

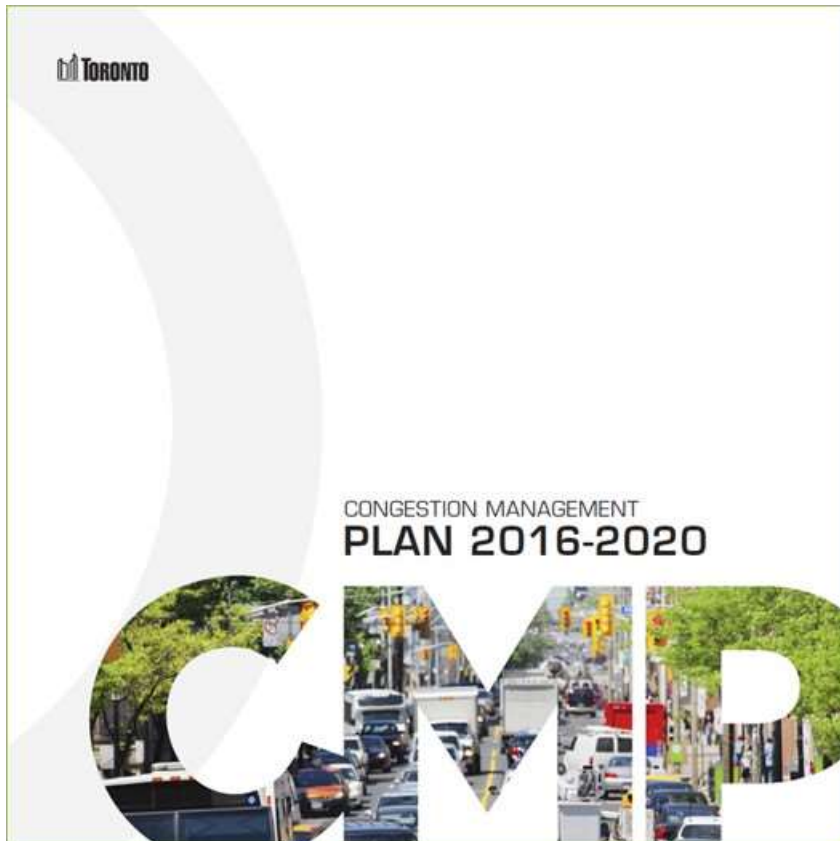


Lucas Oleniuk / Toronto Star

City of Toronto's Congestion & Active Traffic Management

February 15, 2017

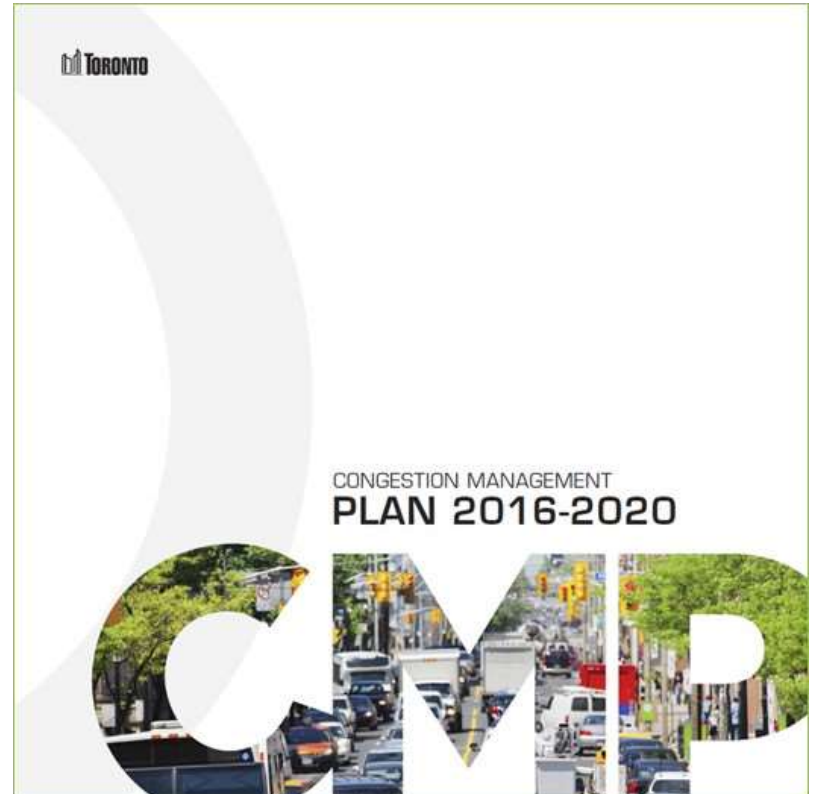
Congestion Management Plan (CMP)



