

# NCHRP 20-68A—US Domestic Scan Program, SCAN 14-02

SUCCESSFUL INTERMODAL CORRIDOR MANAGEMENT  
PRACTICES FOR SUSTAINABLE SYSTEM PERFORMANCE

# Acknowledgement

The work described in this document was conducted as part of NCHRP Project 20-68A, the U.S. Domestic Scan Program. The U.S. Domestic Scan Program facilitates technology transfer among state departments of transportation and other transportation agencies on a variety of topics. The U.S. Domestic Scan Program was developed by the American Association of State Highway and Transportation Officials and is administered through the National Cooperative Highway Research Program using consultant contracts to manage the scans identified by the NCHRP Project 20-68A panel.

## Disclaimer

This document represents the opinions and conclusions of the scan team members, and not necessarily those of the Transportation Board, The National Research Council, or the program sponsors. The Transportation Research Board has not edited this document.

# NCHRP Domestic Scan 14-02: Successful Intermodal Corridor Management Practices for Sustainable System Performance

- Goal of this Scan: Develop practical guidance and example strategies that maximize return on investment in multimodal corridors
  
- Build on the principles of:
  - Corridor-level planning
  - Multimodal corridor management
  - Integrated corridor management
  - Active traffic management

# Scan Recommendations

## ➤ Additional Research

- Engage USDOT, AASHTO, TRB, AMPO and others in supporting development of curricula to support the skills needed for intermodal corridor management
- Update design standards to reflect multimodal network facilities and operations components
- Propose that NCHRP develop a capability maturity model
- NCHRP Report 798 “The Role of Planning in a 21<sup>st</sup> Century Department of Transportation...”

## ➤ Funding

- Continue to support grant and pilot opportunities for those on the forefront of intermodal corridor management
- Continue efforts to mainstream multimodal managed corridors and support adequate funding for planning, data acquisition and corridor maintenance and operations

# Next Steps

- Final report is complete
- Sharing the findings and best practices:
  - Developing a webinar series to share the experiences of the participants in the scan and to build on the findings
  - Presenting findings at appropriate meetings and forums
- Support further research and development

# Scan Team

- *Lynn Weiskopf*, New York State DOT
- *Brian Hoeft*, Regional Transportation Commission of Southern Nevada
- *Brian Smith*, AICP, Subject Matter Expert
- *Jean Wallace*, Minnesota DOT, Scan Chair
- *Neil Spiller*, FHWA
- *Steve Takigawa*, California Department of Transportation
- *James Lambert*, University of Virginia
- *Kari Martin*, Michigan DOT

Arora and Associates, P.C., led by Principal Investigator Harry Capers with the assistance of Mike Wright, Melissa “Li” Jiang of Arora and Associates, and Greg Waidley of CTC and Associates, managed scan planning, execution and logistics.



# Workshop Participants

- **Florida** (Florida Department of Transportation--FDOT, Florida Department of Economic Opportunity, and Space Coast Transportation Planning Organization--SCTPO)
- **Massachusetts** (Massachusetts Department of Transportation--MassDOT)
- **Maryland** (Maryland State Highway Administration)
- **North Carolina** (North Carolina Department of Transportation--NCDOT)
- **New York** (New York State Department of Transportation, New York City Department of Transportation)
- **Oregon** (Oregon Department of Transportation--ODOT)
- **California** (California Department of Transportation, San Diego Association of Governments, FHWA California Division)
- **Arizona** (Arizona Department of Transportation, Maricopa County Department of Transportation, City of Scottsdale)
- **Utah** (Utah Department of Transportation--UDOT; Mountainland Association of Governments--MAG; Wasatch Front Regional Council--WFRC)
- **Virginia** (Virginia Department of Transportation--VDOT; Hampton Roads Transportation Planning Organization--HRTPO)

# How the Team Conducted the Scan

The Scan Team decided that a “peer exchange” type workshop would be the best way to gather information on best practices and provide for interaction between practitioners themselves and with the Scan Team on such topics as:

- How a stated purpose/vision for the management of the corridor(s) was developed;
- How relevant modes and linkages were identified;
- How potential capacity/travel market share was determined for each mode;
- What modal performance parameters were selected;
- Governance arrangements and how institutional impediments were overcome;
- Challenges to improving multimodal and intermodal performance;
- Success indicators;
- Cost to implement, operate and maintain;
- Return on investment; and
- Achieving sustainable transportation supporting economy, environment and equity.



# What distinguishes “Integrated Corridor Management” From “Intermodal Corridor Management”?

While both approaches can involve multimodal integration:

- “Integrated” Corridor Management: Per USDOT, is an approach where “transportation professionals *manage* the corridor as a multimodal system and make *operational decisions* for the benefit of the corridor as a whole...” {emphasis added}
- “Intermodal” corridor management *plans* for the function of the corridor for broader needs and performance goals, including economic development, place-making, land use, and access to destinations.

# Overview

## ➤ Intermodal corridor management

- ❖ strives to meet transportation demand at the least social and economic cost.
- ❖ builds on the principles of multimodal corridor planning, integrated corridor management and active traffic management.
- ❖ all modes must provide more than just choice--they must deliver performance.

## ➤ Traditional corridor planning

- ❖ focuses on the dominant transportation facility in a corridor
- ❖ misses opportunities to coordinate investments within a corridor, to maximize capacity and to create synergies between modes.

## ➤ Sustainable transportation corridor performance

- ❖ supports state, local and regional economies, communities and environment;
- ❖ resources for ongoing transportation system improvements, operations and maintenance; and
- ❖ public support for multimodal management in developing and operating the transportation corridor.

# The Finding and Conclusions areas most informed by each state

State Team	Corridor Vision and Goals	Collaboration	Leadership	Systems Approach	Data	Customer Focused Performance Measurement/ Management	Outreach	Funding	Sustainability
Florida	X	X	X	X	X	X	X	X	X
Massachusetts		X	X			X	X	X	X
Maryland				X	X	X			X
North Carolina	X			X	X			X	
New York	X	X	X	X	X	X	X		X
Oregon		X	X	X	X	X		X	X
California		X	X	X	X		X		X
Arizona		X	X	X	X		X	X	
Utah	X	X	X	X	X	X	X	X	X
Virginia		X		X	X		X	X	X

# Scan Findings/Best Practices

**Intermodal Corridor Management is exemplified by:**

- **Collaboration with partners**
  - Shared goals, resources and decision-making
  - Formalized agreements to understand roles and provide stability
- **Leadership**
  - Executive Level leadership - a “champion” is important
  - To really get results, need buy-in from the bottom up.

# Scan Findings/Best Practices (cont.)

## ➤ Data

- Use data throughout the process to “tell the story” and adjust, as needed
- Different contexts require different levels of data and modeling
- Use data to improve performance and support investment decisions

## ➤ Customer-Focused Performance Measurement/Management

- Strive for outcome based multi-modal (or mode neutral) measures
- Pre- and Post-implementation performance data is essential

## ➤ Outreach

- Ensure all populations are part of public engagement
- Use different media approaches based appropriate to audience and context
- Use social media and multimodal 511 tools

# Scan Findings/Best Practices (cont.)

## ➤ Funding

- Sustained funding for intermodal corridor management is a challenge
- States are finding creative ways to make incremental progress
- Outcomes/performance measures can provide support for continued investment

