

2014 FREEWAY CONGESTION MONITORING PROGRAM

Daivamani Sivasailam
Department of Transportation Planning

Travel Forecasting Subcommittee
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2014 FREEWAY SYSTEM PERFORMANCE

- Background
- 2014 Congestion Monitoring activities
 - 2014 Freeway Peak Period Survey and Report
 - 1-sec Time Lapse Aerial Photography Pilot Study
 - Staff Analysis of Regional Congestion
- Report Findings
- Next Steps

2014 FREEWAY SYSTEM PERFORMANCE

- Background
 - Congestion Management Process
 - Congestion Monitoring Program
- 2014 Freeway Congestion Monitoring
 - Fixed wing aircraft used
 - 3 AM and 3 PM Hour Photographic Survey
 - Sample Size Reduced
- 2014 One-Second TLAP Pilot Study
 - Helicopter Used
 - 1 mile by 3 mile Rectangular Area Covered
 - 9 Corridors selected for the study
 - ~ 20 minutes of data collected during AM and PM peak



2014 FREEWAY SYSTEM PERFORMANCE

- Where are We
 - Draft 2014 Freeway System Performance Report on Website
 - TLAP Data Compilation Underway
- 2014 Freeway System Performance Report
 - Individual Route LOS with narrative of performance
 - Top 10 Congested Locations (AM/PM combined) - Density
 - Top 5 Longest Delay Corridors in AM and PM – Travel time

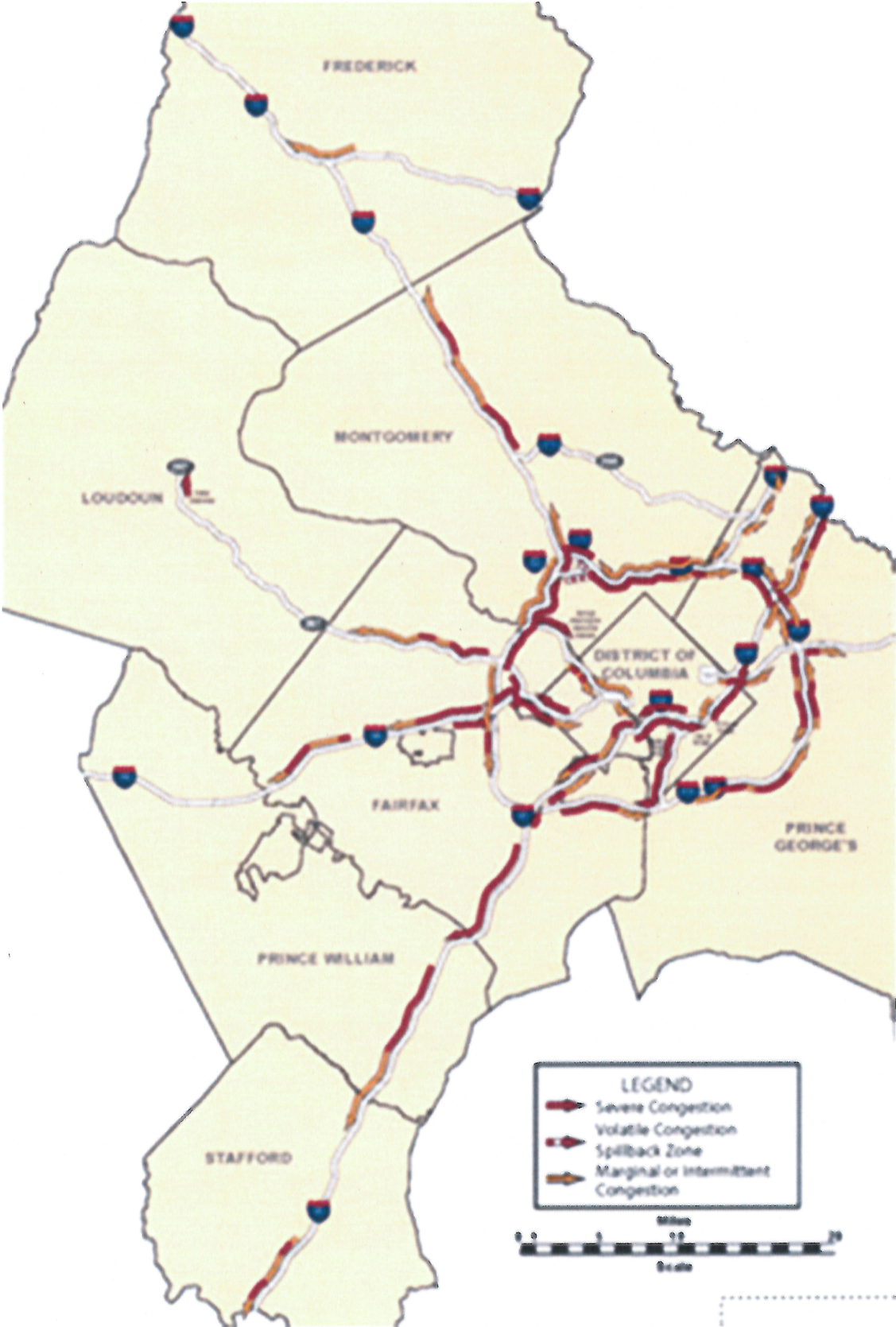
2014 FREEWAY SYSTEM PERFORMANCE

- Report (continued)
 - Facility Lane Miles of Congestion (LOS F) Comparison
 - Regional Congestion Summary Maps
 - AM and PM Peak Period
 - Hourly congestion maps of AM and PM peak hours
 - Trends and Major Changes in Traffic Conditions
 - Summary Map
 - Individual Location Comparison

