

Mobility Assessment Report

Appendix

April 2014

Montgomery County Planning Department
M-NCPPC
MontgomeryPlanning.org

Abstract

This appendix contains data that complements the 2014 Mobility Assessment Report. The data reported provides a “snapshot” of multi-modal travel conditions in Montgomery County, pertaining to roadway and intersection congestion, as well as pedestrian, bicycle, bus, and Metrorail travel.

Source of Copies

Maryland-National Capital Park and Planning Commission
8787 Georgia Avenue
Silver Spring, MD 20910

Online at: MontgomeryPlanning.org/transportation

Mobility Assessment Report

Appendix

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Data Sources

The Planning Department's Intersection Traffic Count Database is maintained by Planning Department staff. The database contains traffic counts for 627 of the 772 signalized intersections in Montgomery County.

Traffic counts are provided from a variety of sources. One important source is the traffic studies that must be provided as a requirement of development applications. Other traffic counts are provided by the Maryland State Highway Administration's continuous traffic count program for state roadways. Finally, some traffic counts are provided by consultants in response to requests made by Planning Department staff to support special studies, master plans, and the *Mobility Assessment Report*.

The oldest traffic count in the database is from March 1, 2001. All traffic counts currently maintained in the database were analyzed in support of the 2014 *Mobility Assessment Report*. No new additional traffic counts were specifically collected to support this document.

Travel time data has been collected, processed, and analyzed for major arterials in the County. The two sources used to provide travel time data are Motion Maps, LLC and INRIX. Travel time data provided by Motion Maps, LLC has been used in support of earlier version of this report. Staff has taken advantage of the quantity and scope of travel time data more recently provided by INRIX to supplement the data provided by Motion Maps, LLC. This expanded data set has been used to measure arterial roadway level performance in all major travel corridors in the County. This travel time information is used to establish a baseline of traffic congestion conditions in the County which can eventually be used to support the monitoring of traffic congestion conditions over time.

Data Introduction

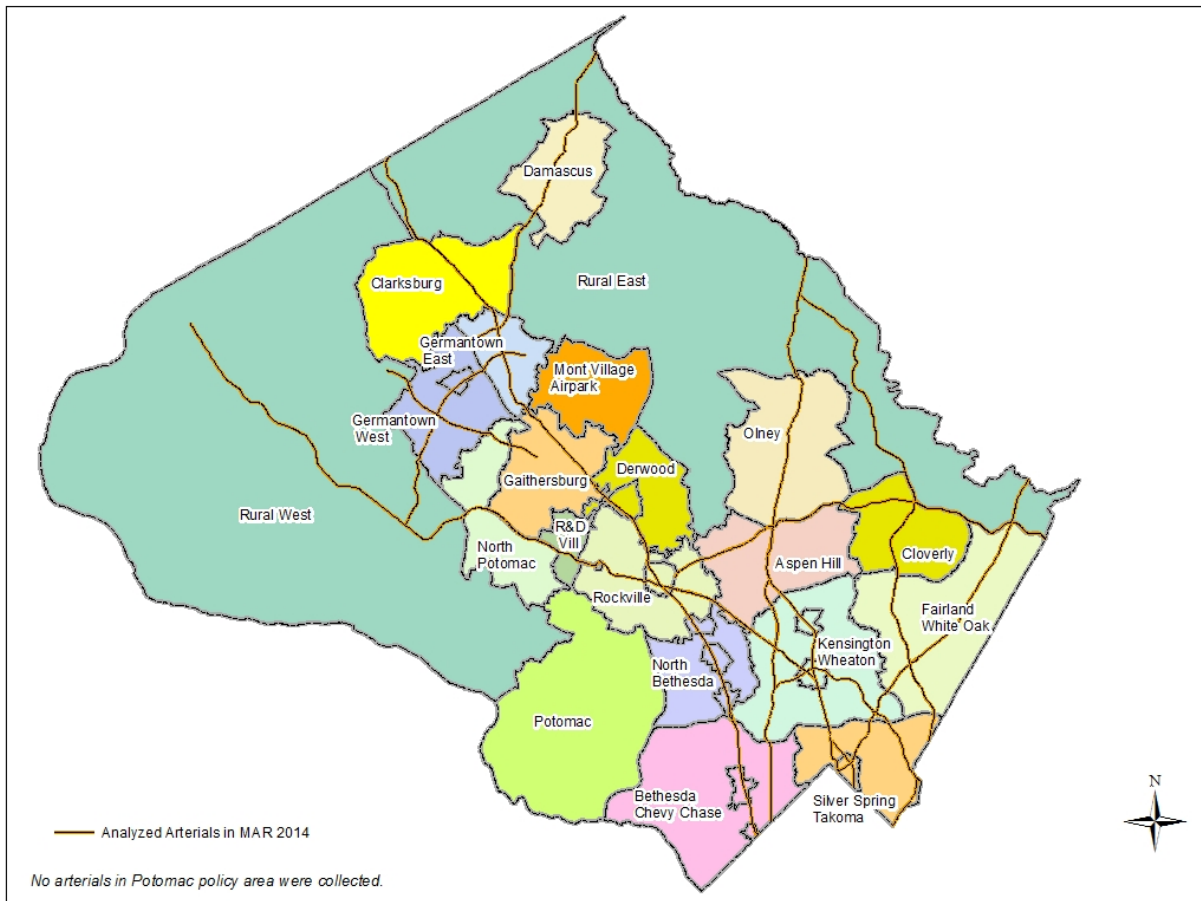
INRIX (www.inrix.com/) is an international transportation consulting firm that has been retained by the I-95 Corridor Coalition (www.i95coalition.org) to "acquire travel times and speeds using probe technology for both freeways and arterials...to present a comprehensive picture of traffic flow."

The travel time data acquired by the Coalition is primarily intended for monitoring and managing traffic flow in the I-95 Corridor from Maine to Florida. In addition, the data gathered may also be used to build local transportation monitoring data-bases. The Planning Department has direct access to this information which supplements the travel time datasets derived from Motion Maps, LLC used in previous reports. The combination of these datasets allows comparison of trends along all major routes throughout the County.

A major repository of INRIX data is an entity called the Center for Advanced Transportation Technology Laboratory (CATT Lab) at the University of Maryland. The mission of the lab is to support national, state, and local efforts to provide safe and efficient transportation systems through improved operations and management by means of research and development, technology implementation, training, and education. The CATT Lab's research and development activities provide a bridge between the intelligent transportation systems (ITS) community, the information technology community, and other disciplines essential to the successful application of ITS. As a member of the I-95 Corridor Coalition, the Planning Department has direct access to INRIX data maintained by the CATT Lab which is available free of charge. The travel time data for Montgomery County has been expanded to include most major arterials in comparison to previous studies. The CATT Lab provides a wide variety of information such as

transportation data fusion, data visualization, performance measurement, business processes, safety analysis, user interface design, software development, 3D/4D modeling, traveler information systems, training, transportation operations, work zone management, and incident management. For purposes of this report, we focus on the performance measurement information to evaluate roadway congestion conditions in the County.

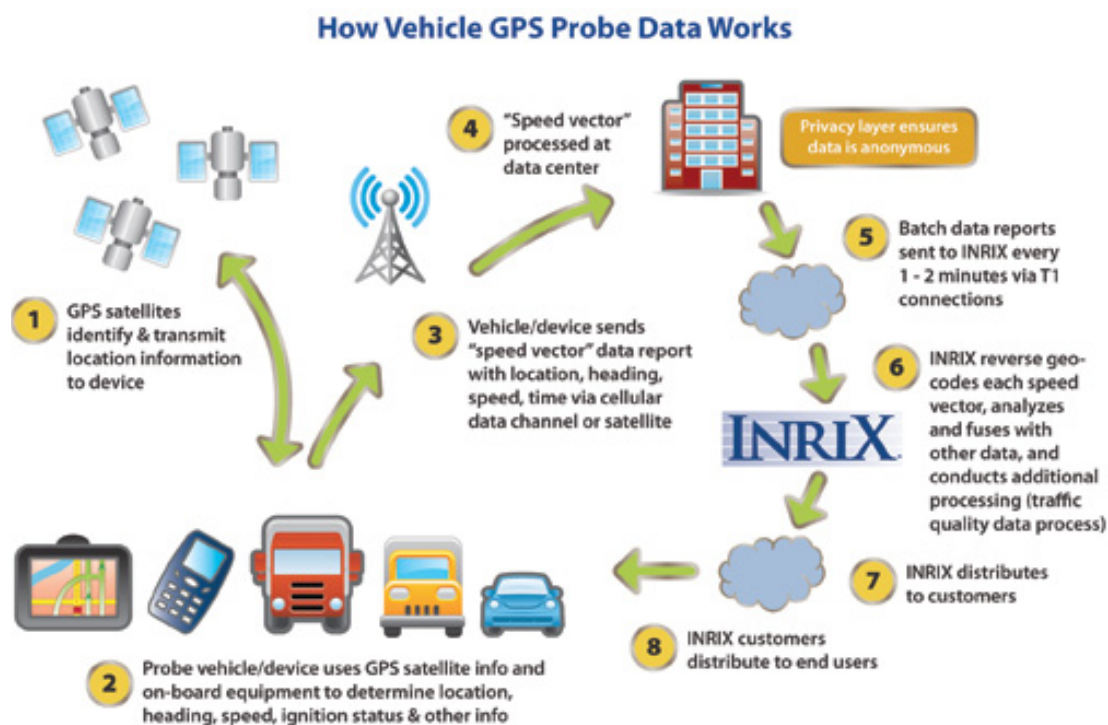
The travel time data used for the 2014 Mobility Assessment Report covers major arterials in Montgomery County: MD 27, MD 28, MD 97, MD 117, MD 118, MD 119, MD 185, MD 193, MD 198, MD 355, MD 390, MD 586, US 29 and, MD 650. All of these roadways cross multiple policy areas, which is reflected in the analysis. The 2014 report develops a countywide congestion baseline for the major roads in the County that can be compared to similar information in future reports.



How INRIX Works

INRIX collects and processes traffic speed and travel time data collected from GPS-outfitted commercial vehicle fleets (vehicle probe data) as well as other sources. Vehicle probe data are derived from GPS satellite signals that transmit location information to on-board devices located on commercial vehicles. These data are transmitted to INRIX, where the information is processed and sent to customers who can use the data to compute reference speed and reported speed.

The speed data that is collected, processed and analyzed is assigned a roadway segment number (also known as a Traffic Message Channel or “TMC” locator code), roadway name, direction, time, date, reference speed, and an actual (reported) speed. Reference speed is the uncongested free flow speed, basically, the speed limit on each road segment. Reported speed is the actual observed travel speed for every hour each day of the week. By comparing these two factors within a specified time period, congestion is indicated if the reported speed is less than the reference speed. The 2014 Mobility Assessment Report analyzes travel time and speed congestion for the year 2012 and reports the information for a full-day average by each weekday.



INRIX Data, Travel Time Index, Percentage of Congestion

The data variables provided by INRIX included route, direction, time, date, reference speed, and reported speed. The performance measure used to determine congestion along the arterials is the Travel Time Index (TTI). This metric is used by many transportation analysts and planners and describes how much longer it takes to travel in congested conditions relative to “free flow” conditions. The 2014 Mobility Assessment Report displays this index for both a daily and hourly time periods based on weekday or weekend travel. This information is derived from the raw travel time files that were collected along these roadways. The original raw files are in text format, which are later processed into Excel and database files where multiple queries are executed to ensure accurate information capture based on quality control parameters for roadway data analysis.

TTI is the ratio of reported speed relative to reference speed. If this ratio for a particular road segment is valued at 1.0 during a specified time period, the TTI indicates that reported speed is equal to the reference speed.

If the same roadway during a different time, such as the peak period, has a TTI of 1.5, then the additional time needed to travel that roadway segment is 50 percent more than the time in

uncongested conditions. The TTI chart display format used in support of the 2011 MAR has been used in the 2014 MAR and has been applied to all selected roadways as these facilities cross through policy areas.

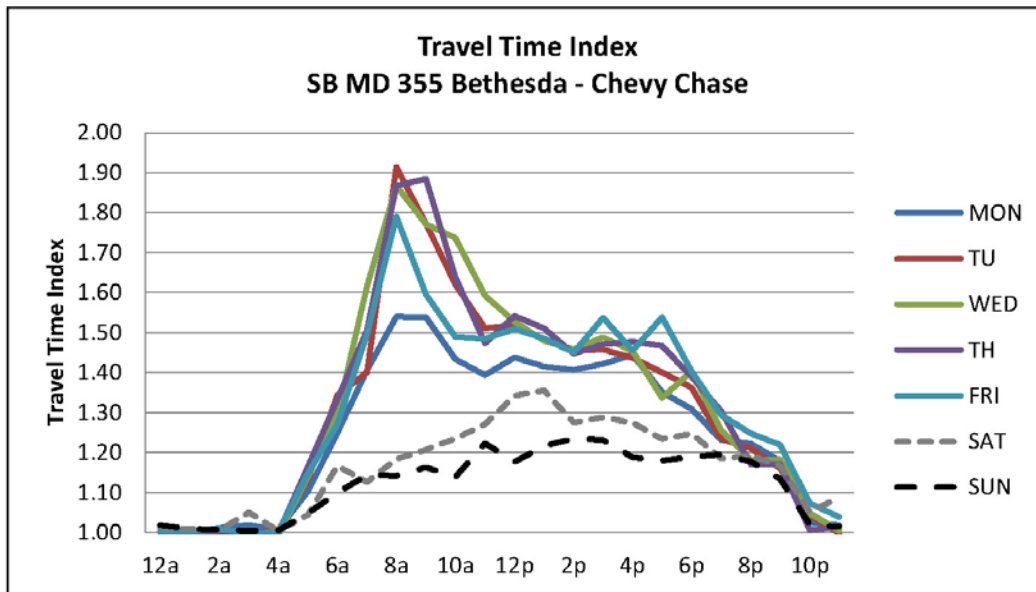
The Travel Time Tax (TTT) is the percentage of extra time allocated above free-flow to get from point A to point B in a roadway segment. For this report, the travel time tax is also known as the “average percentage of congestion”. The average percentage of congestion is calculated in aggregated average non-peak (12:00 AM-5:00 AM, 8:00 PM-11:00 PM, 10:00 AM-3:00 PM) and average peak intervals by each hour (6:00 AM-10:00 AM and 4:00 PM-8:00 PM). Please see all Travel Time Index and Average Percentage of Congestion graphics at the end of this document.

Percentage of Congestion
SB MD 355 Bethesda - Chevy Chase

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	3%	30%	53%	80%	71%	50%	45%	42%	37%	26%	11%
Weekend	2%	13%	16%	16%	18%	25%	23%	21%	22%	19%	11%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Methodology

The evaluation mobility is represented in the form of historical, current, and future traffic congestion trends. Current congestion measures included in this study are:

- Critical Lane Volume (CLV) for signalized intersections and

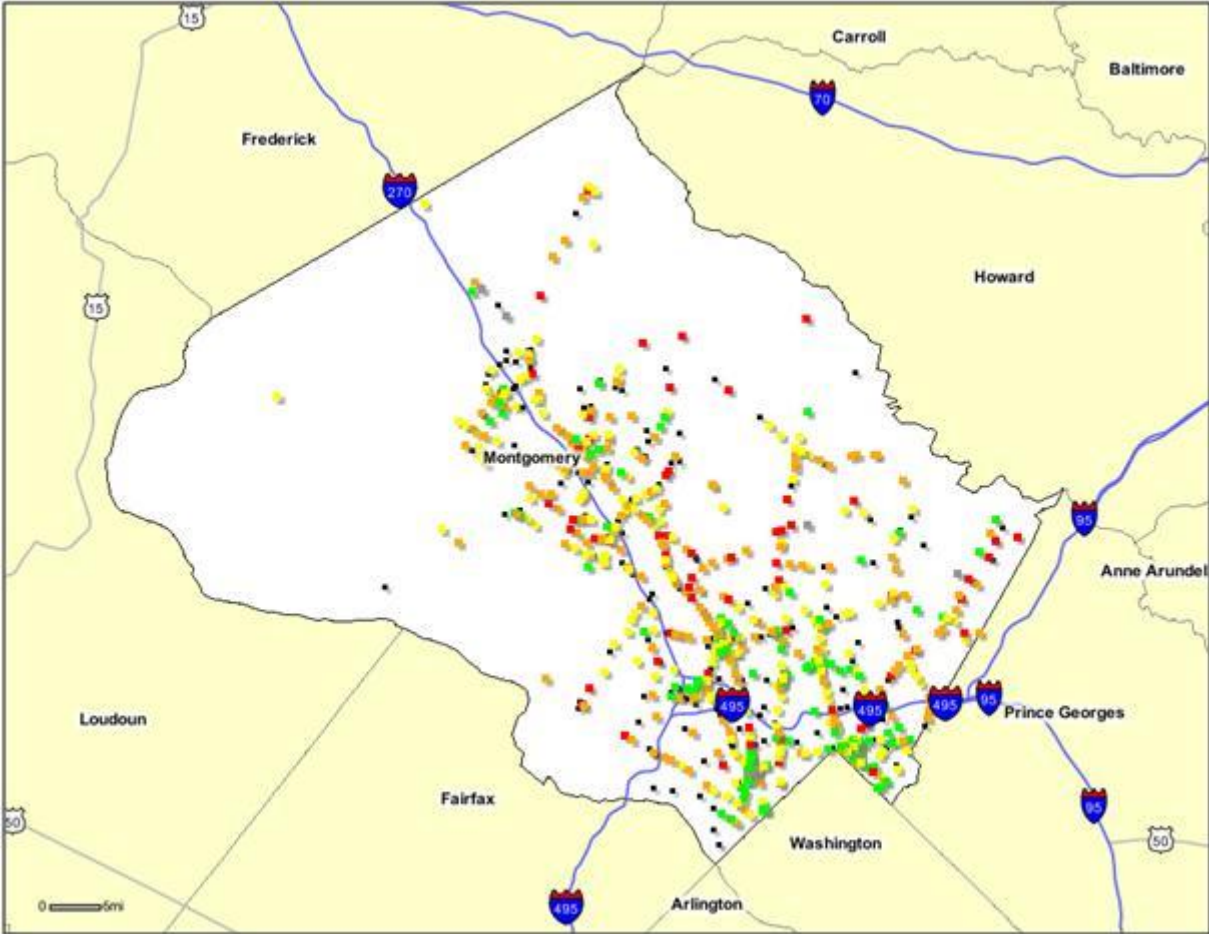
- Future congestion data which is reported using volume to capacity ratios (V/C) as derived from the Department's regional transportation model, TRAVEL/3. These current and future transportation indicators are intended for use by the Planning Board and County Council to inform their comments on capital programming priorities.

Critical Lane Volume

Critical Lane Volume (CLV) is a measure of conflicting traffic movements at an intersection. This metric is used to determine an intersection's level of service. The CLV is calculated mathematically using the following variables for a particular intersection:

- traffic approach volumes
- lane use factors of throughput and conflicting movements
- geometric lane configuration
- traffic signal phasing.

This calculation uses the lane use and configuration for each of an intersection's approach legs to determine the north/south and east/west peak flow of traffic, referred to as the "critical movements." The intersection's signal phasing then specifies if approaching traffic on a specific leg moves independently from traffic in the opposite direction. This information is used to determine whether or not a potential turning movement (i.e. left turn) conflict exists.

