

2014 FREEWAY CONGESTION MONITORING PROGRAM

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TPB Technical Committee
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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



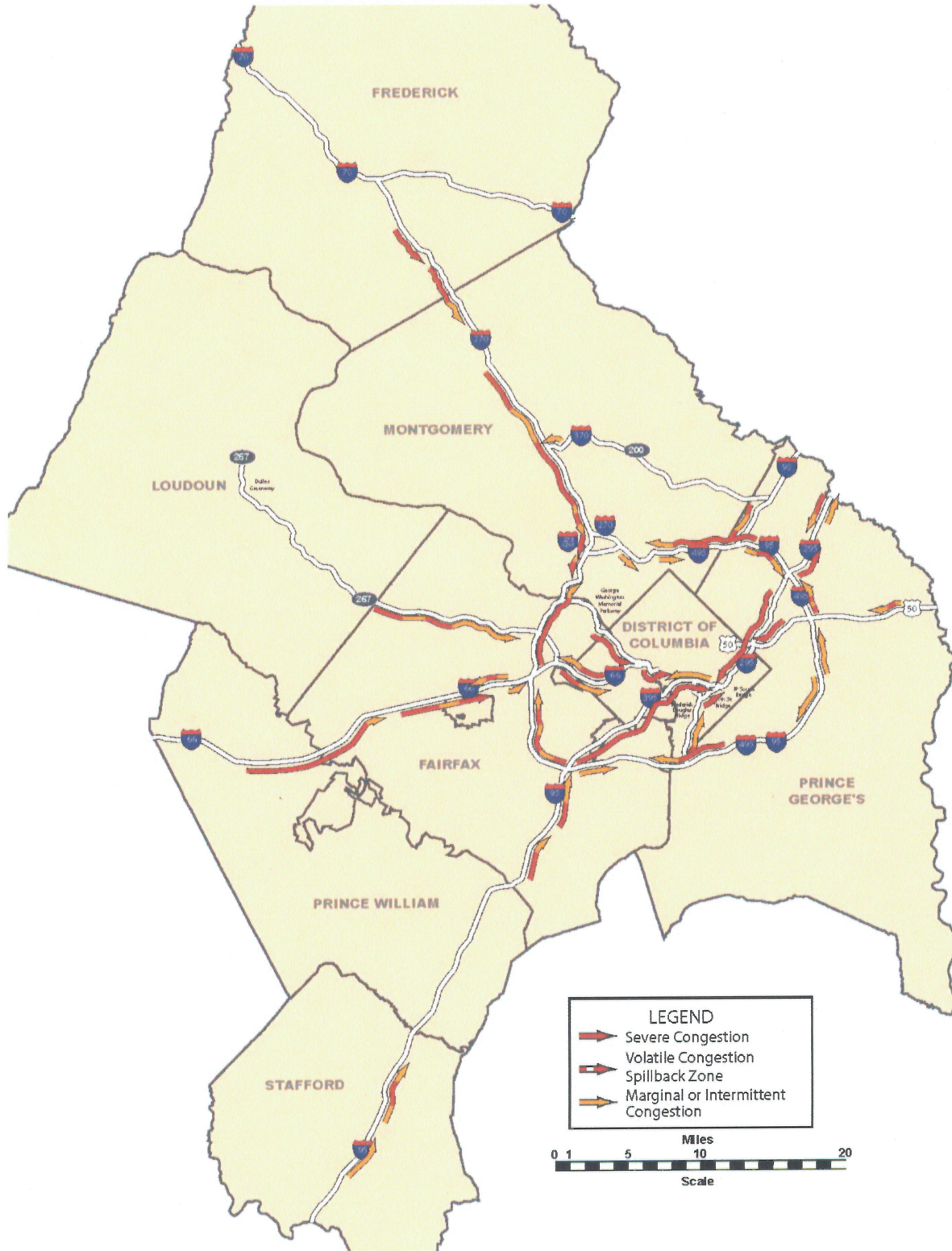
2014 FREEWAY SYSTEM PERFORMANCE

- 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