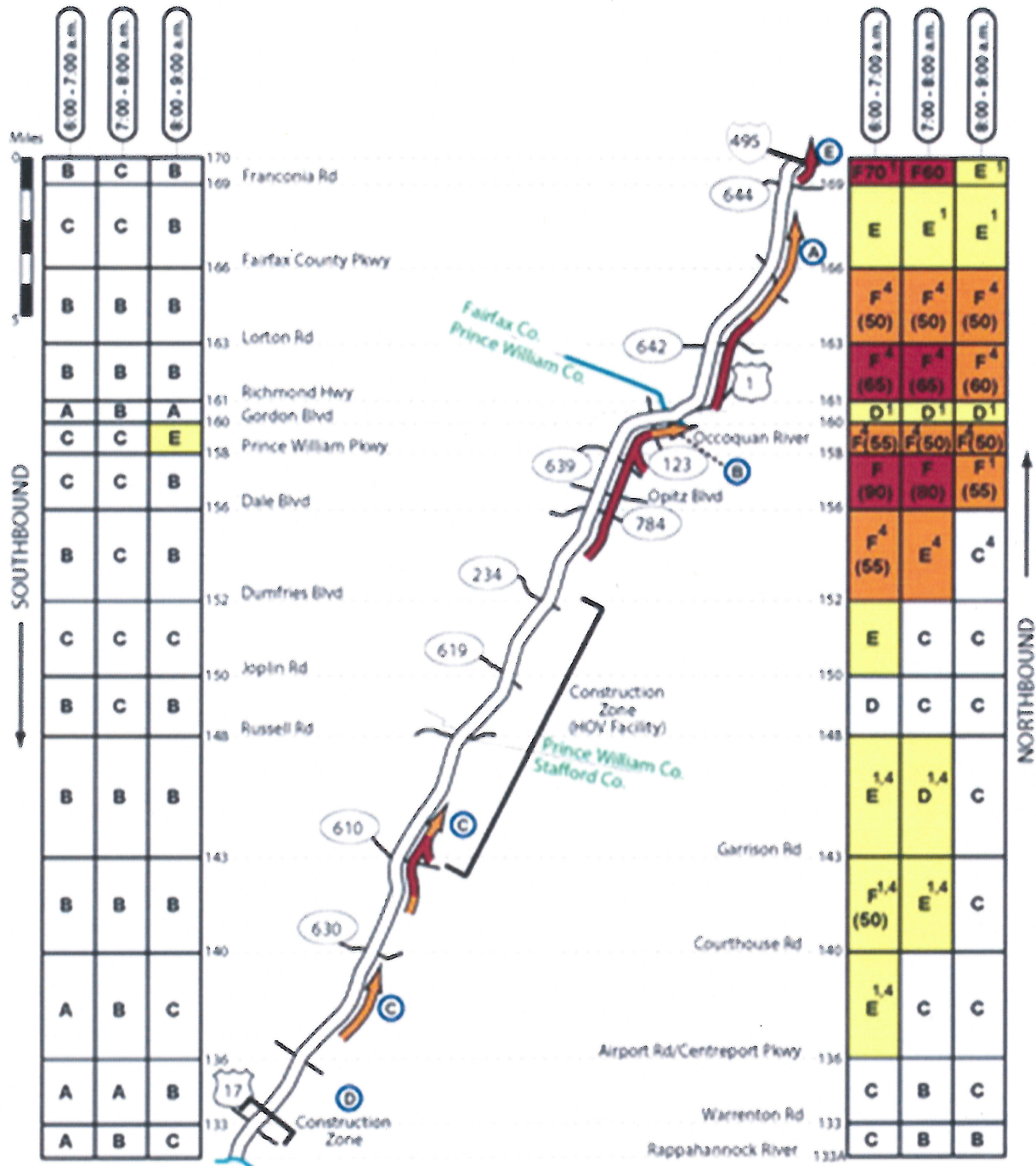
AM Peak Period Congestion



PM Peak Period Congestion



I-95 (Virginia) - Morning

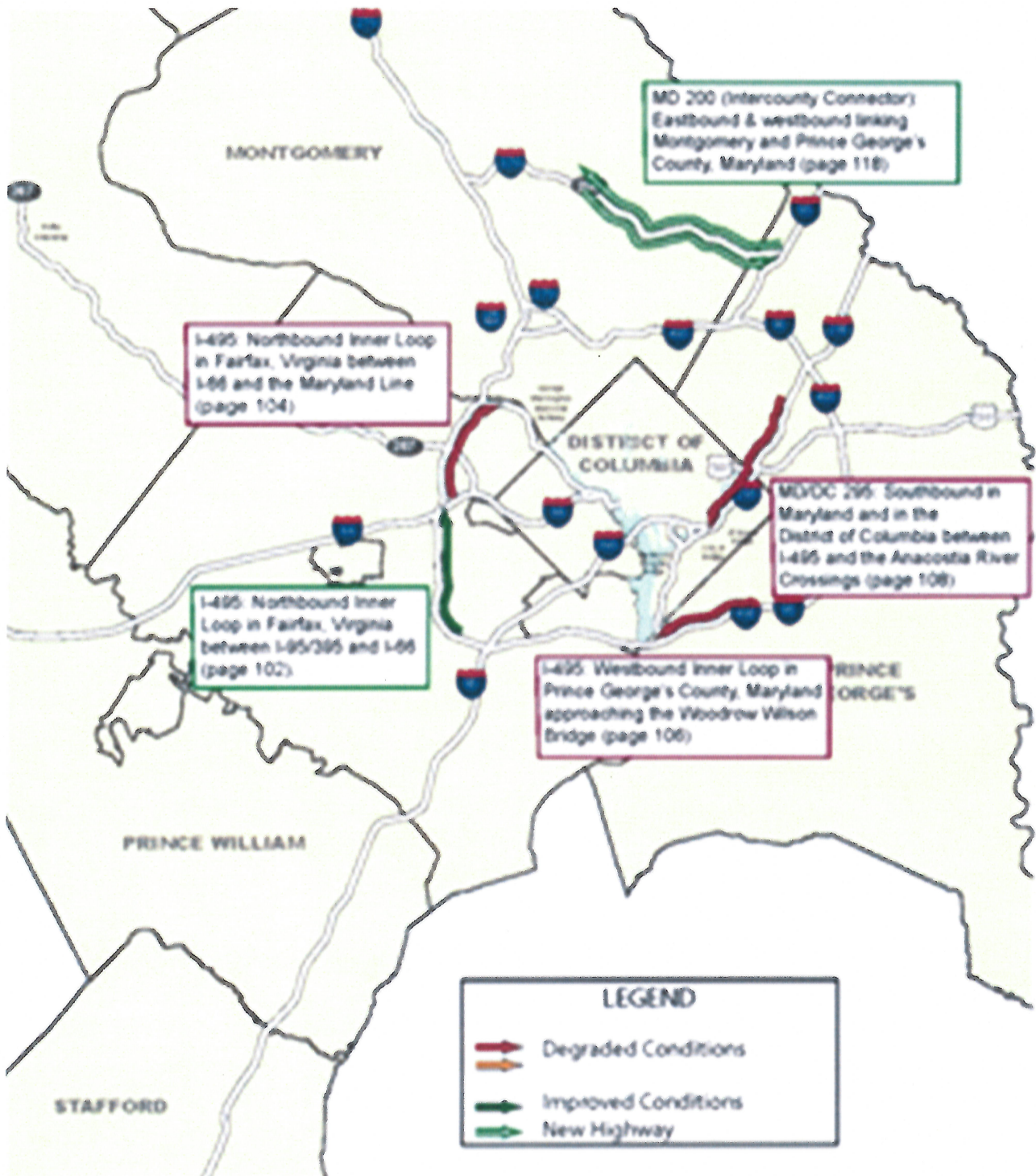


Traffic Quality Rating

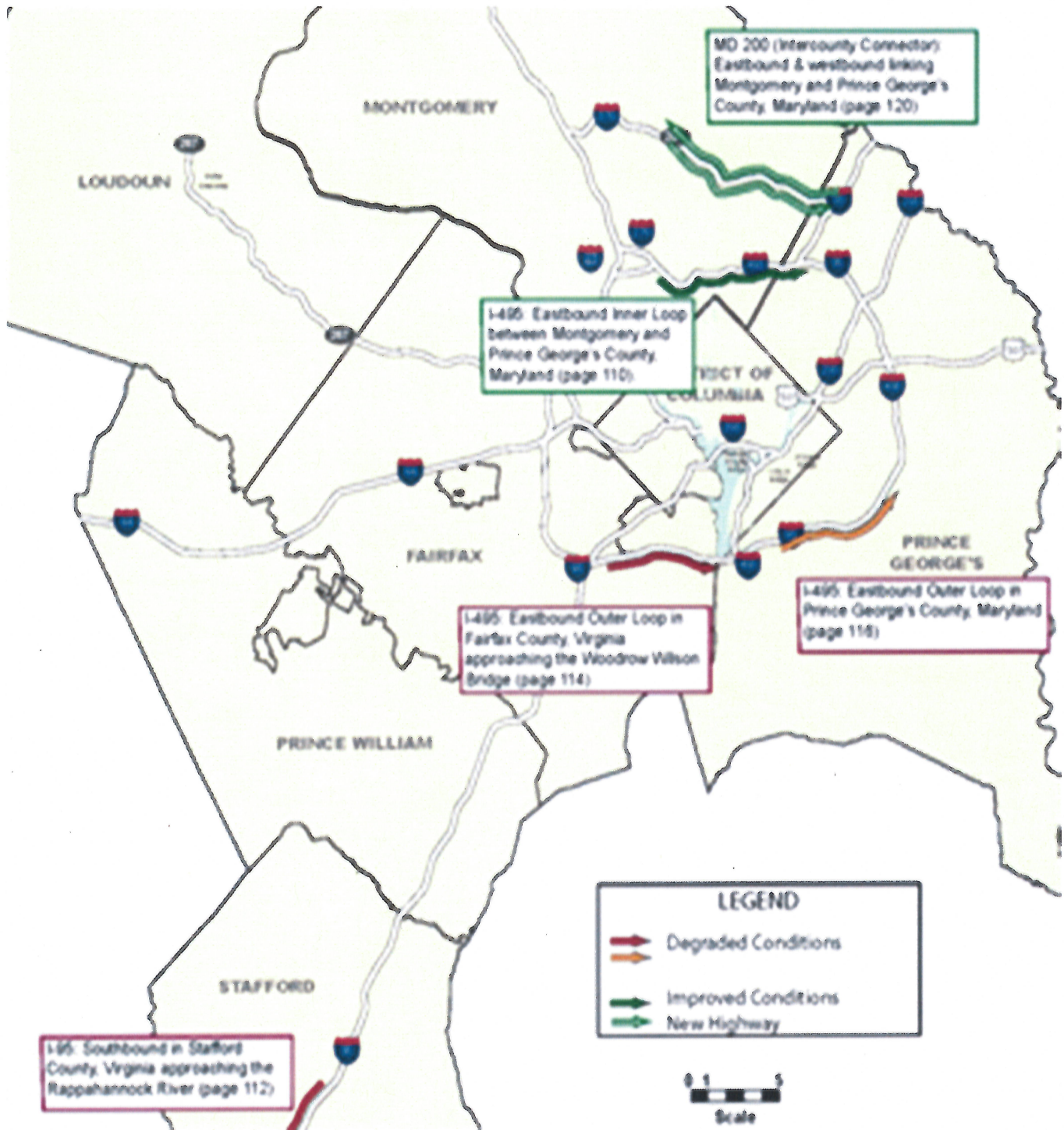


Superscripts: ¹Type 1 nested congestion (some days, not others) ²Type 2 nested congestion (more severe in left or right-hand lanes) ³Type 3 nested congestion (present only in the first or second half-hour period) ⁴Type 4 nested congestion (partial length of segment)