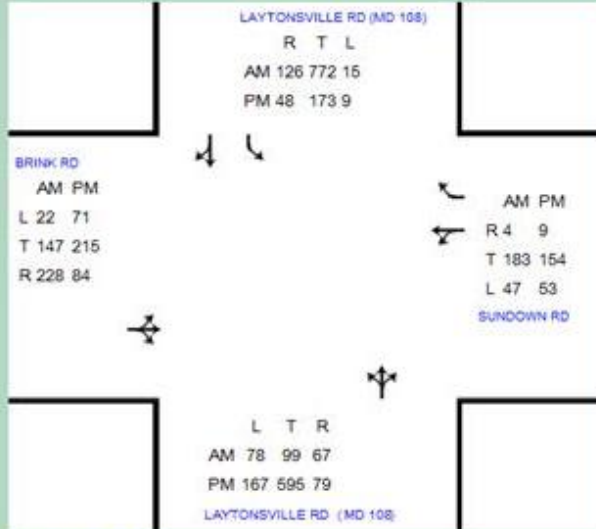


Intersection Analysis

Maryland National Capital Park & Planning Commission

Intersection Detailed Information

Intersection ID: 587
 LAYTONSVILLE RD (MD 108) and BRINK RD
 Date: Thursday 11/2/2006
 Company: Maryland SHA TMS
 Split Phasing? North/South: N East/West: N
 Comments:



Critical Lane Volume (CLV) Values

Intersection ID	Critical Lane Volume (Morning)	Morning Peak Hour	Critical Lane Volume (Evening)	Evening Peak Hour	AGP Policy Area	LATR CLV Standard
587	1422	6:45AM to 7:45AM	1433	5:15PM to 6:15PM	Goshen	1350

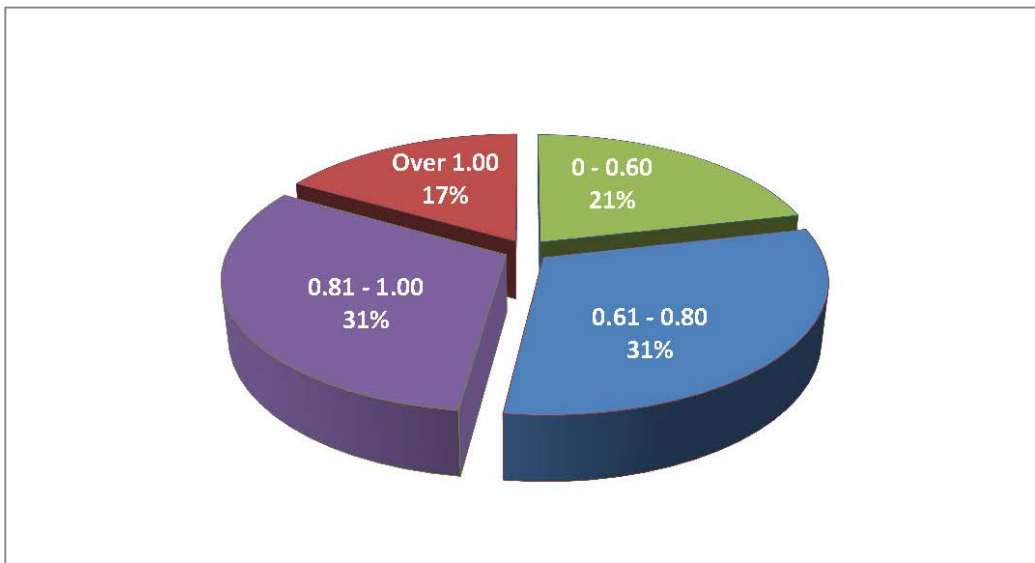
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Critical Lane Volume (CLV) and Local Area Transportation Review (LATR) Standards

Intersection congestion can also be measured by comparing the observed CLV to the applicable LATR policy area congestion standard.

The current LATR congestion standards reflect the approved CLV thresholds in the 2012 Subdivision Staging Policy as adopted by County Council on November 13, 2012 (see Table 1 LATR Congestion Standards). These standards reflect the County's policy of concentrating growth in areas with existing transit infrastructure such as the Central Business Districts, and Metro Station Policy Areas.

Congestion (CLV)	
Standard	Policy Area
1350	Rural East, Rural West
1400	Damascus
1425	Clarksburg, Gaithersburg City, Germantown East, Germantown West, Montgomery Village/Airpark
1450	Cloverly, North Potomac, Olney, Potomac, R&D Village
1475	Aspen Hill, Derwood, Fairland/White Oak
1500	Rockville City
1550	North Bethesda
1600	Bethesda-Chevy Chase, Kensington-Wheaton, Germantown Town Center, Silver Spring-Takoma Park
1800	Bethesda CBD, Friendship Heights CBD, Silver Spring CBD, Wheaton CBD, Glenmont MSPA, Grosvenor MSPA, Rockville Town Center MSPA, Shady Grove MSPA, Twinbrook MSPA, White Flint MSPA

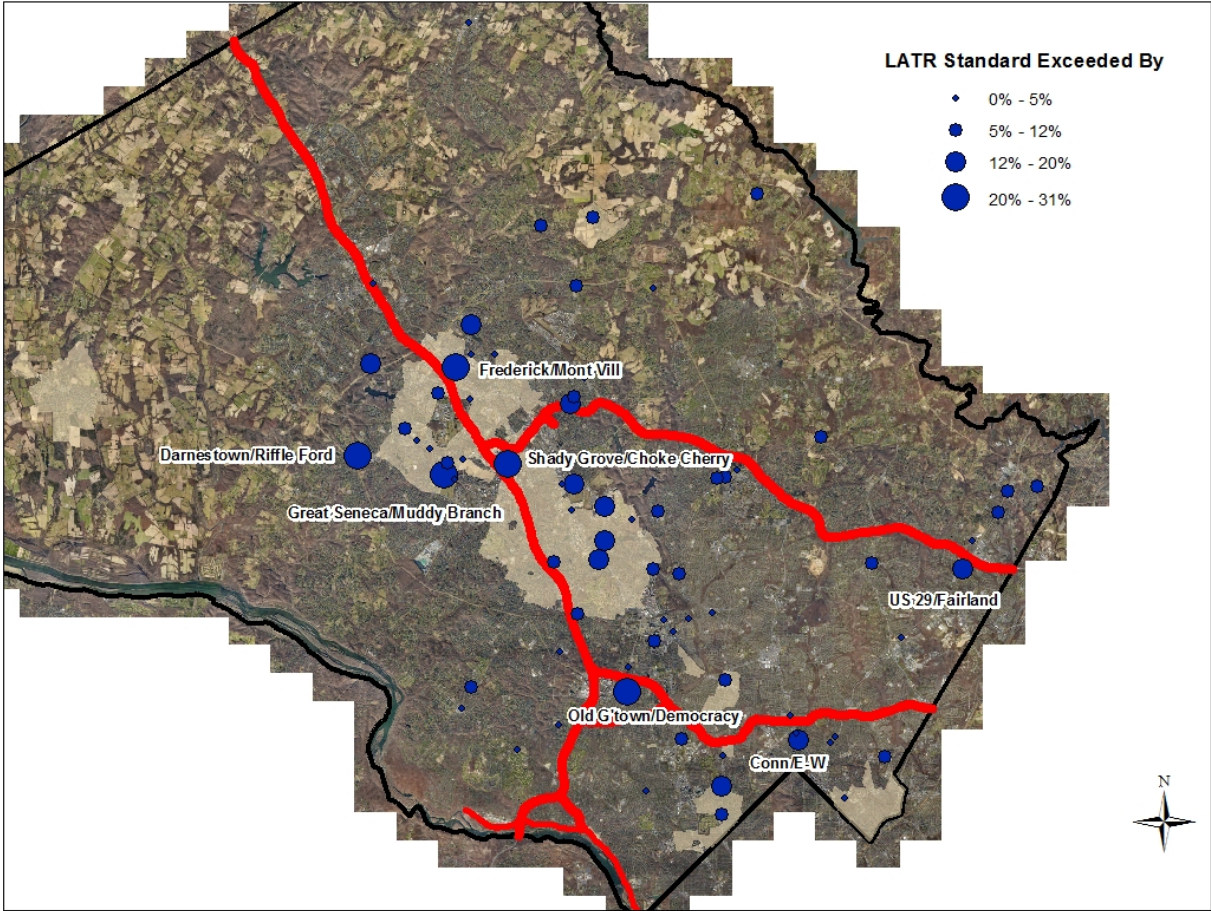


Analysis of Intersections Using CLV and LATR Congestion Standards

Intersection performance was analyzed by comparing observed CLV to the applicable LATR congestion standard. (See Table 2 “Intersections that Exceed the Policy Area Congestion Standard”). The following table lists the intersections by each policy area that has that has a current CLV that exceeds its LATR standard. Comparing CLV to LATR is a new way of ranking and prioritizing intersection improvements. It would allow planners to better prioritize improvements based on planning policy considerations rather than by a relative ranking of CLV observations.

Intersections by CLV Ranking

The top 50 intersections are ranked based on the percent by which the observed CLV differs from the LATR policy area standard, a measure that helps planners prioritize intersections by policy area. The following is a list of all of the intersections ranked by CLV.



Intersection Name	Countdate	AM CLV	PM CLV	Congestion Standard	Highest CLV	V/C Ratio	Peak Level of Service
Rural Tier							
Georgia Ave at New Hampshire Ave	3/6/2012	1498	1398	1350	1498	1.10	FF
Sandy Spring Rd at Mcknew	2/11/2009	1462	1489	1350	1489	1.10	FF
Columbia Pike at Blackburn Rd	12/6/2006	1484	1448	1350	1484	1.09	FF
Woodfield Rd at Brink Rd	4/16/2009	1323	1462	1350	1462	1.08	CF
Laytonsville Rd at Brink/Sundown	11/2/2006	1422	1433	1350	1433	1.06	FF
Muncaster Rd at MD 108	5/19/2009	1401	1381	1350	1401	1.04	FF
Damascus							
Ridge Rd at Lewis Dr/Locust Dr	5/16/2006	1437	1000	1400	1437	1.02	CB
Gaithersburg City							
Great Seneca Hwy at Quince Orchard Rd	4/25/2012	1602	1547	1425	1602	1.12	FF
Great Seneca Hwy at Muddy Branch Rd	1/4/2011	1464	1800	1425	1800	1.26	FF
Frederick Rd at Montgomery Village Ave	4/25/2012	1536	1795	1425	1795	1.26	FF
Muddy Branch Rd at Diamondback Dr	10/9/2007	1563	1195	1425	1563	1.09	FC
Clopper Rd at Quince Orchard Rd	4/26/2012	1427	1512	1425	1512	1.06	CF
Great Seneca Hwy at Kentlands Blvd	1/4/2011	1252	1496	1425	1498	1.05	CF
Great Seneca Hwy at Lakeland Blvd	1/8/2013	1487	1308	1425	1487	1.05	FC
W Diamond Ave at Muddy Branch/Chestnut	4/14/2009	1040	1434	1425	1434	1.00	BC
Germantown East							
Darrestown-Germantown Rd at I-270 NB Rmp	5/18/2010	1050	1441	1425	1441	1.01	BF
Germantown West							
Clopper Rd at Waring Station Rd	6/2/2011	1636	1589	1425	1636	1.15	FF
Montgomery Village Airpark							
Montgomery Village Ave at Stedwick	10/4/2007	1633	1170	1425	1633	1.14	FB
Woodfield Rd at Fieldcrest/Hadley Farms	2/10/2009	1247	1529	1425	1529	1.07	CF
Mont. Village Ave at Chris/Lost Knife	5/9/2006	1037	1454	1425	1454	1.02	BC
Mikcounty Hwy at Goshen Rd	4/2/2009	1176	1425	1425	1425	1.00	CC
North Potomac							
Darrestown Rd at Riffle Ford Rd	3/12/2009	1061	1898	1450	1898	1.31	BF
Olney							
Layhill Rd at Ednor Rd/Norwood Rd	4/27/2010	1579	1425	1450	1579	1.09	FC
Georgia Ave at Old Baltimore Rd	3/29/2012	1448	1381	1450	1448	1.00	CC
Potomac							
Democracy Blvd at Falls Rd/S Glen Rd	4/1/2009	1594	1167	1450	1594	1.10	FC
Seven Locks Rd at Tuckerman Ln	11/9/2006	1499	1487	1450	1499	1.03	FC
River Rd at Falls Rd	3/8/2011	1438	1496	1450	1496	1.02	CF
River Rd at Bradley Blvd	7/11/2012	1463	1102	1450	1463	1.01	FB
Seven Locks Rd at Bradley Blvd	3/17/2009	1192	1460	1450	1460	1.00	BC
R&D Village							
Great Seneca Hwy at Sam Eig Hwy	2/3/2009	1515	1348	1450	1515	1.04	FC
Sam Eig Hwy at Fields Rd							
Sam Eig Hwy at Fields Rd	10/11/2007	1456	1297	1450	1456	1.00	CC
Aspen Hill							
Georgia Ave at Norbeck Rd	9/11/2012	1656	1592	1475	1656	1.22	FF
Aspen Hill Rd at Arctic Ave	11/6/2008	1609	1467	1475	1609	1.09	FC
Norbeck Rd at Muncaster Mill Rd		1609	1238	1475	1609	1.09	FC
Norbeck Rd at Bauer Dr	10/18/2011	1586	1329	1475	1586	1.03	FC
Norbeck Rd at Norbeck Blvd	10/16/2008	1369	1518	1475	1518	1.02	CF
Derwood							
E Gude Dr at Crabbs Branch/Cecil	3/24/2009	1742	1211	1475	1742	1.18	FC
Shady Grove Rd at Epsilon/Tupelo	2/11/2009	1704	1403	1475	1704	1.15	FC
Shady Grove Rd at Midcounty Hwy	11/18/2010	1644	1323	1475	1644	1.11	FC
Shady Grove Rd at Muncaster Mill/Airpark	2/4/2010	1530	1274	1475	1530	1.03	FC
Fairland - White Oak							
Columbia Pike at Fairland Rd	10/11/2012	1416	1678	1475	1678	1.14	CF
Columbia Pike at Greencastle Rd	11/15/2006	1607	1575	1475	1607	1.08	FF
Randolph Rd at New Hampshire Ave	5/15/2012	1440	1580	1475	1580	1.07	CF
Briggs Chaney Rd at Old Columbia Pk	11/14/2006	1531	1209	1475	1531	1.03	FB
Columbia Pike at Milestone/Stewart	2/23/2011	1296	1516	1475	1516	1.03	CF
Rockville							
Shady Grove Rd at Croke Cherry Ln	5/19/2010	1363	1853	1500	1853	1.23	CF
Rockville Pike at First St/Wootton Pkwy	5/24/2011	1768	1610	1500	1768	1.18	FF
First St at Baltimore Rd	6/6/2012	1422	1718	1500	1718	1.15	CF
E Gude Dr at Southlawn Ln	3/5/2009	1692	1450	1500	1692	1.12	FC
Falls Rd at Maryland Ave/Pot. Valley	9/16/2008	1384	1658	1500	1658	1.10	CF
Veirs Mill Rd at First St	4/25/2012	1610	1475	1500	1610	1.07	FC
Hungerford Dr (MD 355) at Manatee St	2/25/2009	1533	1052	1500	1533	1.02	FB
Hungerford Ln (MD 355) at Gude Dr	1/13/2011	1531	1442	1500	1531	1.02	FC
Norbeck Rd (MD 28) at Avery Rd	1/8/2009	1511	1422	1500	1511	1.00	CC
North Bethesda							
Old Georgetown Rd at Democracy Blvd	6/6/2009	1431	1923	1550	1923	1.24	CF
Veirs Mill Rd at Twinbrook Pkwy	6/3/2010	1426	1721	1550	1721	1.11	CF
Montrose Rd at Tower Oaks Blvd	11/14/2006	1663	1232	1550	1663	1.07	FB
Old Georgetown Rd at Tuckerman Ln	9/13/2011	1604	1261	1550	1604	1.03	FC
Randolph Rd at Parklawn Dr (W)	2/11/2009	1601	1165	1550	1601	1.03	FB
Parklawn Dr at Boiling Brook Pkwy	9/12/2006	1304	1554	1550	1554	1.00	CC
Randolph Rd at Gaynor/Rockinghorse	6/9/2009	1073	1552	1550	1552	1.00	BC
Bethesda - Chevy Chase							
Connecticut Ave at East West Hwy	11/6/2013	1684	1848	1600	1848	1.15	CF
Connecticut Ave at Bradley Ln	11/6/2013	1415	1628	1600	1628	1.01	CF
Rockville Pike at W Cedar Ln	11/6/2013	1957	1612	1600	1957	1.22	FF
Connecticut Ave at Jones Bridge Rd	2/29/2012	1490	1672	1600	1672	1.05	CF
Bradley Blvd at Wilson Ln	3/12/2009	1660	1603	1600	1660	1.03	FC
Old Georgetown Rd at I-495 (S)	5/23/2012	1454	1553	1600	1553	1.00	CC

2013	Ranking		Intersection Name	Count Date	CLV	LATR Standard	Policy Area
	2011	2009					
1	4	2	Rockville Pike at W Cedar Ln	11/6/2013	1957	1600	Bethesda - Chevy Chase
2	390	95	Rockville Pike at Nicholson Ln	5/19/2011	1929	1800	White Flint
3	1	164	Old Georgetown Rd at Democracy Blvd	6/9/2009	1923	1550	North Bethesda
4	2 *		Darnestown Rd at Riffle Ford Rd	3/12/2009	1898	1450	North Potomac
5	3 *		Shady Grove Rd at Choke Cherry Ln	5/19/2010	1853	1500	Rockville City
6	15	17	Connecticut Ave at East West Hwy	11/6/2013	1848	1600	Bethesda - Chevy Chase
7	231	221	Georgia Ave at 16th St	6/15/2011	1816	1600	Silver Spring - Takoma Park
8	7	28	Great Seneca Hwy at Muddy Branch Rd	1/4/2011	1800	1425	Gaithersburg City
9	62	16	Frederick Rd at Montgomery Village Ave	4/25/2012	1795	1425	Gaithersburg City
10	142	135	Rockville Pike at First St/Wootton Pkwy	5/24/2011	1768	1500	Rockville City
11	9	11	E Gude Dr at Crabbs Branch/Cecil	3/24/2009	1742	1475	Derwood
12	11	8	Veirs Mill Rd at Twinbrook Pkwy	6/3/2010	1721	1550	North Bethesda
13	41	44	First St at Baltimore Rd	6/6/2012	1718	1500	Rockville City
14	17	4	Connecticut Ave at Plyers Mill Rd	6/1/2011	1710	1600	Kensington - Wheaton
15	13	15	Shady Grove Rd at Epsilon/Tupelo	2/11/2009	1704	1475	Derwood
16	14	73	University Blvd at Piney Branch Rd	1/22/2009	1703	1600	Silver Spring - Takoma Park
17	16	18	E Gude Dr at Southlawn Ln	3/5/2009	1692	1500	Rockville City
18	89	92	Randolph Rd at Veirs Mill Rd	5/3/2012	1683	1600	Kensington - Wheaton
19	19	20	Piney Branch Rd at Philadelphia Ave	1/21/2009	1680	1600	Silver Spring - Takoma Park
20	34	32	Columbia Pike at Fairland Rd	10/11/2012	1678	1475	Fairland - White Oak
21	8	9	Connecticut Ave at Jones Bridge Rd	2/29/2012	1672	1600	Bethesda - Chevy Chase
22	20	23	Montrose Rd at Tower Oaks Blvd	11/14/2006	1663	1550	North Bethesda
23	21	24	Bradley Blvd at Wilson Ln	3/12/2009	1660	1600	Bethesda - Chevy Chase
24	22 *		Falls Rd at Maryland Ave/Pot. Valley	9/16/2008	1658	1500	Rockville City
25	25	29	Georgia Ave at Norbeck Rd	9/11/2012	1656	1475	Aspen Hill
26	106	27	Frederick Rd at Shady Grove Rd	3/15/2011	1647	1800	Shady Grove
27	25	29	Colesville Rd at Dale Dr	2/26/2009	1645	1600	Silver Spring - Takoma Park
28	26	1	Shady Grove Rd at Midcounty Hwy	11/18/2010	1644	1475	Derwood
29 *	*		Clopper Rd at Waring Station Rd	6/2/2011	1636	1425	Germantown West
30	29	33	Montgomery Village Ave at Stedwick	10/4/2007	1633	1425	Montgomery Village - Airpark
31	52	53	Connecticut Ave at Bradley Ln	11/6/2013	1628	1600	Bethesda - Chevy Chase
32	31	35	Georgia Ave at Forest Glen Rd	7/2/2008	1626	1600	Kensington - Wheaton
33	32	36	Colesville Rd at Sligo Crk Pkwy/St Andre	3/6/2008	1624	1600	Silver Spring - Takoma Park
34	33	37	Georgia Ave at Columbia Blvd/Seminary Ln	6/2/2011	1624	1600	Silver Spring - Takoma Park
35	38	41	Veirs Mill Rd at First St	4/25/2012	1610	1500	Rockville City
36	35 *		Aspen Hill Rd at Arctic Ave	11/6/2008	1609	1475	Aspen Hill
37	36	38	Norbeck Rd at Muncaster Mill Rd	1/9/2009	1609	1475	Aspen Hill
38	37	39	Columbia Pike at Greencastle Rd	11/15/2006	1607	1475	Fairland - White Oak
39	27	31	Old Georgetown Rd at Tuckerman Ln	9/13/2011	1604	1550	North Bethesda
40	115	113	Great Seneca Hwy at Quince Orchard Rd	4/25/2012	1602	1425	Gaithersburg City
41	42	45	Randolph Rd at Parklawn Dr (W)	2/11/2009	1601	1550	North Bethesda
42	44	46	Democracy Blvd at Falls Rd/S Glen Rd	4/1/2009	1594	1450	Potomac
43	71	47	River Rd at Royal Dominion/Holton Arms	2/24/2004	1591	1600	Bethesda - Chevy Chase
44	122	57	Norbeck Rd at Bauer Dr	10/18/2011	1586	1475	Aspen Hill
45	10	3	Randolph Rd at New Hampshire Ave	5/15/2012	1580	1475	Fairland - White Oak
46	48	54	Layhill Rd at Ednor Rd/Norwood Rd	4/27/2010	1579	1450	Olney
47	49	51	River Rd at I-495 (E)	3/10/2009	1579	1600	Bethesda - Chevy Chase
48	300	283	River Rd at Willard Ln/Greenway	9/21/2011	1579	1600	Bethesda - Chevy Chase
49	50	55	East West Hwy at Jones Mill/Beach	3/5/2009	1574	1600	Bethesda - Chevy Chase
50	51	58	Colesville Rd at Franklin Ave	2/3/2009	1571	1600	Silver Spring - Takoma Park

Year 2022 Forecasted Mobility

For the purpose of this report, the traffic forecast results derived from the year 2022 Transportation Policy Area Review (TPAR) analysis were used to report future traffic conditions. This analysis was performed using the Department's TRAVEL/3 regional travel demand model. This modeling tool is an adaptation of the Metropolitan Washington Council of Governments (MWCOC) modeling process and has been applied in support of various subdivision staging policy and master planning studies undertaken by the Department.