## ➤ Sustainability

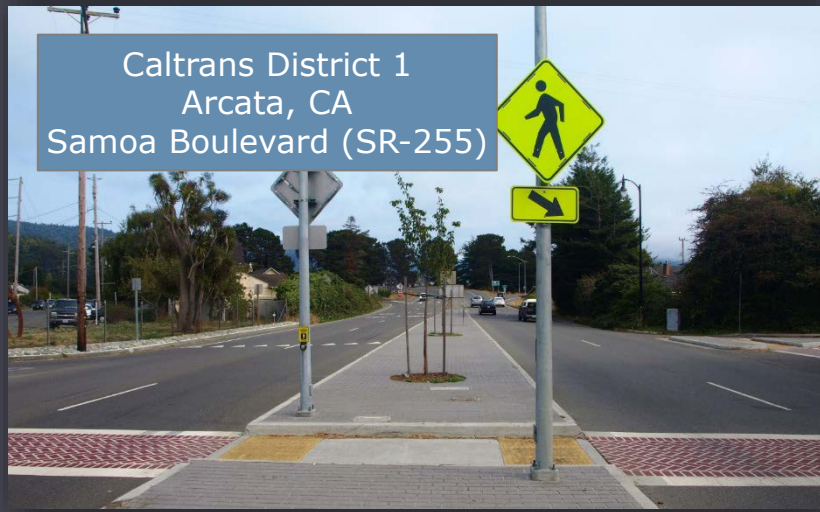
- Take a broad approach - economic, social, environmental, multi-generational
- Re-define goals and accomplishments

## ➤ Establish Corridor Vision and Goals

- Focuses the planning efforts and investment decisions
- Statewide vision can produce a common understanding that can be applied to multiple corridors

# Scan Findings/Best Practices (cont.)

- Systems Approach
  - Focus on moving people and goods
  - Locale and situational specific
  - Beyond “Complete Streets”; consider a “Complete System”



# Caltrans - Operationalizing Complete Streets

October 12, 2017

**Ann Mahaney**, Smart Mobility + Active Transportation Branch Chief  
Caltrans Sacramento, CA



NCHRP Domestic Scan 14-02 Webinar on Multimodal Complete Corridors





# Operationalizing Complete Streets in Caltrans

## Overview

1. Transportation Asset Management
2. Asset Nomination
3. Project Initiation Document
4. SHOPP Tool
5. Complete Streets Guidance
6. Complete Streets Elements Selection Process
7. Next Steps



[Baybridgeinfo.org](http://Baybridgeinfo.org)



# Transportation Asset Management

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- Caltrans is required to prepare a Transportation Asset Management Plan (TAMP).
- TAMP informs decision making and **project selection process** of Caltrans' maintenance program
  - State Highway Operations Protections Program (SHOPP)
  - Projects previously focused on a single asset
  - Projects now include multiple assets
- Performance-driven project selection
- Outcomes to be met by 2027 include:
  - 98% of pavement in good or fair condition.
  - 90% of culverts in good or fair condition.
  - 90% of transportation management systems in good condition.
  - Fix at least 500 additional bridges.
- **What about Complete Streets performance?**

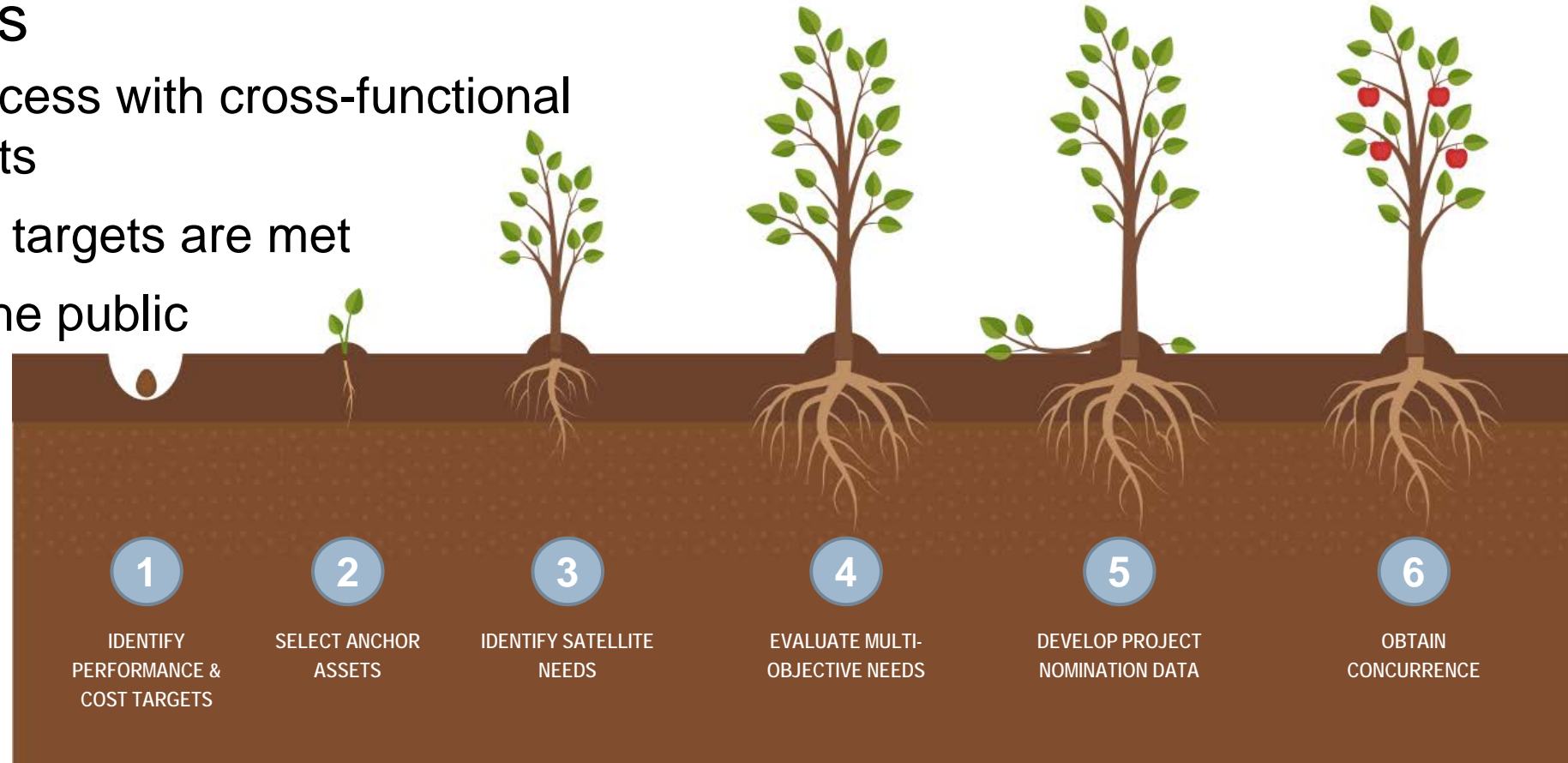


## Asset Management Performance Report

# SHOPP Project Nomination Process

## Process Objectives

- Improve scoping process with cross-functional subject matter experts
- Ensure performance targets are met
- Reduce impacts to the public
- Optimize funding
- Prioritize needs
- Maximize value



# Complete Streets in Project Initiation Documents

- Project Initiation Documents (PIDs)
  - Preliminary documents to determine project scope, schedule, and cost.
- All PIDs shall include Complete Streets and Climate Change considerations.
- Review conducted on 2018 SHOPP Cycle PIDs



Green Bike Lane at Freeway On- and Off- Ramps  
Caltrans District 4  
San Mateo County, California  
Alpine Road at Interstate 280

Streetsblog SF  
Andrew Boone

Project Review Criteria
65% of PIDs had a Complete Streets Discussion
46% Projects included Complete Streets elements such as shoulders, crosswalks, curb ramps
71% Projects were on Bicycle- and Pedestrian-Accessible Facilities with Complete Streets elements



# SHOPP Asset Management Tool

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- Developed to track project assets and outcomes
- Provides a centralized collaborative Tool to report SHOPP funding targets and performance
- Information is used to develop work plans and fund estimates
- Currently 30 Complete Streets elements to be quantified

Home | SHOPP Contacts | Map | SHOPP Tool Instructions | Tool Team Presentations | Login

Tracking and Reporting  
SHOPP Project Performance effectively

SHOPP REPORT FORM

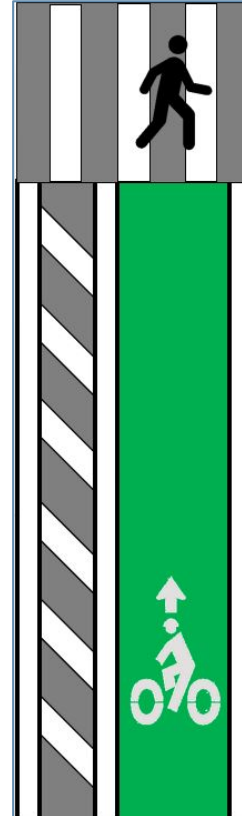
Select a report type below to proceed.