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

CMP Activity To-Date (2013-2016)

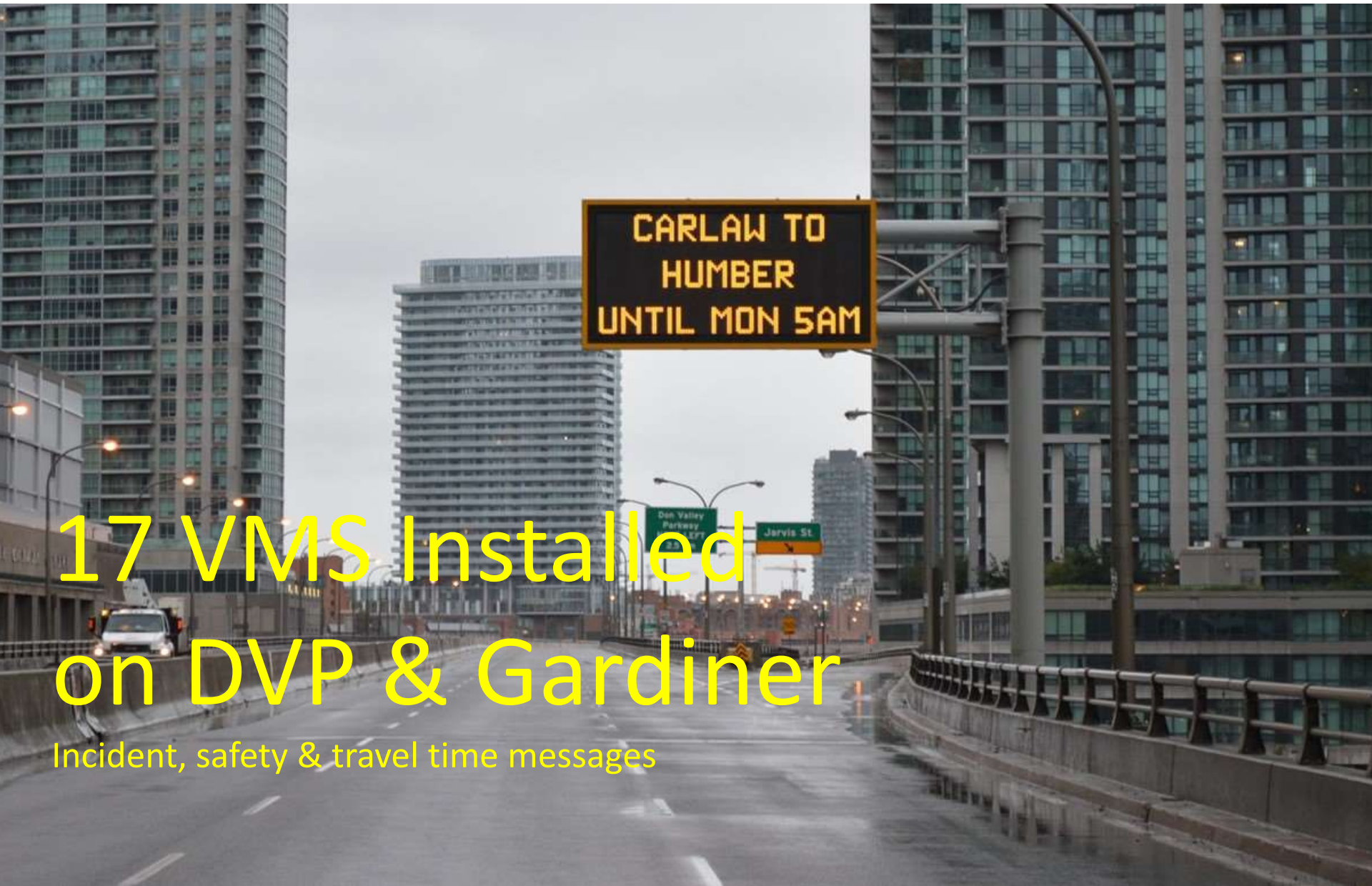
- Upgraded Operations Centre
- VMS Installations
- Travel Time Deployments
- Signal Coordination
- Arterial CCTV Cameras
- LED Blank-out Signs
- UPS for Traffic Signals