Regarding the demographic assumptions the year 2022 TPAR analysis, land use development assumptions throughout the regions (including Montgomery County) reflect an estimate of the year 2022 Round 8.0 MWCOC Cooperative Forecast.

Within Montgomery County, the forecast for level of development is roughly 406,000 households and 607,000 jobs. Roughly one-third of these households and nearly one-half of these jobs are forecasted to be located in the northern half of the I-270 corridor, from Rockville City north to Clarksburg, including the following ten policy areas:

- Clarksburg
- Germantown West, Germantown Town Center, and Germantown East
- North Potomac
- Gaithersburg City
- Montgomery Village/Airpark
- Derwood
- R&D Village
- Rockville City

These ten policy areas currently have roughly one-third of the County's existing jobs and households.

It should be noted that the 2022 TPAR land use scenario also reflects assumed Base Realignment and Closures (BRAC)-related employment totals at the Naval Medical Center in Bethesda as well as anticipated employment development at the Food and Drug Administration in White Oak associated with Federal consolidation plans at that location.

Regarding the 2022 TPAR scenario transportation network, projects needed in order to achieve roadway adequacy in most policy areas were assumed. Within Montgomery County these improvements include: (1) transportation projects considered to be fully-funded within the current six-year County Capital Improvement Program (CIP) and the State Consolidated Transportation Program (CTP); (2) those projects conditioned to be built by the private sector as a condition of development pipeline approval and; (3) a selected set of “conditional projects” which are anticipated to be needed in order to achieve County-wide roadway adequacy by 2022. For the remainder of the network located outside Montgomery County, this analysis incorporates projects identified in the MWCOG Constrained Long-Range Plan (CLRP) network that are anticipated to be completed by the year 2020.

Project planning studies are currently underway for the both the I-270 / US 15 corridor, and the Capital Beltway (from the I-270 Spur to the American Legion Bridge). However, the proposed capacity improvements associated with these facilities were not included in the year 2022 scenario. However, project planning studies for the Corridor Cities Transitway (between Shady Grove and Metropolitan Grove) are anticipated to be completed by 2022; therefore these projects were included in the scenario. The PM peak period results from the year 2022 were analyzed and compared to that of the year 2010 scenario for discussion purposes, with the primary focus on the non-freeway facilities (i.e., local roadways) .

Table 4 shows a comparison of the model run results for the year 2010 and 2022 scenarios. It should be noted that the levels of development assumed in these two scenarios are significantly different. For 2010, countywide totals for households and jobs are 360,500 and 506,000, respectively. For 2022, the countywide total for households is assumed to be 405,597 (an increase of 12.5% relative to 2010). The year 2022 countywide total for jobs is assumed to be 606,679 (an increase of 20% relative to 2010). Relative to 2010 conditions, the average volume-to-capacity (V/C) ratio on the County’s roadway network is anticipated to increase by 9.6 % by the year 2022. In addition, both the vehicle-miles traveled (VMT) and the vehicle-hours traveled (VHT) are anticipated to increase by 13.6 % and 19.8%, respectively. The Intercounty Connector (ICC) and other future road improvements will account for a 4.3% increase in the County-wide roadway network’s total lane-miles. These figures indicate that more vehicles are predicted travel the County’s roadways and are forecasted to travel in more congested conditions by the year 2022. However, planned capacity improvements (most notably the ICC) are anticipated to marginally improve current average levels of mobility in the County as reflected in the slight decrease in average travel speeds.

Table 4

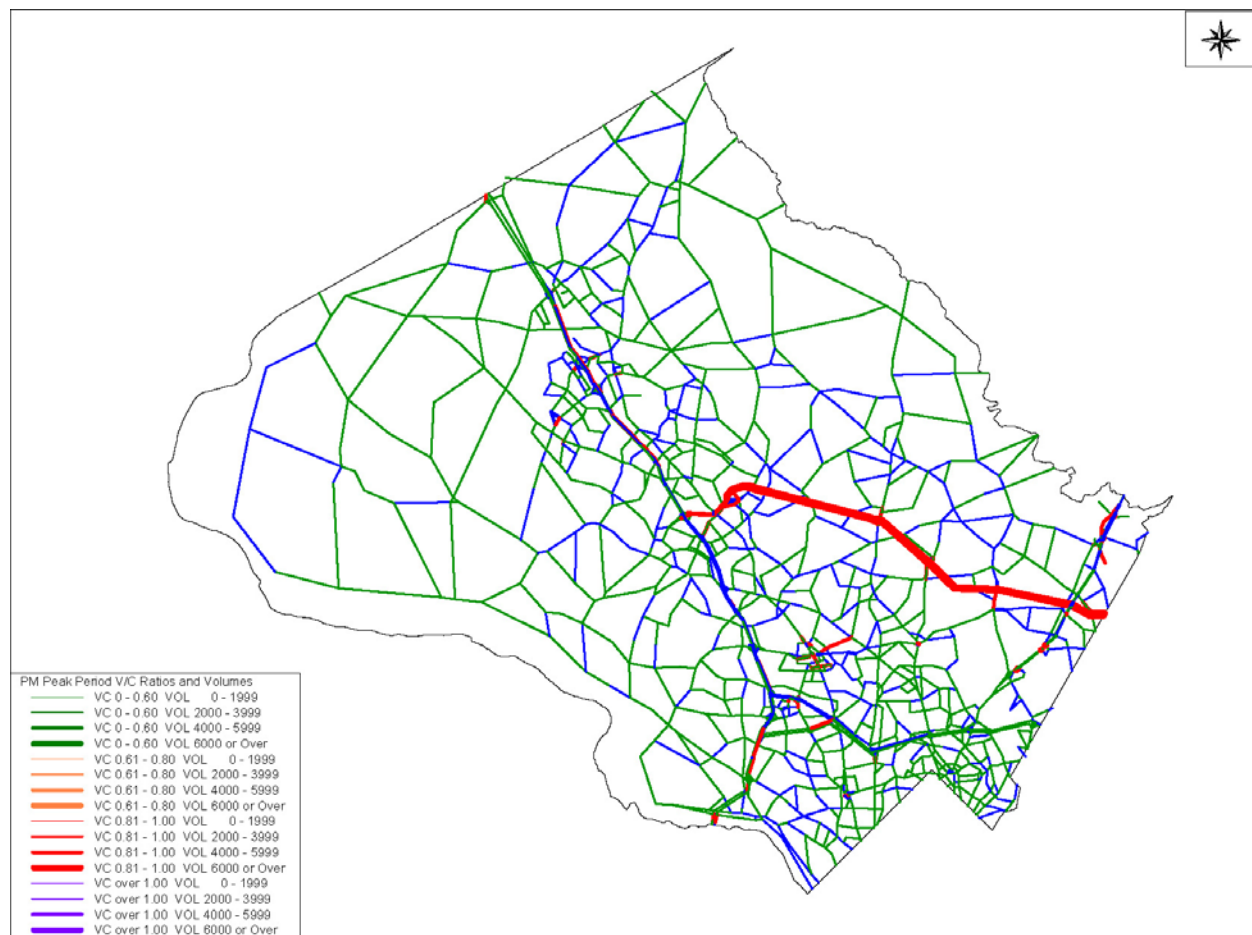
	2010 Network	2022 TPAR Network	% Change from 2010
Households	362,000	405,597	12.0%
Jobs	510,000	606,679	19.0%
Total Lane-Miles	2,842	2,965	4.3%
PM Vehicle-Miles Traveled (in 000s)	5,675.8	6,446.1	13.6%
PM Vehicle-Hours Traveled (in 000s)	335.4	401.8	19.8%
PM Average Speed (mph)	16.9	16.0	-5.2%
PM Average V/C Ratio (4-7 PM)	0.76	0.83	0.10

Table 5 compares and summarizes the 2010 and 2022 modeled results for both non-freeway (i.e., local roadways) and freeway facilities in the County. Based on the results, the forecasted increase in the average V/C ratio is higher for the freeway facilities (10.2%) relative to non-freeway facilities (8.7%). Similarly, the percent increases in VMT and VHT on the freeway facilities (26.1 % and 24.7%, respectively) are forecasted to be higher than that of the non-freeway facilities (7.9 % and 18.1%, respectively). One of the main reasons for the significant increase in total lane-miles for freeway facilities is the completion of the full length of the ICC between I-370 and US Route 1. This facility is anticipated to carry a significant amount of the additional traffic traveling on the County's roadways by 2022.

Table 5

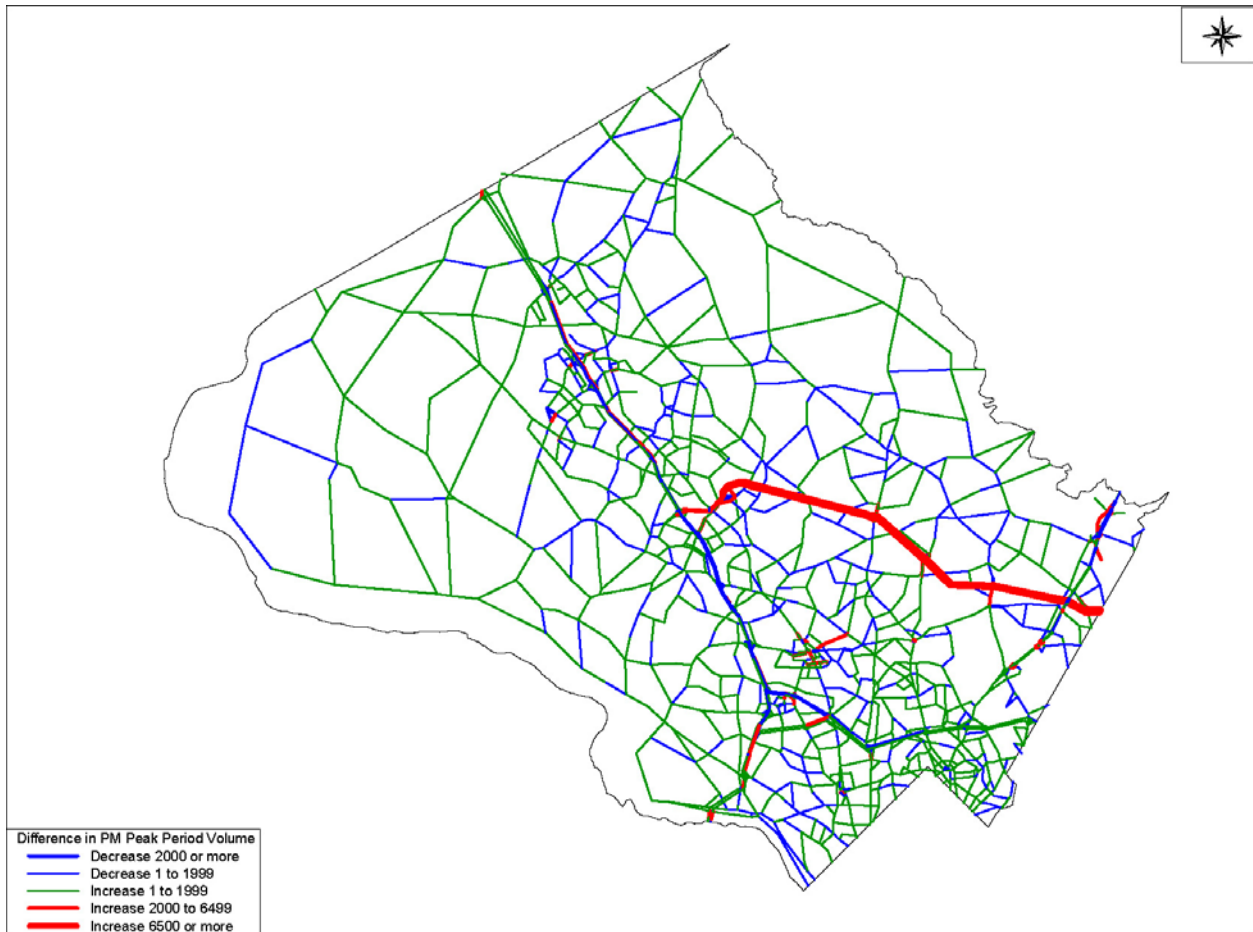
	Non-freeway Facilities			Freeway/Ramp Facilities		
	2010 Network	2022 TPAR Network	% Change from 2010	2010 Network	2022 TPAR Network	% Change from 2010
Total Lane-Miles	2,433	2,458	1.0%	409	507	24.0%
PM Vehicle-Miles Traveled (in 000s)	3,913.7	4,224.3	7.9%	1,762.1	2,221.8	26.1%
PM Vehicle-Hours Traveled (in 000s)	250.6	296.1	18.1%	84.8	105.8	24.7%
PM Average Speed (mph)	15.6	14.3	-8.6%	20.8	21.0	1.1%
PM Average V/C Ratio (4-7 PM)	0.76	0.84	0.10	0.77	0.82	0.06

2022 PM Peak Period V/C Ratios & Volumes



Map 3 shows the PM peak period V/C ratios and volumes forecasted for the year 2022 on the County's transportation system. The model results indicate that roughly 25% of the congested lane-miles (i.e., roadways with V/C ratios greater than 0.8) will be located along the freeway facilities (i.e. I-495 and I-270), while the remaining 75% will be located along the major non-freeway facilities such as; Columbia Pike (US 29), Georgia Ave (MD 97), and Connecticut Ave (MD 185). These results help to reinforce the need for additional transportation capacity (roadways and/or transit) on some of the County's major facilities that will be needed to accommodate anticipated future increases in traffic.

Showing Difference in PM Peak Period Volumes



Map 4 depicts the forecasted PM peak period traffic volume differences between 2010 and 2022. Not surprisingly, traffic volumes are generally forecasted to increase throughout the County. In contrast to this general pattern, the opening of some new facilities is anticipated to have a beneficial effect on roadways located in the immediate vicinity of these projects. A notable example includes the addition of the ICC as a primary east-west route travel alternative. Some local roadways located in the immediate vicinity of the ICC are anticipated to experience reductions in PM peak period travel volumes during the analysis period. These roads include Norbeck Rd (MD 28), Spencerville Rd (MD 198), Muncaster Mill Rd (MD 115), and sections of Olney-Laytonsville Rd (MD 108). Similarly, modest reductions in travel volumes along the Beltway as well as along I-270 between the ICC and Montrose Road are also projected. These findings provide some indication that east-west mobility in the County will be enhanced, at least for the short-term, with the addition of the ICC

Appendix 3

Scheduled Road Construction Projects

Construction Projects (State & County)				
PROJECT NAME	LOCATION/LIMITS	AGENCY	DETAILS	Completion
MD 200 (ICC) Contract D/E	Collector Distributor Roads From E of I95 to US1	State	Connections to US1, I95, and MD 200	93%
BRAC Bethesda Intersection (Phases 1 and 2)	MD 185 at Jones Bridge Rd	State	Intersection Improvements	79%
MacArthur Blvd Bikeway Improvement Segment 2	I 495 to Oberlin Ave	County	Bikeway improvements	62%
Century Blvd Extension	from Father Hurley Blvd	County	Extension to complete loop road	15%
Montrose Parkway West	Montrose to Old Georgetown Rd	County	New 4-lane divided road	0%
SHA Development & Evaluation (D&E)				
MD 97 at Randolph Rd Interchange	Randolph Rd at MD 97	State	Interchange Improvements	ROW
BRAC Bethesda Intersection (Phase 3)	MD 185 at Jones Bridge Rd	State	Intersection Improvements	Engineering
BRAC Bethesda Intersection	MD 187 at Cedar Ln	State	Intersection Improvements	Engineering
BRAC Bethesda Intersection	MD 355 at Jones Bridge Rd	State	Intersection Improvements	Engineering
BRAC Bethesda Intersection (Phases 1 and 2)	MD 355 at Cedar Ln	State	Intersection Improvements	Engineering
BRAC Bethesda Intersection (Phase 4)	MD 355 at Cedar Ln	State	Intersection Improvements	Engineering
I-270 & US 15 Multimodal Study	I-270/US 15 Corridor	State	Highway and Transit Improvements	PP
I-270 at Watkins Mill Rd	I-270 and Watkins Mill Rd	State	New Interchange	Engineering
I 95/ 495 Corridor Planning Study	American Legion to Woodrow Wilson Bridge	State	Widening	Engineering
US 29 at Musgrove Rd	US 29 at Musgrove Rd	State	New Interchange	PP
US 29 at Steward, Tech, Greencastle, Blackburn	Various Intersections	State	New Interchanges	PP
MD 28/MD 198	MD 28 an MD 198 Corridors	State	New Interchanges	PP
MD 97 at MD 28	MD 97 at MD 28	State	New Interchanges	Engineering
MD 97 at Brookeville Hwy	South of Brookeville to North of Brookeville	State	Two lane highway	Engineering
MD 97 BRT Planning Study	Wheaton Metro to Olney	State	BRT Roadway Improvements	PP
MD 117 (Phases 2-3) Highway Design	Game Preserve Rd to I-270	State	Intersection Improvements	Engineering
MD 124 (Phases 2-3) Highway Design	Mid-County Hwy to S of Airpark Rd	State	Roadway Improvements	Engineering
MD 355 (Phase 2) Highway Design	CSX Rail Crossing	State	Interchange and CSX improvements	Engineering
MD 586 BRT Planning Study	Rockville Metro to Wheaton Metro	State	BRT Roadway Improvements	PP
County DPWT Facility Planning				
MD 355 Crossing	Between NIH and NNMC	County	Multi-modal Crossing Point	Design-Build
Bethesda Bikeway & Pedestrian Facilities	Bethesda CBD	County	Bikeway/Pedestrian access improvements	Facility Planning I
Mid County Corridor Study	Montgomery Village Ave to Ridge Rd	County	Multi-Modal Improvements	Facility Planning I
Goldsboro Rd SW/BW	River Rd to MacArthur Blvd	County	Study for Bike and Pedestrian facilities	Facility Planning I
White Flint District West	White Flint District Area	County	Multi-Modal Improvements	Facility Planning II
White Flint District East	White Flint District Area	County	New Roads & Bridge	Facility Planning II
Bradley Blvd Bikeway	Wilson Ln to Goldsboro Rd	County	On & Off Road shared use paths	Facility Planning II
MacArthur Blvd Bikeway - Segment 3	From Oberlin Ave to DC Line	County	Bikeway Improvements	Facility Planning II
Redland Rd	Crabbs Branch Wyt to Baederwood Ln	County	Shared Use Path Improvement	In Design
Travilah Rd - Phase 2	Segment of Darnestown and Travilah	County	Bikepath on Darnestown Rd	In Design
Montrose Parkway East	MD 187 to MD 586	County	4 lane divided parkway	In Design
Thompson Rd	Rainbow Dr and Thompson Rd	County	2 lane road	In Design
Goshen Rd South	Warfield to just south of Odenhal Ave	County	4 lane roadway & hiker/biker trail	In Design
Snouffer School Rd	Woodfield Rd to Centerway Rd	County	Road Widening	In Design
Metropolitan Branch Trail (Downtown Silver Spring)	End of trail in TP and SSTC	County	Trail extension	In Design
Frederick Road Bike Path	Stringtown Rd and Brink Rd	County	Bike Path	In Design
Snouffer School Rd North	Centerway Rd and Turkey Thicket Dr	County	Roadway Widening	In Design
Platt Ridge Dr Extended	Jones Bridge Rd to Montrose Rd	County	Extension of Road	In Design
Ripley St Improvements	225' of Ripley St next to Georgia Ave	County	Widening of Street	Participation
Clarksburg Connector	Small segment to MD 355	County	Extension of Road	Participation
Montrose Trail	Tildenwood Dr to Old Farm Creek	County	Hiker-Biker Trail	Warranty Period
Shady Grove Metro Access Bike Path	Shady Grove Rd to Redland Rd	County	Bike Path	Warranty Period
Old Georgetown Rd	Woodmont Ave to Edgemore Ln	County	Pedestrian Bridge	Warranty Period
Burtonsville Access Road	MD 198 to School Access Rd	County	2 - lane roadway	On Hold
Falls Rd	River Rd to Dunster Rd	County	Hiker-Biker Trail	On Hold
Seven Locks Rd	Montrose Rd to Tuckerman Ln	County	Bikeway	On Hold
Observation Dr Extended	Water Discovery Ln to 1/4 mi S of Stringtown Rd	County	Extend existing road	On Hold
Roberts Tavern Dr Extended	Observation Dr to MD 355	County	Extend existing road	On Hold
Completed Projects (State & County)				
MD 650 at MD 97	EB MD 650 and NB MD 97	State	Exclusive Left Turn Lane	
ICC - Contract C	W. of US 28 to I-95	State	6-lane divided Tollway	
Woodfield Rd Extended	Main St to MD 27	County	New 2-lane arterial	
ICC - Contract B	MD 97 to W. of US 29	State	6-lane divided Tollway	
Father Hurley Blvd Extended	Wistena Dr to MD 118	County	Roadway extension to MD 118	
Watkins Mill Rd Extended	e. of I-270 to W. of I-270	County	Sections	
Cedar Ln Bridge	Over Rock Creek	County	Bridge Rehabilitation	
Nebel St Extended	Chapman Ave to Randolph Rd	County	Roadway extension to Randolph	
E. Guide Dr WB Bridge over CSX and Metro*	600' e. of MD 355	County	Structural rehabilitation	
BRAC Bicycle and Pedestrian Facilities*	Surrounding NNMC	County	Bikeway network construction	
ICC - Contract D/E	I-95 & Va Manor Rd	State	6-lane divided Tollway	
BRAC Bike Path: West Cedar Ln	MD 187 to MD 355	County	Shared Use Bike Path	
BRAC Bike Path: Jones Bridge Rd	MD 187 to MD 355	County	Shared Use Bike Path	
BRAC Bike Path: Battery Ln	MD 355 to MD 187	County	Shared Use Bike Path	
BRAC Bike Path: MD 355	West Cedar Ln to Jones Bridge Rd	County	Shared Use Bike Path	