Significant Changes AM Peak Period

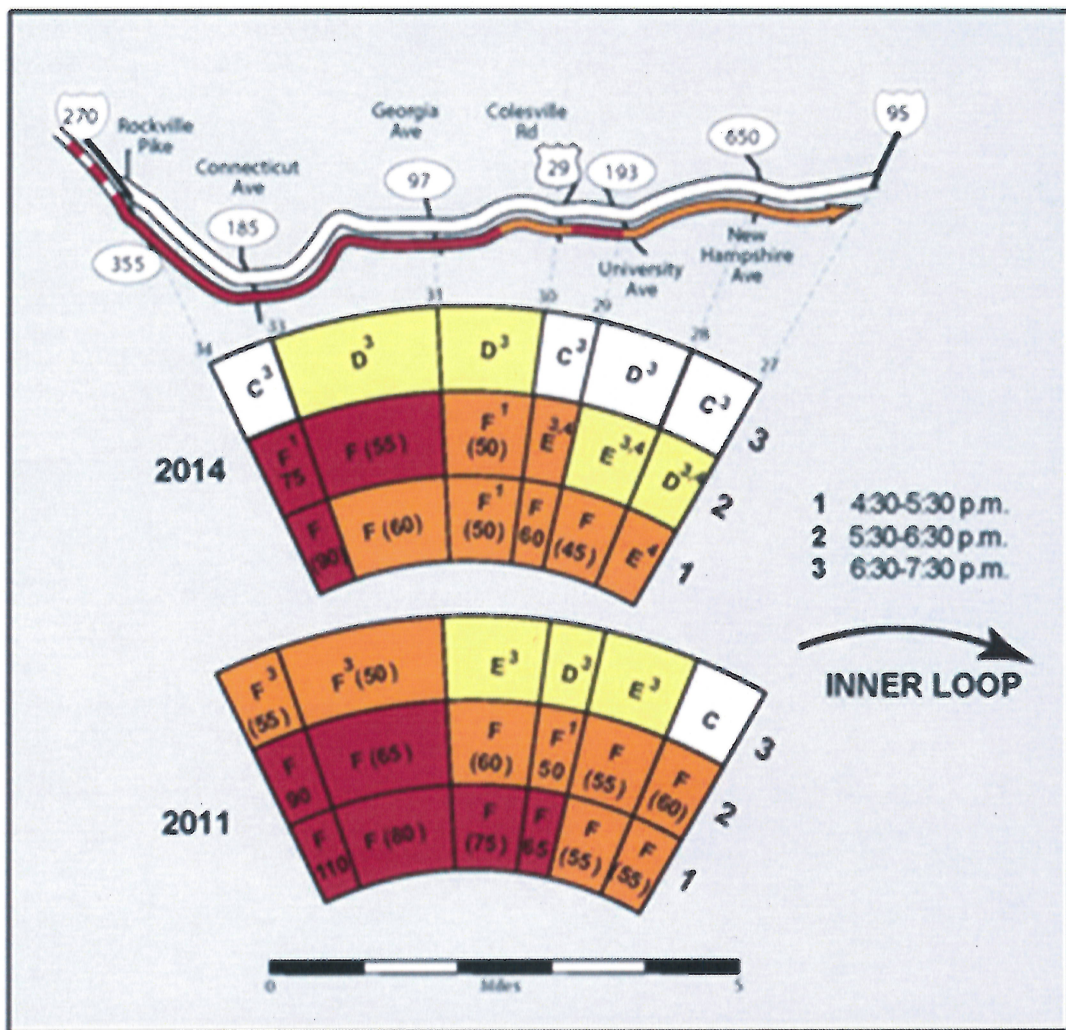


Significant Changes AM Peak Period



I-495 MD PM Peak

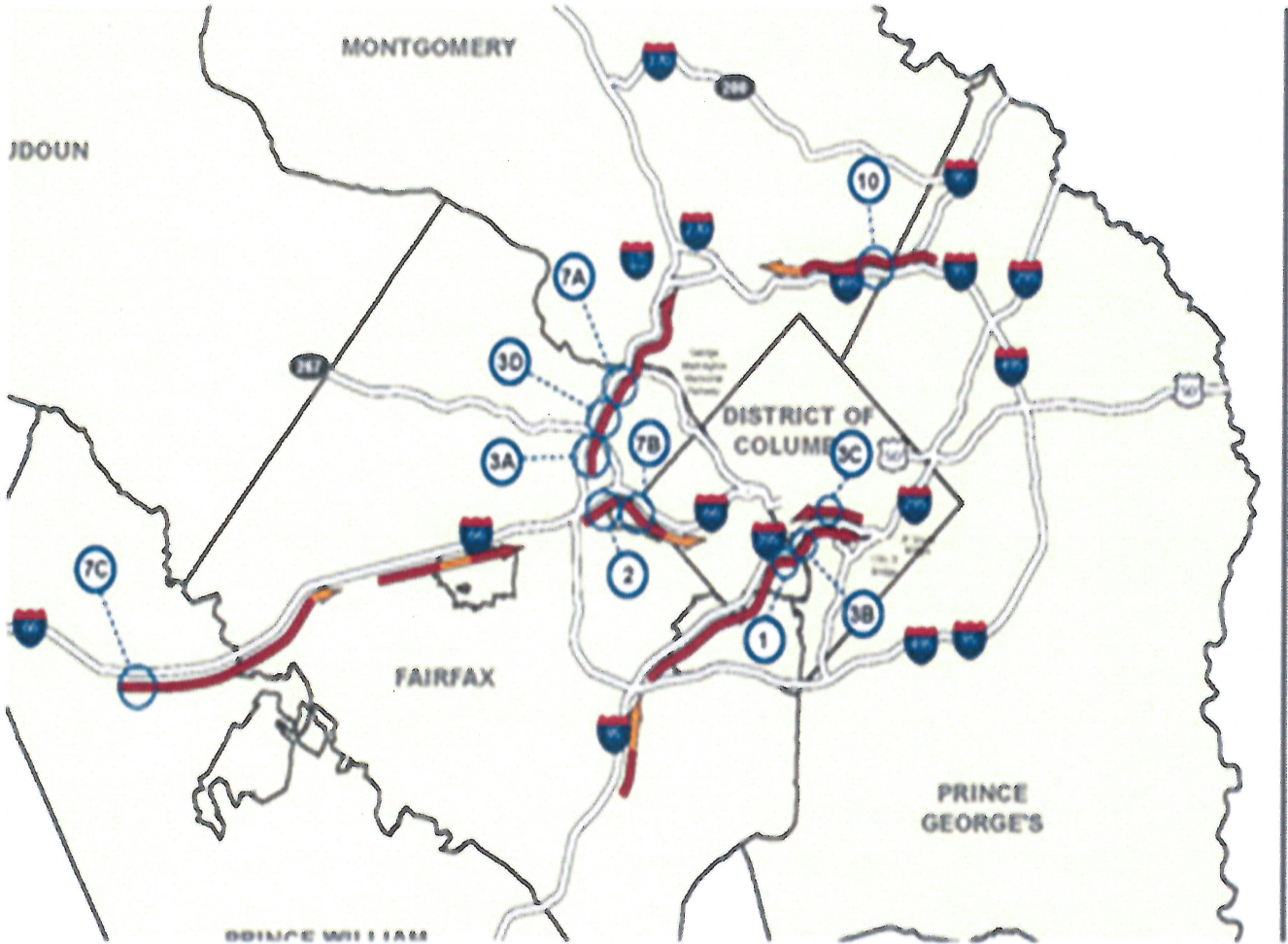
Location: I-495 Inner Loop in Maryland (I-270 to I-95)
Time Period: Evening (4:30-7:30 p.m.)
Type of Change: Improved
Potential Cause: The opening of the Intercounty Connector (ICC), linking Montgomery and Prince George's Counties
Although significant eastbound congestion remains, observed levels of service in 2014 indicate an easing in some