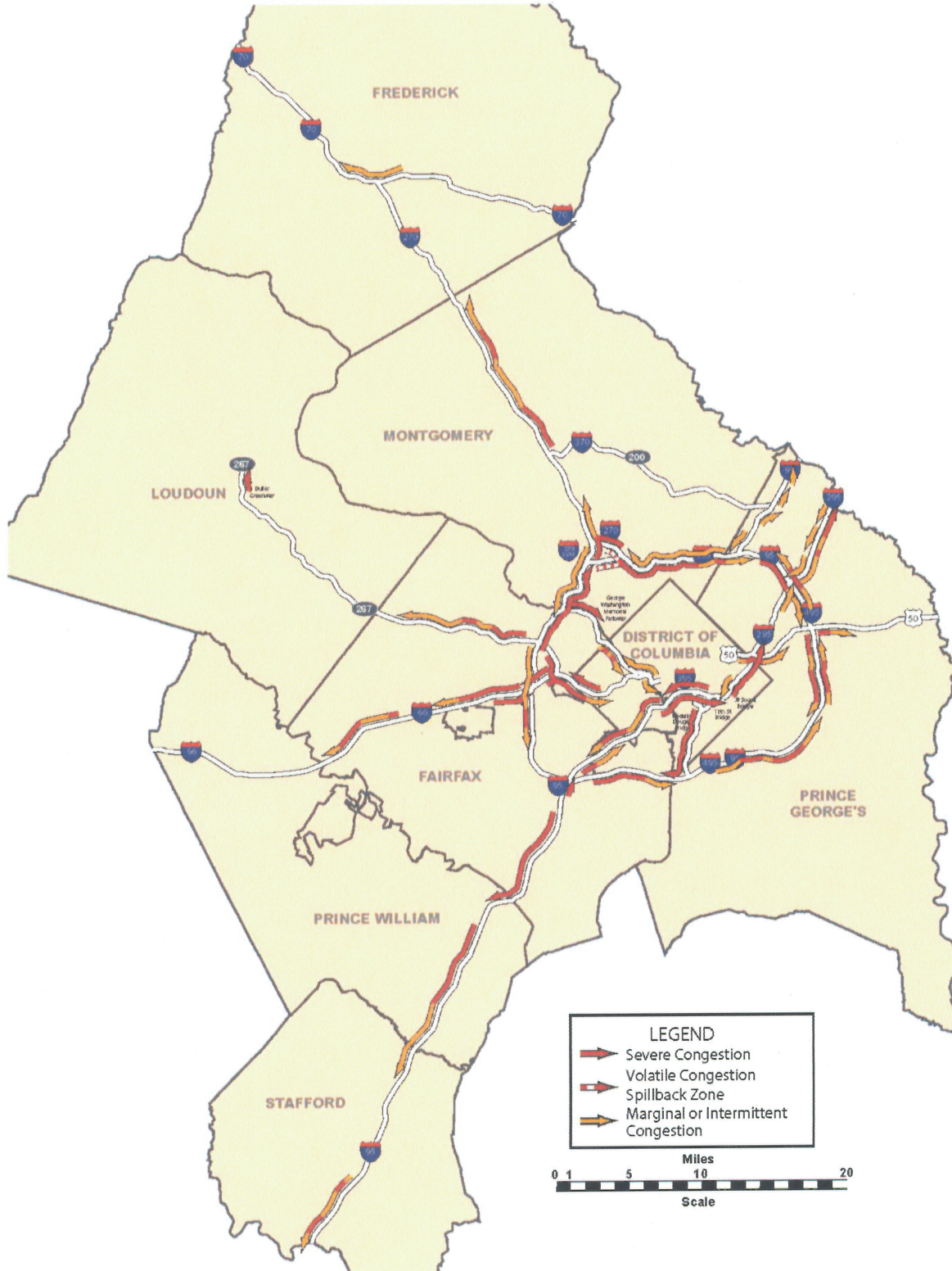
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- Report (continued)
 - Facility Lane Miles of Congestion (LOS F) Comparison
 - Regional Congestion Summary Maps
 - AM and PM Peak Period
 - Hourly congestion maps of AM and PM peak hours
 - Trends and Major Changes in Traffic Conditions
 - Summary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