KEY/NOTES:
 PP = Project Planning (State)
 TBA = Awaiting Start of Construction
 Property Acq = Property Acquisition Phase
 Phase I FP = Plans < 35% Complete (County)
 Phase II FP = Plans 35% Complete (County)
 Design = Plans 35 to 100% Complete (County)

Appendix 4

List of Intersections and CLV Information

2013	2011	Ranking		Intersection Name	Count Date	CLV	LATR		Policy Area
		2009					Standard		
1	4	2		Rockville Pike at W Cedar Ln	11/6/2013	1957	1600	Bethesda - Chevy Chase	
2	390	95		Rockville Pike at Nicholson Ln	5/19/2011	1929	1800	White Flint	
3	1	164		Old Georgetown Rd at Democracy Blvd	6/9/2009	1923	1550	North Bethesda	
4	2	*		Darnestown Rd at Riffle Ford Rd	3/12/2009	1898	1450	North Potomac	
5	3	*		Shady Grove Rd at Choke Cherry Ln	5/19/2010	1853	1500	Rockville City	
6	15	17		Connecticut Ave at East West Hwy	11/6/2013	1848	1600	Bethesda - Chevy Chase	
7	231	221		Georgia Ave at 16th St	6/15/2011	1816	1600	Silver Spring - Takoma Park	
8	7	28		Great Seneca Hwy at Muddy Branch Rd	1/4/2011	1800	1425	Gaithersburg City	
9	62	16		Frederick Rd at Montgomery Village Ave	4/25/2012	1795	1425	Gaithersburg City	
10	142	135		Rockville Pike at First St/Wootton Pkwy	5/24/2011	1768	1500	Rockville City	
11	9	11		E Gude Dr at Crabbs Branch/Cecil	3/24/2009	1742	1475	Derwood	
12	11	8		Veirs Mill Rd at Twinbrook Pkwy	6/3/2010	1721	1550	North Bethesda	
13	41	44		First St at Baltimore Rd	6/6/2012	1718	1500	Rockville City	
14	17	4		Connecticut Ave at Plyers Mill Rd	6/1/2011	1710	1600	Kensington - Wheaton	
15	13	15		Shady Grove Rd at Epsilon/Tupelo	2/11/2009	1704	1475	Derwood	
16	14	73		University Blvd at Piney Branch Rd	1/22/2009	1703	1600	Silver Spring - Takoma Park	
17	16	18		E Gude Dr at Southlawn Ln	3/5/2009	1692	1500	Rockville City	
18	89	92		Randolph Rd at Veirs Mill Rd	5/3/2012	1683	1600	Kensington - Wheaton	
19	19	20		Piney Branch Rd at Philadelphia Ave	1/21/2009	1680	1600	Silver Spring - Takoma Park	
20	34	32		Columbia Pike at Fairland Rd	10/11/2012	1678	1475	Fairland - White Oak	
21	8	9		Connecticut Ave at Jones Bridge Rd	2/29/2012	1672	1600	Bethesda - Chevy Chase	
22	20	23		Montrose Rd at Tower Oaks Blvd	11/14/2006	1663	1550	North Bethesda	
23	21	24		Bradley Blvd at Wilson Ln	3/12/2009	1660	1600	Bethesda - Chevy Chase	
24	22	*		Falls Rd at Maryland Ave/Pot. Valley	9/16/2008	1658	1500	Rockville City	
25	25	29		Georgia Ave at Norbeck Rd	9/11/2012	1656	1475	Aspen Hill	
26	106	27		Frederick Rd at Shady Grove Rd	3/15/2011	1647	1800	Shady Grove	
27	25	29		Colesville Rd at Dale Dr	2/26/2009	1645	1600	Silver Spring - Takoma Park	
28	26	1		Shady Grove Rd at Midcounty Hwy	11/18/2010	1644	1475	Derwood	
29	*	*		Clopper Rd at Waring Station Rd	6/2/2011	1636	1425	Germantown West	
30	29	33		Montgomery Village Ave at Stedwick	10/4/2007	1633	1425	Montgomery Village - Airpark	
31	52	53		Connecticut Ave at Bradley Ln	11/6/2013	1628	1600	Bethesda - Chevy Chase	
32	31	35		Georgia Ave at Forest Glen Rd	7/2/2008	1626	1600	Kensington - Wheaton	
33	32	36		Colesville Rd at Sligo Crk Pkwy/St Andre	3/6/2008	1624	1600	Silver Spring - Takoma Park	
34	33	37		Georgia Ave at Columbia Blvd/Seminary Ln	6/2/2011	1624	1600	Silver Spring - Takoma Park	
35	38	41		Veirs Mill Rd at First St	4/25/2012	1610	1500	Rockville City	
36	35	*		Aspen Hill Rd at Arctic Ave	11/6/2008	1609	1475	Aspen Hill	
37	36	38		Norbeck Rd at Muncaster Mill Rd	1/9/2009	1609	1475	Aspen Hill	
38	37	39		Columbia Pike at Greencastle Rd	11/15/2006	1607	1475	Fairland - White Oak	
39	27	31		Old Georgetown Rd at Tuckerman Ln	9/13/2011	1604	1550	North Bethesda	
40	115	113		Great Seneca Hwy at Quince Orchard Rd	4/25/2012	1602	1425	Gaithersburg City	
41	42	45		Randolph Rd at Parklawn Dr (W)	2/11/2009	1601	1550	North Bethesda	
42	44	46		Democracy Blvd at Falls Rd/S Glen Rd	4/1/2009	1594	1450	Potomac	
43	71	47		River Rd at Royal Dominion/Holton Arms	2/24/2004	1591	1600	Bethesda - Chevy Chase	
44	122	57		Norbeck Rd at Bauer Dr	10/18/2011	1586	1475	Aspen Hill	
45	10	3		Randolph Rd at New Hampshire Ave	5/15/2012	1580	1475	Fairland - White Oak	
46	48	54		Layhill Rd at Ednor Rd/Norwood Rd	4/27/2010	1579	1450	Olney	
47	49	51		River Rd at I-495 (E)	3/10/2009	1579	1600	Bethesda - Chevy Chase	
48	300	283		River Rd at Willard Ln/Greenway	9/21/2011	1579	1600	Bethesda - Chevy Chase	
49	50	55		East West Hwy at Jones Mill/Beach	3/5/2009	1574	1600	Bethesda - Chevy Chase	
50	51	58		Colesville Rd at Franklin Ave	2/3/2009	1571	1600	Silver Spring - Takoma Park	

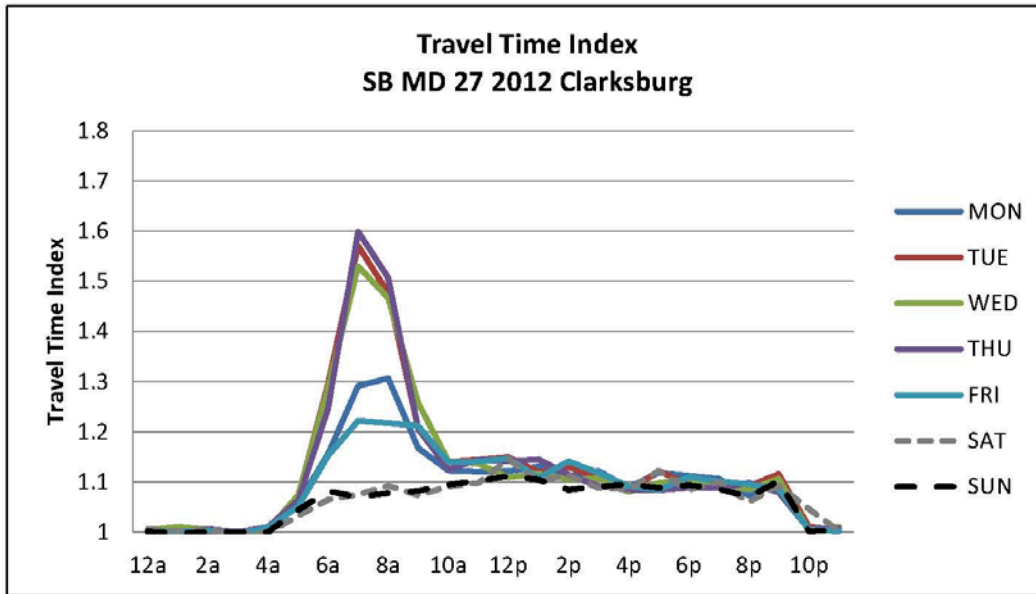
Southbound

Percentage of Congestion
SB MD 27 2012 Clarksburg

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	23%	44%	39%	21%	12%	8%	10%	10%	10%	5%
Weekend	1%	7%	8%	8%	8%	10%	9%	10%	9%	9%	5%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Damascus

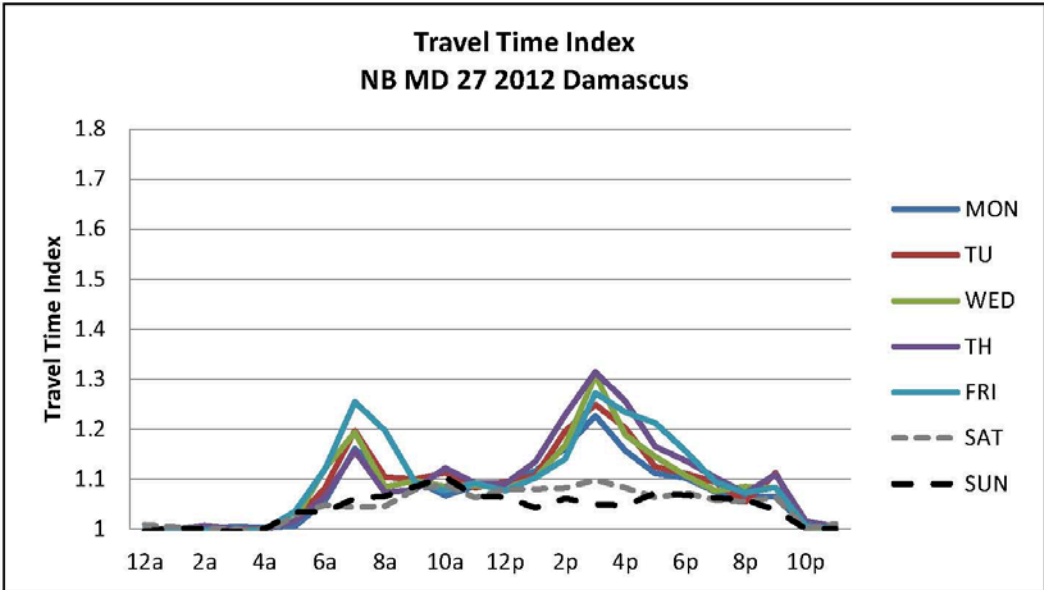
Northbound

Percentage of Congestion
NB MD 27 2012 Damascus

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	9%	19%	11%	9%	14%	21%	15%	12%	9%	4%
Weekend	0%	4%	6%	6%	8%	7%	6%	7%	7%	6%	3%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Germantown East

Northbound

Percentage of Congestion

NB MD 27 2012

Germantown East

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	16%	16%	15%	14%	23%	38%	32%	28%	21%	7%
Weekend	2%	15%	20%	20%	19%	20%	18%	14%	16%	17%	5%

Congestion % Color Scale

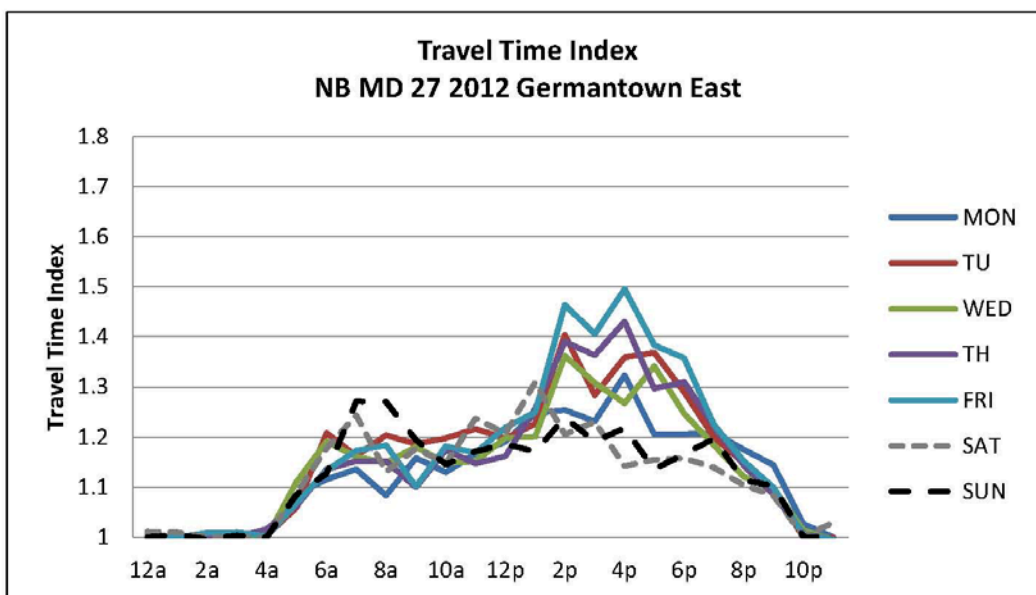
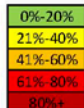
Uncongested - Light

Light - Moderate

Moderate - Heavy

Heavy - Severe

Severe



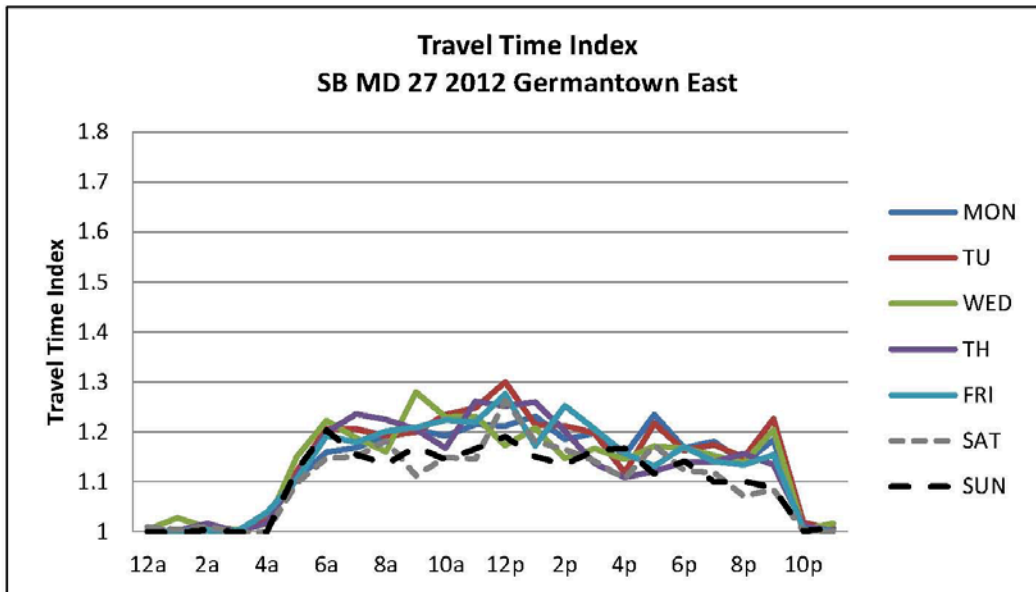
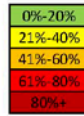
Southbound

Percentage of Congestion
 SB MD 27 2012
 Germantown East

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	3%	20%	20%	19%	22%	21%	14%	17%	16%	16%	8%
Weekend	2%	18%	16%	16%	14%	17%	14%	14%	13%	11%	4%

Congestion % Color Scale

Uncongested - Light
 Light - Moderate
 Moderate - Heavy
 Heavy - Severe
 Severe



Germantown West

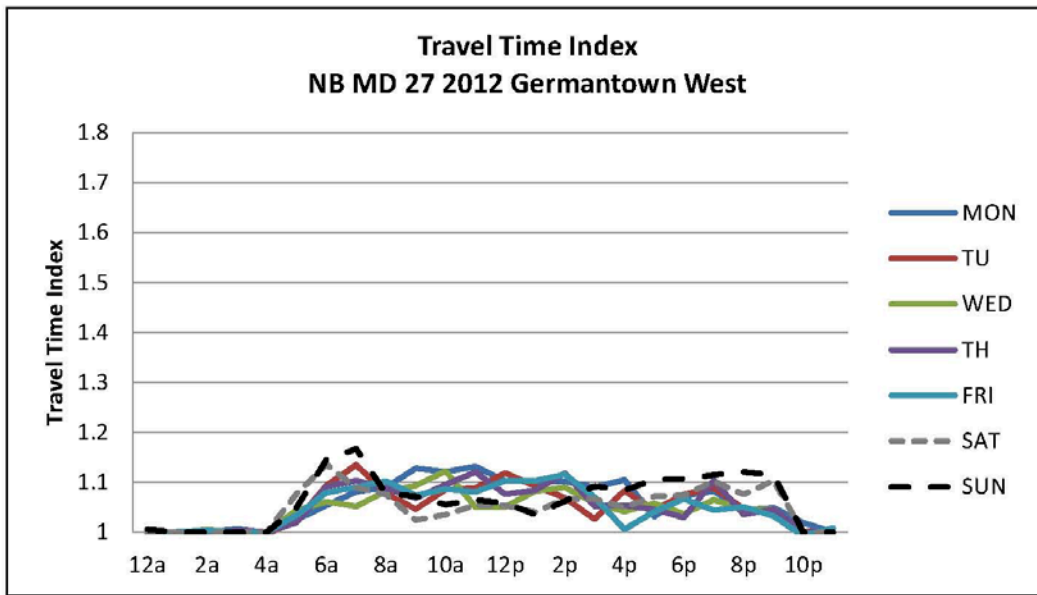
Northbound

Percentage of Congestion
 NB MD 27 2012
 Germantown West

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	8%	9%	9%	8%	9%	6%	4%	6%	8%	2%
Weekend	1%	14%	8%	8%	5%	6%	7%	9%	9%	11%	5%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



MD 28

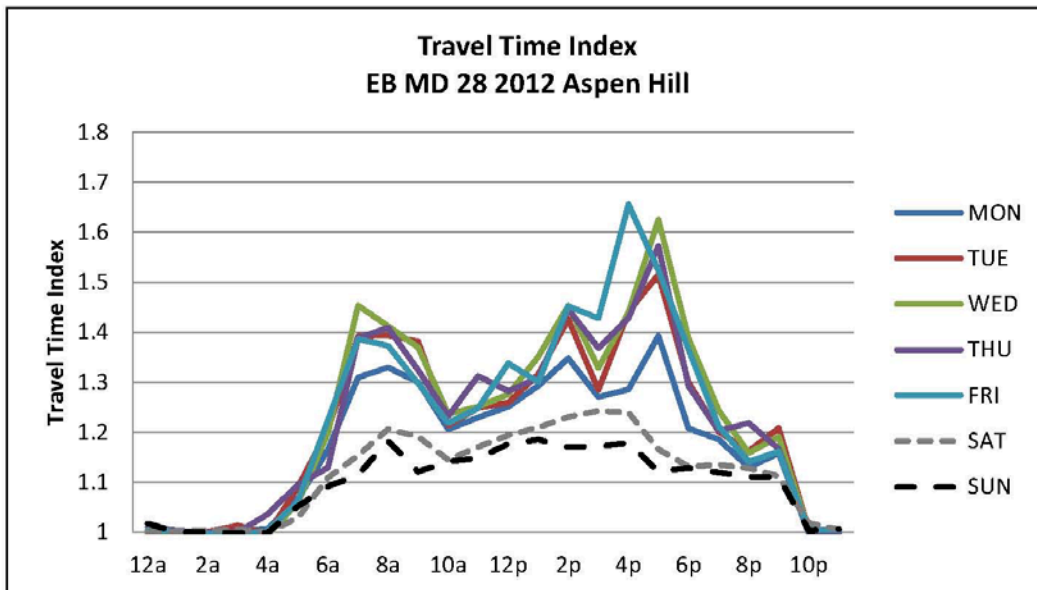
Aspen Hill

Eastbound

Percentage of Congestion EB
MD 28 Aspen Hill

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	18%	39%	38%	33%	30%	45%	53%	31%	21%	9%
Weekend	1%	10%	19%	19%	16%	18%	21%	14%	13%	13%	6%

