Impact of Today’s Technologies – Integrated Corridor Management (ICM)

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What is ICM to Virginia?

Choice for customers

Utilizing “all seats” (bus, train, car), all travel lanes, all parking, and all modes in a corridor.

The integrated, joint management of a multimodal transportation system.

It’s the freedom to move where you want to, when you want to, and how you want to.
Why ICM?

(Source: USDOT ICM Initiative)
ICM – A Paradigm Shift

• From moving vehicles to moving people and freight.

• From Individual Modes and Facilities to End-to-End Trips focusing on multiple modes and connectivity.

• From Individual Jurisdictions to Multiple adopting a more balanced approach meeting local, regional, and national transportation needs.

• Intermodal - opportunities to structure freeway, arterial, and transit operations where modes can work together and thrive in a corridor.
I-95/395 ICM Elements

- 511 Multimodal Enhancements – one-stop resource for multimodal info
- Travel Time Expansion – by mode and route to support en-route decision
- Active Traffic Management – learn from the I-66 ATM experience
- Adaptive Ramp Metering Expansion – by site & function
- Enhanced Arterial Operations – active mgt., adaptive signal, controller
- Enhanced Incident Management – multimodal response plan
- Parking Management – real-time guidance to maximize space usage
- Multimodal Traveler Information Displays – bring info to the large trip generator sites where people congregate
- ICM Performance Measures – robust way of objectively measuring success
- ICM Decision Support Module – ICM decision support into VDOT’s ATMS and other agencies’ native operating systems
Will ICM Work for I-95?

Simulation of a set of ICM strategies on 11-mile I-95/US 1 corridor by VA Research Council concluded…

• 2 necessities…
  • Stakeholders partnership is a must: focus on customers
  • Must share info across the modes to formulate strategies with intent to influence driving behavior and traveler decision making

• Potential benefits …
  • Increase corridor person flow per hour by 14% – 38%
  • Potention reduction of 48% – 58% travel time along I-95
  • Average travel time on US 1 could improve by 29%
  • Fuel usage could be reduced by 33%
  • Benefit-cost ratios of 4:1 – 6:1

Source: Identifying and Prototyping ICM Strategies for Applications in Virginia
NoVA East-West Travel Shed ICM Project Overview – Study Area

- E-W Roadways: I-66, Rt. 29, Rt. 50, Rt. 236, DTR, Greenway, Rt. 7
- Connecting Roadways: Rt. 15, Rt. 28, Fairfax Co. Pkwy, I-495
- Commuter Rail: VRE
- Metro: Silver Line and Orange Line
- Bike Trails
- Park and Ride Lots
- Bus Services
- Freight
ICM Project Organization Structure

PROJECT MANAGEMENT TEAM

FHWA

PROJECT ADVISORY GROUP

FORUM: Roadway Operations
FORUM: Incident Management
FORUM: Transit & TDM
FORUM: Bikes & Pedestrians
FORUM: Traveler Information
FORUM: Traveler Information
FORUM: Innovation
FORUM: Freight

STAKEHOLDER COORDINATING COMMITTEE

A Stakeholder-driven, multi-agency, and multi-modal plan.
Stakeholder Meeting Summary Flowchart

Project Introduction

Project Advisory Group (PAG)
- PAG #1 Introduction
- PAG #2 Needs
- PAG #3 ICM Strategies
- PAG #4 Draft Con Ops
- PAG #5 Draft Implementation Plan

Stakeholder Coordinating Committee (SCC)
- SCC #1 Introduction & Resource Forum Sign-Up
- SCC #2 Needs & Strategies
- SCC #3 Draft Con Ops
- SCC #4 Draft Implementation Plan

Resource Forum Champions
- Champion Webinar #1 (Introduction & Preparation for SCC Meeting #1)
- Champion Webinar #2 (Preparation for Resource Forum #1)
- Champion Webinar #3 (Preparation for Resource Forum #2)
- Champion Webinar #4 (Preparation for Resource Forum #3)

Resource Forum
- Resource Forum #1 Needs
- Resource Forum #2 Strategies
- Resource Forum #3 Draft Implementation Plan

We are here 5/2-5/5

Output: Dec 2016
Output: May 2017
Preliminary Summary of Issues – Samples

• **Roadway Operations:** Most agencies do not have access to data across modes.

• **Incident Management:** Insufficient formal collaboration, coordination, cooperation and info-sharing during incidents: status, detour, staging.

• **Transit and TDM:** Important transit/TDM data are unavailable or in multiple systems, making it difficult for partner agencies to access and aggregate. This includes real-time parking data as well.

• **Bicycles and Pedestrians:** Inadequate access to rail stations from bike trails and inadequate amenities to park the bikes.

• **Traveler Information:** No true end-to-end trip planning tool that combines mode and route shifts and options for “first/last mile”.

• **Innovation:** Data-sharing contracts are effort-intensive to form and usually do not facilitate multiple-agency data-sharing.

• **Freight:** Lack of local freight O-D information to understand the extent of freight issues in the study area and truckers needing guidance on route restrictions.

* A solvable issue or need within the context of ICM will be linked to implementation strategies.*