Report Type: - Select a report -

- Complete Streets elements not tied to performance targets
- **Still a need for guidance to incorporate Complete Streets elements**

# Caltrans Complete Streets Guidance

- A planning and design guide developed in-house to meet the needs of project development teams.
- Provides definitions, guidance, project examples, and quantification methods for all elements listed in SHOPP Tool.
- Includes key concepts, data analysis, and policies relevant to Complete Streets planning.
- A living document updated with new guidance and elements.
- Available online:



## Complete Streets Elements Toolbox *Version 2.0*



Caltrans  
Smart Mobility and Active Transportation Branch



<http://www.dot.ca.gov/transplanning/ocp/complete-streets.html>

# Complete Streets Elements Selection Process

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- Process to identify appropriate Complete Streets elements on a State highway based on facility typology:
  - *Access-controlled freeway/expressway*
  - *Pedestrian- and bicycle-accessible freeway/expressway*
  - *Rural Conventional Highway*
  - *Urbanized Conventional Highway*
  - *On- and Off- Ramps*
  - *Over- and Under-crossings*
  - *Maintenance Facility, Rest Area, etc.*
- Process steps include local planning document review, data collection and analysis, interagency coordination, and compiling project scoping information.



# Complete Streets Elements Selection Process

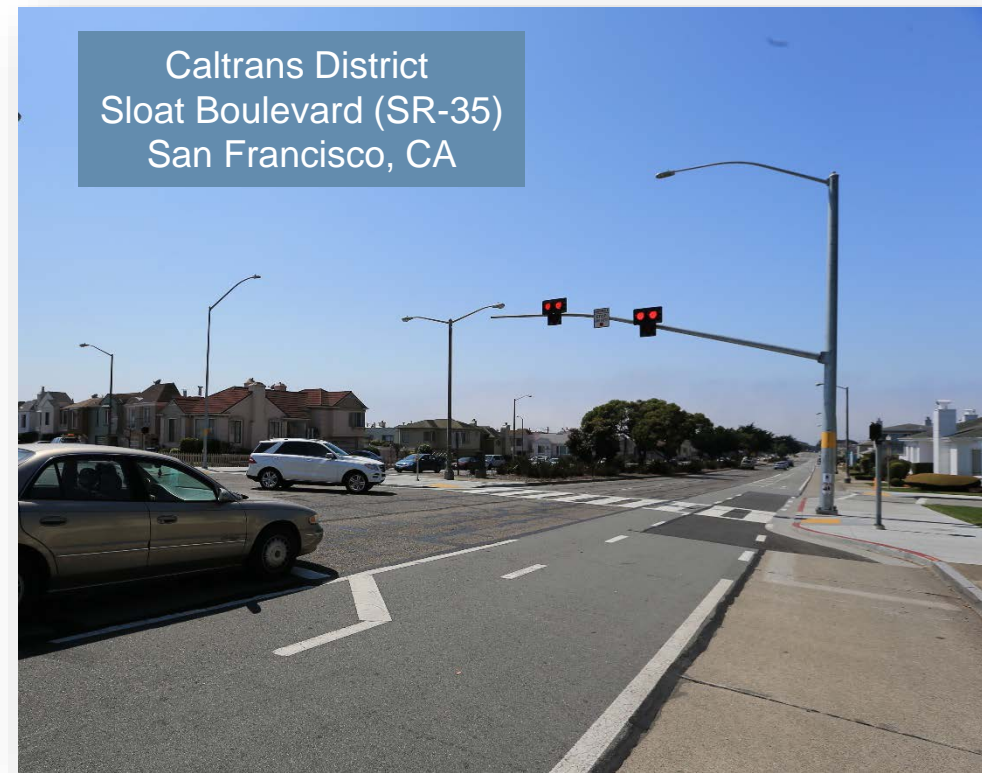
## Context Matters

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Bicycle-Accessible Rural Freeway



Urban Conventional Highway  
*(in a residential area)*





# Complete Streets Elements Selection Process

## Context Matters

### Bicycle-Accessible Rural Freeway



Caltrans District 1  
US-101  
Eureka, CA

Bicycle warning signage

Colored bicycle-accessible shoulders

### Urban Conventional Highway *(in a residential area)*



Caltrans District  
Sloat Boulevard (SR-35)  
San Francisco, CA

High Intensity Activated Crosswalk (HAWK)

Median Crossing Island

Enhanced Crosswalk Visibility

Curb Bulbout

Class II Buffered Bike Lane  
Lane Reduction (Road Diet)

# Next Steps

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## *Toward an Active California: State's Bicycle and Pedestrian Plan*

- Strategic approach to implement transformative actions
- Prioritize Actions that lead to Mode Shift
  - District-level Active Transportation Plans
  - Pedestrian and Bicycle Data

## Road Repair and Accountability Act, Senate Bill 1, 2017

- \$54 billion over 10 years
- State and local agency split
- Funds transportation with transportation-related user fees.
- Requirements for incorporating Complete Streets into projects.



REBUILDING CALIFORNIA - Senate Bill 1



# Caltrans Complete Streets Resources

**Complete Streets Program** <http://www.dot.ca.gov/transplanning/ocp/complete-streets.html>

**Smart Mobility and Active Transportation Branch** <http://www.dot.ca.gov/hq/tpp/offices/ocp/smb.html>

**Climate Change Program** <http://www.dot.ca.gov/hq/tpp/offices/ocp/>

**Design – Design Flex** <http://www.dot.ca.gov/designflex/>

**Design/Landscape Architecture Context Sensitive Solutions**

*Main Street, California - A Guide for Improving Community and Transportation Vitality*

[http://www.dot.ca.gov/hq/LandArch/awards/index.htm#main\\_street](http://www.dot.ca.gov/hq/LandArch/awards/index.htm#main_street)

**Local Assistance - Active Transportation Program (ATP)**

<http://www.dot.ca.gov/hq/LocalPrograms/atp/index.html>

**Traffic Operations – Pedestrian & Bicycle Safety Program** <http://www.dot.ca.gov/trafficops/ped/>

# Thank You

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## Ann Mahaney

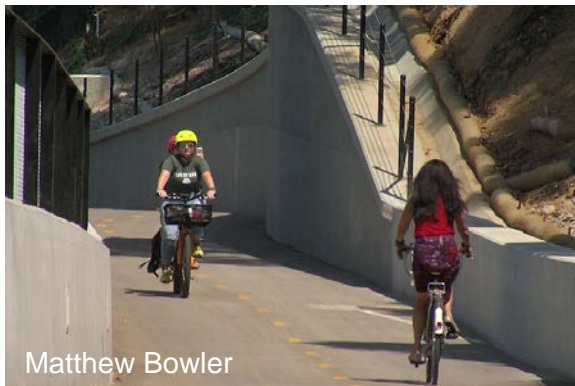
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Matthew Bowler

State Route 15 Commuter Bikeway  
Caltrans District 11  
Between Mission Valley and San Diego, California