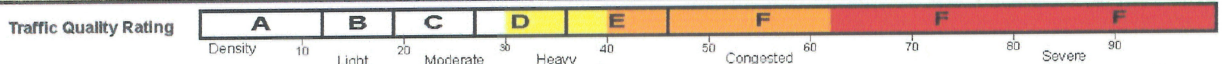
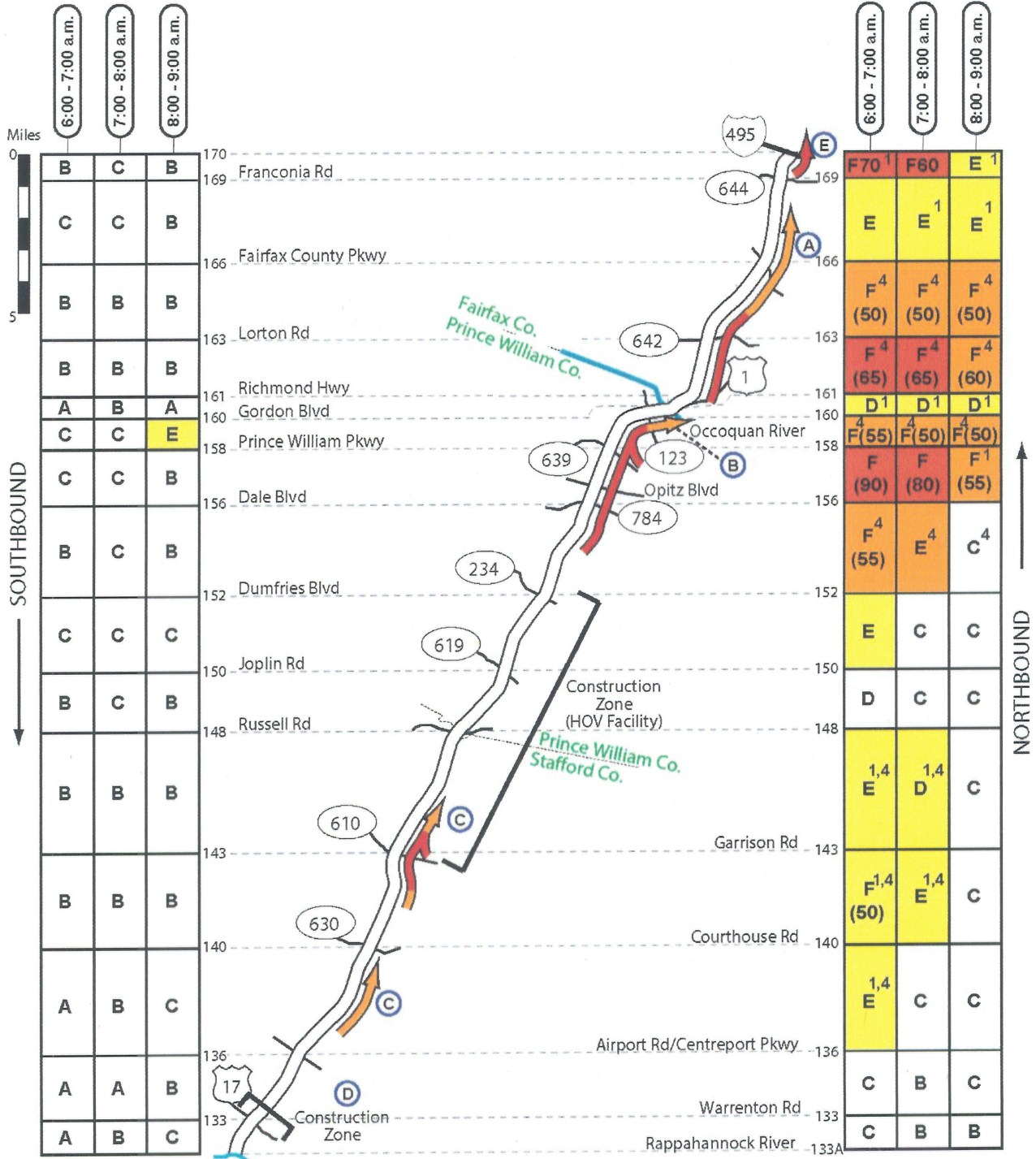
Morning Regional Congestion (Peak Period)-Spring 2014