Congestion % Color Scale



Westbound

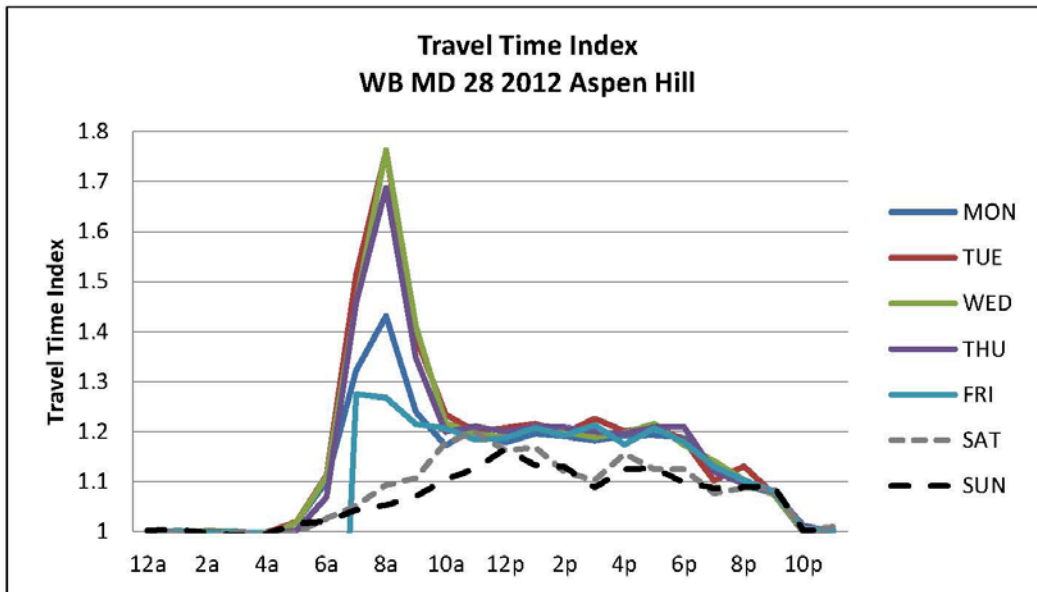
Percentage of Congestion WB
MD 28 Aspen Hill

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	8%	40%	58%	32%	20%	19%	21%	19%	12%	5%
Weekend	0%	2%	5%	7%	9%	14%	14%	13%	11%	8%	5%

Congestion % Color Scale

Uncongested - Light
Light - Moderate
Moderate - Heavy
Heavy - Severe
Severe

0%-20%
21%-40%
41%-60%
61%-80%
80%+



Cloverly

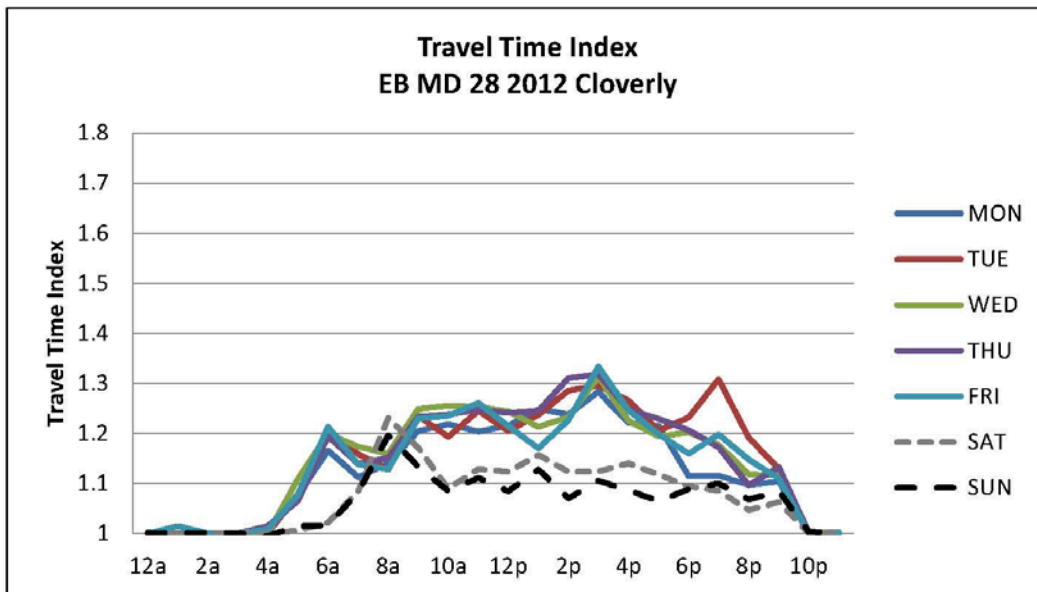
Eastbound

Percentage of Congestion
EB MD 28 2012 Cloverly

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	20%	14%	14%	23%	25%	24%	21%	18%	19%	6%
Weekend	0%	2%	21%	21%	15%	11%	11%	9%	9%	9%	3%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Gaithersburg

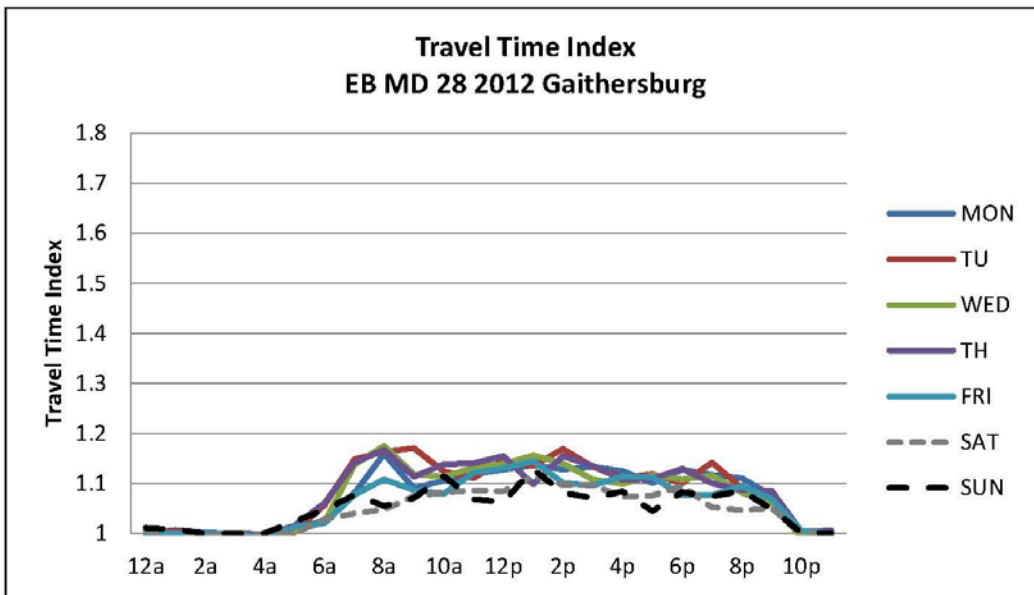
Eastbound

Percentage of Congestion
EB MD 28 2012
Gaithersburg

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	4%	12%	15%	12%	13%	11%	11%	11%	11%	4%
Weekend	0%	4%	5%	5%	7%	9%	8%	6%	9%	6%	3%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+

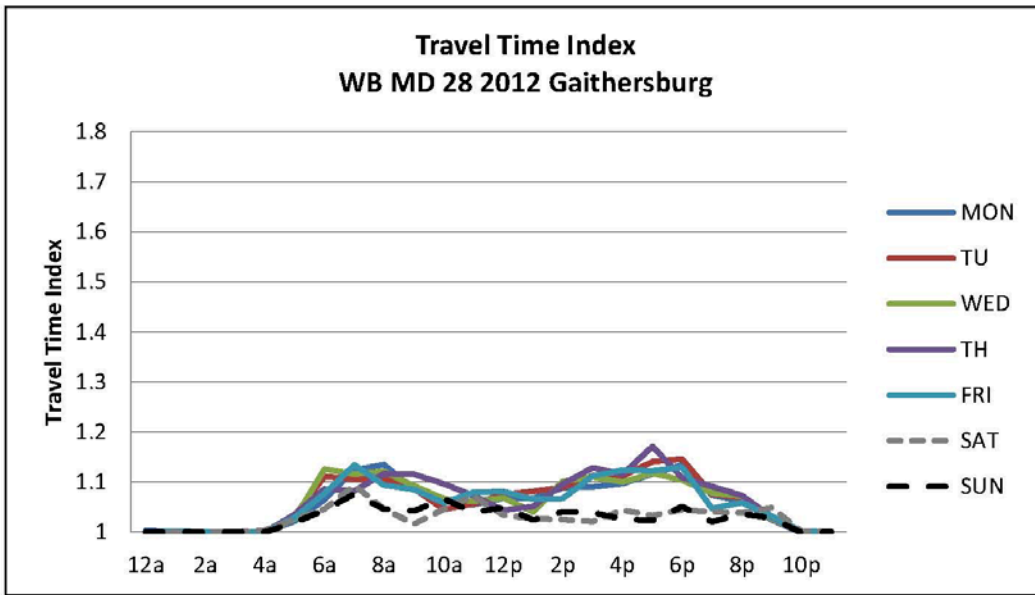
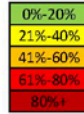


Westbound

Percentage of Congestion
WB MD 28 2012
Gaithersburg

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	9%	11%	11%	9%	8%	11%	13%	12%	7%	2%
Weekend	0%	4%	5%	5%	3%	4%	3%	3%	5%	3%	2%

Congestion % Color Scale
 Uncongested - Light 0%-20%
 Light - Moderate 21%-40%
 Moderate - Heavy 41%-60%
 Heavy - Severe 61%-80%
 Severe 80%+



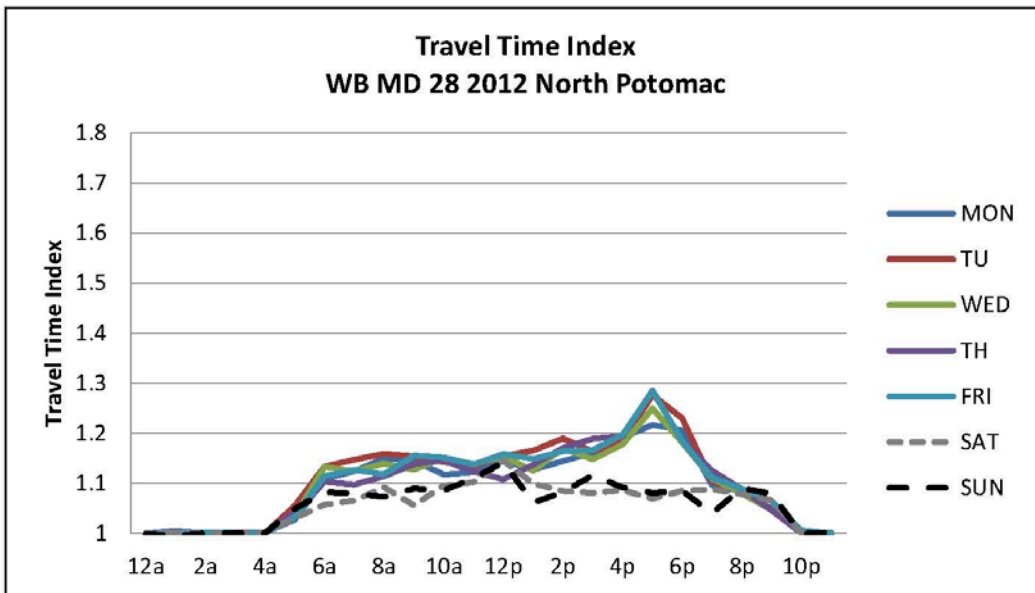
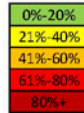
Westbound

Percentage of Congestion
WB MD 28 2012 North
Potomac

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	12%	12%	14%	14%	15%	19%	26%	20%	11%	3%
Weekend	1%	7%	8%	8%	7%	10%	9%	8%	9%	6%	4%

Congestion % Color Scale

Uncongested - Light
Light - Moderate
Moderate - Heavy
Heavy - Severe
Severe



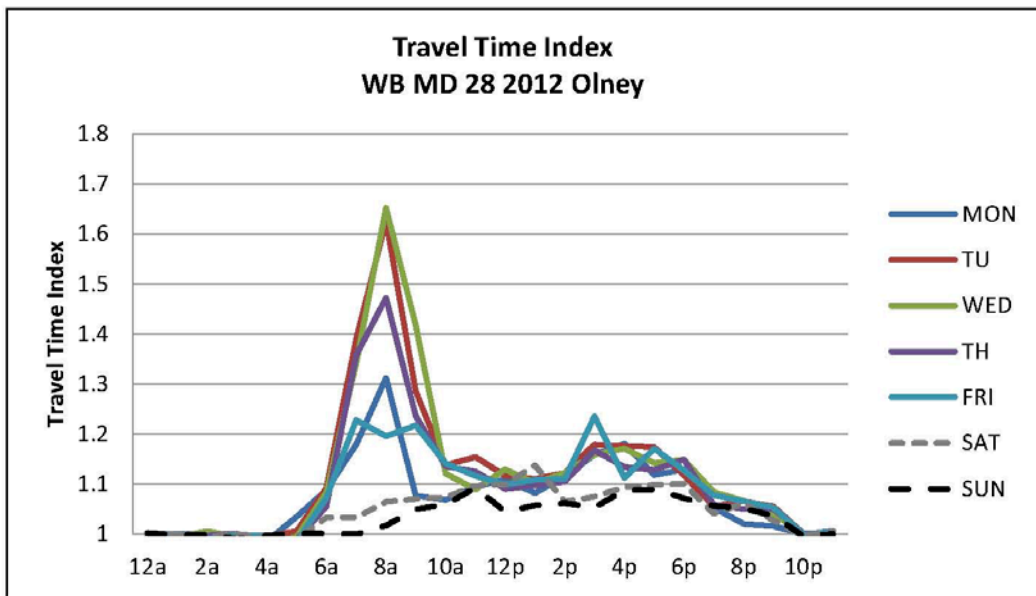
Westbound

Percentage of Congestion
WB MD 28 2012 Olney

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	8%	30%	45%	25%	12%	15%	15%	13%	7%	2%
Weekend	0%	2%	4%	4%	6%	8%	9%	9%	9%	5%	2%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Rockville

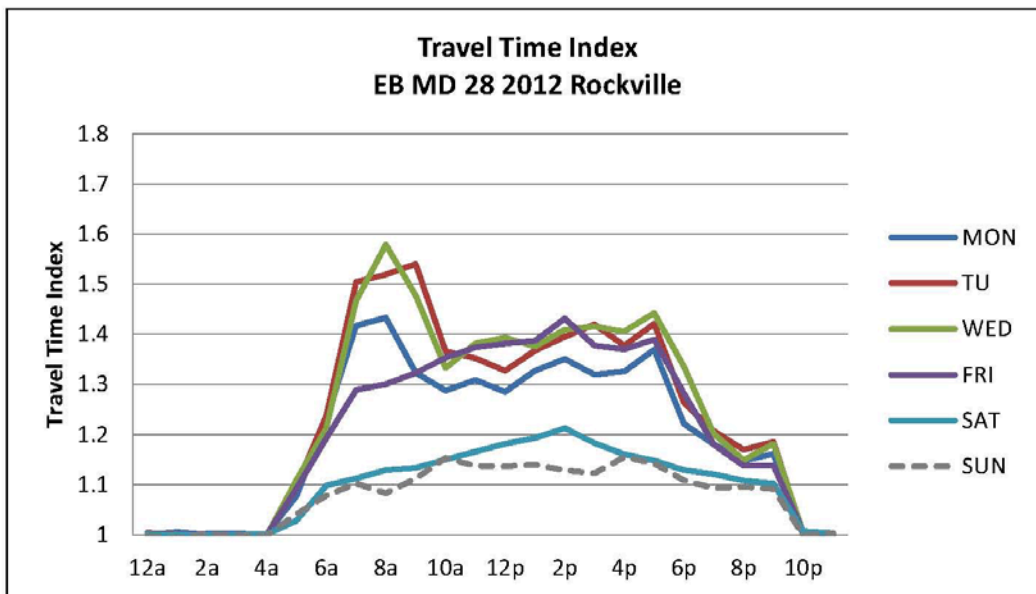
Eastbound

Percentage of Congestion
EB MD 28 2012 Rockville

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	2%	22%	45%	47%	41%	36%	37%	41%	27%	19%	8%
Weekend	1%	9%	11%	11%	12%	16%	16%	15%	12%	11%	5%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



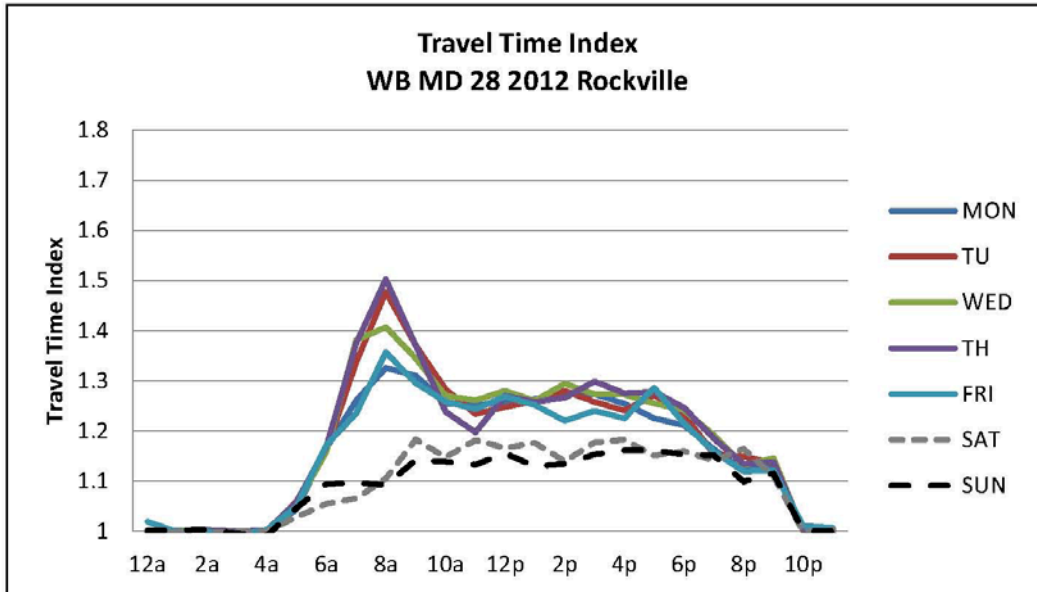
Westbound

Percentage of Congestion
WB MD 28 2012 Rockville

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	17%	32%	41%	34%	26%	25%	26%	23%	17%	7%
Weekend	1%	7%	10%	10%	16%	15%	17%	16%	16%	15%	6%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



R&D Village

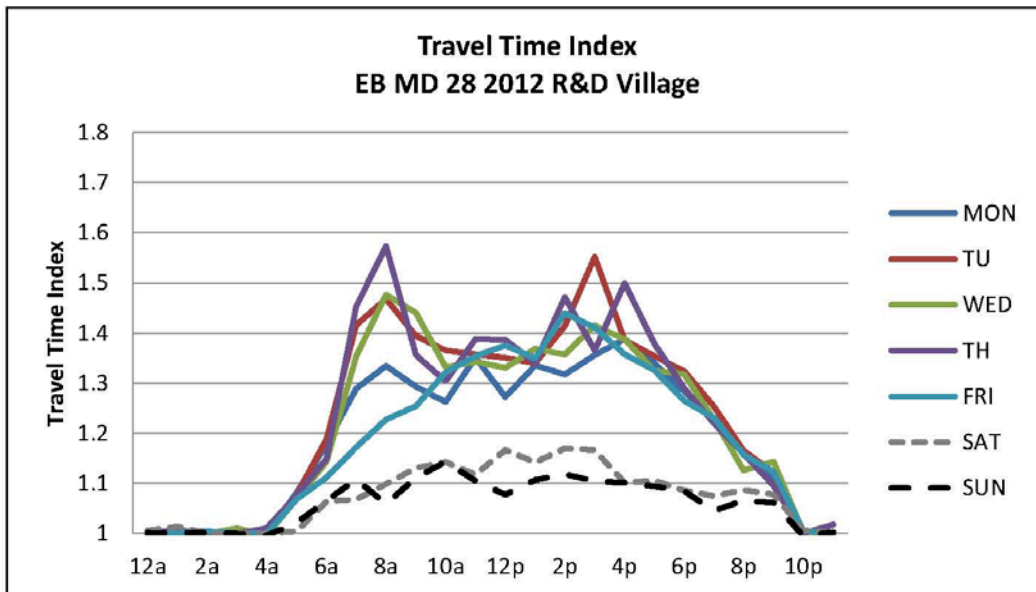
Eastbound

Percentage of Congestion
EB MD 28 2012 R&D Village

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	15%	34%	42%	35%	36%	40%	34%	30%	23%	7%
Weekend	0%	6%	8%	8%	12%	13%	10%	10%	9%	6%	4%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