**Department of  
Transportation**

# ***Successful Intermodal Corridor Management Practices for Sustainable System Performance***

**Multi-Modal Corridor Planning / Deployment,  
NYC Metro Area**

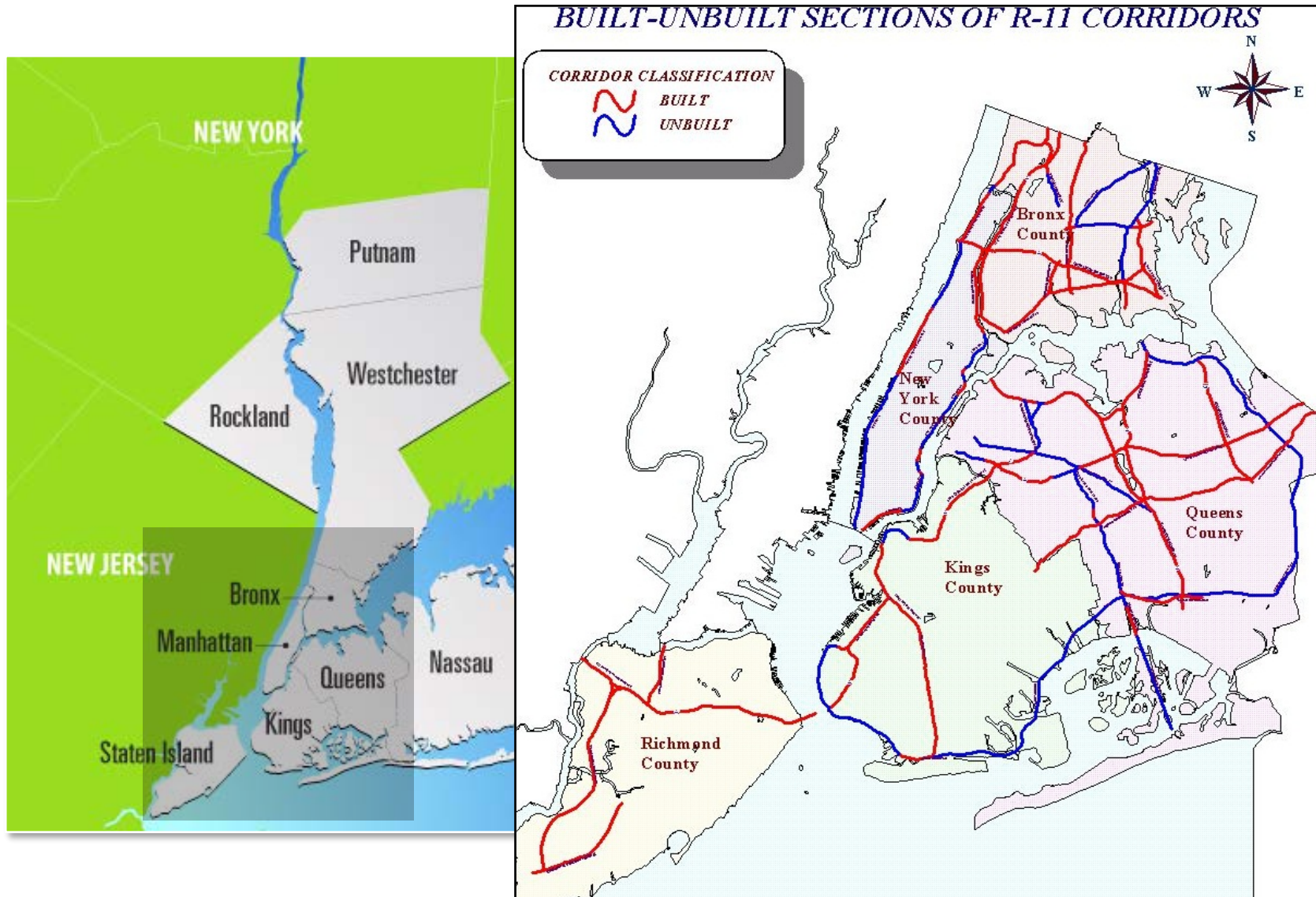
Fred Libove, NYSDOT Region 11

October 12, 2017

# NYC Region At Glance

- POPULATION – 8.5 Million
- TRANSIT
  - MTA – Largest Transit Network in North America
  - Serving Population – 15.2 Million
  - Annual Ridership – 2.7 Billion
  - Average Weekday Ridership – 8.7 Million
  - 2015 Operating Budget - \$13.9 Billion
- HIGHWAYS/LOCAL STREETS
  - Over 24,000 Lane Miles
  - 12,700 Signalized Intersections
  - 86,000 Metered Parking
  - 13,200 Multi Space Parking

# NY Metro Planning Region



## How to balance...

- Congestion & spillback
- Grid structure; route choices
- Parking
- Pedestrians and bikes
- Buses
- Taxis
- Truck deliveries
- Traffic enforcement agents
- Traffic signal coordination
- Managed-use lanes (Bus, HOV)
- Bridge and tunnel operations
- Reversible Lanes
- Time of day variations
- Other construction



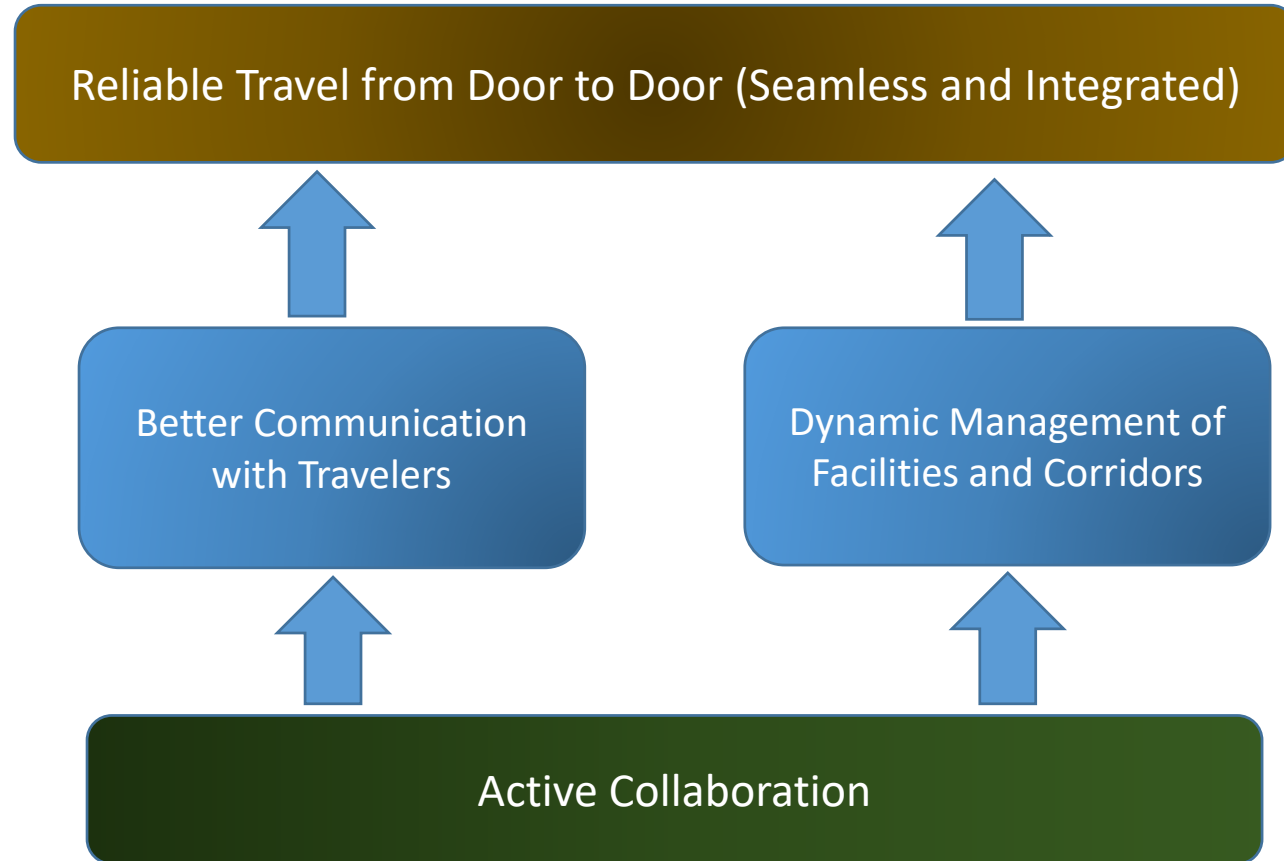


# Intermodal Corridor Management - Future

Build on partnerships, formal and informal:

- Strong project level Agency collaboration (SBS, MUL, JTMC)
- Integrated Corridor Management ConOps process building a strong coalition
- NYMTC/NJTPA and TRANSCOM provide forums and building blocks
- NYSDOT has a statewide policy framework to support Active Transportation Demand Management (ATDM) strategies

# NYSDOT ATDM Policy Framework : Seamless Integrated Corridor Travel



# Managed Use Lane (MUL) Study 3-Tier Screening Process



## Three-tiered screening process:

- Level One uses quantitative thresholds to determine which corridors warrant priority MUL treatment or offer short-term opportunities)
- Level Two identifies specific MUL strategies applicable within the screened Level One corridors)
- Level Three selects the strategy(ies) and prioritizes the corridors

# Level 1 Screening

## Five Major Thresholds

### 1. Vehicular Volume

- AADT: 4-Lane Expwy > 75,000; 6-Lane >115,000

### 2. Congestion

- LOS E/F

### 3. Travel Speed

- Expwy – <30mph; Arterial - <20mph (2 or more peak hrs)

### 4. Incidents and Accidents

- Duration > 20 minutes; number > 50/yr

### 5. Bus Volume

- Expwy >40 buses/hr with headway of 1.5minutes
- Arterial >20 buses/hr with headway of 3minutes

# Level 2 Screening

- High Priority Corridors: evaluated for each candidate MUL strategy, which include:
  - High Occupancy Vehicle (HOV) Lanes
  - High Occupancy Toll (HOT) Lanes (Deferred)
  - Exclusive Transitways
  - Temporary Peak Period Shoulder Use
  - Bus on Shoulders/Parking Lanes
  - Reversible and Contra-Flow Lanes
  - Exclusive/Dedicated Truck Lanes
  - Diversion of Small Commercial Vehicles to Parkways
  - Speed Harmonization/Queue Warning
  - Junction Control at Interchange Merges
  - Dynamic Rerouting at Major Interchanges

# Expansion of Select Bus Service (SBS) Corridors

## New York City Department of Transportation (NYCDOT) / Metropolitan Transportation Authority (MTA)

- SBS Corridors – 2015
  - Hylan Boulevard, Staten Island
  - Nostrand Avenue, Brooklyn
  - Webster Avenue, Bronx
  - Fordham Avenue – Phase 1, (2008) Bronx
  - 1<sup>st</sup> Avenue / 2<sup>nd</sup> Avenue, Manhattan
- SBS Corridors – 2016:
  - Utica Avenue – Phase I, Brooklyn
  - M60, Manhattan and Queens
  - Main Street / Q44, Queens
- SBS Corridors – 2017:
  - South Bronx Crosstown Bx6 , Manhattan and Bronx
  - Utica Avenue – Phase II, Brooklyn
  - Woodhaven Blvd - Phase I, Queens

# Select Bus service (continued)

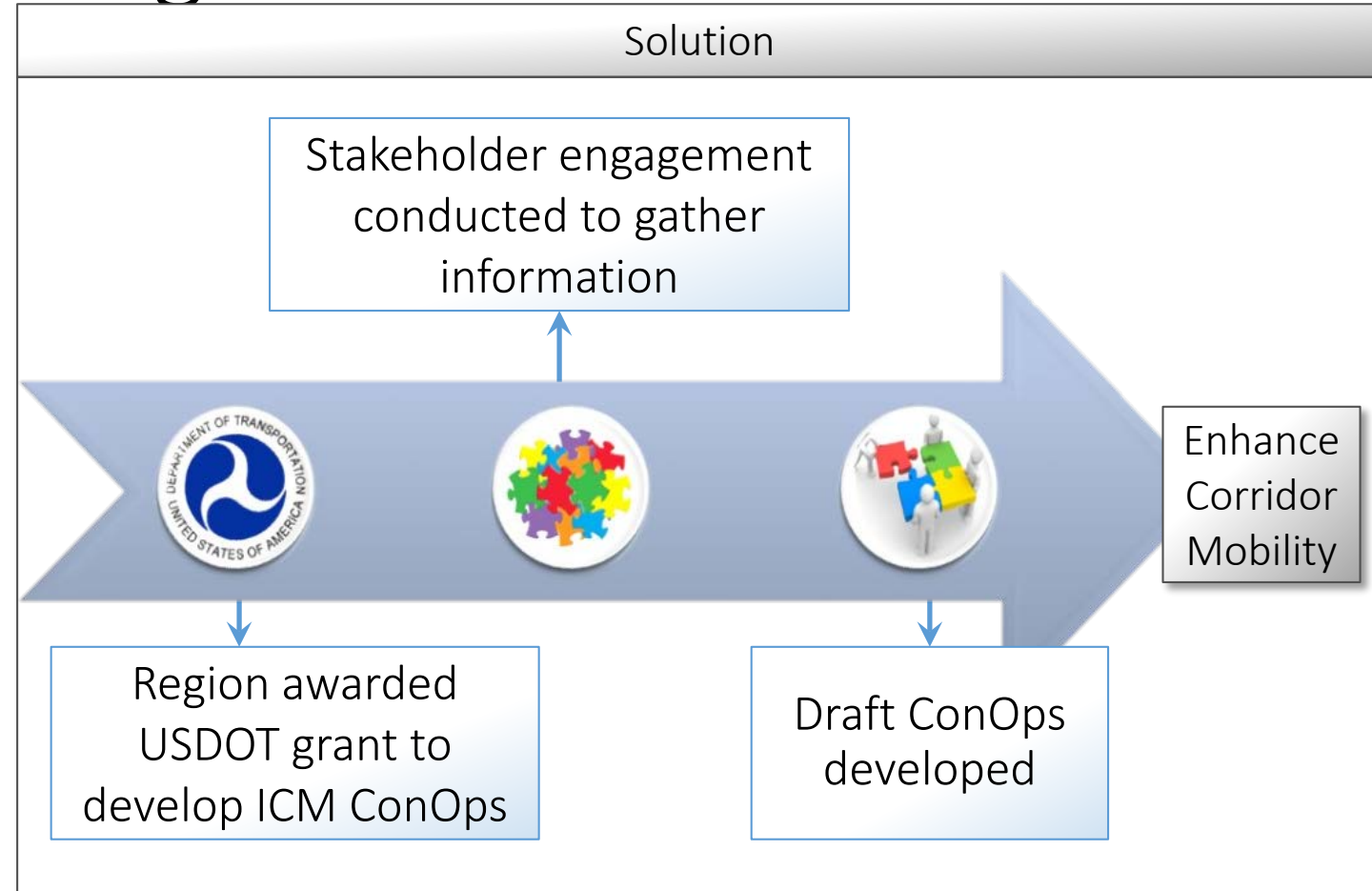
- SBS Corridors – 2018:
  - South Brooklyn Crosstown B 82
- SBS Corridors - 2019:
  - Woodhaven Blvd. SBS - Phase II
- 2020-2021
  - Fordham Road / Pelham Parkway – Phase II, Bronx
  - Guy Brewer Blvd. Q11/ Q113 & 114, Queens
  - Sutphin Blvd. Q6, Queens
  - Merrick Blvd. Q5, Queens