Evening Regional Congestion (Peak Period)-Spring 2014

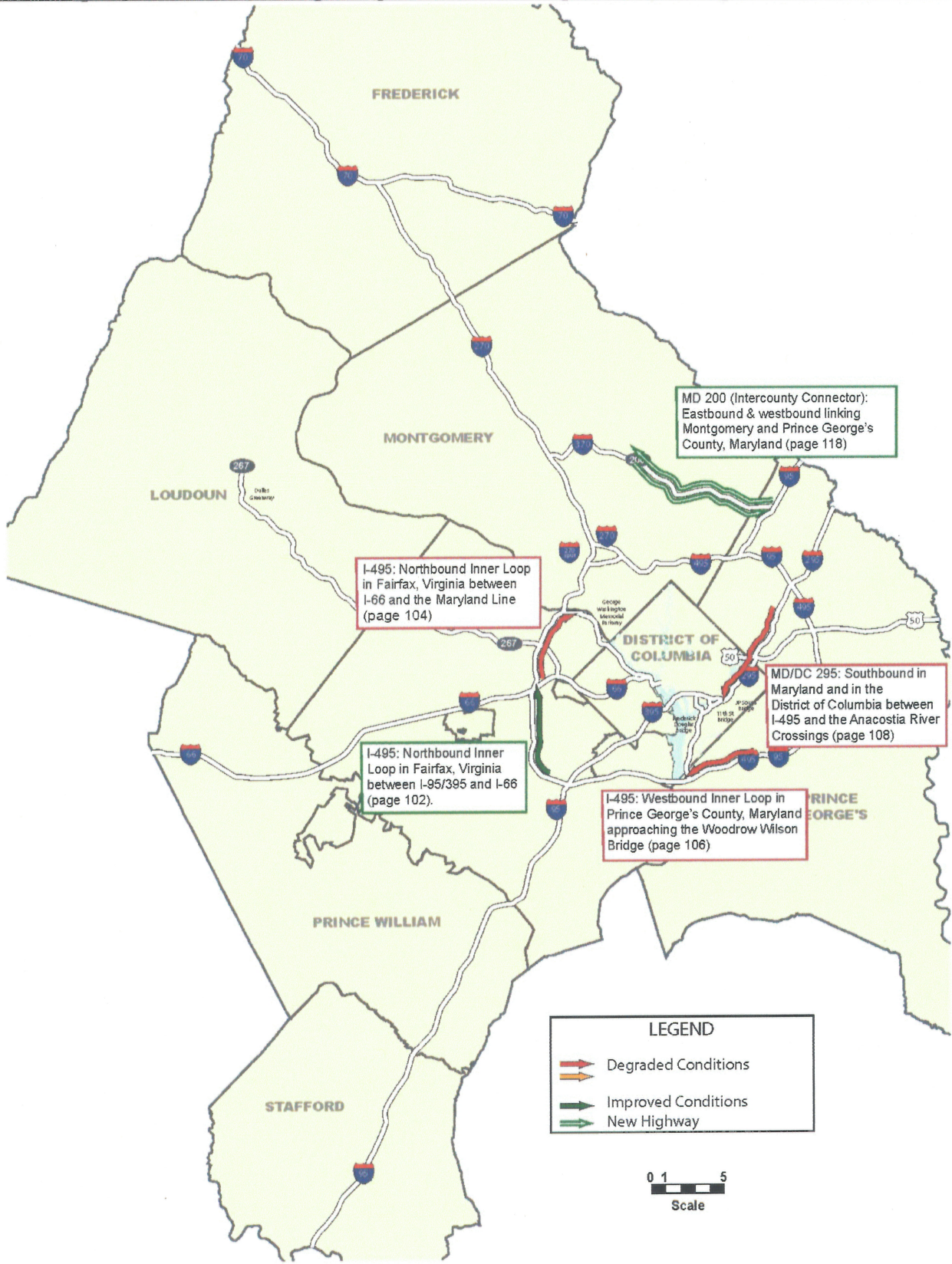


I-95 (Virginia) - Morning

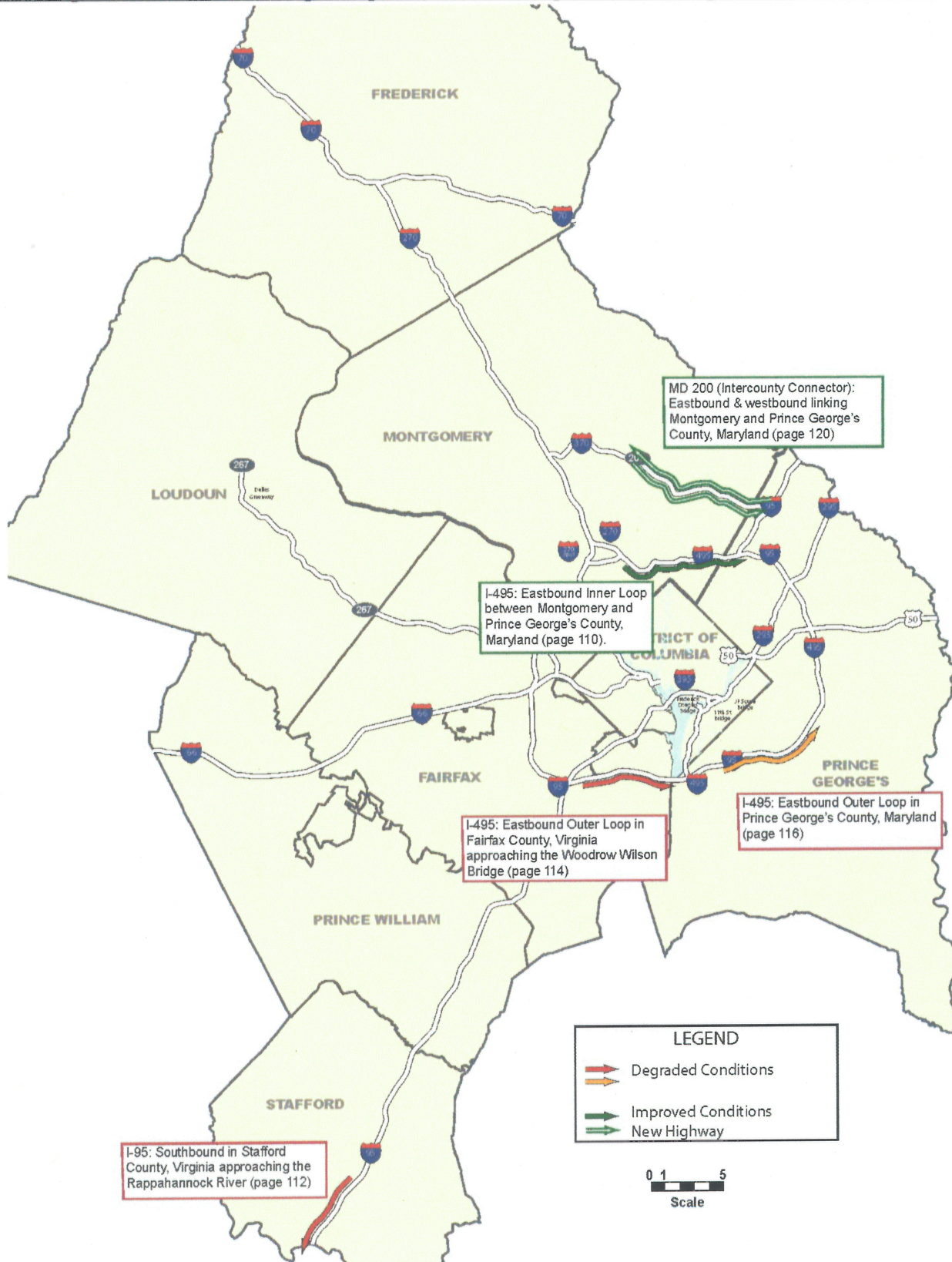


Superscripts: ¹Type 1 nested congestion (some days, not others). ²Type 2 nested congestion (more severe in left or right-hand lanes). ³Type 3 nested congestion (present only in the