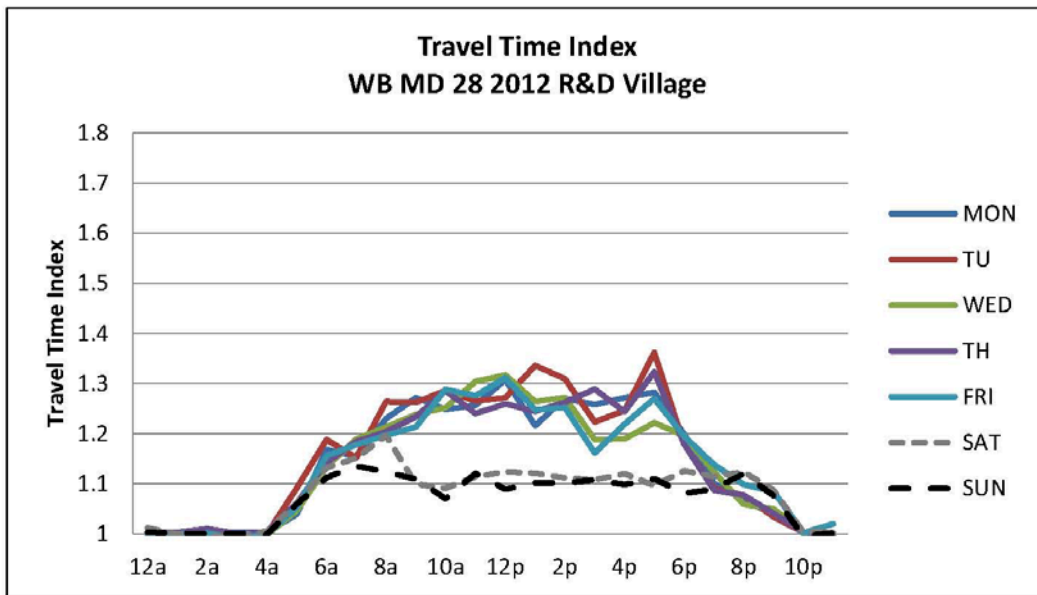
Westbound

Percentage of Congestion
WB MD 28 2012 R&D
Village

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	16%	17%	22%	24%	27%	23%	29%	19%	11%	3%
Weekend	1%	12%	16%	16%	10%	10%	11%	10%	10%	10%	5%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Rural West

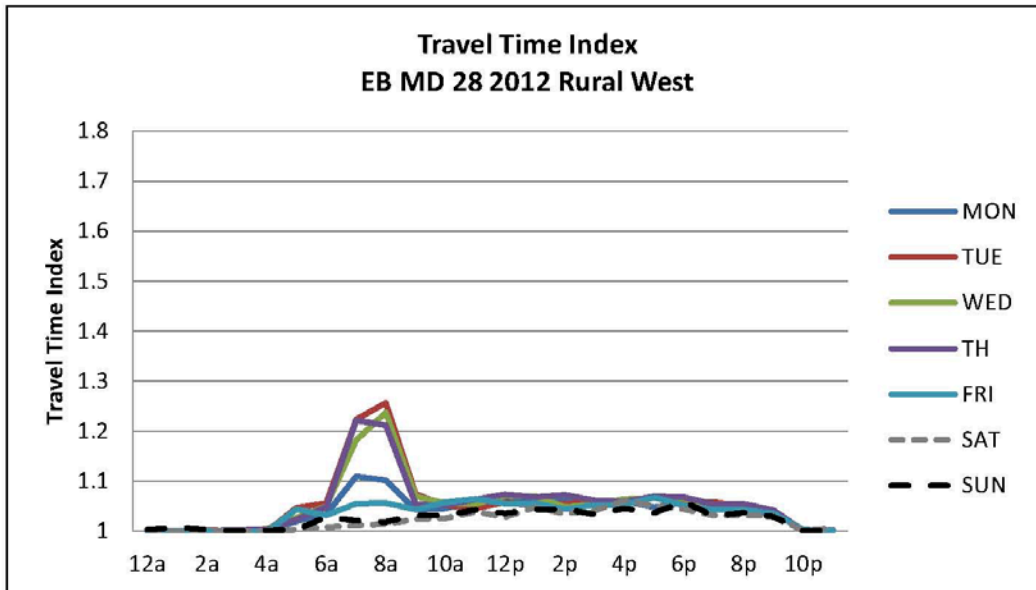
Eastbound

Percentage of Congestion
EB MD 28 2012 Rural West

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	4%	16%	17%	6%	6%	6%	6%	6%	5%	2%
Weekend	0%	2%	2%	2%	3%	4%	5%	4%	5%	3%	2%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Westbound

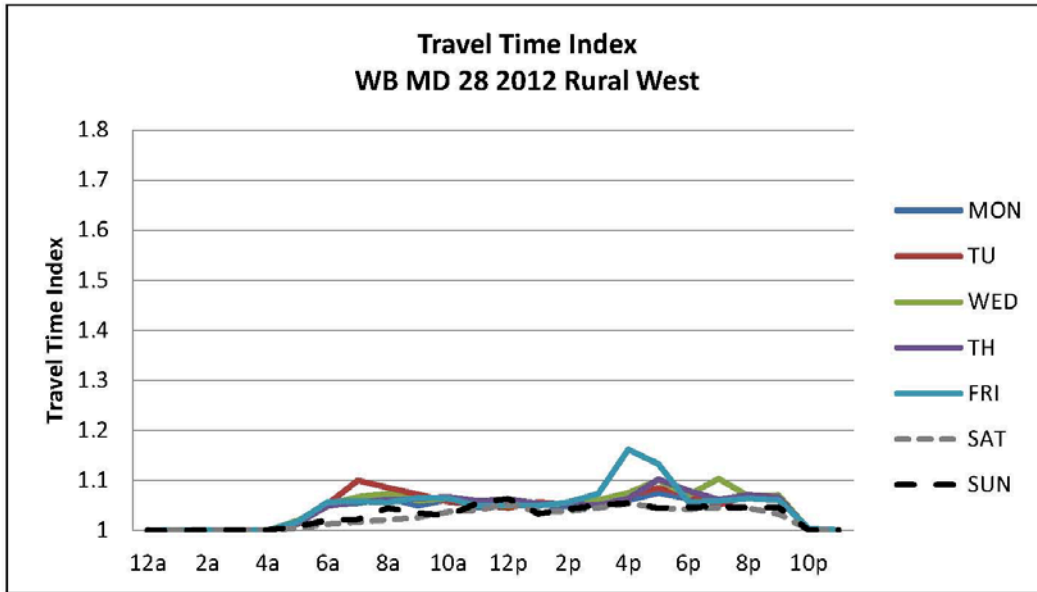
Percentage of Congestion
WB MD 28 2012 Rural West

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	5%	7%	7%	6%	5%	9%	10%	7%	7%	3%
Weekend	0%	2%	3%	3%	3%	4%	5%	4%	4%	5%	2%

Congestion % Color Scale

Uncongested - Light
Light - Moderate
Moderate - Heavy
Heavy - Severe
Severe

0%-20%
21%-40%
41%-60%
61%-80%
80%+



MD 97

Aspen Hill

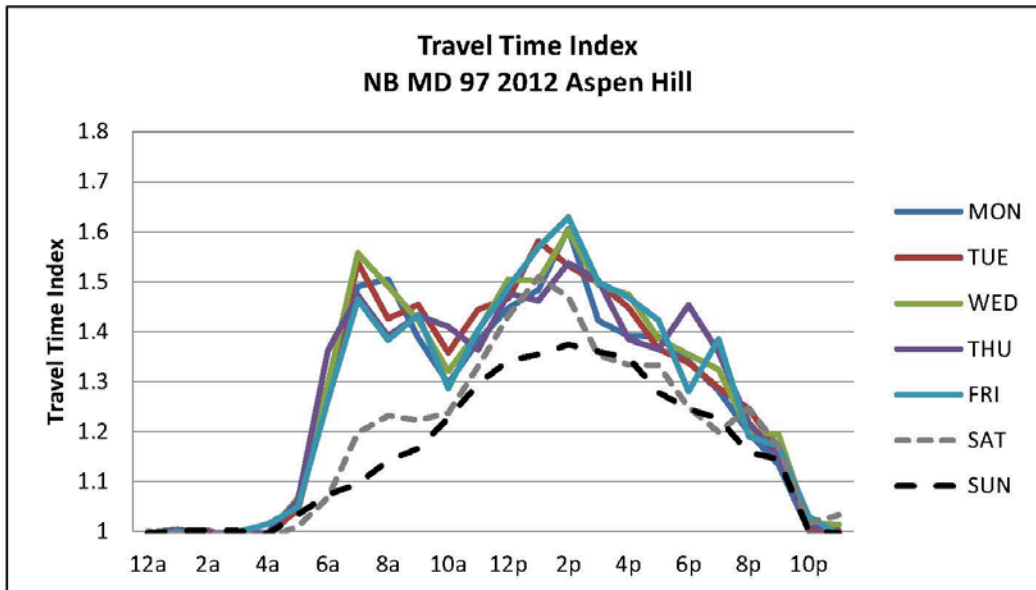
Northbound

Percentage of Congestion
NB MD 97 Aspen Hill

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	29%	50%	44%	43%	47%	43%	39%	35%	33%	10%
Weekend	0%	7%	15%	19%	19%	36%	34%	31%	25%	21%	10%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Olney

Northbound

Percentage of Congestion
NB MD 97 2012 Olney

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	5%	14%	19%	21%	27%	34%	40%	30%	24%	14%
Weekend	1%	11%	17%	17%	22%	26%	23%	20%	25%	16%	8%

Congestion % Color Scale

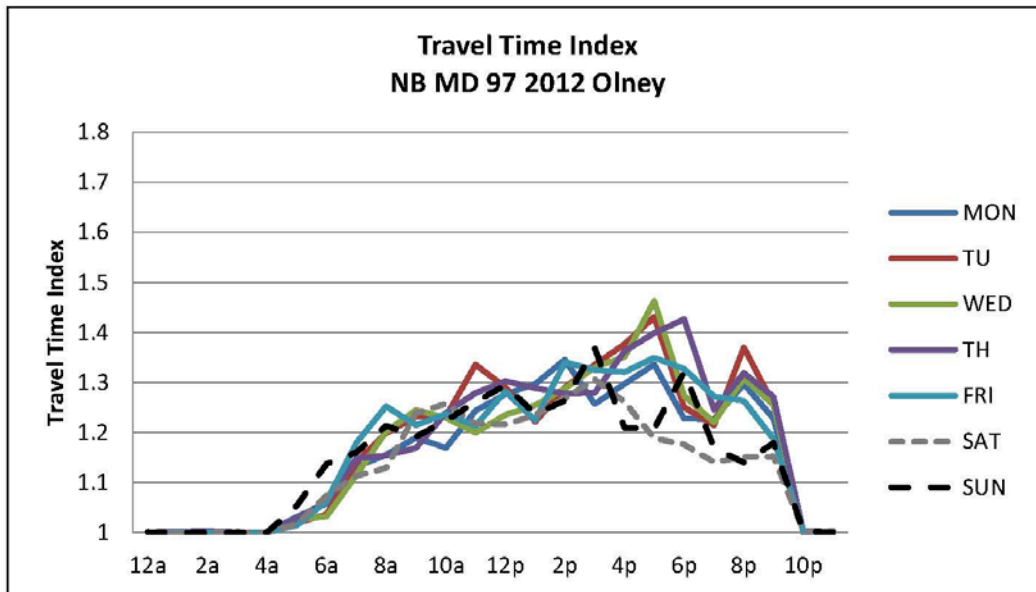
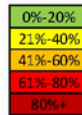
Uncongested - Light

Light - Moderate

Moderate - Heavy

Heavy - Severe

Severe



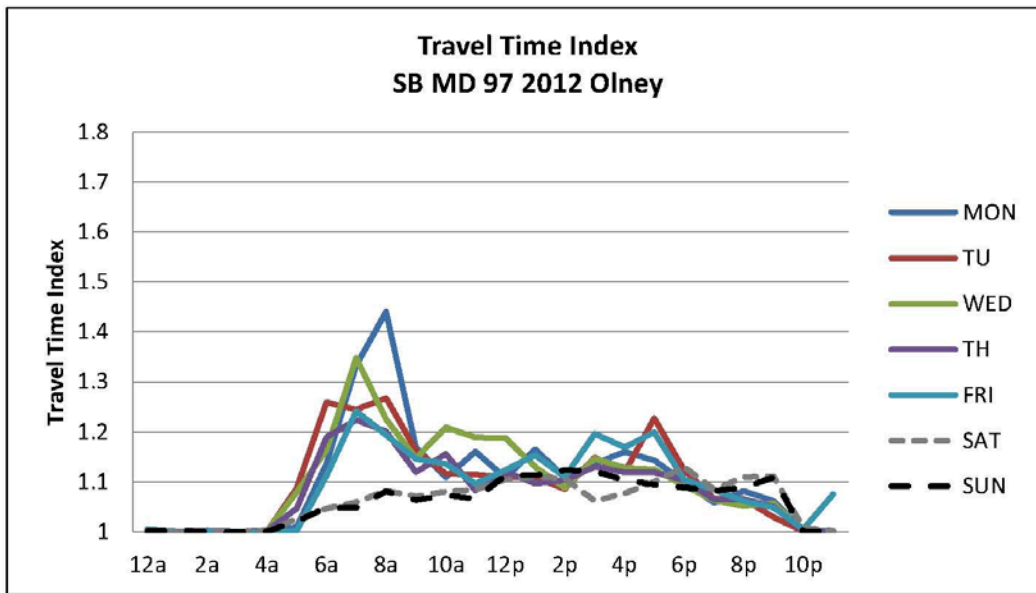
Southbound

Percentage of Congestion
SB MD 97 2012 Olney

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	17%	28%	27%	15%	13%	14%	16%	10%	7%	3%
Weekend	0%	5%	8%	8%	7%	10%	9%	10%	11%	8%	5%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



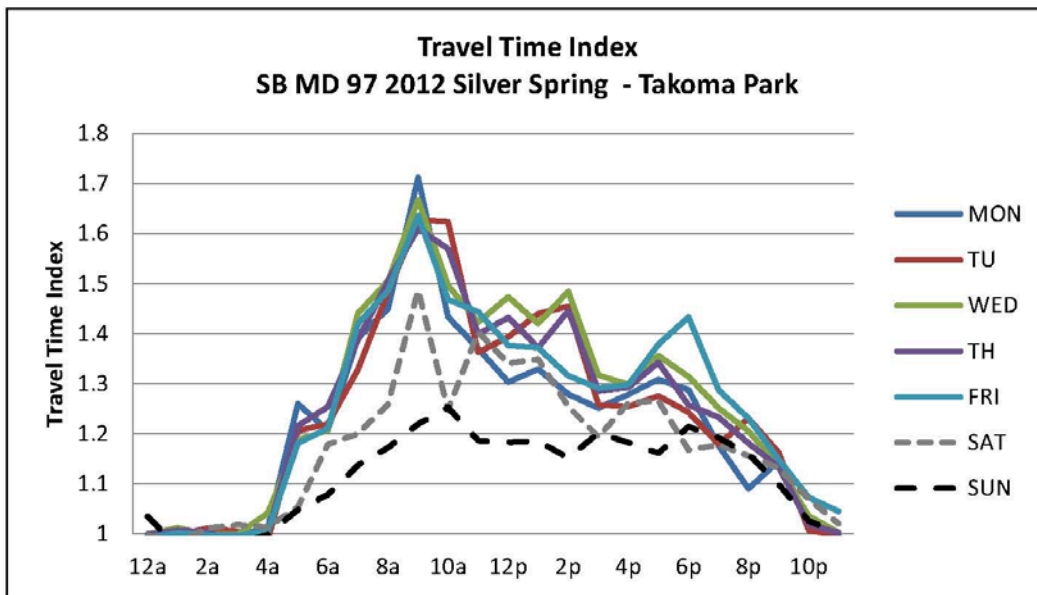
Southbound

Percentage of Congestion
 SB MD 97 2012 Silver Spring
 - Takoma Park

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	4%	22%	39%	49%	65%	40%	28%	33%	31%	23%	9%
Weekend	1%	13%	22%	22%	35%	25%	22%	21%	19%	18%	8%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+

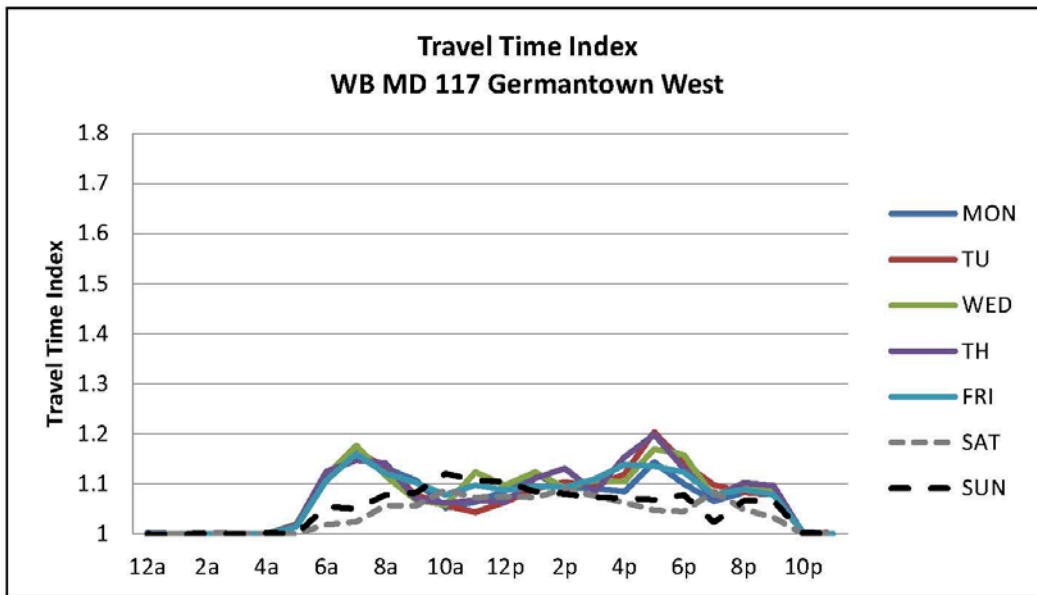
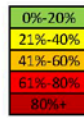


Westbound

Percentage of Congestion
 WB MD 117 2012
 Germantown West

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	12%	16%	13%	8%	9%	12%	17%	13%	8%	4%
Weekend	0%	4%	7%	7%	7%	9%	7%	6%	6%	5%	3%

Congestion % Color Scale
 Uncongested - Light 0%-20%
 Light - Moderate 21%-40%
 Moderate - Heavy 41%-60%
 Heavy - Severe 61%-80%
 Severe 80%+



North Potomac

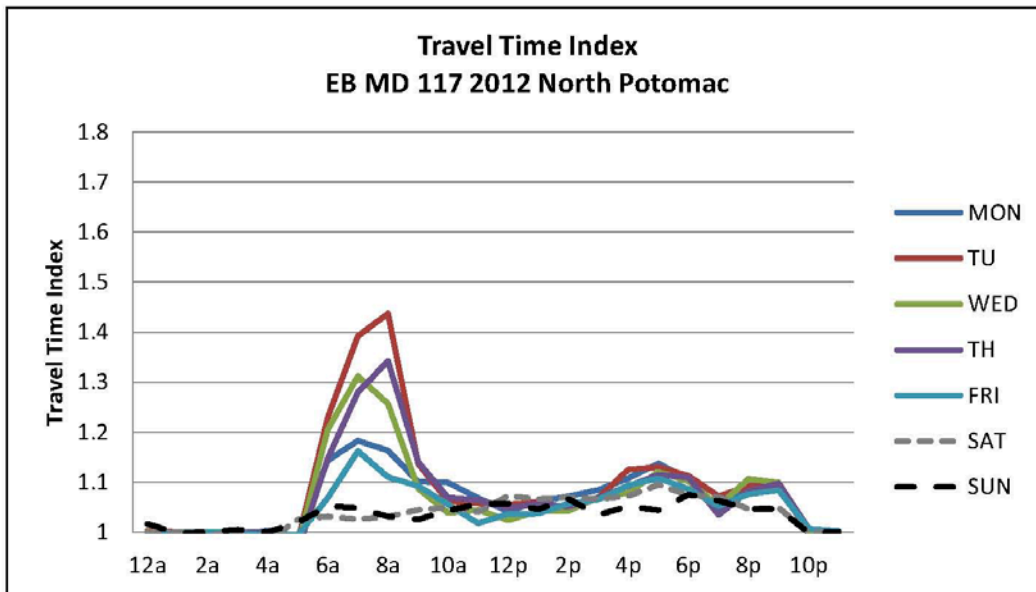
Eastbound

Percentage of Congestion
EB MD 117 2012 North
Potomac

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	16%	27%	26%	11%	6%	10%	12%	10%	5%	5%
Weekend	0%	4%	3%	3%	4%	6%	6%	7%	7%	7%	2%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



