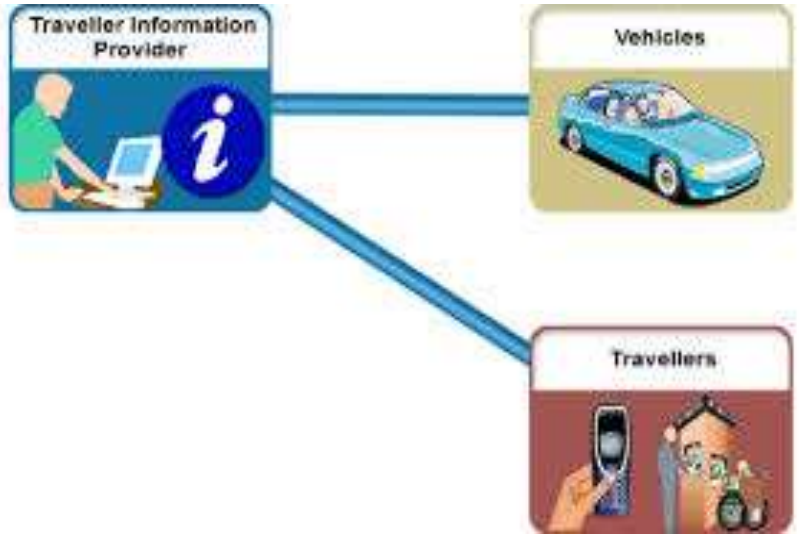
Capital Budget:

- Capital funding of $75,000 per year

Future ATMS Initiatives

Future ATMS Initiatives:

- Adaptive Traffic Control
- Incident Management
- Traveller Information



Future ATMS Initiatives

ATMS Demonstration:

- Showcase to observe, test and develop future initiatives (including benefits and costs)

Future Time Frame:

- Medium to Long Range (5 to 10 years)
- Future Capital and Operational Budgets to be determined

Challenges

Challenges:

- Managing expectations
- Staff experience and adaptability with new technology
- Staff resources and work load
- Software/Hardware integration and support

Thank You