first or second half-hour period). ⁴Type 4 nested congestion (partial length of segment).

Significant Changes (2008 - 2014) - Morning Peak Period



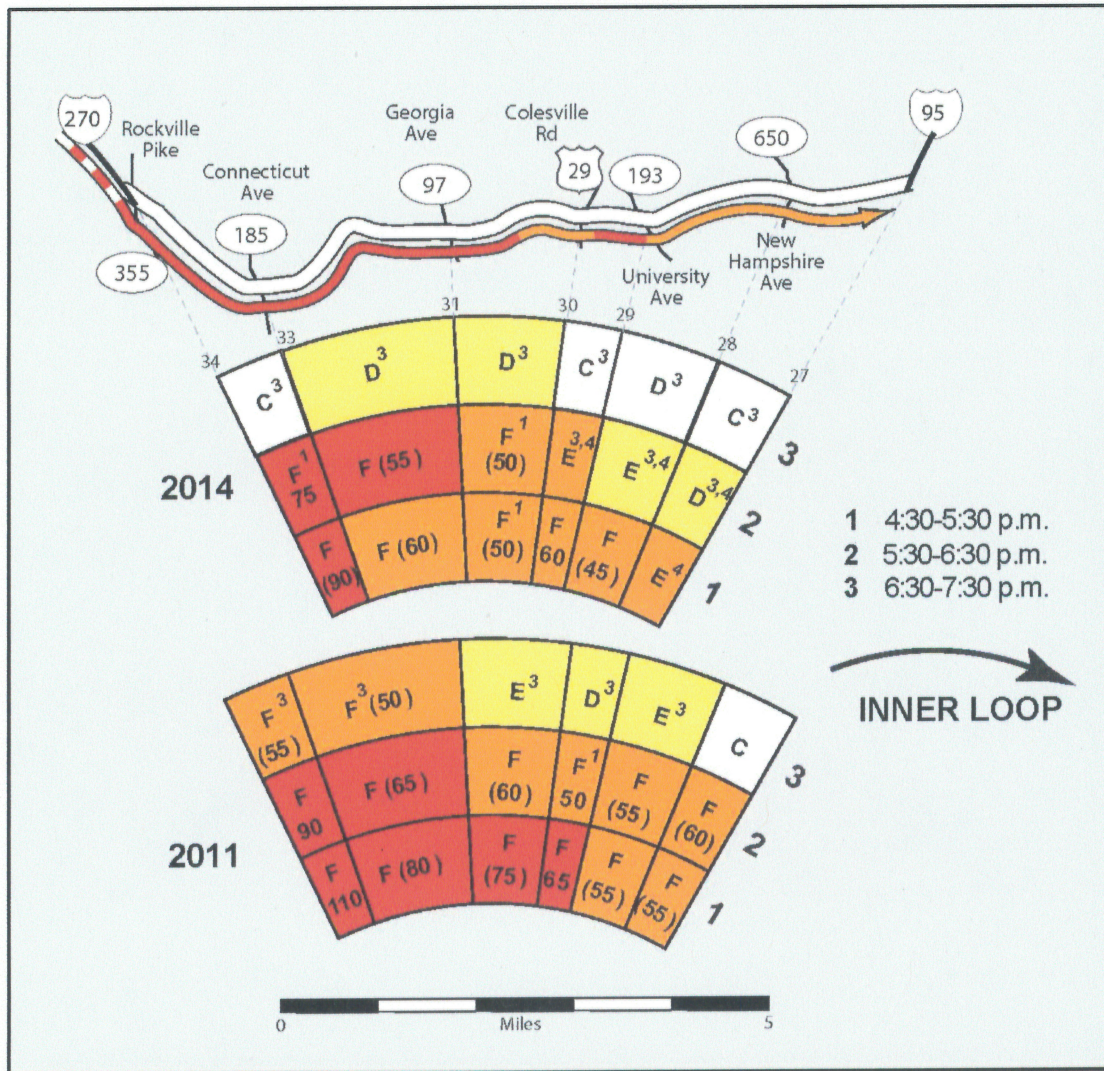
Significant Changes (2008 - 2014) - Evening Peak Period



I-495 MARYLAND (MONTGOMERY COUNTY) – EVENING

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.



