CAPITAL AREA MPO

Executive Board Meeting

March 21, 2018

4:00 PM

1. Welcome and Introductions

2. Adjustments to the Agenda

3. Ethics Statement:

In accordance with the State Government Ethics Act, it is the duty of every Executive Board member to avoid conflicts of interest.

Does any Executive Board member have any known conflict of interest with respect to matters coming before the Executive Board today? If so, please identify the conflict and refrain from any participation in the particular matter involved.

4. Public Comments:

This is an opportunity for comments by those in attendance related to items *not* on the agenda.

Please limit comments to three minutes for each speaker.

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5. Minutes

5.1 Executive Board Minutes: February 21, 2018

Requested Action:

Approve the February 21, 2018 meeting Minutes

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6. Consent Agenda

- 6.1 Triangle Region Intelligent Transportation Systems Deployment Plan Contract
- 6.2 FY 2018-2027 TIP Amendment #3
- 6.3 Wake Transit Updated Lead Agency Assignments

7. Public Hearings

No Public Hearings Scheduled.

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8. Regular Agenda

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8.1 Managed Motorways Presentation

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Managed Motorways Overview

Presented to:

CAMPO
NC Capital Area Metropolitan Planning Organization

March 21, 2018

wsp

Agenda

- The managed motorways concept
- How does it work
- Why do freeways fail
- Managed motorways down under
- US efforts
- NC Corridors
- Lessons learned

The Managed Motorways Concept

A collection of strategies and technologies that work in concert with each other to provide a holistic and integrated corridor management system that increases on-road outcomes by:

- Enhancing safety
- Improving reliability
- Reducing congestion
- Providing traveler information
- Lane use management system

In Layman's Terms

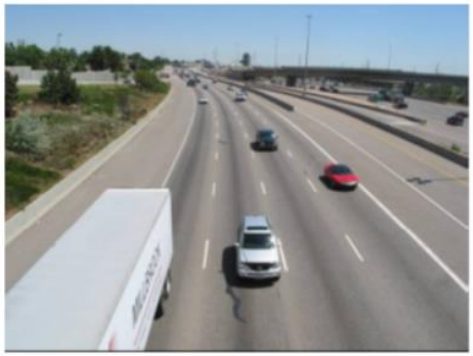
- A series of coordinated ramp meters
- Integrated sensors along freeway and surface streets collecting high resolution data
- Ramp improvements to handle additional queuing
- Command and control software
- Human intervention at Traffic Management Center
- Incident detection and CCTV surveillance
- Can include traveler information
- Can include lane management (variable speed limits, lane control, shoulder running, pricing)

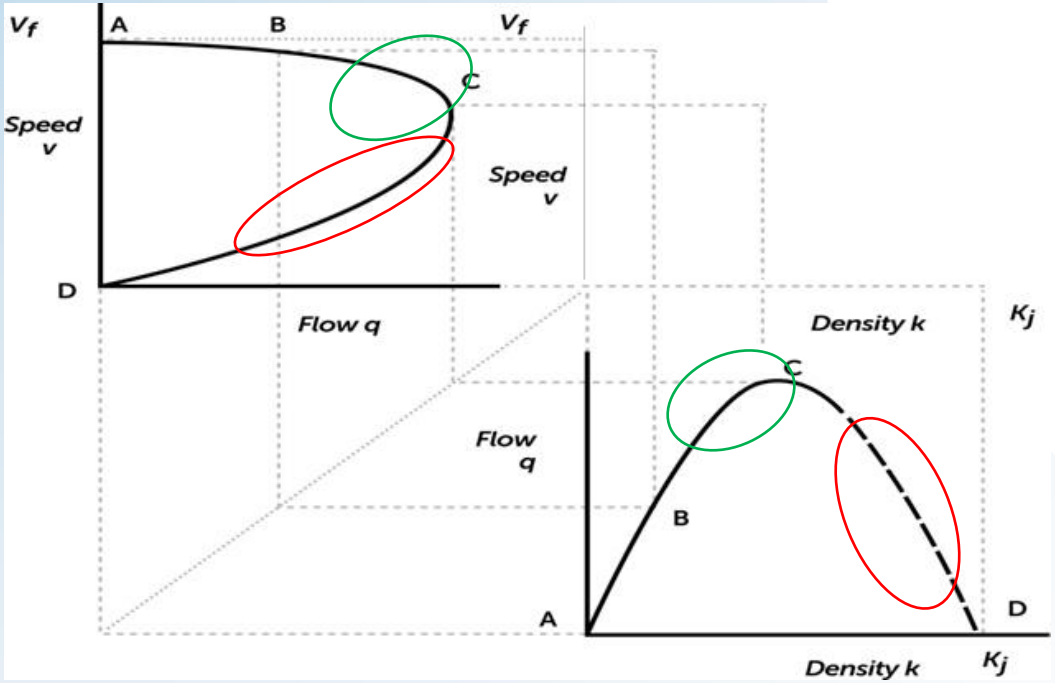
How Does It Work

- Synchronizes flow of vehicles entering a freeway to available capacity on the freeway
- Provides real time demand management (every 20 seconds) to control traffic and optimize overall freeway efficiency
- Interchanges coordinate with one another to prevent excessive wait times and queuing for all interchanges, metering rates differ for each ramp