of the heavier congested zones along on the top of the Capital Beltway in Maryland. Although other transportation trends may have played a role as well, the opening of the ICC since the 2011 reporting period may have provided enough added capacity in the region to provide a measurable amount of eastbound relief in the corridor during the evening commute.



Freeway LOS Legend



TOP 10 Congested Segment AM and PM Peak



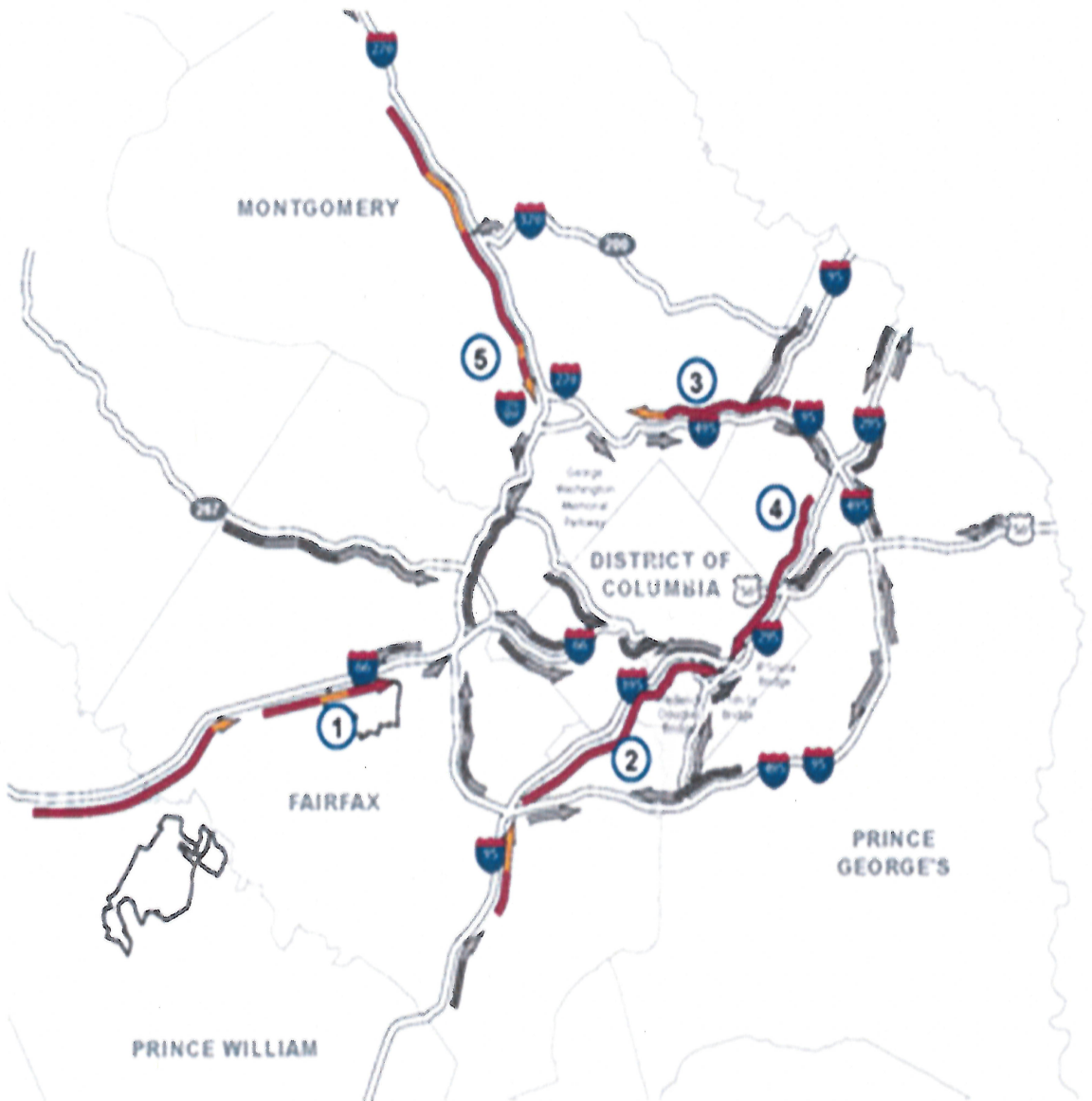
Top Ten Congested Segments on the Freeway System (2014)

