



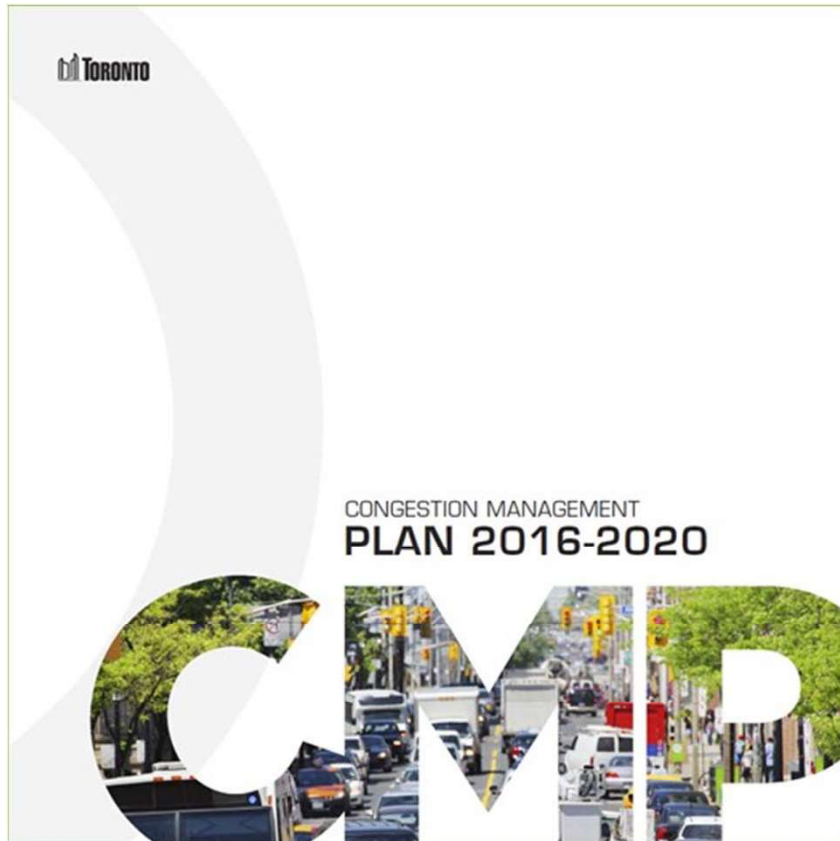
Lucas Oleniuk / Toronto Star

ATMS / ATM Initiatives and Vision at the City of Toronto

December 2, 2016



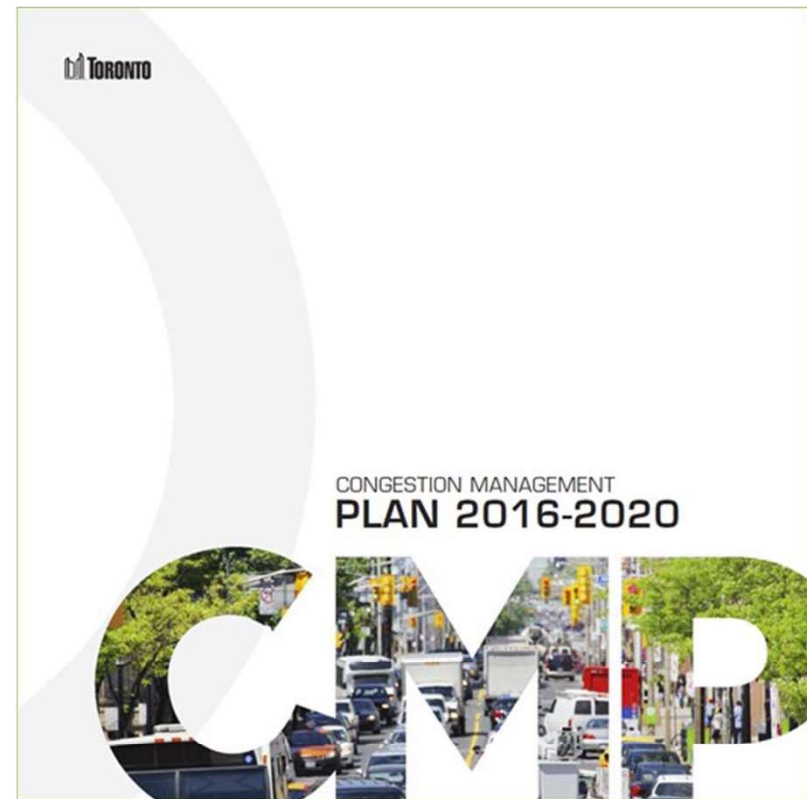
Congestion Management Plan (CMP)