# I-495 ICM Background



## Problem

I-495 Corridor  
most densely  
populated area in  
the US

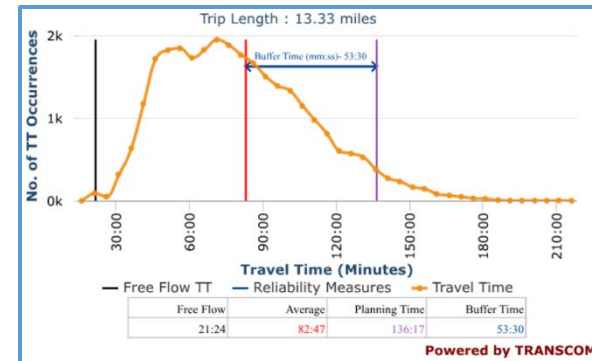




# Why Is ICM Needed

## ICM-495 is driven by the following Corridor challenges:

1. Continued challenges with travel time reliability in the Corridor
2. High prevalence of incidents and incident-related delay
3. Pronounced supply-demand imbalance
4. High incidence of planned events that stress Corridor operating conditions
5. Rapidly evolving landscape of traveler information technology, modes, and expectations
6. New opportunities for operational collaboration through data sharing and IT



# Identified User Needs

## User needs form the basis for ICM-495 Concept development

No.	User Need Description
1	Enhance corridor-wide agency situational awareness particularly during incident response
2	Enhance protocols to create unified agency definitions for corridor events
3	Improve corridor-level decision-making on agency incident response practices
4	Improve incident response and clearance times along the Corridor
5	Support and prioritize higher occupancy vehicle trip reliability (HOVs, bus transit) along the Corridor
6	Proactively manage short-term demand surges and ongoing diversions on facilities in the Corridor
7	Dynamically manage (through Active Traffic Management) for key bottleneck areas
8	Provide actionable traveler information at key decision points outside and along the corridor
9	Improve customizability of messages for management of freight demand and regulation of truck traffic
10	Enhance corridor manager engagement with key stakeholders such as employers, special event managers, parking operators, private sector partners on demand management

# Questions?

- Uchenna Madu, [Uchenna.Madu@dot.ny.gov](mailto:Uchenna.Madu@dot.ny.gov)
- Fred Libove, [Fred.Libove@dot.ny.gov](mailto:Fred.Libove@dot.ny.gov)
- Edward Mark, [Edward.Mark@dot.ny.gov](mailto:Edward.Mark@dot.ny.gov)



**Department of  
Transportation**



**Integrated Corridor Management Experience in  
Northern Virginia  
2017 Update**

Amy Tang McElwain  
October 12, 2017

**The Big Picture**

**The I-95 Corridor**

**ICM for I-95**

**East-West Corridor: Learn from I-95**

**Going Forward**

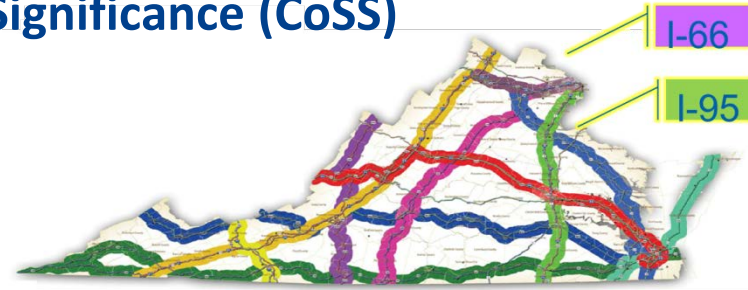
# The Big Picture

- **Plans**
  - VTrans 2040 – a Long Range Multimodal Policy Plan
  - Virginia Transportation Technology Plan
  - Northern Virginia TransAction
- **Common Focus**
  - Multimodal
  - Process & Methodology for funding the implementation



- **Planning**

- The commonwealth's long-range multimodal policy plan
- Public Involvement throughout the plan development cycle
- Corridor of Statewide Significance (CoSS)



- **Programming**

- SMART SCALE – invest limited tax dollars in the right projects
- High Priority Projects MUST relate to needs identified in the VTrans

VTrans2040

SMART SCALE  
Scoring

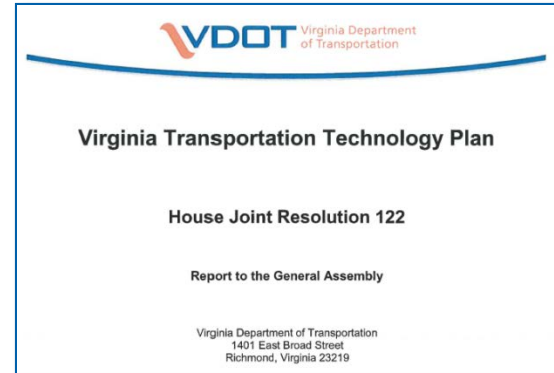
“Right” Projects



# VA Transportation Technology Plan

- **Planning**

- Focus on Corridor of Statewide Significance
- Support mode switch and multi-modal travel
- Improve efficiency and reliability
- Reduce incident duration
- Optimize system throughput



- **Programming**

- Use a quantitative data-driven project selection process
- Innovative Transportation Technology Funds (ITTF)

VA Trans. Tech  
Plan

6 Criteria  
Scoring

ITTF Projects





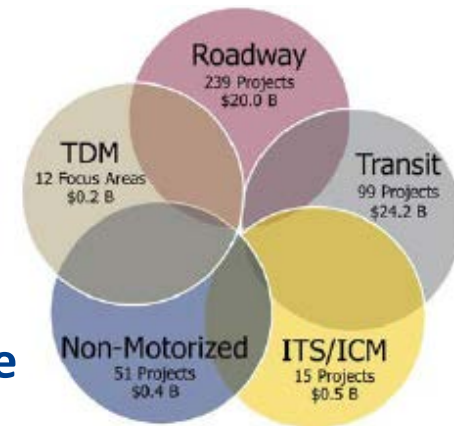
# TransAction

- **Planning**

- A Transportation Multimodal Action Plan for Northern Virginia
- Focus on 11 major corridors in Northern Virginia
- Performance-based planning approach

- **Programming**

- Only candidate projects in TransAction are eligible for the annual funding consideration
- Scoring Key: Congestion Reduction Relative to Cost
- 70% Regional Revenue – *a special Northern Virginia tax*



TransAction

Scoring

Funded Projects



# I-95 Corridor in Northern Virginia

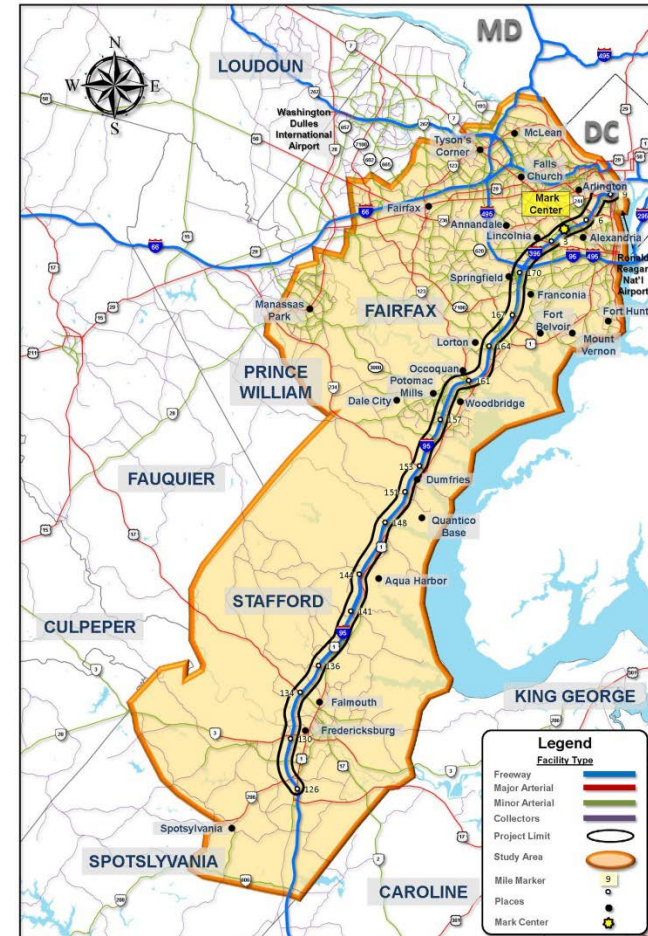
## Worst traffic spot in US found on I-95 in northern Virginia