Rank	Route	From	To	Density	Speed Range
1	NB I-395 (8:30-9:30 AM)	VA 27 (Washington Blvd)	VA 110 (Jefferson Davis Hwy)	150	5 MPH
2	EB I-466 (6:00-7:00 PM)	VA 7 (Leesburgh Pike)	VA 267	140	5 MPH
3A	Inner Loop I-495 (4:30-5:30 PM)	VA 123 (Chain Bridge Rd)	VA 267	120	5-10 MPH
3B	NB I-395 (8:30-9:30 AM)	VA 110 (Jefferson Davis Hwy)	George Washington Memorial Pkwy	120	5-10 MPH
3C	SB I-395 (5:00-6:00 PM)	4th St	12th St	120	5-10 MPH
3D	Inner Loop I-495 (4:30-5:30 PM)	VA 267	VA 193 (Georgetown Pike)	120	5-10 MPH
7A	Inner Loop I-495 (5:30-6:30 PM)	VA 193 (Georgetown Pike)	George Washington Memorial Pkwy	110	10-15 MPH
7B	EB I-466 (6:00-7:00 PM)	VA 267	Westmoreland St	110	10-15 MPH
7C	EB I-466 (6:00-7:00 AM)	VA 234 Bypass	VA 234 (Ludley Rd)	110	10-15 MPH
10	Outer Loop I-495 (7:00-8:00 AM)	MD 650 (New Hampshire Ave)	MD 193 (University Ave)	105	10-15 MPH

Note: Due to construction of the terminus of the Southeast Freeway, eastbound densities along this corridor were not included in the Top Ten list above.