YouTube **VicRoads – Freeway Management System**

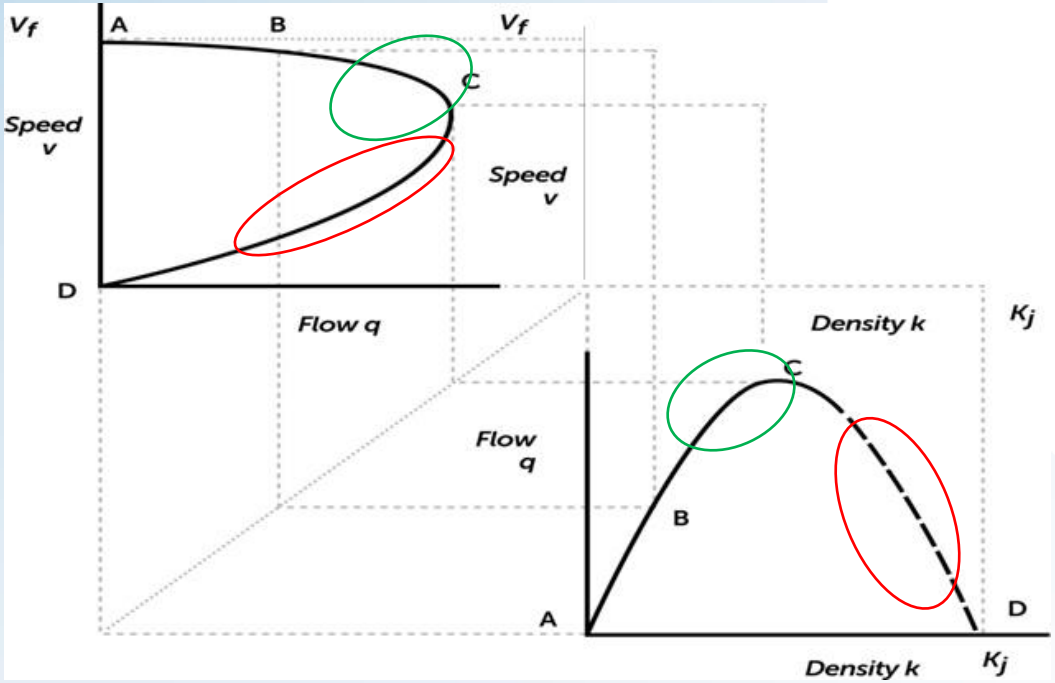
Why Do Freeways Fail





Freeways perform at their worst when they are needed the most.

Why Do Freeways Fail



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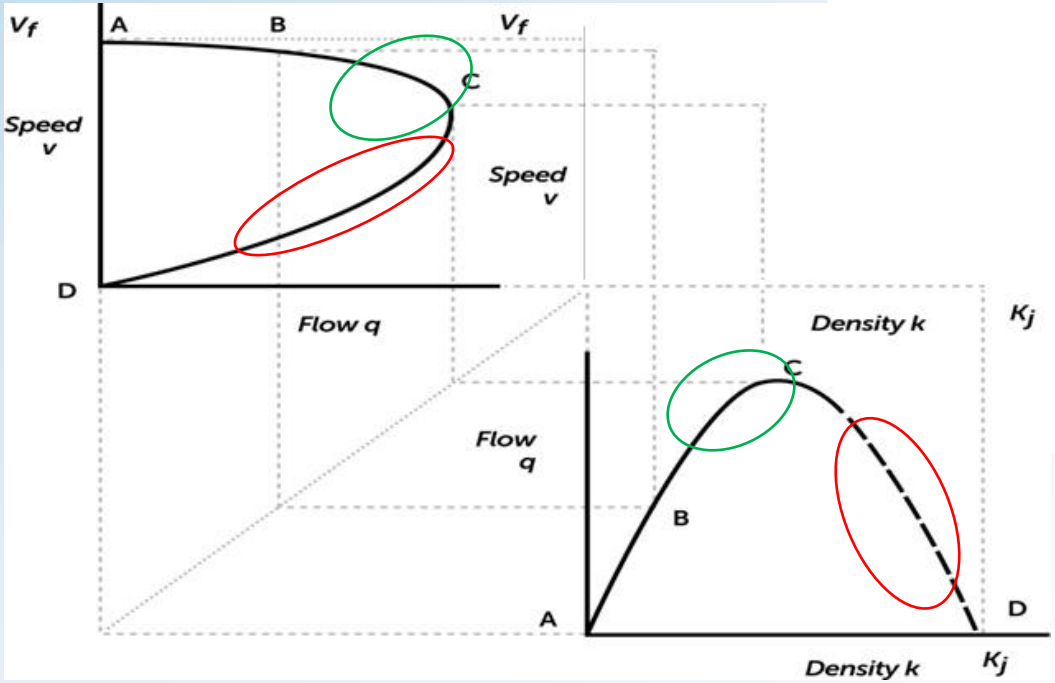

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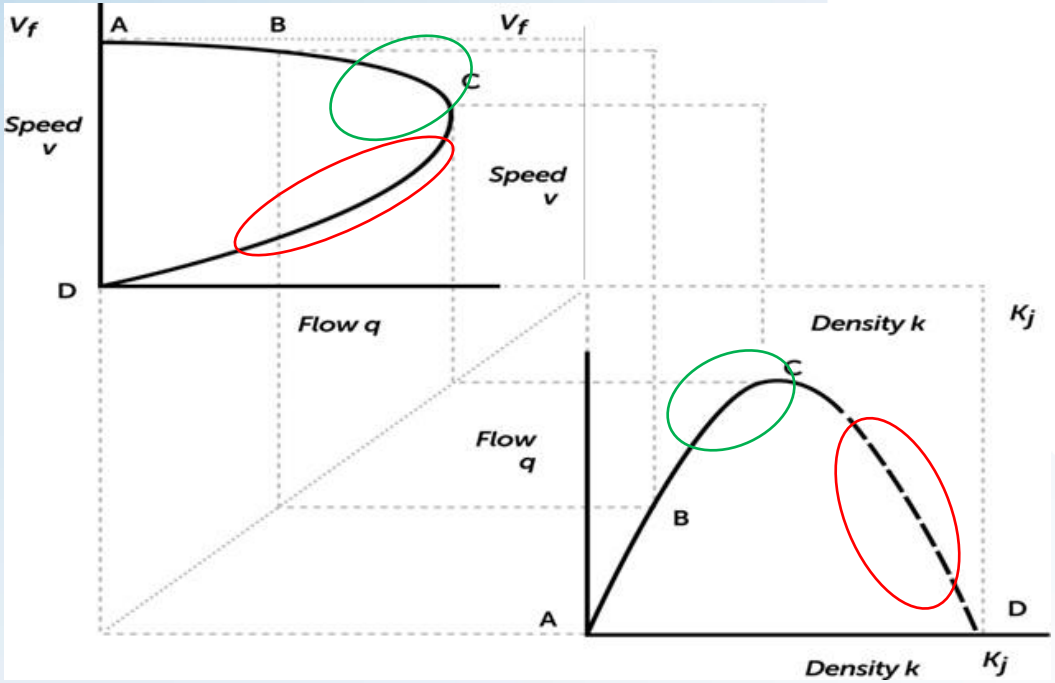
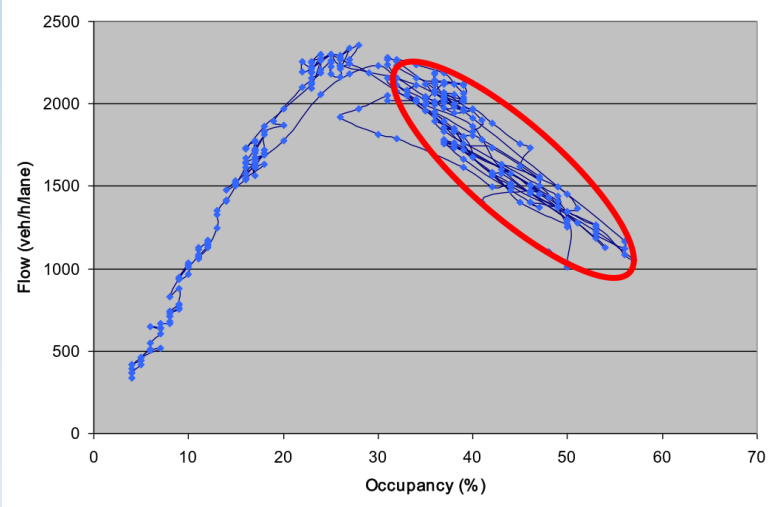