By Associated Press September 28



# I-95 Corridor in Northern Virginia

- 48-Mile extends between Spotsylvania and the Washington DC
- Primary north-south route
- The corridor is composed of
  - 6-8 general purpose freeway lanes
  - 29-mile 2-3 reversible HOV/HOT lanes
  - US 1 as an alternate route
  - 54-mile Commuter rail, VRE
  - Bus services
  - Park-and-Ride lots
  - Extensive ITS field asset



# I-95 Corridor in Northern Virginia

- A freight transportation bottleneck
- Connects a large population
- Daily 6M highway trips and 0.31 M transit trips within the corridor
- Extensive multimodal culture
- Alternative modes of transportation is not optional, but a necessity
- Despite the HOT lanes & active TDM... Inrix 2017 study shows
  - I-95 from Fairfax Co Pkwy to Fredericksburg – worst hotspot in the US
  - Average traffic jam lasted 33 minutes over 6 miles



# ICM for I-95

- Plan was developed in 2012
- Aim – Corridor is managed as a holistic system
- Virginia's Approach
  - Customer-focused
  - Stakeholder-driven
  - Technology-enabled
  - Performance-based & Targeted-outcome
  - Building Blocks

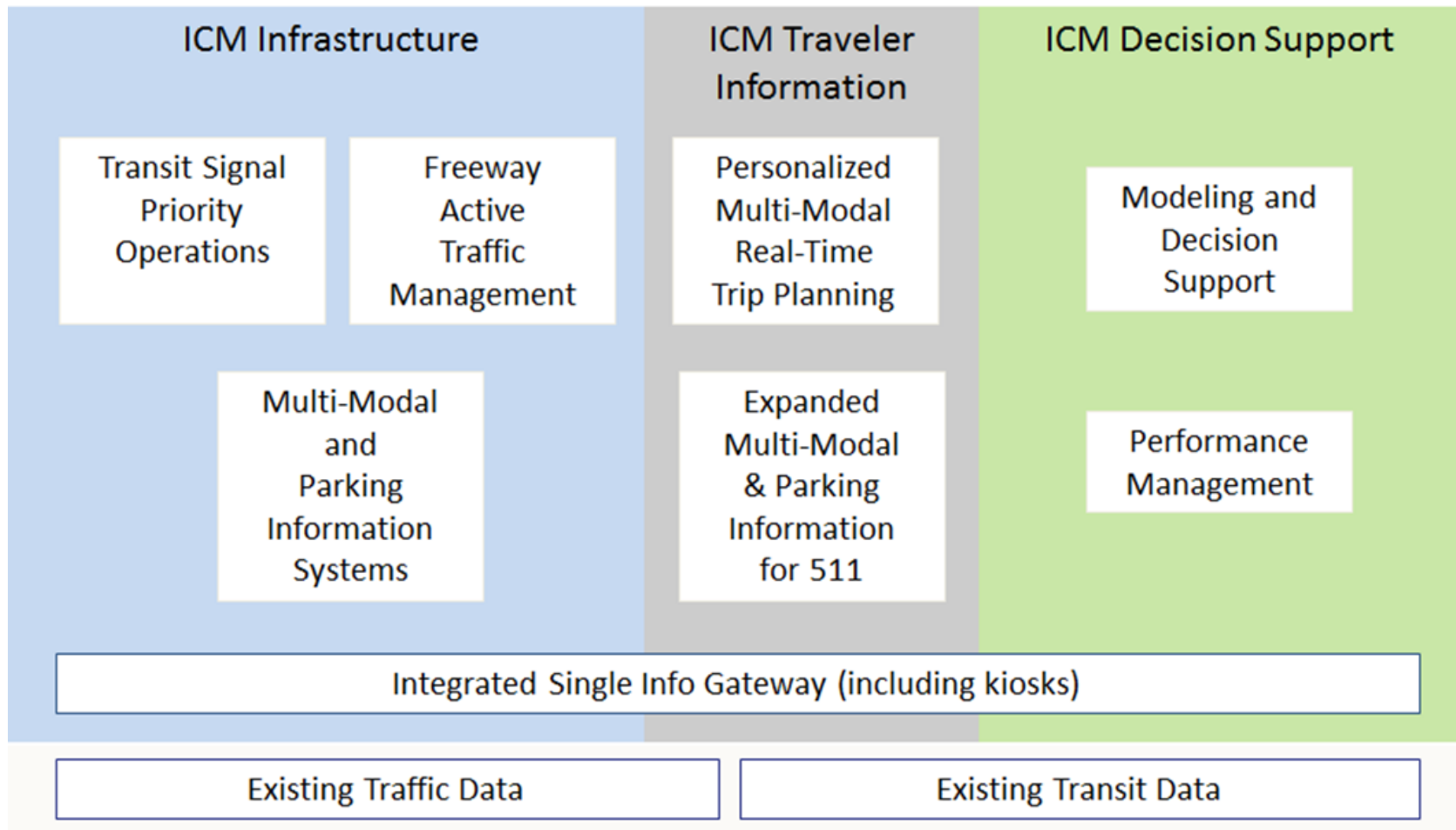
*Significant Congestion*

*ICM Systems*

*Managing All Corridor Capacity*



# I-95 ICM Elements: Building Blocks



# I-95 ICM Implementation via Opportunity: Then

- VDOT senior management put in place a platform of MegaProjects and TMP Management Framework
- Regional TMP – a corridor-wide approach
- Common Goal ... Win-Win Partnership

## Local Network Operations Strategies

Maintain the flow of traffic on the nearby arterial network.

## Transit and TDM Strategies

Minimizing traffic in the work zones.

## Traffic Operations Strategies

Keep the construction zone safe for travelers and workers and maintain traffic flow on the arterial network.

## Communications Strategies

Communicate to a wide range of audiences on traffic related information and minimize traffic in the work zones.

# I-95 Corridor New Major Initiatives: Now



- **Atlantic Gateway via FASTLANE Grant**

- a multi-modal suite of projects focused on the I-95 corridor between Washington, D.C. and Fredericksburg, VA
- Rail improvement
- Extend I-395 HOT Express Lanes to Pentagon (north)
- Extend I-95 HOT Express Lanes to Fredericksburg (south)
- TDM and ICM
  - Expand Commuter Parking facilities
  - ICM Program
  - Multimodal Traveler Information
  - Adaptive Ramp Metering
  - Commercial Truck Parking Management