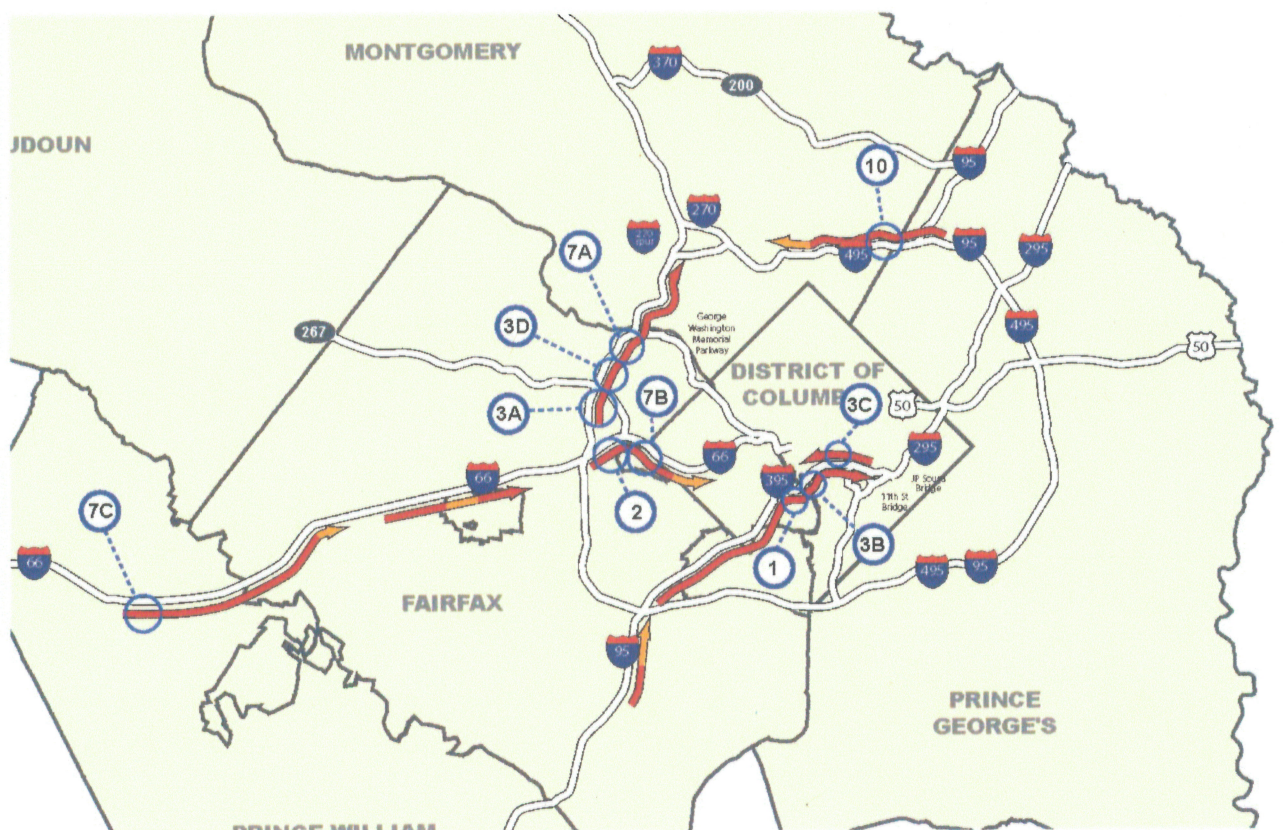
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Top Ten Congested Locations (2014) (AM and PM)

Criteria for the top ten congested locations are as follows:

- A location is defined as a congested freeway segment, by direction, between interchanges; this congested location is typically within a larger queue.
- Rankings for the top ten are based on the average hourly density value which corresponds to a speed (see table below).
- Construction-related congestion was not included in the rankings unless the location was historically congested in the absence of construction.
- Congestion caused by traffic signals was not included in the rankings.