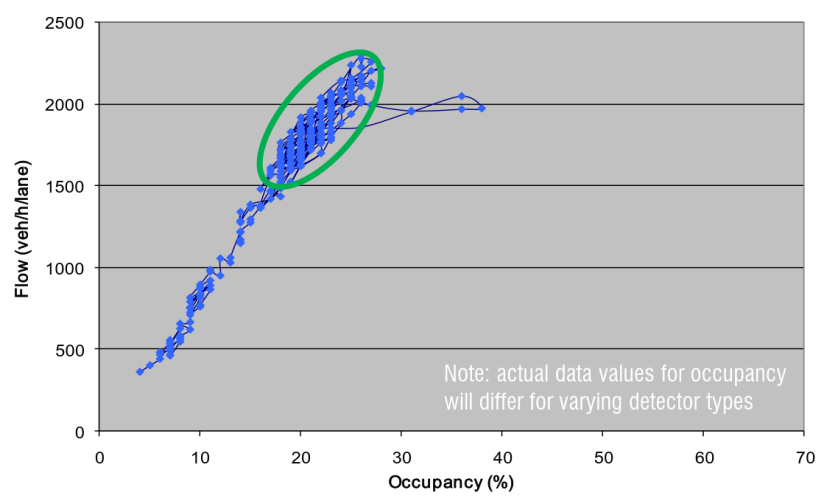
Freeways perform at their worst when they are needed the most.

Unmanaged vs Managed

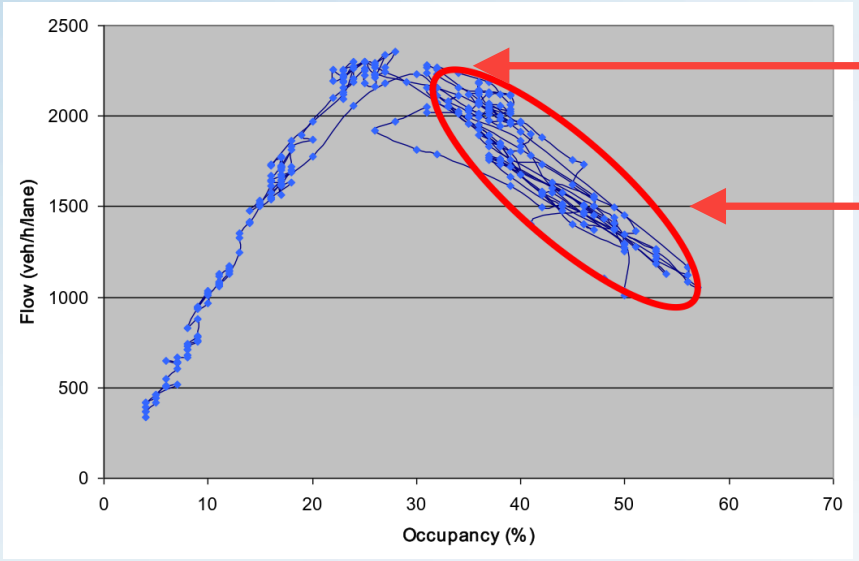


Unmanaged

Managed



Unmanaged vs Managed



4 lanes @ 2,300 = 9,200
4 lanes @ 1,500 = 6,000
9,200-6,000 = 3,200
More than a lane worth of capacity!

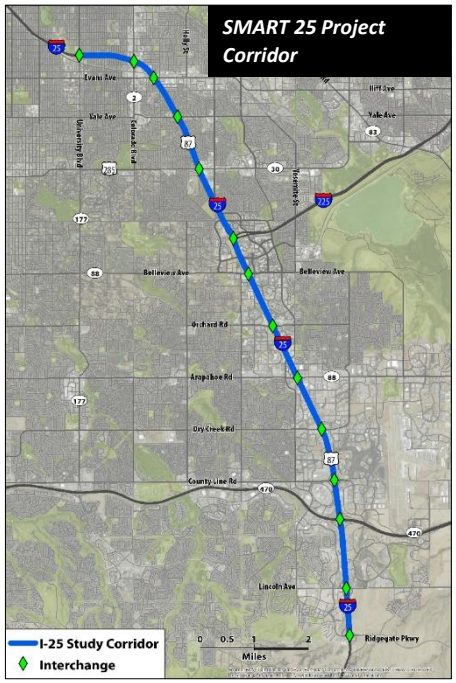
Managed Motorways Down Under

- First deployed in Melbourne in 2009 on the M1 Freeway
- 47 miles, carrying over 160,000 vpd
- 1,100+ detection, signal, and communication devices
- Coordinated dynamic metering at 62 locations
- Ramp improvements at 30 locations
- Priority ramp bypass for transit, HOV, and trucks at ramp locations

Managed Motorways Down Under

- 5% increase in peak traffic flow rate, 25% in overall flow
- Flow rate is now sustained throughout peak periods
- Traffic speeds improved between 35% and 60% during peak periods
- Decreased crash rates while other Melbourne freeways generally increased