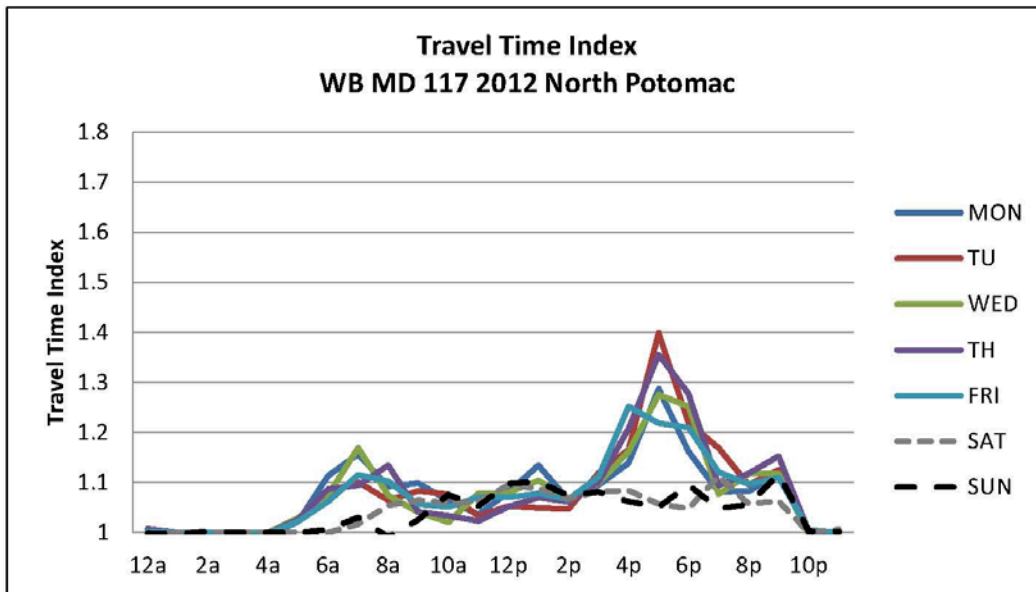
Westbound

Percentage of Congestion
WB MD 117 2012 North
Potomac

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	8%	13%	9%	6%	7%	18%	31%	22%	11%	6%
Weekend	0%	0%	2%	2%	4%	8%	7%	5%	7%	8%	4%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Rural West

Eastbound

Percentage of Congestion
EB MD 117 2012 Rural West

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	5%	5%	6%	8%	9%	9%	9%	7%	2%	1%
Weekend	0%	2%	2%	2%	2%	3%	3%	2%	2%	2%	1%

Congestion % Color Scale

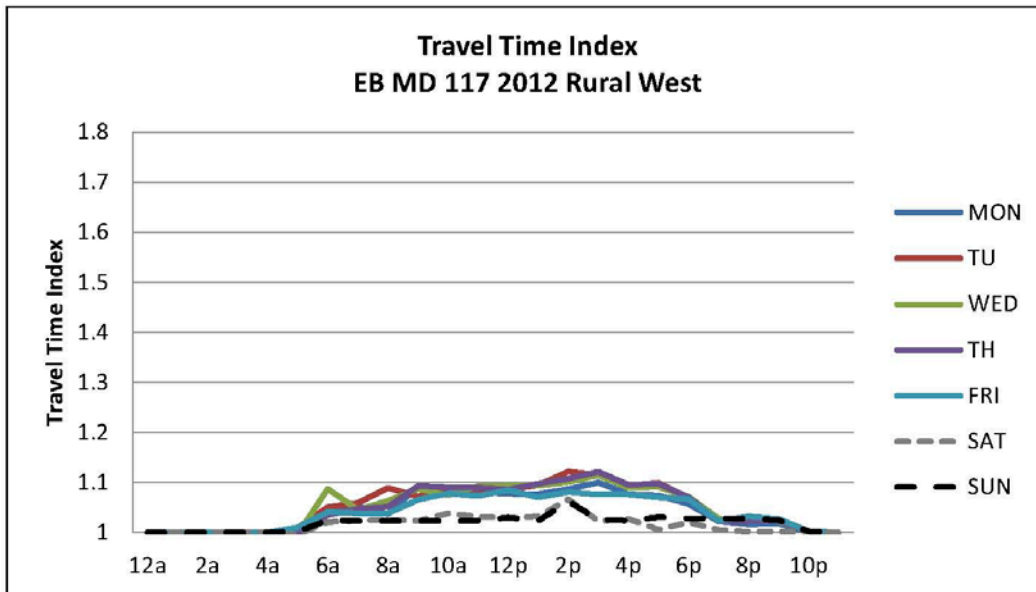
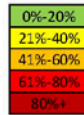
Uncongested - Light

Light - Moderate

Moderate - Heavy

Heavy - Severe

Severe



MD 118

Germantown East

Northbound

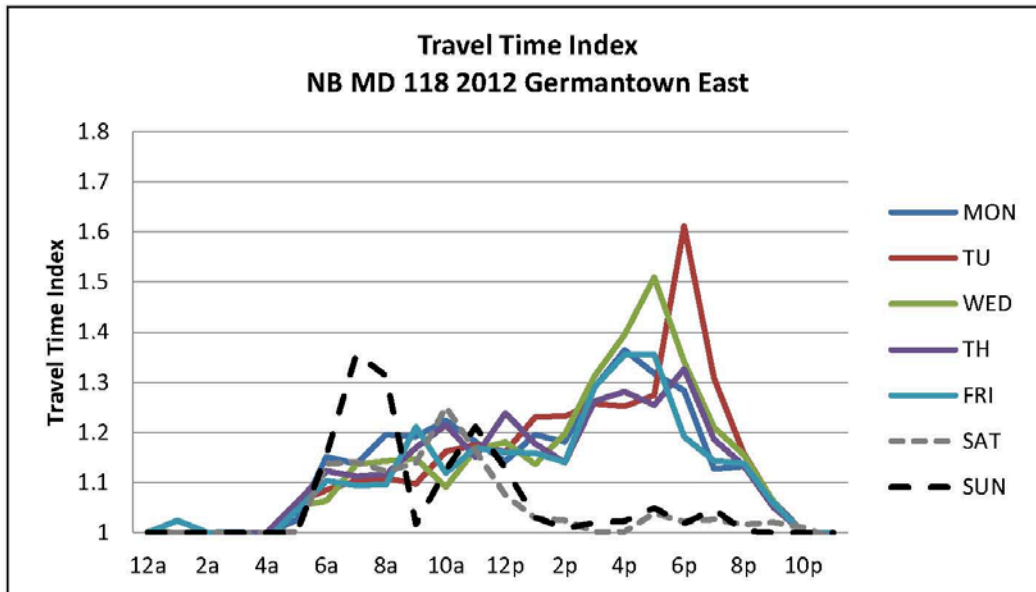
Percentage of Congestion
NB MD 118 2012
Germantown East

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	11%	12%	13%	16%	20%	33%	34%	35%	19%	5%
Weekend	0%	15%	22%	22%	8%	9%	1%	4%	2%	4%	0%

Congestion % Color Scale

Uncongested - Light
Light - Moderate
Moderate - Heavy
Heavy - Severe
Severe

0%-20%
21%-40%
41%-60%
61%-80%
80%+



Southbound

Percentage of Congestion
SB MD 118 Germantown
East

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	8%	14%	12%	13%	21%	20%	27%	21%	14%	5%
Weekend	0%	8%	7%	7%	12%	12%	15%	11%	11%	15%	9%

Congestion % Color Scale

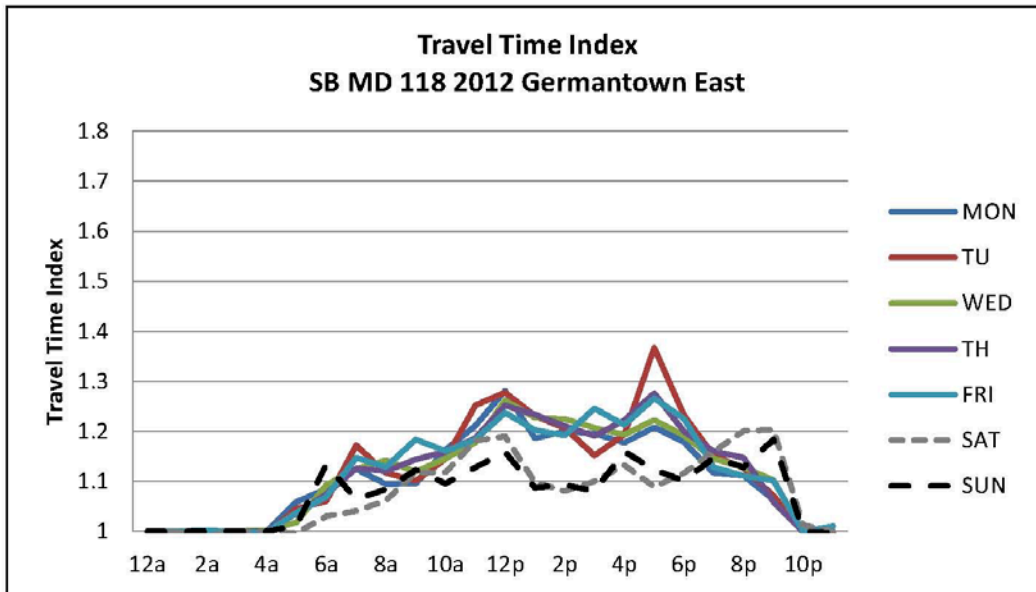
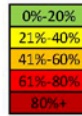
Uncongested - Light

Light - Moderate

Moderate - Heavy

Heavy - Severe

Severe



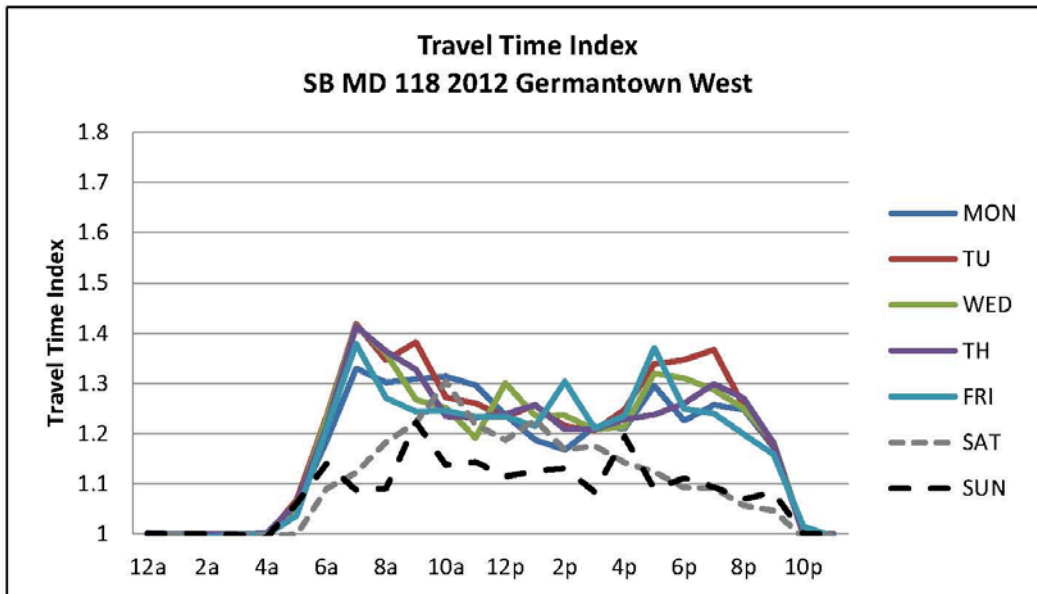
Southbound

Percentage of Congestion
SB MD 118 2012
Germantown West

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	21%	39%	33%	31%	24%	23%	31%	28%	29%	11%
Weekend	0%	11%	14%	14%	22%	17%	17%	11%	10%	9%	3%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Rural West

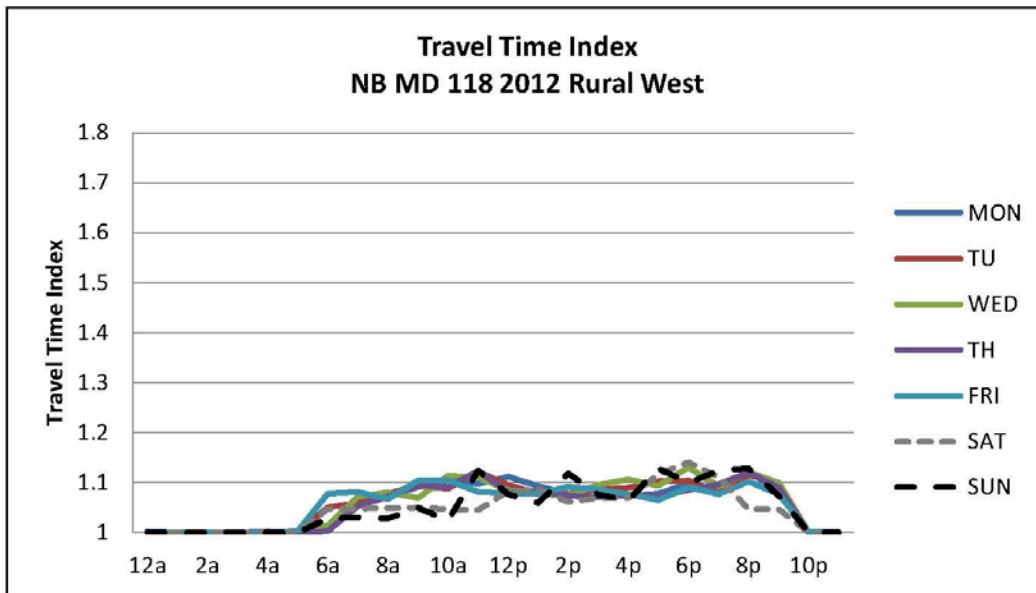
Northbound

Percentage of Congestion
NB MD 118 2012 Rural West

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	3%	6%	7%	9%	9%	8%	8%	10%	9%	5%
Weekend	0%	4%	4%	4%	5%	7%	7%	12%	12%	12%	4%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



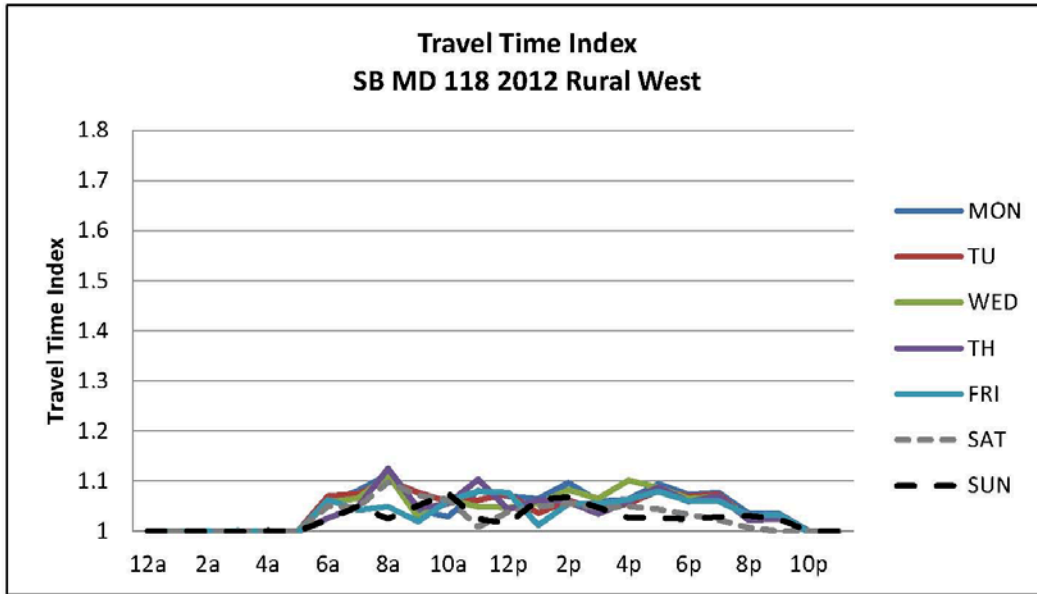
Southbound

Percentage of Congestion
SB MD 118 2012 Rural West

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	5%	6%	10%	4%	6%	7%	9%	7%	7%	1%
Weekend	0%	4%	6%	6%	6%	5%	4%	3%	3%	3%	1%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



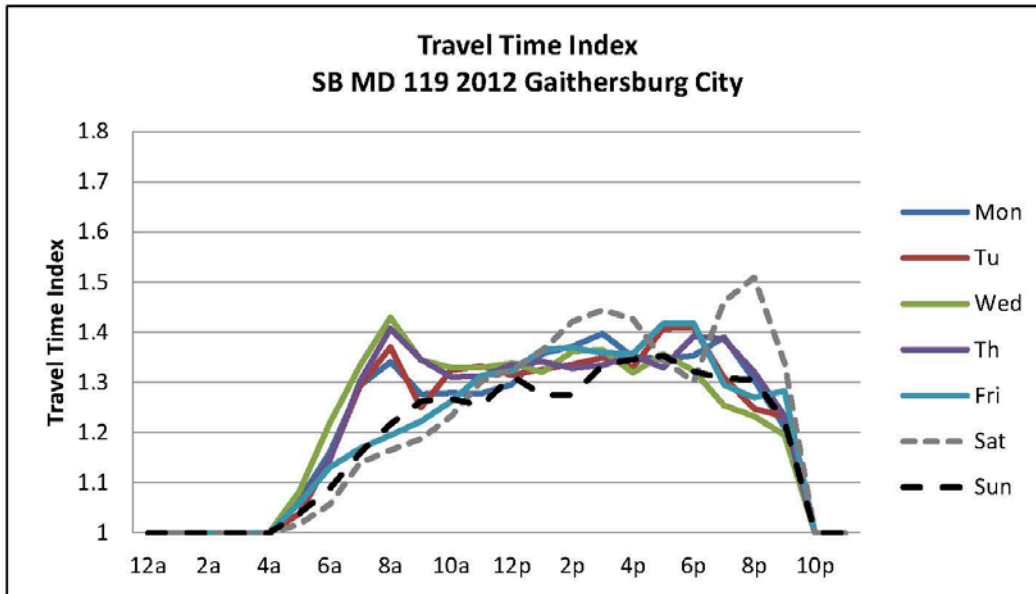
Southbound

Percentage of Congestion
SB MD 119 2012
Gaithersburg City

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	16%	28%	35%	29%	33%	34%	37%	38%	33%	13%
Weekend	0%	7%	19%	19%	22%	32%	39%	35%	31%	38%	17%

Congestion % Color Scale
 Uncongested - Light
 Light - Moderate
 Moderate - Heavy
 Heavy - Severe
 Severe

0%-20%
21%-40%
41%-60%
61%-80%
80%+



MD 185

Aspen Hill

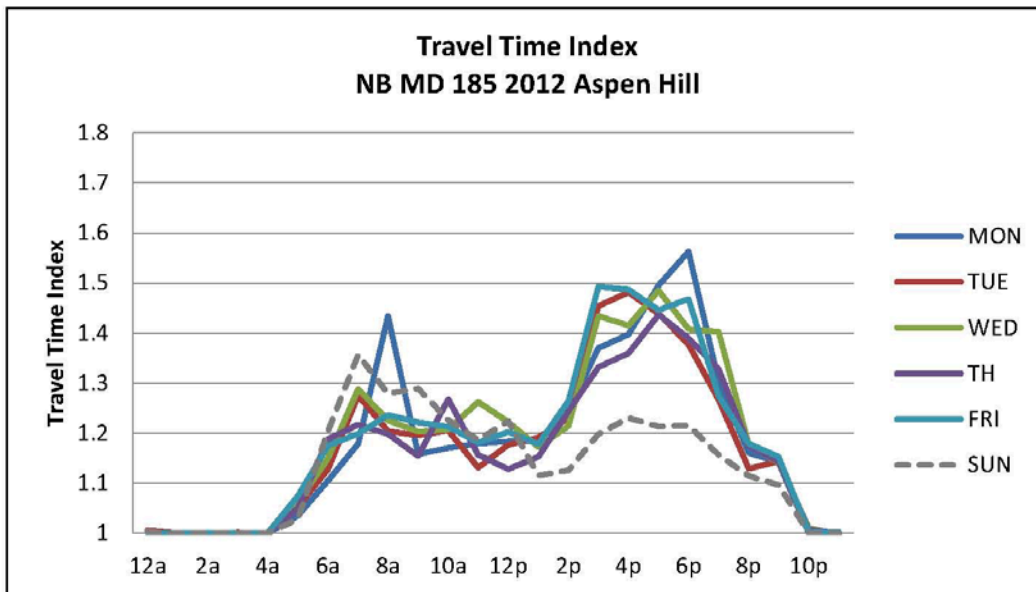
Northbound

Percentage of Congestion
NB MD 185 2012 Aspen Hill

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	14%	24%	27%	18%	23%	41%	46%	43%	32%	8%
Weekend	0%	2%	5%	7%	9%	14%	14%	13%	11%	8%	5%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