Operations Centre Upgrade

New Concept of Operations, new video wall,
new ATMS, new video management, new traveller
information strategy



CARLAW TO
HUMBER
UNTIL MON 5AM

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



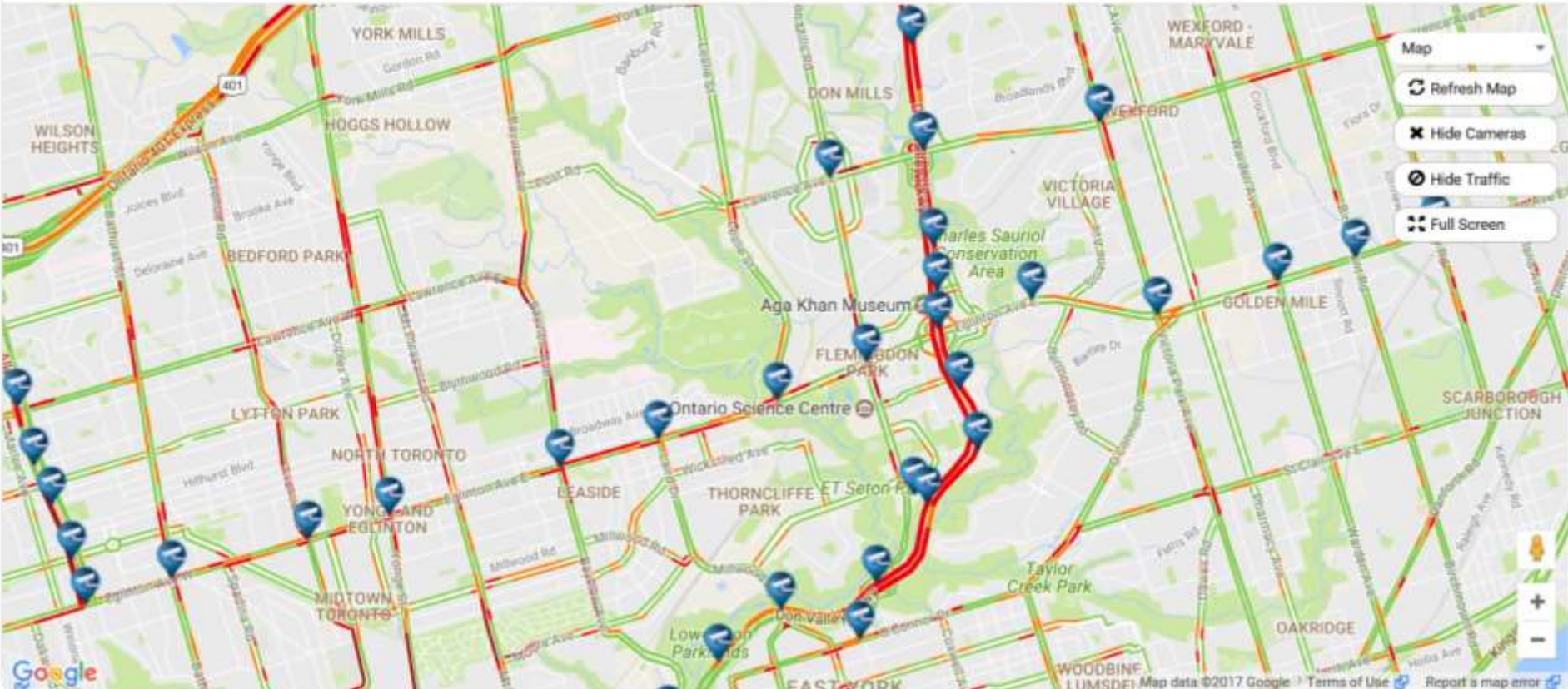
Transit Signal Priority Strategy

Type Impact Traffic

Active Emergency Camera

Major Moderate Minor

Fast Slow



Last updated at: 14-Feb-2017 8:22 AM

Traveller Information Strategy

On-Going Work

- Purchase of Commercial Data (Feb)
- Data Warehouse Plan (Q1)
- Active Traffic Management Strategy (Q1)
- Advanced Traffic Mgt System (Q2)
- Smart Work Zones (Q2)
- Coordination Studies (all year)
- Turn Restriction Blank-Out Signs (Q3)
- Arterial CCTV Cameras (Q3)
- UAV readiness (on-going)
- ITS Risk Assessment (Q4)
- Adaptive Traffic Signal Control (Q4)
- Lower Don Flood Impact Mitigation (2018)