US Efforts

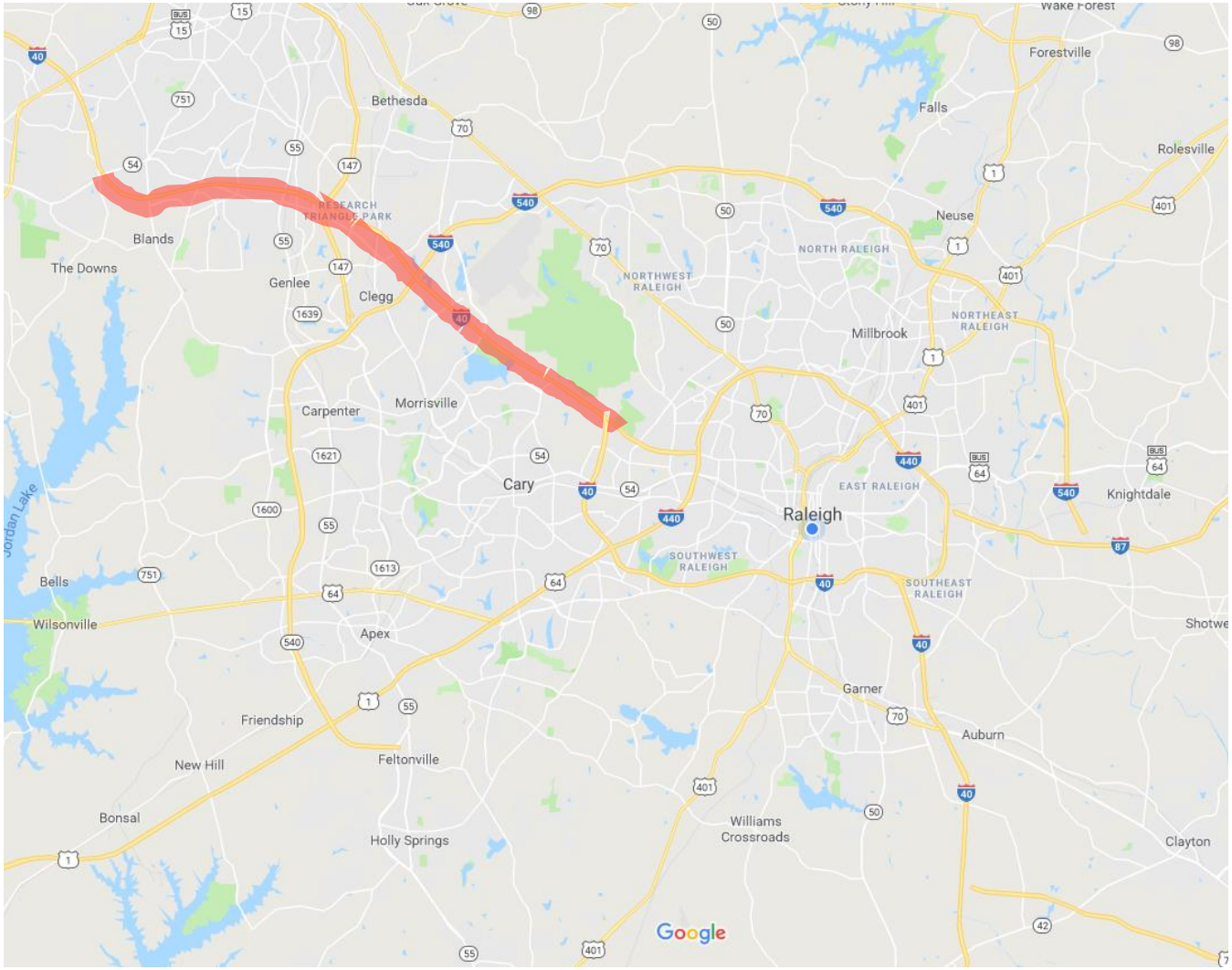


- Colorado – Construction starting on I-25 in Denver this fall
  - 14 miles, 14 interchanges,
  - 18 meters, 7 ramp improvements
- Utah – Feasibility study on I-15 in Salt Lake City completed. Design steps being developed
- Arizona – High level feasibility study complete
- Georgia – Working on pilot corridor, currently developing detection layouts

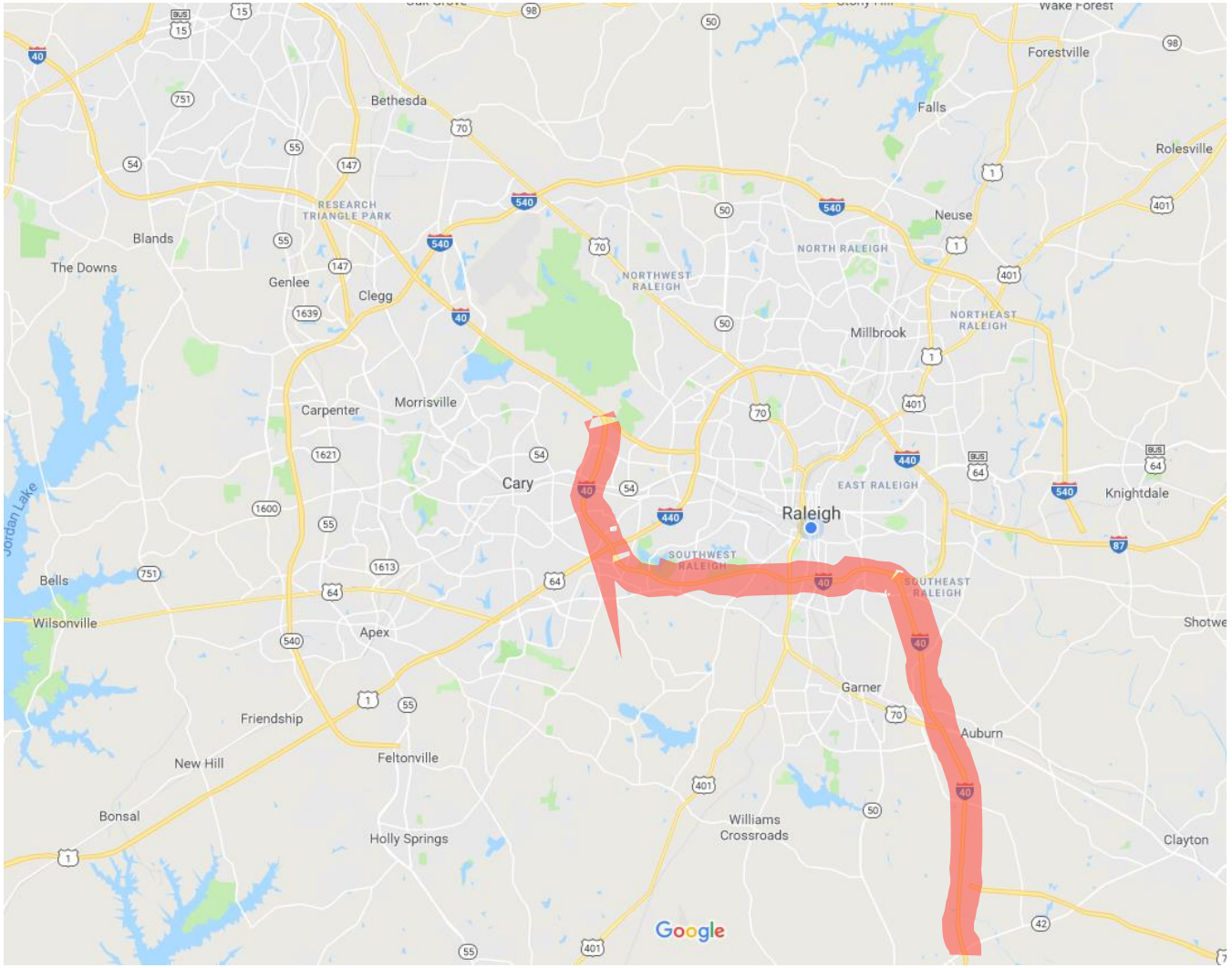
Triangle Area Corridors

- Input into latest round of SPOT
- Updated cost estimates based on lessons learned from Colorado