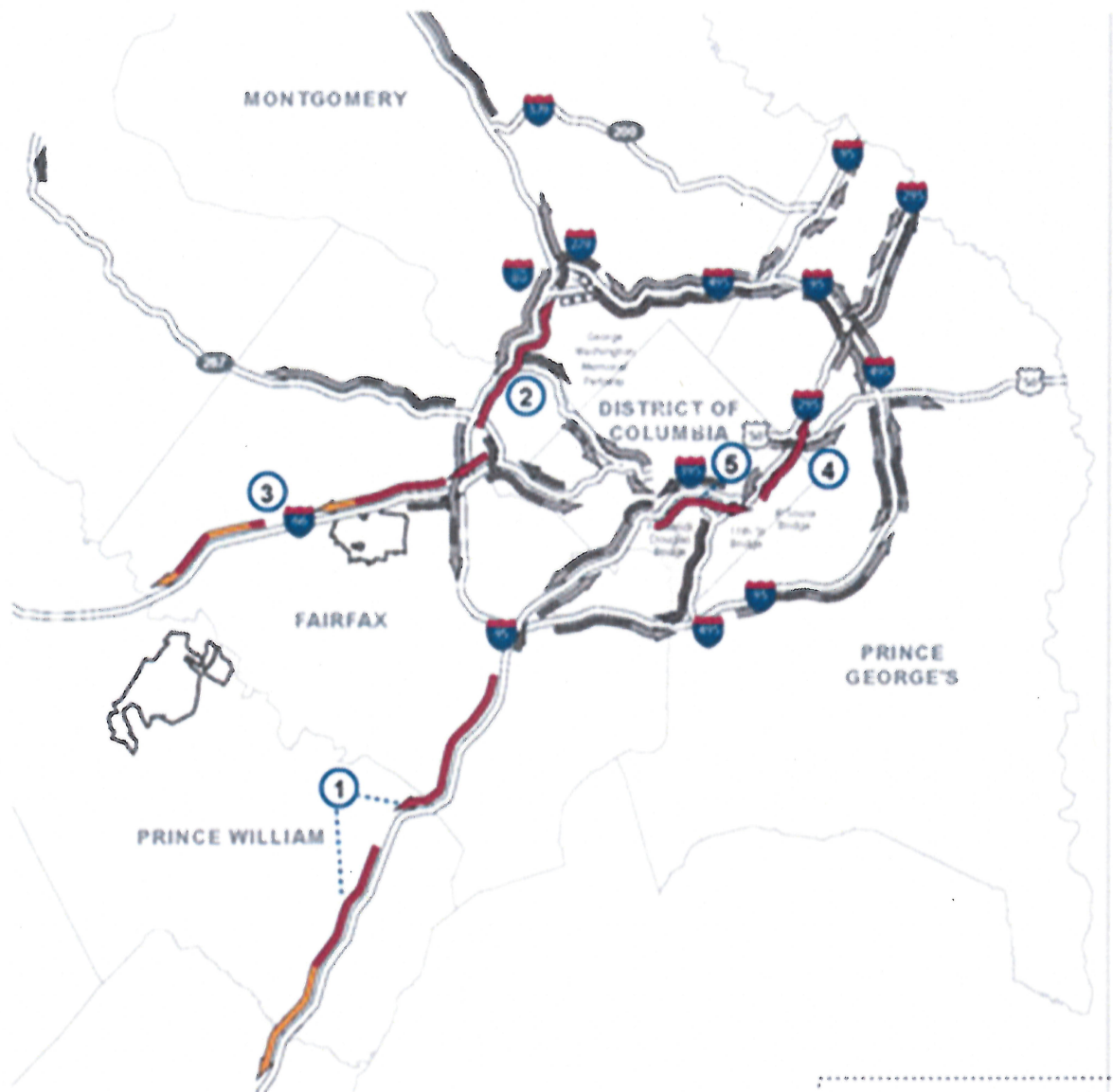
Longest Delay Corridors AM Peak

Site Name	Road Name	Time	Direction	From	To	Queue Length (miles)	Estimated Travel Time (minutes)	Estimated Speed (mph)	Estimated Delay (minutes)
Site #1	I-66	7:30 - 8:30	Eastbound	US 29 (Lee Highway)	VA 243 (Nalley St)	18.8	43.3	26	24.5
Site #2	I-95 / I-395	7:00 - 8:00	Northbound	US 1 (Richmond Highway)	George Washington Parkway	18.0	38.2	28	20.2
Site #3	I-495	7:00 - 8:00	Outerloop	I-95	MD 165 (Connecticut Ave)	7.0	21.7	19	14.7
Site #4	DC 295	8:00 - 9:00	Southbound	MD 450 (Annapolis Rd)	MD 4 (Pennsylvania Ave)	5.7	19.9	17	14.2
Site #5	I-270	7:30 - 8:30	Southbound	Father Hurley Blvd	I-270 Western Spur	13.1	24.6	32	11.5