Upcoming CMP Initiatives (2017-2020)

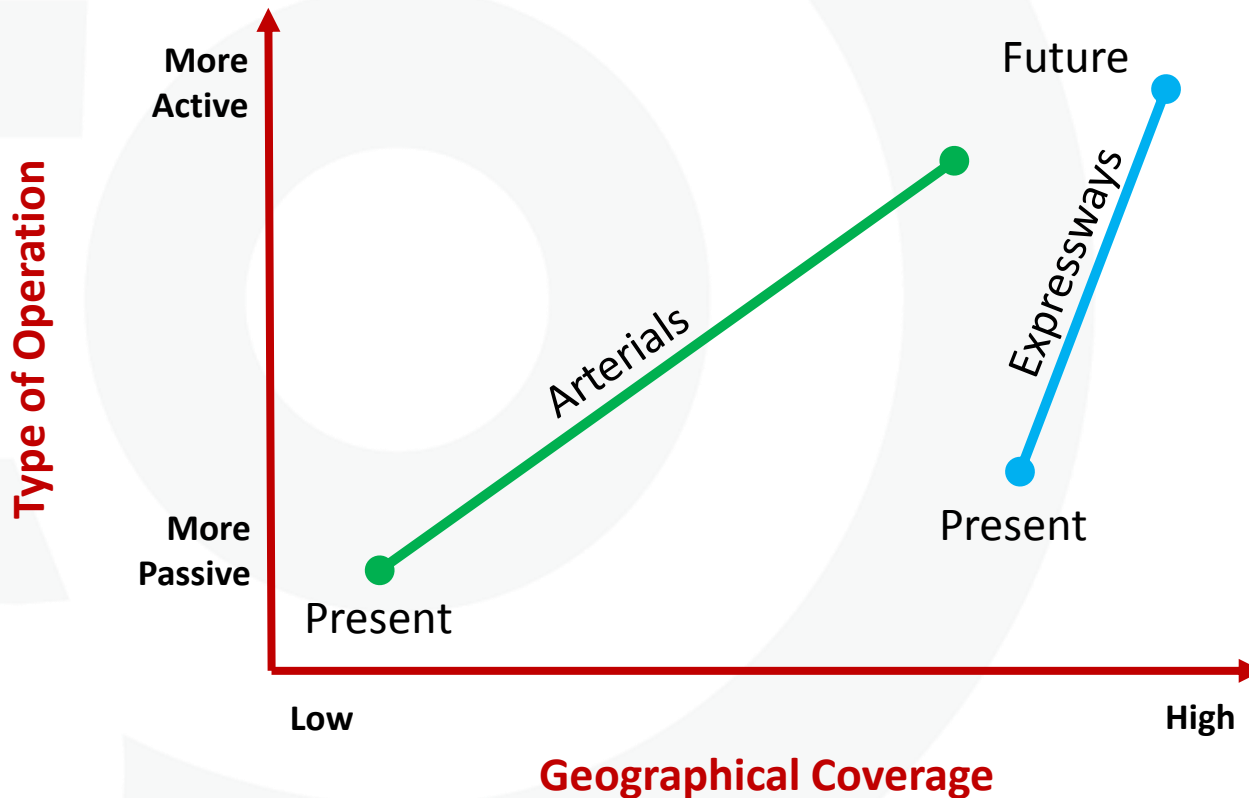


- Field installations !!
- Traveller Information Deployments
 - Website
 - Social Media
 - Potential mobile application
- Back-up Traffic Operations Centre
- Integrated Corridor Management
- Systems Support for Evacuation Routes

Active Traffic Management Strategy

- **Main Objectives:**
 - Improve safety
 - Alleviate congestion and Increase reliability
 - Leverage existing and new technology
 - Support CMP and the new TOC concept of operations
- Targeting expressways and arterials
- Dynamically managing infrastructure in response to traffic conditions