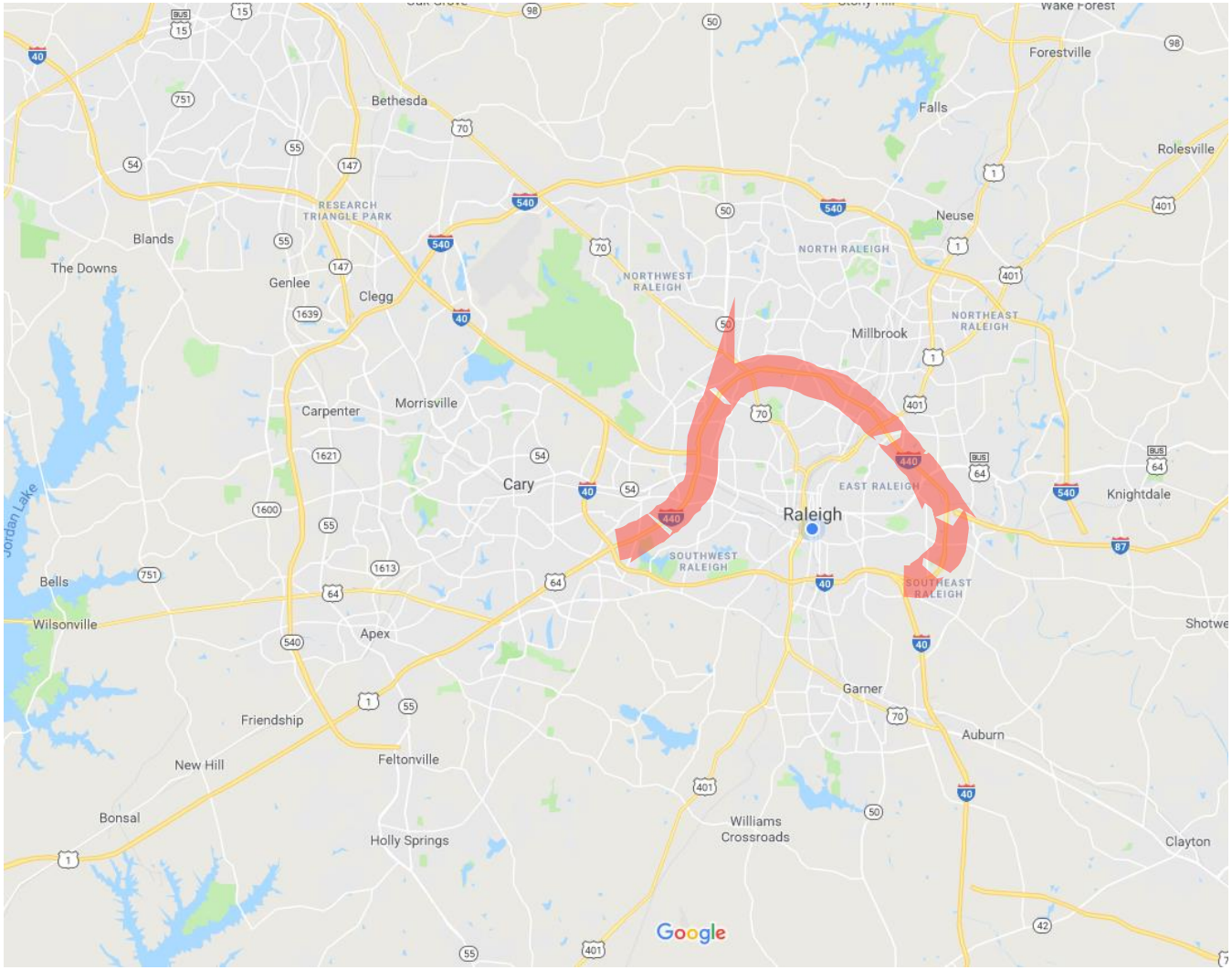
I-40 from NC 54 to Wade Ave – $33.5M



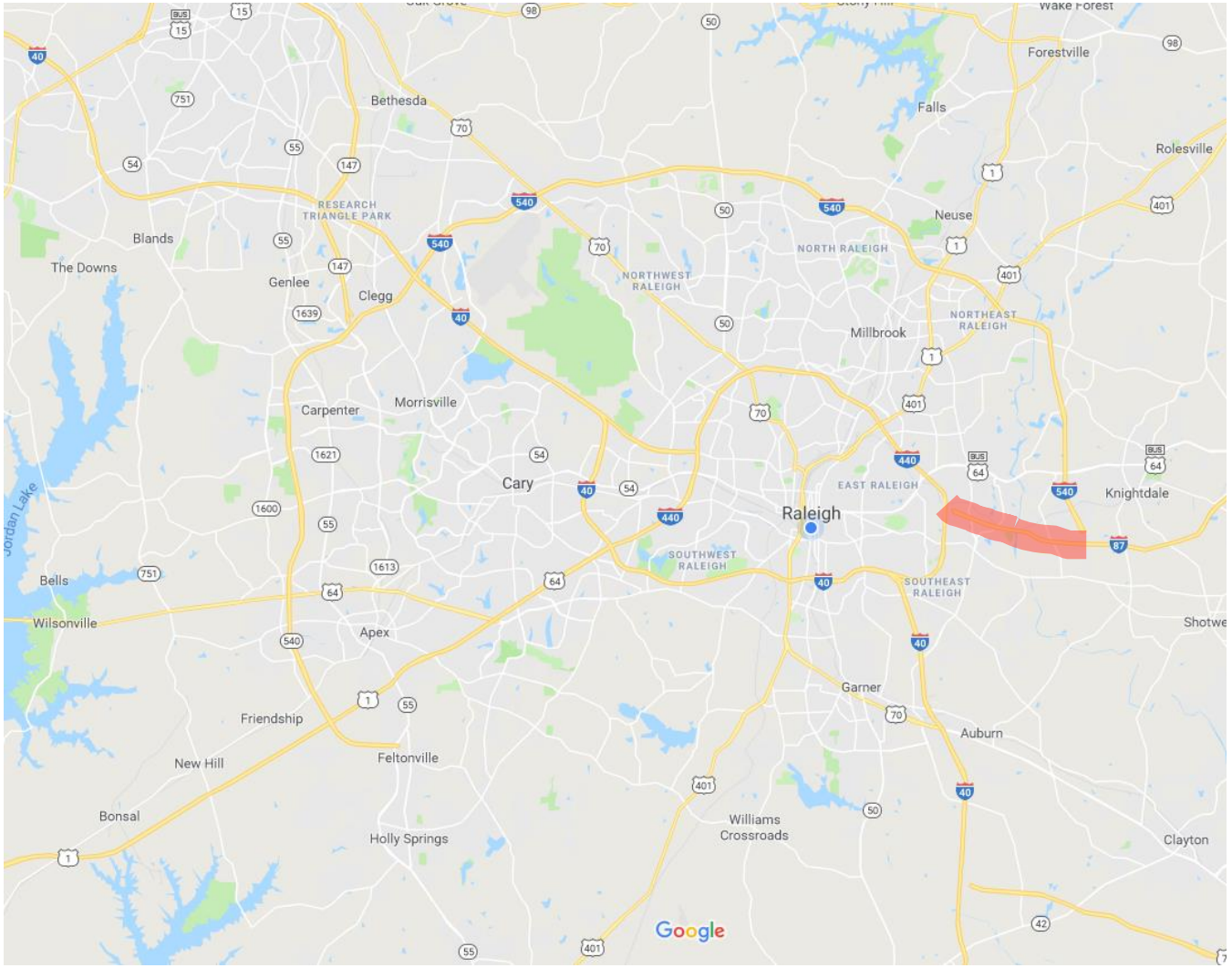