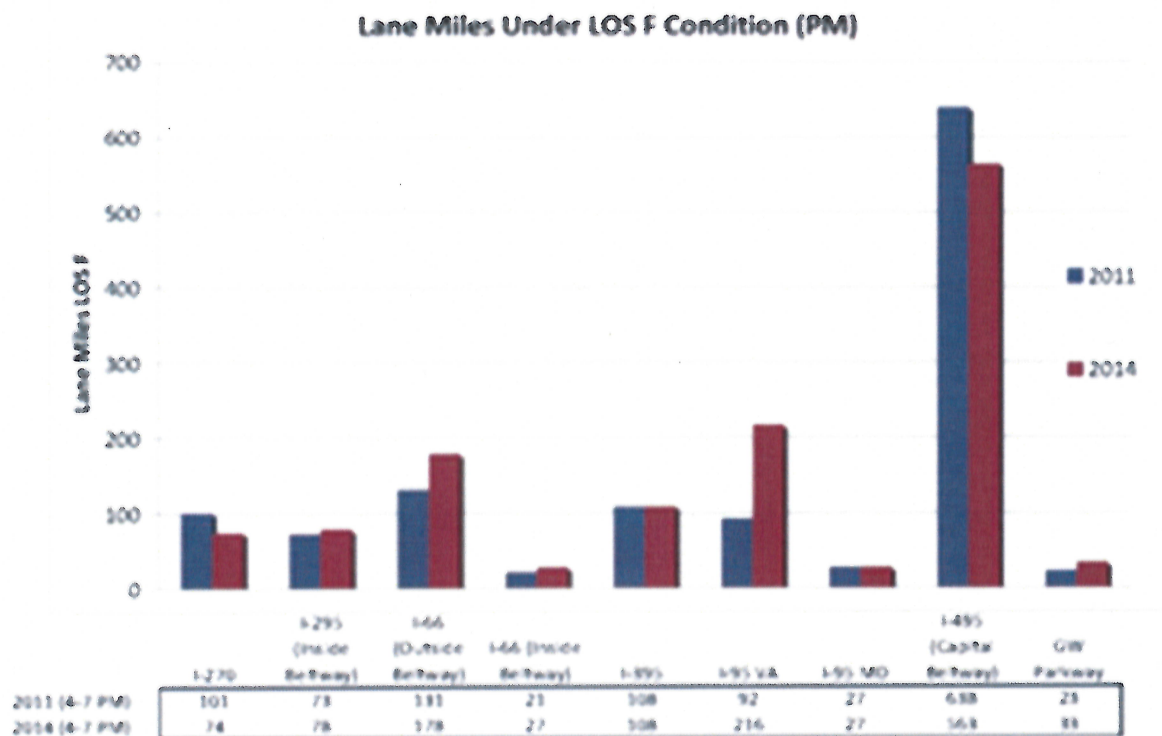
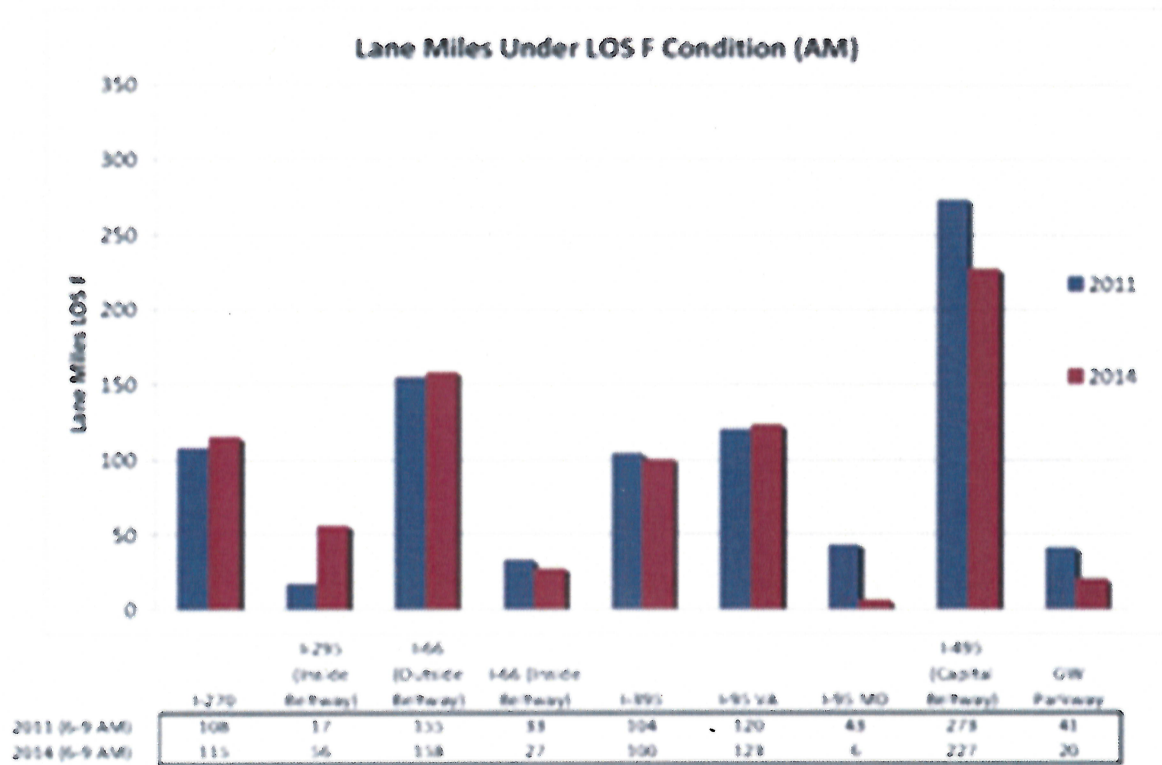


Longest Delay Corridors PM Peak

Site #1	Site #2	Site #3	Site #4	Site #5
Site #1	Site #2	Site #3	Site #4	Site #5
I-95	I-495	I-66	DC 295	I-395
4:30 - 5:30	4:30 - 5:30	4:30 - 5:30	4:30 - 5:30	5:00 - 6:00
Southbound	Innerloop	Westbound	Northbound	Northbound
Fairfax County Parkway	VA 7 (Leesburg Pike)	VA 7 (Leesburg Pike)	11th Street Bridge	VA 110 (Jeff. Davis Hwy)
Garrisonville Rd	I-270 Western Spur	VA 234 (Gudby Rd)	I-50	11th Street Bridge
23.0	8.4	18.3	5.0	3.7
51.5	35.1	36.6	19.3	17.5
27	14	30	16	13
28.5	26.7	18.3	14.3	13.8



Lane Miles of Congestion Comparison 2011-2014 AM and PM Peak



2014 FREEWAY SYSTEM PERFORMANCE

- Other Changes in Traffic Conditions (not in report)
 - 2014 Spring Survey
 - Regionally 2014 conditions similar to 2011
 - I-95/I-395, I-66 outside Beltway, I-270, and parts of the Beltway continue to be severely congested.
 - Congestion exist on all radial facilities, Other facilities BW Pkwy, GW Pkwy, MD 295, I-295, I-395 are congested
 - AM Peak Period Map (Outer Loop in VA less congested, Inner Loop in MD less congested)

2014 FREEWAY SYSTEM PERFORMANCE

- Observations (continued)
 - PM Peak Period Map (Outer Loop in MD less congested, Inner Loop in VA less congested)
 - I-95/I-395, I-66 outside Beltway, I-270, and parts of the Beltway continue to be severely congested.
 - Congestion exist but speeds have improved within the congested segments or length of queue has decreased.
 - I-495 OL in AM had a queue length, travel time of 12 miles and 31 minutes in 2008; 10 miles and 29 minutes in 2011; 7 miles and 19 minutes in 2014

2014 FREEWAY SYSTEM PERFORMANCE

- Usefulness
 - Congestion Management Process
 - Model Developers
 - Macro/Micro
 - Speed, Density, Flow (Speed x Density)
 - HOV, General Purpose Lane
 - Ramp, Express, Local
 - Project Planning Studies
 - EIS
 - Need
 - Visual Evidence
 - Before and After

2014 FREEWAY SYSTEM PERFORMANCE

- Next Steps
 - Assemble comments
 - Finalize Report
 - TPB June/July accompanying the Regional Traffic Trends Presentation
 - TLAP Pilot Study completion
 - Staff analysis in FY 2016

Questions?