Component 1: Rail Improvements



Component 2: I-395 Improvements



Component 3: I-95 Improvements



Component 4: Corridor-Wide ITS and TDM Improvements





**SUCCESS**

## **Learn from I-95**

**For Northern Virginia  
East-West Corridor**



**Challenges**

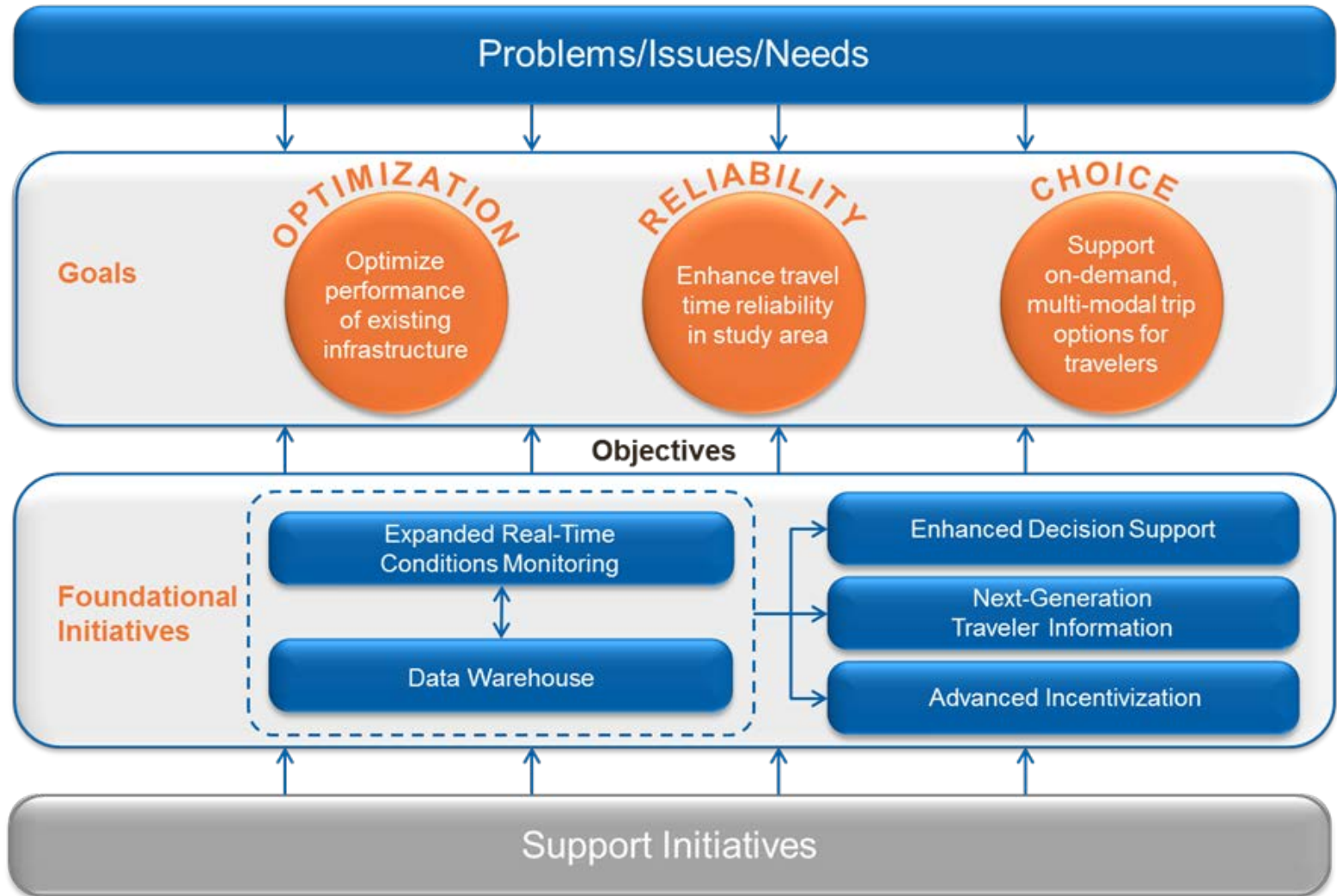
## East-West ICM: Learn from I-95

- **Planning – beyond Concept of Operations**
  - Focus on Implementation Plan and Funding Strategy
  - Add the emphasis on Innovation and Freight discussions
- **Formalize the Program – Governance Framework**
  - Multi-agency Program Advisory Group established immediately
  - Stakeholder-driven with Director level’s strategic guidance
- **Stronger Outreach**
  - “Champions”-facilitated discussion
  - No Strawman – truly needs-based program
- **Keep the Momentum via Partnership & Cooperation**
  - Work together to program ICM projects for moving forward
  - Partner with agencies on project funding applications
  - Website to keep stakeholders informed & on the same page

## East-West ICM: Learn from I-95

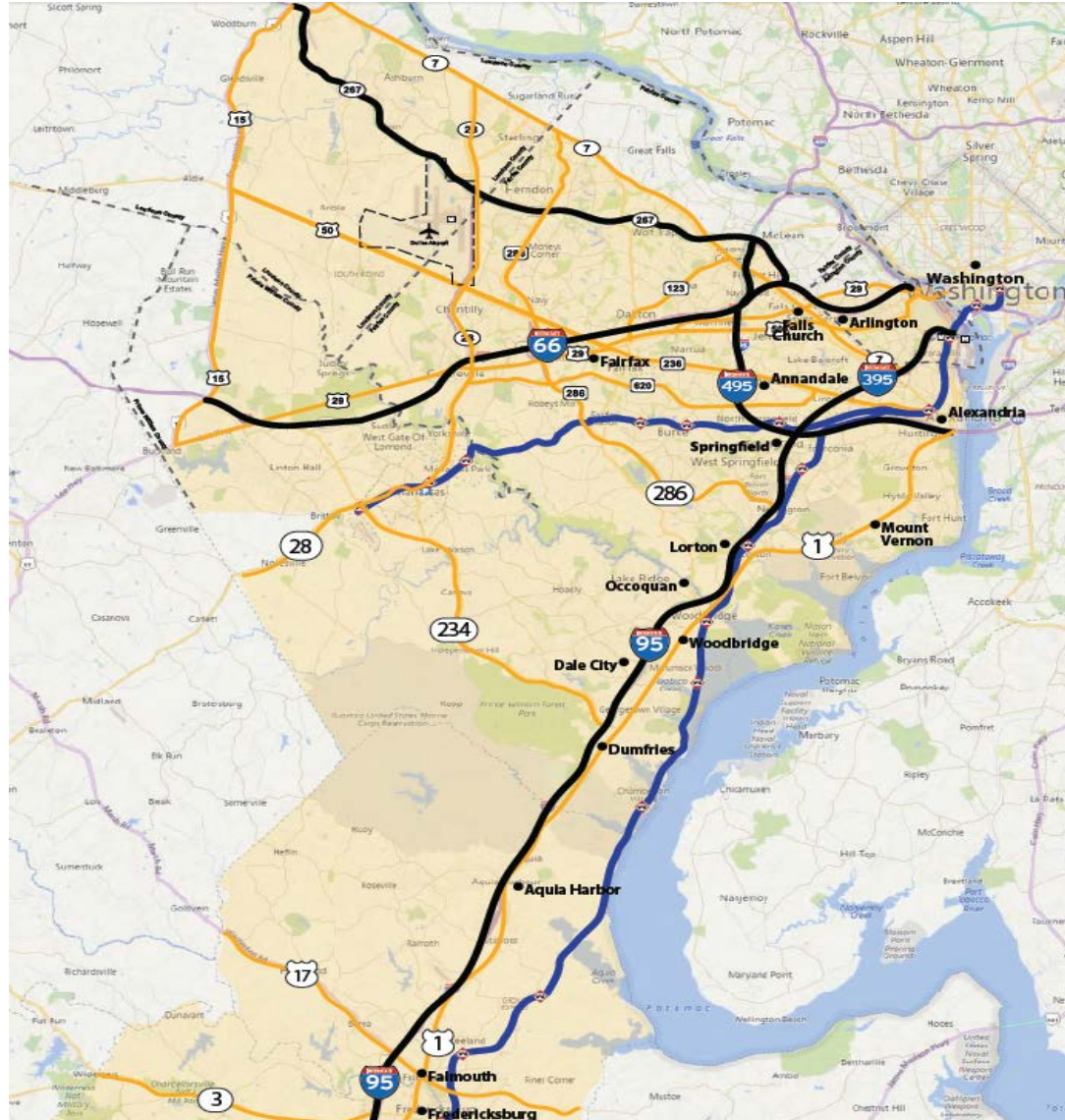
- **Ad-Hoc approach will not lead to the ultimate vision**
- **Infrastructure-heavy plan is too costly**
  - Focus on infrastructure-light
  - Seek out public-private partnership to achieve ICM goals with limited infrastructure
- **Need dependable funds**
  - Gathered strong support for the ATCMTD grant application
  - ITTF funds on the multi-agency and mission-critical strategies
- **Ready for the partnership opportunities**
  - Partnering with I-66 TMP programs

# East-West ICM Elements: Building Blocks



# Going Forward

## Joint Corridors – Regional Mobility Initiative







*if*  
**We Remain the Status Quo**  
*if*  
**Driving were the Only Option**