I-40 from NC 42 to Wade Ave - $41.5M



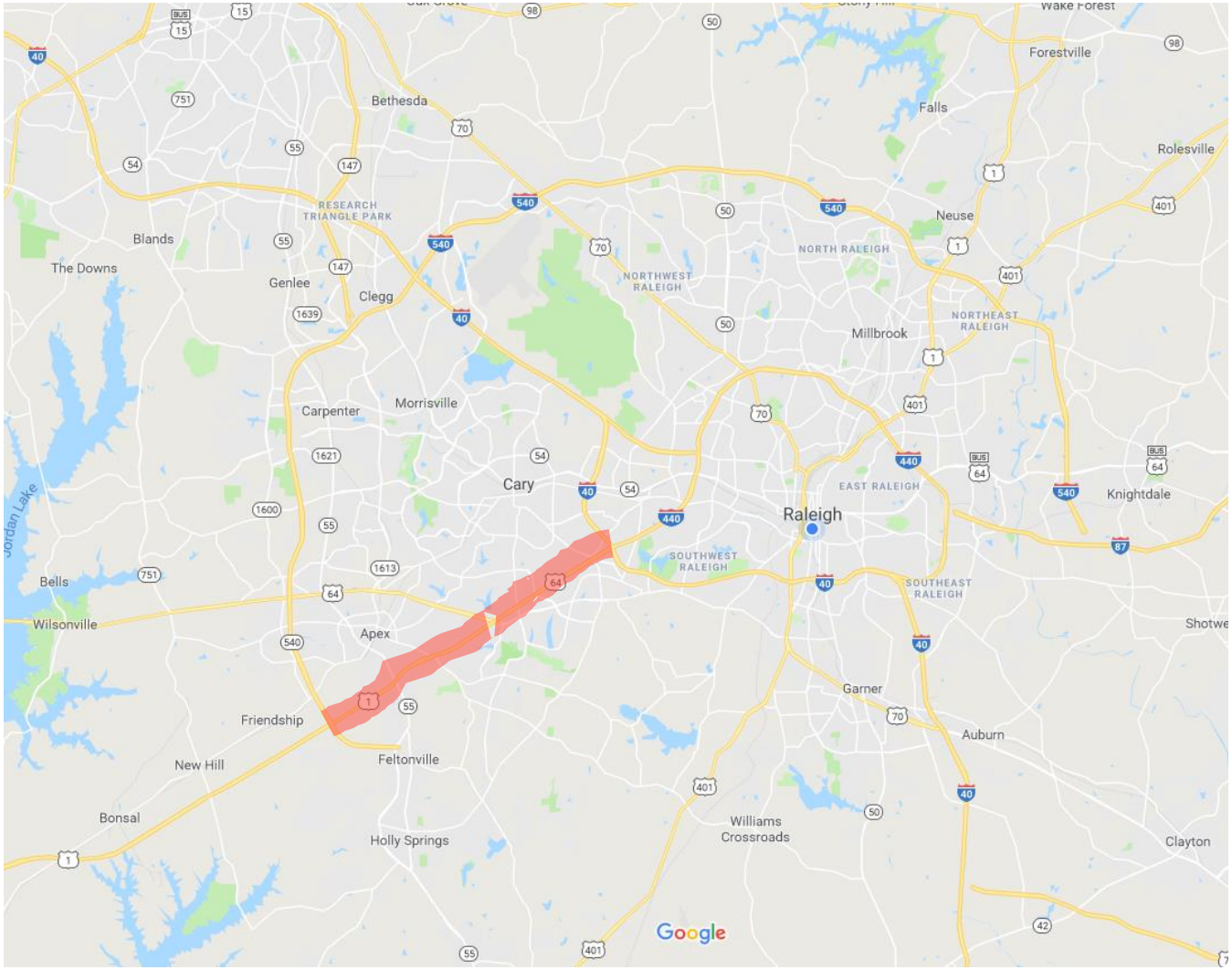
I-440 from I 40 to Wade Ave / US 1 – $38.4M