TOC Concept of Operations Philosophical Strategy



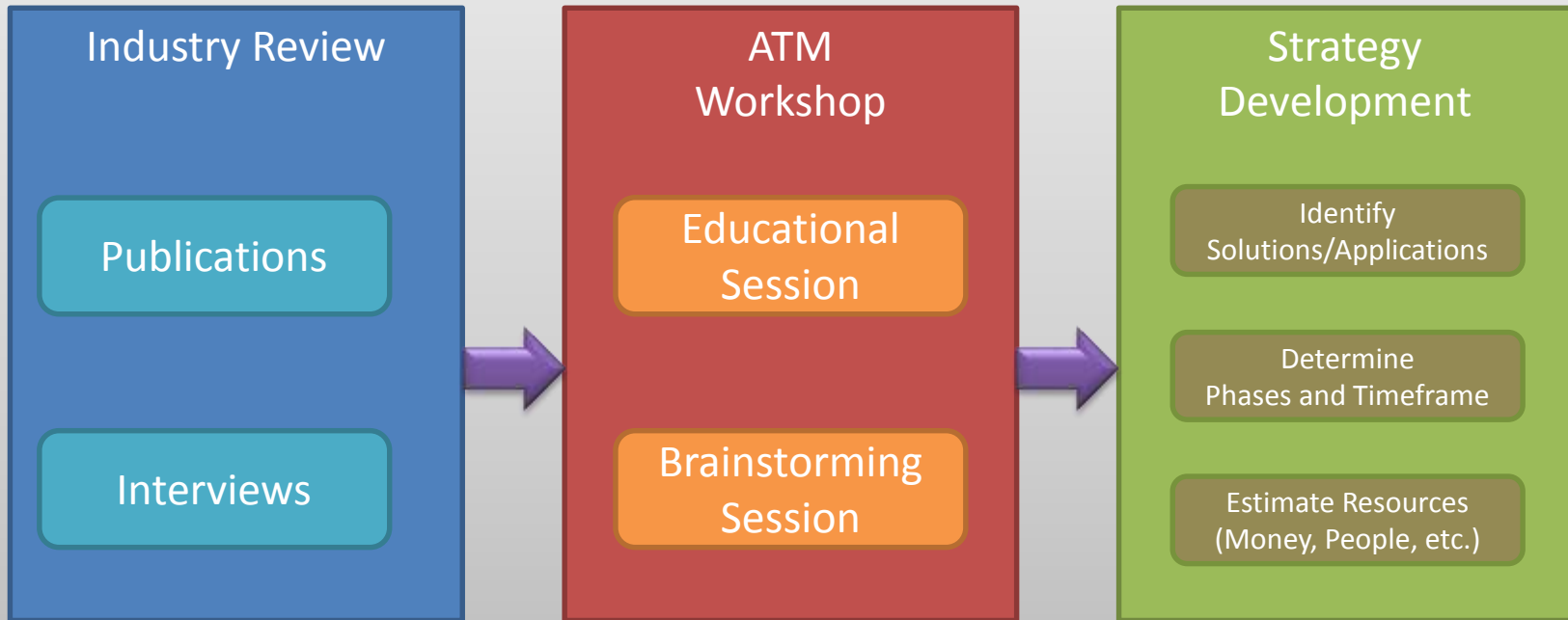
Active Traffic Management (ATM):

Real-time and/or **predictive** operational strategies for **actively** and **dynamically** managing and controlling **traffic demand** and/or **available capacity** of the roadway network.

Active Traffic Management Strategy



Project Main Tasks



Benefit Objectives

- Improve safety
- Improve trip reliability
- Increase network throughput
- Increase directional capacity
- 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.



- Reduce the risk of collisions due to speed differentials and **facilitate lane changing**.

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 congestion.



- Allow motorists to reduce speed and drive with caution to avoid primary and secondary incidents.

Reversible Lanes

- Purpose/Goals:
 - **Dynamically** change lane configuration and directional use.



- **Maximize** available capacity and infrastructure.

Dynamic Lanes

- Purpose/Goals:

- Dynamically change lane configuration.



- Maximize available capacity.

Dynamic Re-routing

- Purpose/Goals:
 - **Dynamically** manage demand across **available routes** and **capacity**.



Ramp Metering

- Purpose/Goals:
 - Manage the traffic merging onto controlled access highways, in order to maintain optimal traffic conditions.



- Reduce shockwaves and risks of collisions due to merging traffic.



Active Gate Management

- Purpose/Goals:
 - Avoid vehicles entering flooded areas (e.g. Lower Don).
 - Re-route traffic to reduce associated risks and congestion.



Active Parking Management

- Purpose/Goals:
 - Influence the **parking facility choice** to reduce **congestion** and **delays** associated with motorists searching for available parking.



Other ATM Strategies addressed in different projects/initiatives:

- Pricing / Tolling
- Service Patrols
- Integrated Corridor Management
- Traveller Information
- Active Signal Timing Changes



Questions?

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