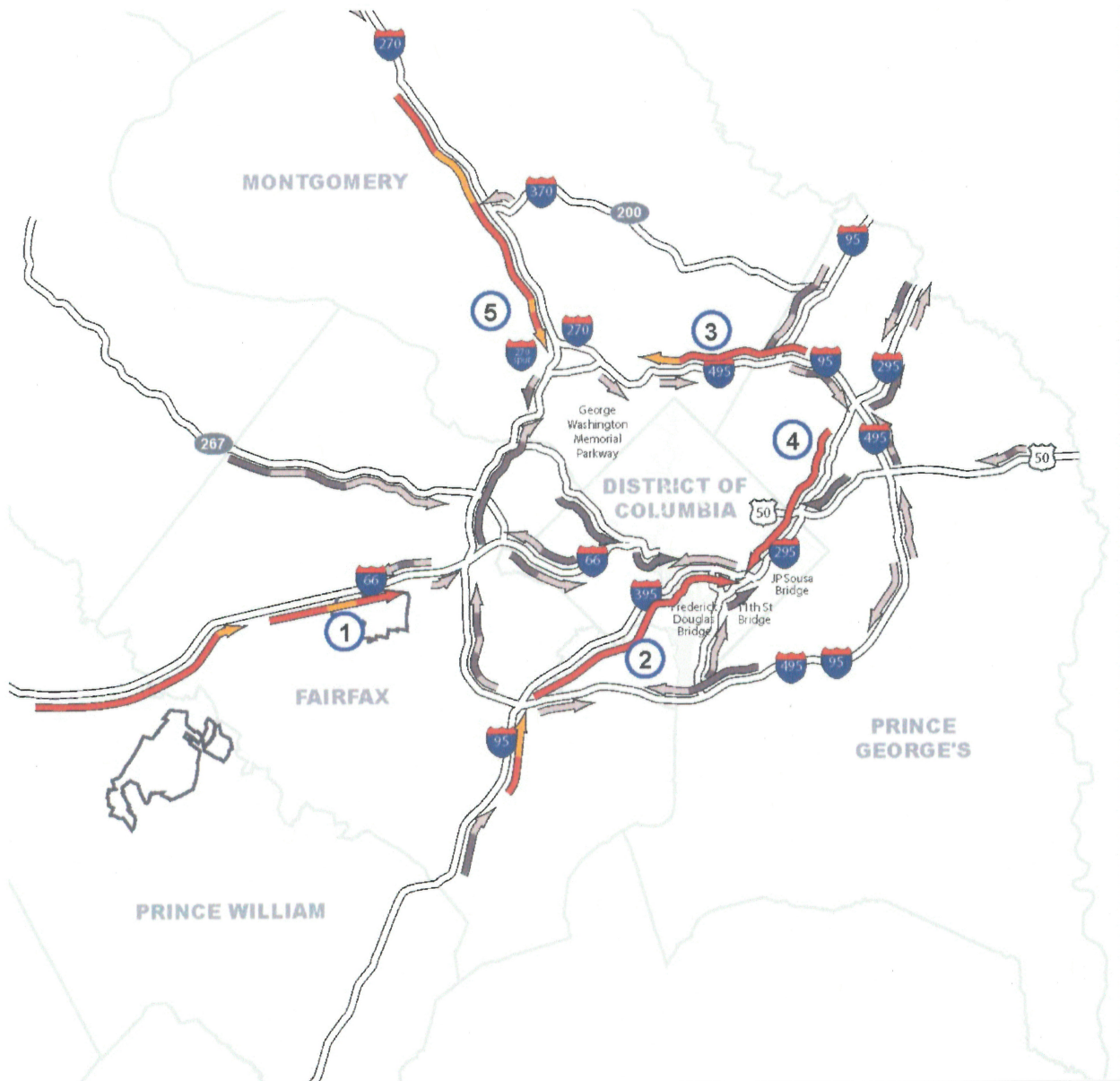
Top Ten Congested Segments on the Freeway System (2014)

Rank	Route	From	To	Density	Speed Range
1	NB I-395 (8:30-9:30 AM)	VA 27 (Washinton Blvd)	VA 110 (Jefferson Davis Hwy)	150	5 MPH
2	EB I-66 (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-66 (6:00-7:00 PM)	VA 267	Westmoreland St	110	10-15 MPH
7C	EB I-66 (6:00-7:00 AM)	VA 234 Bypass	VA 234 (Sudley 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 at the terminus of the Southeast Freeway, eastbound densities along this corridor were not included in the Top Ten list above.

Longest Delay Corridors- Morning Peak Period (2014)

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 (Nutley 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 185 (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