I-87 from
440 to I-540
- $6.1M



US 1 from I 40 to NC 540 - $18.4M



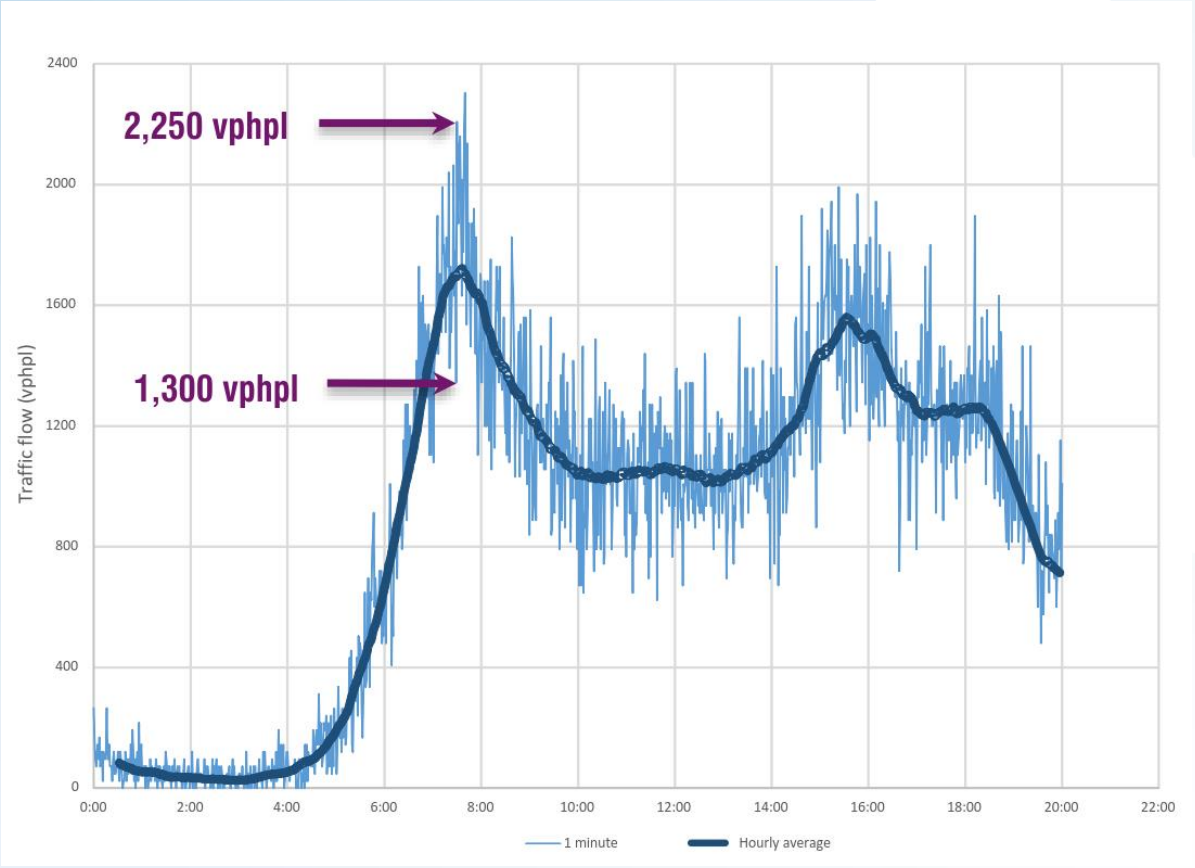
Lessons Learned

- Managed motorways is a multi-faceted solution that involves new skill sets, communications systems, control engineering and systems, and optimization strategies
- It is important to control all access points
- Can significantly reduce delay and increase reliability
- Much cheaper than adding an additional lane
- Can be used in conjunction with managed lanes, toll facilities, and future widening

Questions?

Will.Letchworth@WSP.com
919-805-4900

Traffic Flows are Very Volatile



Must have sub one minute interval data to balance out random fluctuations

8.1 Managed Motorways Presentation

Requested Action:

Receive as information.

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8.2 LAPP Project Adjustments

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8.2 LAPP Project Adjustments

The CAMPO LAPP program allows requests for modifications to funding, schedule and scope. Most are minor and approved at the staff level, while others require board review and approval. Currently, there are two projects with a funding change request that warrants Board review and action.

U-5927A Fuquay-Varina NE Judd Parkway Intersection Improvements

	FFY17 Original	Proposed FFY18 Addition	Proposed Total Project Cost
CAMPO CON STPDA	$1,686,000	$1,000,000	$2,686,000
Local CON Match	$1,124,000	$1,000,000	$2,124,000
TOTAL CON COST	**$2,810,000**	**$2,000,000**	**$4,810,000**

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C-5604IA Cary Panther Creek Greenway and Trailhead

	FFY16 Original (CMAQ)	Proposed FFY18 Addition (STBGP)	Proposed Total Project Cost
CAMPO CON (CMAQ & STBGP)	$1,005,840	$1,425,000	$2,430,840
Local CON Match	$251,460	$1,425,000	$1,676,460
TOTAL CON COST	**$1,257,300**	**$2,850,000**	**$4,107,300**

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8.2 LAPP Project Adjustments

Requested Action:

Consider approval of the

FFY2018 LAPP Project Adjustments.

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8.3 LAPP Mid-Year Available Funding Report

The LAPP Program includes a tracking system of project specific funding obligation, as well as total available MPO funds, including CMAQ funds sub-allocated by the state. This allows staff to anticipate the amount of available MPO funding at risk due to project schedule changes that extend beyond the awarded LAPP funding year. Staff will provide a mid-FFY18 update of Available LAPP Funding.

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LAPP Goals

1. Develop a holistic approach to identifying and prioritizing small but highly effective transportation projects.
2. Utilize available funding sources in a more efficient manner.
3. Avoid future Federal rescissions to the maximum extent possible.
4. Establish an annual modal investment mix to guide locally administered investments.
5. Create an appropriate tracking system to monitor project status and better ensure obligation and expenditure of programmed funds.
6. Establish a training program for LAPP participants.

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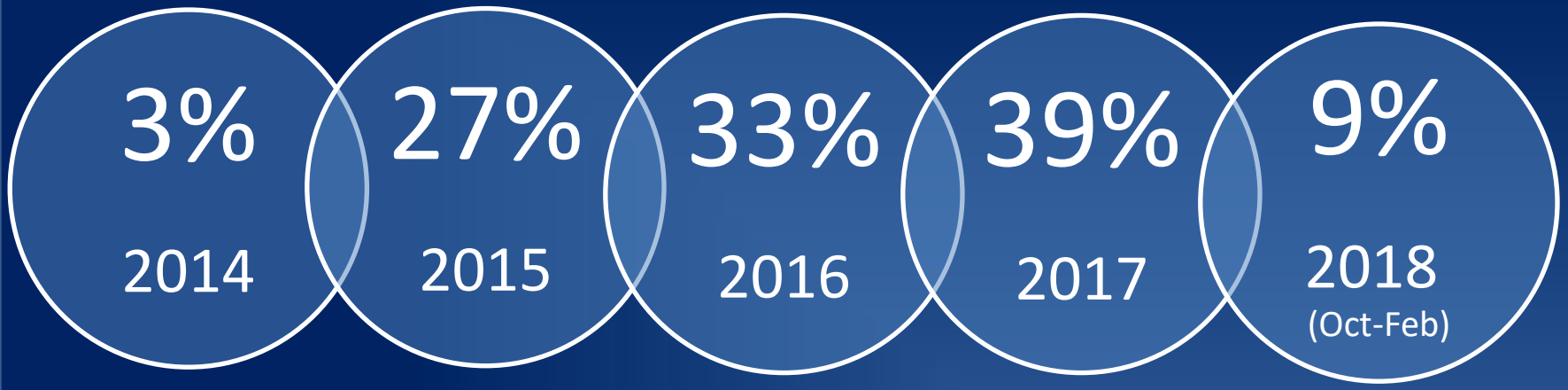
Annual Obligation Rate:

Percent of Programmed Funds Obligated on Schedule



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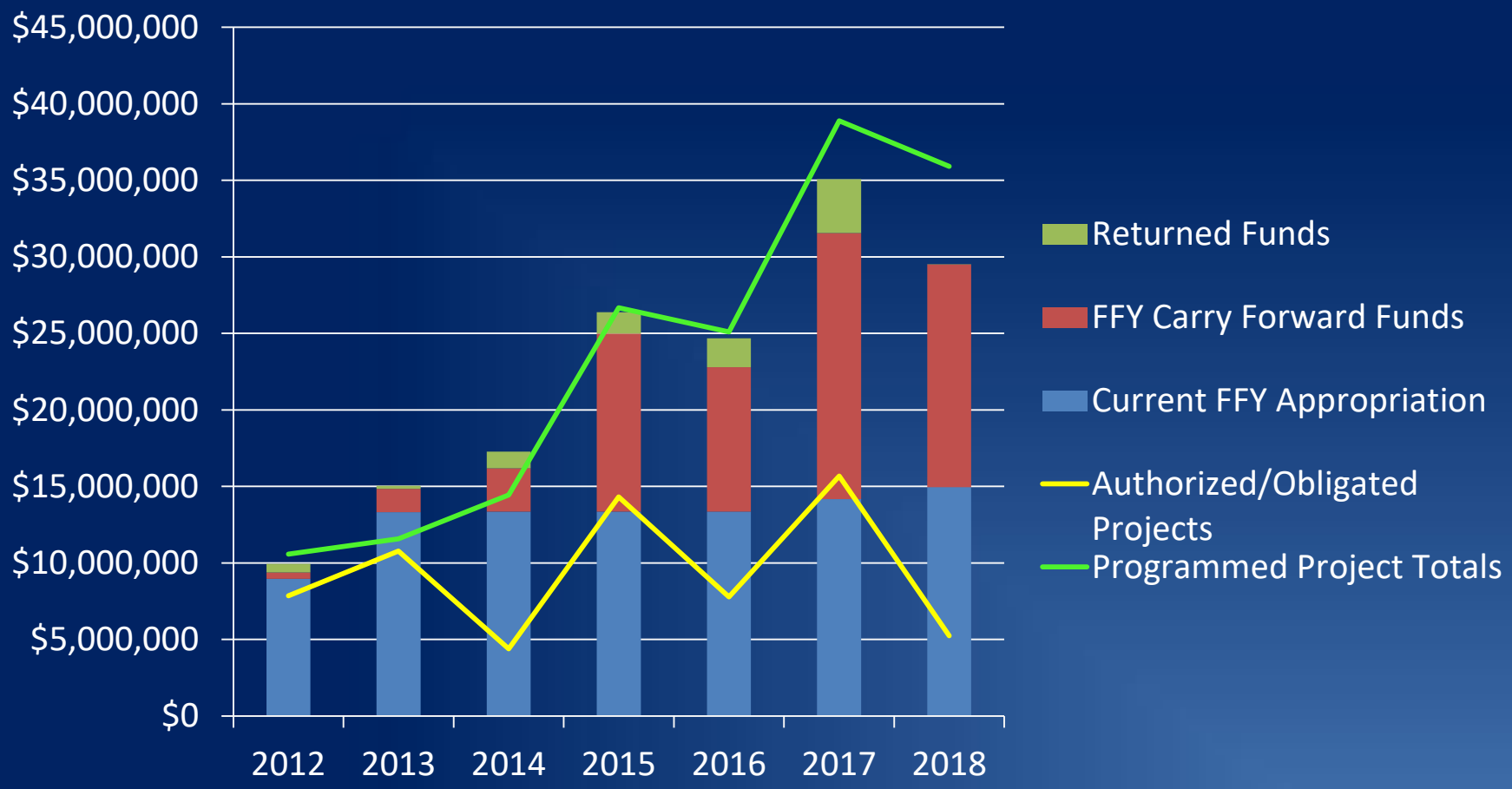
Funding Availability Chart



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Unused 'Available' STPDA & TAP Funds Exposure Rate

2015 (at the end of FFY15)	2016 (at the end of FFY16)	2017 (at the end of FFY17)	2018 (Mid-Year)
100%	140%	80%	143%
$12M	$17M	$11M	$21M

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Current Fund Balance

STPDA/TAP (Appropriation Amount)	CMAQ (Program Amount)
$21M	$23M

8.3 LAPP Mid-Year Available Funding Report

Requested Action:

Receive as information.

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9 Informational Item: Budget

9.1: Member Shares - FY 2018

9.2: Operating Budget - FY 2018

Requested Action:

Receive as information.

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10. Information Item: Project Updates

10.1 Project Updates

- Hot Spot Program
- Wake Transit: Amendment Process Policy Update
- Wake Transit Planning Studies & Tasks
- Regional Freight Plan Study
- Triangle Tolling Study
- NC 98 Corridor Study
- Rolesville Main Street Study
- Transit Systems Planning
- Southwest Area Study - Update

Requested Action:

Receive as information

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11. Information Item: Staff Reports

- MPO Executive Director
- TCC Chair
- NCDOT Transportation Planning Division
- NCDOT Division 4
- NCDOT Division 5
- NCDOT Division 6
- NCDOT Rail Division
- NC Turnpike Authority

Requested Action:

Receive as information

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Upcoming Events

Date	Event
April 5, 2018 10:00-12:00 p.m.	**TCC** One City Plaza 421 Fayetteville Street, Suite 203 Raleigh, NC 27601
April 18, 2018 4:00 – 6:00 p.m.	**Executive Board** One City Plaza 421 Fayetteville Street, Suite 203 Raleigh, NC 27601
April 25-27, 2018	**NC AMPO Conference** Durham Convention Center
May 31, 2018 9:00 a.m.-12:00 p.m.	Joint MPO Meeting w/ DCHC Research Triangle Park Headquarters 12 Davis Drive, Durham

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ADJOURN

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