- Objectives:
 - Improve traffic flow
 - Improve safety
 - Improve management of traffic congestion

CMP Activity To-Date (2013-2016)

- Upgraded Operations Centre
- VMS Installations
- Travel Time Deployments
- Signal Coordination
- Arterial CCTV Cameras
- LED Blank-out Signs
- UPS for Traffic Signals





Operations Centre Upgrade

New Concept of Operations, new video wall,
new ATMS, new video management



17 VMS Installed on DVP & Gardiner

Incident, safety & travel time messages

Arterial VMS Pilot

Travel time and expressway incident advisories



148 Arterial CCTV Installed



14 Sites with LED Blank-out Signs





75 UPS Installed for Traffic Signals

Active Work in ATMS/ATM

- Transit Signal Priority Strategy (Dec)
- Traveller Information Strategy (Dec)
- UPS Installations (Dec)
- **Purchase of Commercial Data (Dec)**
- Advanced Traffic Mgt System (Q1)
- Data Warehouse Plan (Q1)
- Coordination Studies (all year)
- Turn Restriction Blank-Out Signs (Q2)
- Smart Work Zones (Q2)
- Arterial CCTV Cameras (Q4)
- UAV readiness (on-going)
- Adaptive Traffic Signal Control (Q4)
- Active Traffic Management Strategy (Q4)

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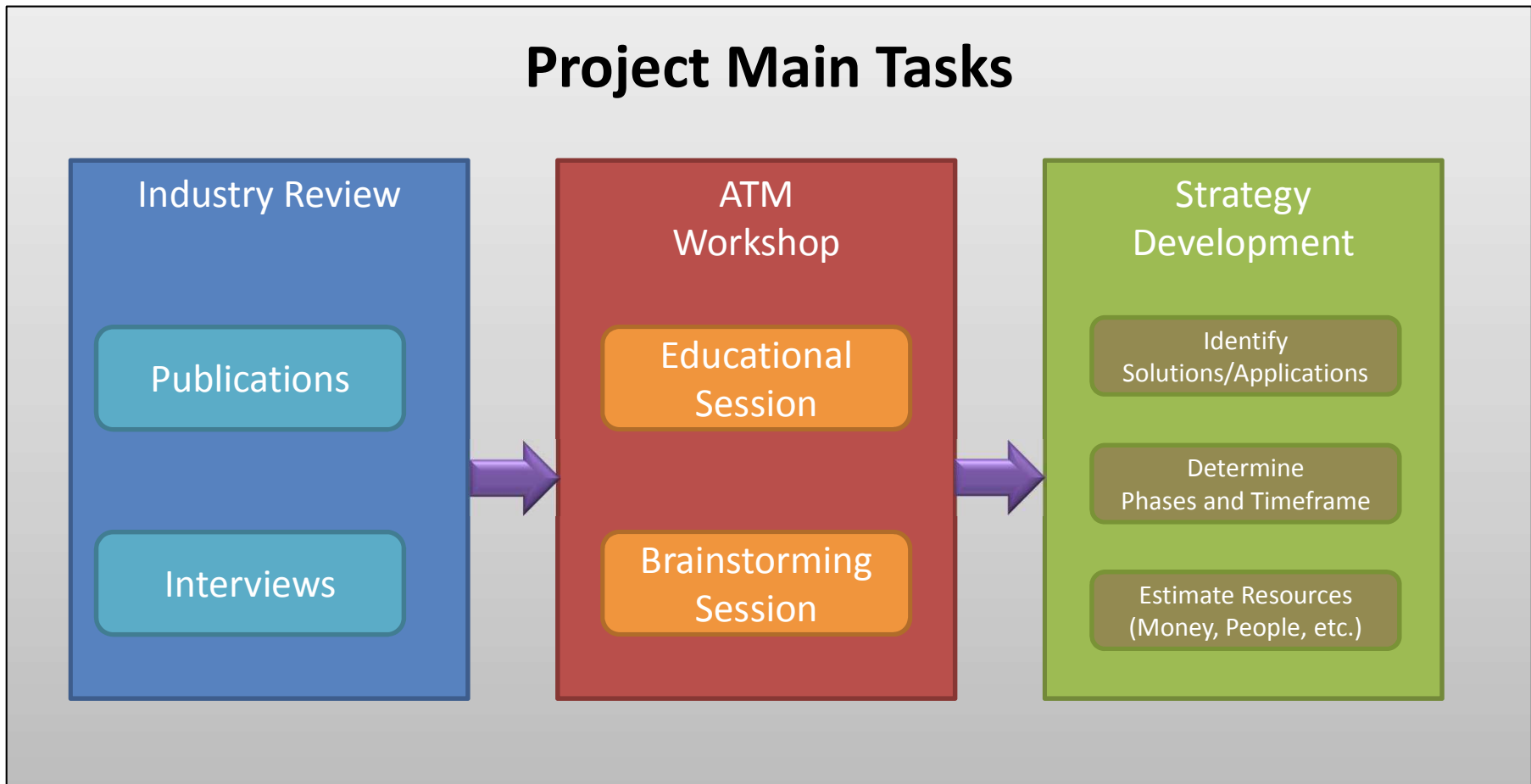
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- **Active Traffic Management Strategy (Q4)**