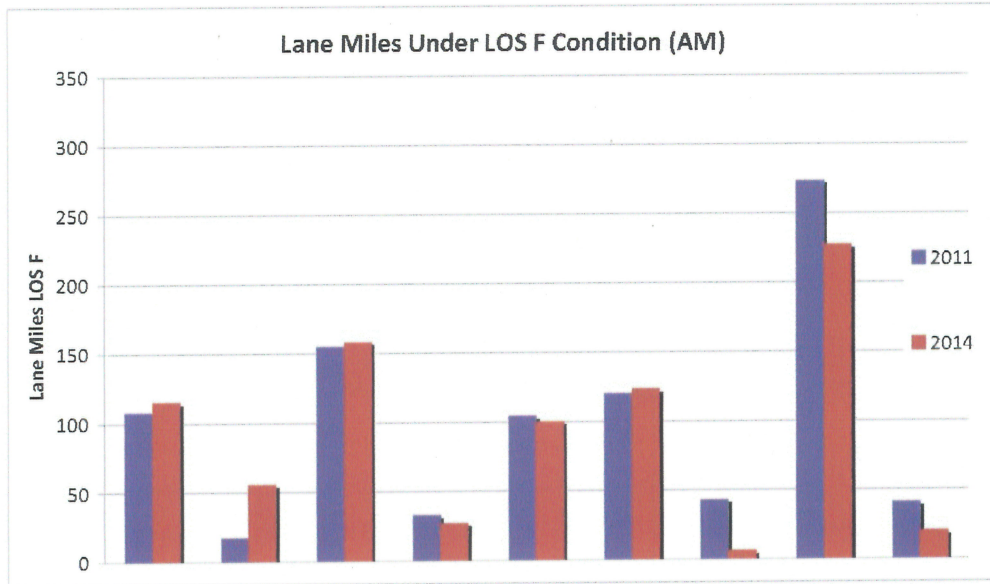


Longest Delay Corridors- Evening Peak Period (2014)

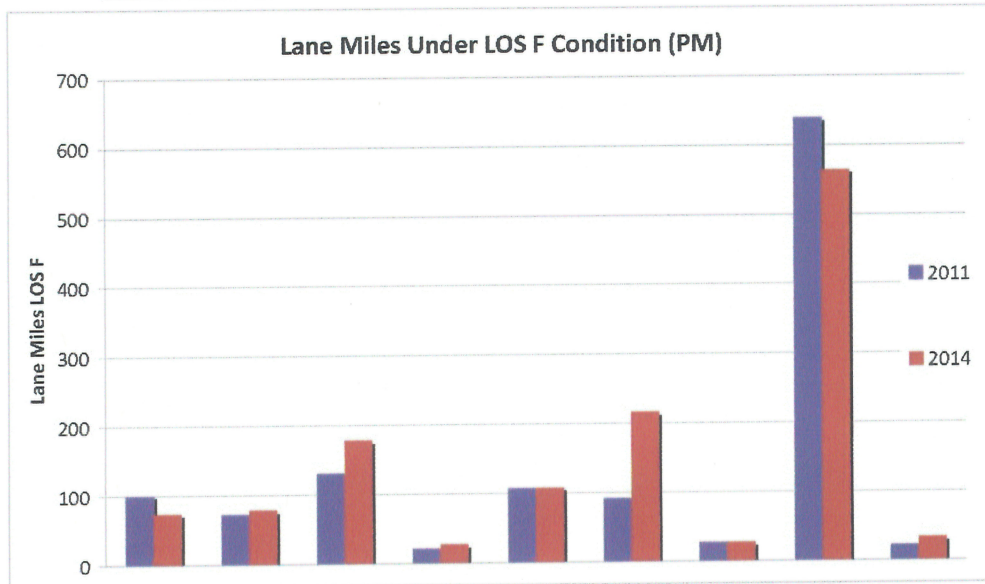
Site Name	Road Name	Time	Direction	From	To	Queue Length (miles)	Estimated Travel Time (minutes)	Estimated Speed (mph)	Estimated Delay (minutes)
Site #1	I-95	4:30 – 5:30	Southbound	Fairfax County Parkway	Garrisonville Rd	23.0	51.5	27	28.5
Site #2	I-495	4:30 – 5:30	Innerloop	VA 7 (Leesburg Pike)	I-270 Western Spur	8.4	35.1	14	26.7
Site #3	I-66	4:30 – 5:30	Westbound	VA 7 (Leesburg Pike)	VA 234 (Sudley Rd)	18.3	36.6	30	18.3
Site #4	DC 295	4:30 – 5:30	Northbound	11th Street Bridge	US 50	5.0	19.3	16	14.3
Site #5	I-395	5:00 – 6:00	Northbound	VA 110 (Jeff. Davis Hwy)	11th Street Bridge	3.7	17.5	13	13.8



Lane Miles of Congestion AM and PM Peak Period (2014)



	I-270	I-295 (Inside Beltway)	I-66 (Outside Beltway)	I-66 (Inside Beltway)	I-395	I-95 VA	I-95 MD	I-495 (Capital Beltway)	GW Parkway
2011 (6-9 AM)	108	17	155	33	104	120	43	273	41
2014 (6-9 AM)	115	56	158	27	100	123	6	227	20



	I-270	I-295 (Inside Beltway)	I-66 (Outside Beltway)	I-66 (Inside Beltway)	I-395	I-95 VA	I-95 MD	I-495 (Capital Beltway)	GW Parkway
2011 (4-7 PM)	101	73	131	21	108	92	27	638	23
2014 (4-7 PM)	74	78	178	27	108	216	27	563	33

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

- Next Steps
 - Assemble comments
 - Finalize Report
 - Tech Committee in April
 - TPB in April accompanying the Regional Traffic Trends Presentation
 - TLAP presentation in May
 - Staff analysis in FY 2016

Questions?