Active Traffic Management Strategy

- **Objectives:**
 - Improve safety
 - Alleviate congestion
 - Leverage existing and new technology
- Targeting expressways and arterials
- Moving from passive to active operation
- Dynamically managing infrastructure in response to traffic conditions

Active Traffic Management Strategy

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Active Traffic Management Strategy

- Active Traffic Management (ATM) is generally regarded as real-time and/or predictive operational strategies for actively and dynamically managing and controlling traffic demand and/or available capacity of the roadway network.
 - Reactive/Proactive
 - Real-time
 - Based on current traffic conditions

Benefit Objectives

- Improve safety
- Improve trip reliability
- Increase network throughput
- Increase directional capacity
- Increase trip reliability
- Balance volume and capacity

Speed Harmonization / Variable Speed Limits

- Purpose/Goals:
 - Create more uniform travel speeds and manage traffic during adverse weather conditions or construction related congestion.
 - Maintain traffic flow and reduce the risk of collisions due to speed differentials at the end of the queue.



Hard Shoulder Running

- Purpose/Goals:
 - Provide additional capacity without the need for full capital expense associated with a full lane expansion.
 - Alleviate congestion when warranted.



Queue End Warning

- Purpose/Goals:
 - Inform travellers of slow moving traffic and the back of queues that result from recurring and non-recurring (e.g. due to incidents or work zones) congestion.
 - Advisory information allows motorists to reduce speed and drive with caution and reduce the occurrence of primary and secondary incidents.



Reversible Lanes

- Purpose/Goals:
 - Dynamically change lane configuration and directional use.
 - Maximize available capacity and provide capacity where most warranted.



Dynamic Lanes

- Purpose/Goals:
 - Dynamically change lane configuration and directional use.
 - Maximize available capacity and provide capacity where most warranted.



Dynamic Re-routing

- Purpose/Goals:
 - Actively directing traffic based on traffic conditions to avoid downstream queues and congestion.
 - Dynamically manage demand across available routes and capacity.



Ramp Metering

- Purpose/Goals:
 - Manage the traffic merging onto controlled access highways, in order to maintain mainline traffic flow.
 - Smoothing traffic flow and reducing shockwaves and the risk of collisions due to merging traffic.



Active Parking Management

- Purpose/Goals:
 - Affect travel demand by influencing trip timing choices, mode choice, as well as parking facility choice at the end of the trip.
 - Reduce congestion and delays associated with motorists searching for available parking.

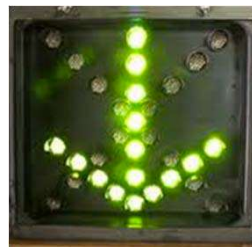


Active Gate Management

- Purpose/Goals:
 - Manage access to expressway (e.g. Jameson Gates)
 - Manage ingress to flood-prone areas (e.g. Lower Don)



Upcoming CMP Initiatives (2017-2020)



- Field installations !!
- Traveller Information Deployments
 - Website
 - Social Media
 - Potential mobile application
- Back-up Traffic Operations Centre
- Integrated Corridor Management
- Systems Support for Evacuation Routes



Questions?

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