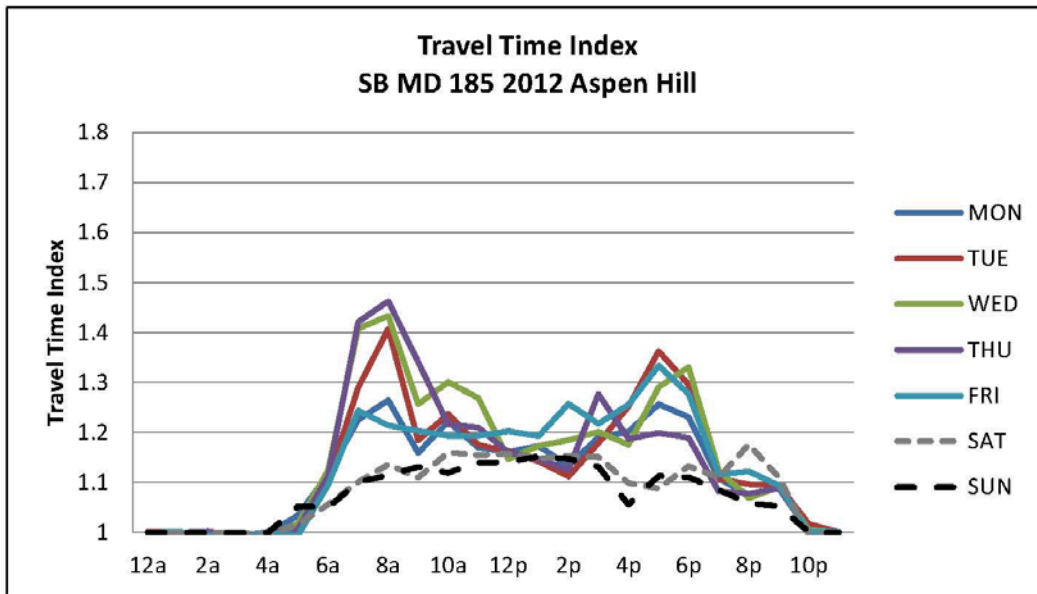
Southbound

Percentage of Congestion
SB MD 185 Aspen Hill

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	11%	32%	36%	23%	19%	21%	29%	26%	11%	5%
Weekend	1%	5%	10%	13%	12%	15%	8%	10%	12%	10%	5%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



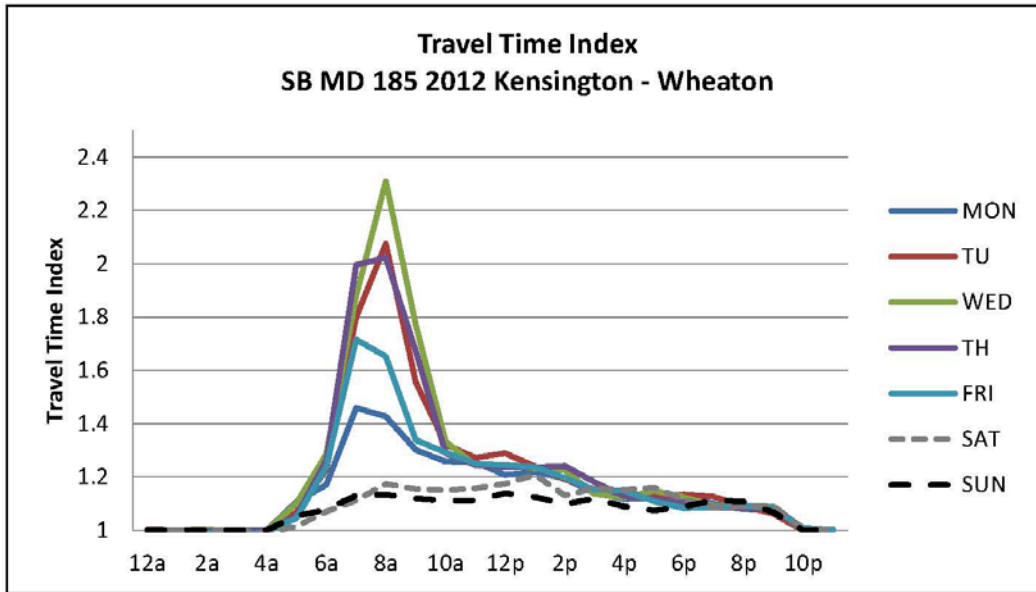
Southbound

Percentage of Congestion
 SB MD 185 2012 Kensington
 - Wheaton

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	12%	38%	45%	26%	12%	7%	6%	6%	5%	2%
Weekend	0%	4%	8%	8%	7%	7%	6%	6%	5%	5%	2%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



MD 193

Kensington-Wheaton

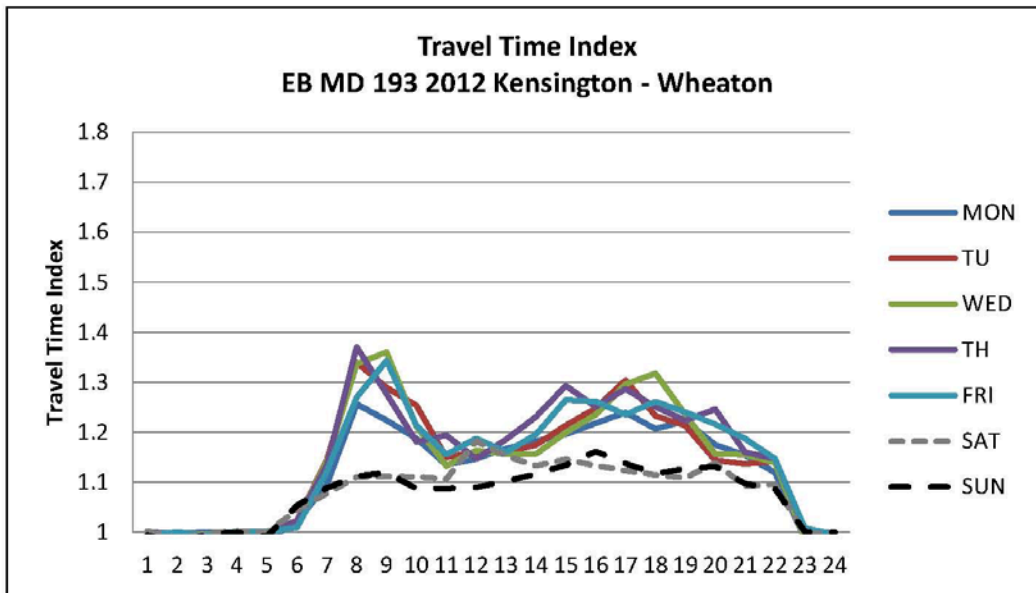
Eastbound

Percentage of Congestion
 EB MD 193 2012 Kensington
 - Wheaton

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	12%	28%	25%	19%	19%	25%	22%	20%	17%	7%
Weekend	1%	10%	23%	23%	15%	16%	19%	19%	18%	17%	7%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Silver Spring-Takoma Park

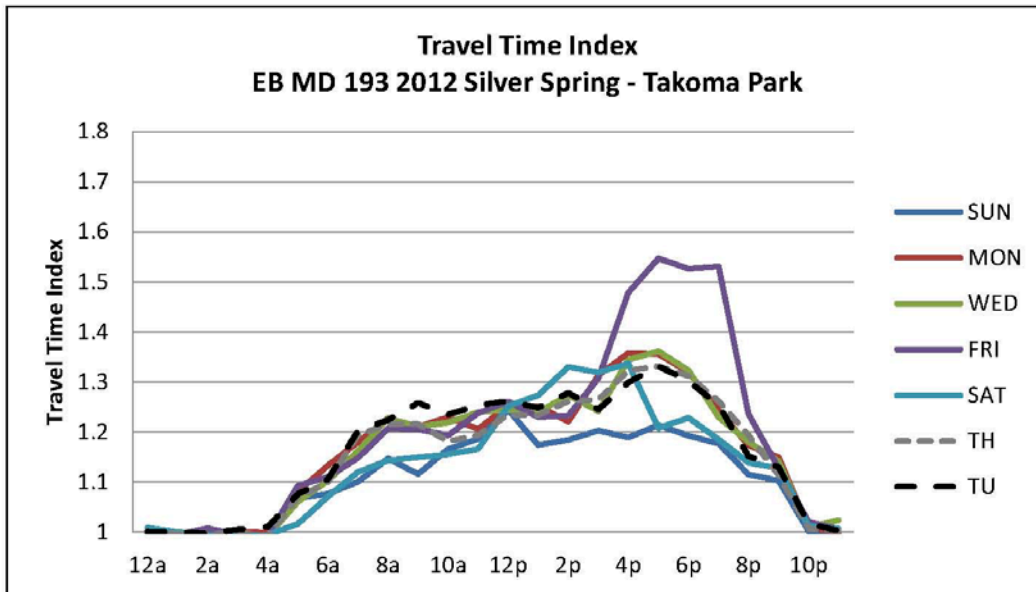
Eastbound

Percentage of Congestion
 EB MD 193 2012 Silver
 Spring - Takoma Park

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	11%	18%	22%	22%	24%	36%	39%	36%	30%	8%
Weekend	1%	7%	14%	14%	13%	22%	26%	21%	21%	18%	6%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%



MD 198

Cloverly

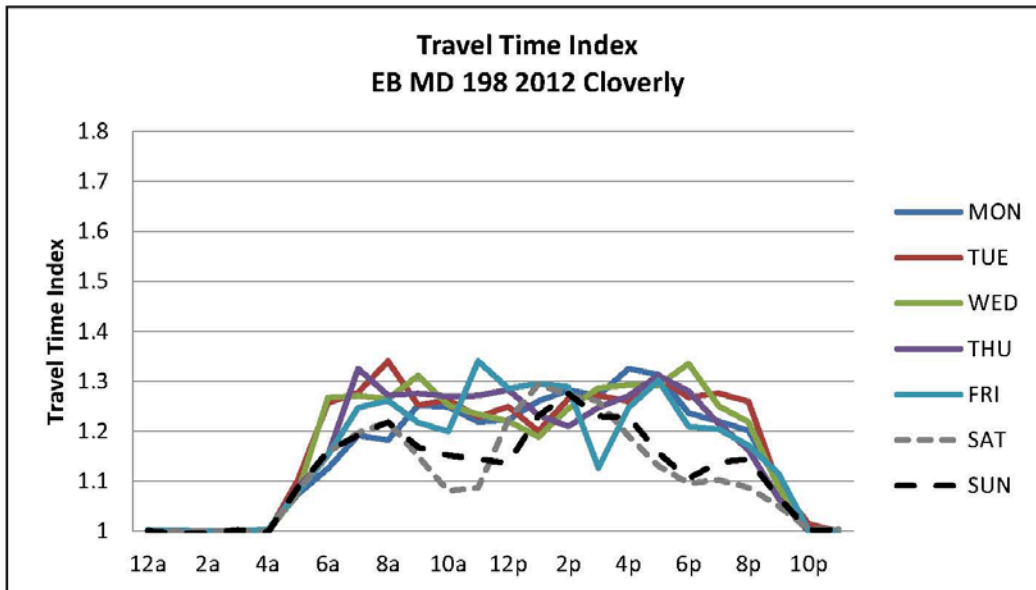
Eastbound

Percentage of Congestion
EB MD 198 2012 Cloverly

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	19%	26%	26%	26%	25%	28%	30%	27%	23%	7%
Weekend	1%	16%	22%	22%	16%	20%	21%	14%	10%	12%	5%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



MD 355

Bethesda-Chevy Chase

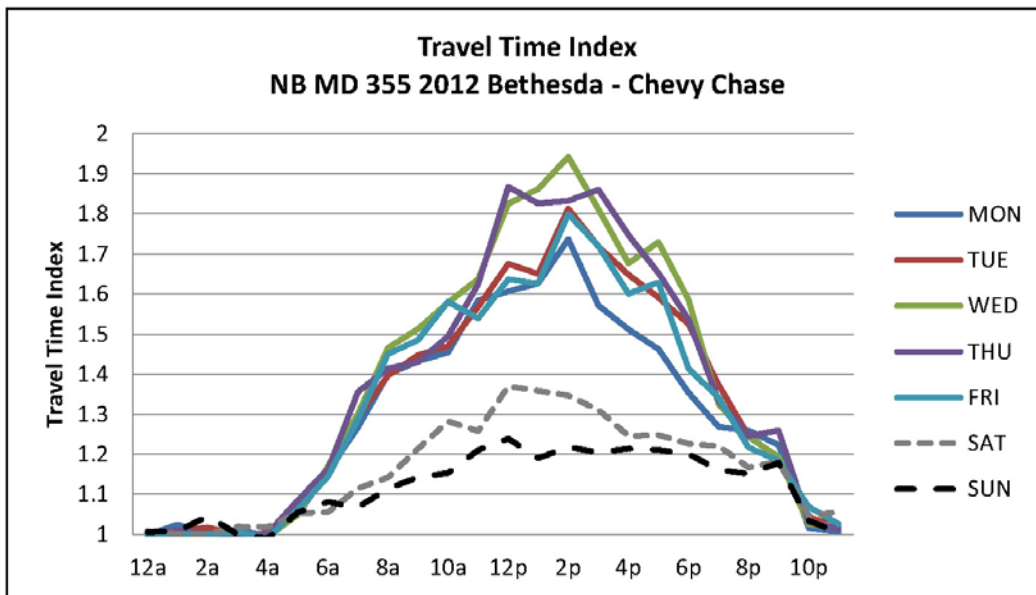
Northbound

Percentage of Congestion
 NB MD 355 2012 Bethesda - Chevy Chase

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	16%	30%	43%	46%	69%	64%	61%	48%	33%	13%
Weekend	2%	7%	13%	13%	18%	26%	23%	23%	21%	19%	10%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



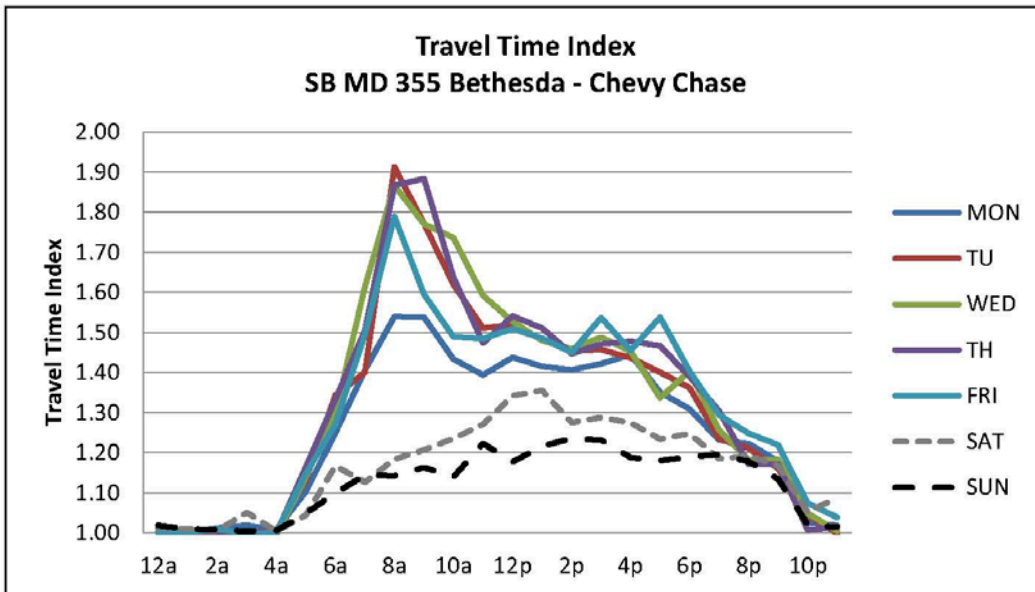
Southbound

Percentage of Congestion
SB MD 355 Bethesda -
Chevy Chase

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	3%	30%	53%	80%	71%	50%	45%	42%	37%	26%	11%
Weekend	2%	13%	16%	16%	18%	25%	23%	21%	22%	19%	11%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



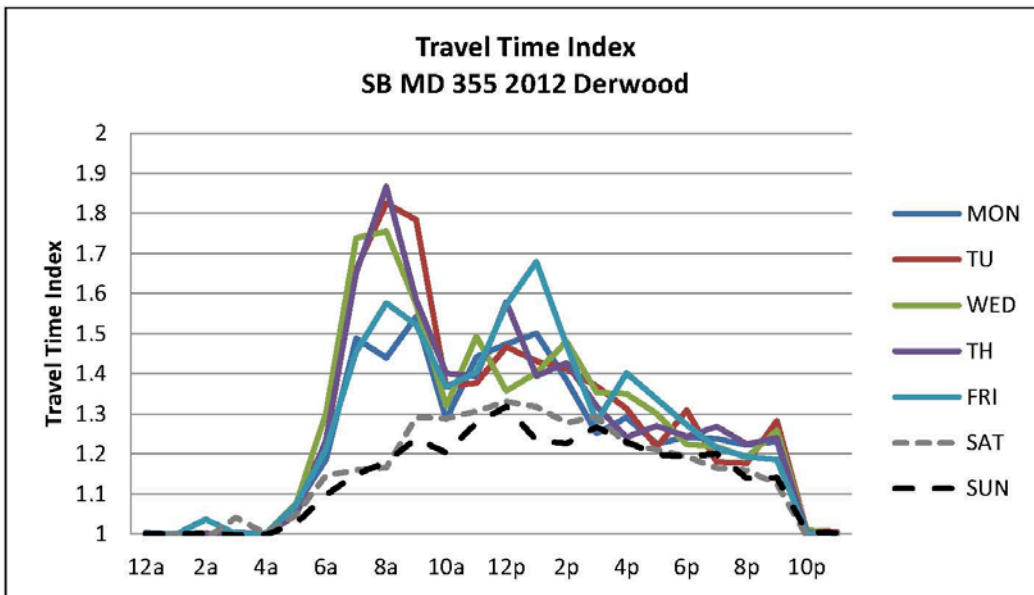
Southbound

Percentage of Congestion
SB MD 355 2012 Derwood

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	23%	60%	69%	60%	40%	32%	27%	26%	22%	11%
Weekend	1%	12%	17%	17%	26%	28%	23%	20%	19%	18%	7%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Gaithersburg

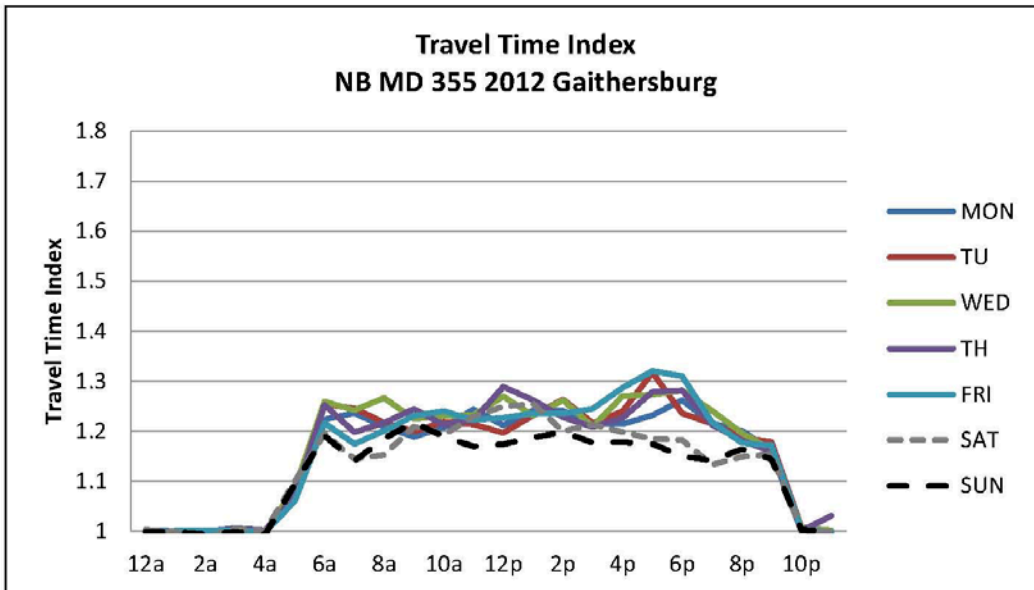
Northbound

Percentage of Congestion
NB MD 355 2012
Gaithersburg

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	24%	22%	22%	22%	23%	25%	28%	27%	22%	9%
Weekend	2%	19%	17%	17%	21%	20%	19%	18%	17%	14%	8%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



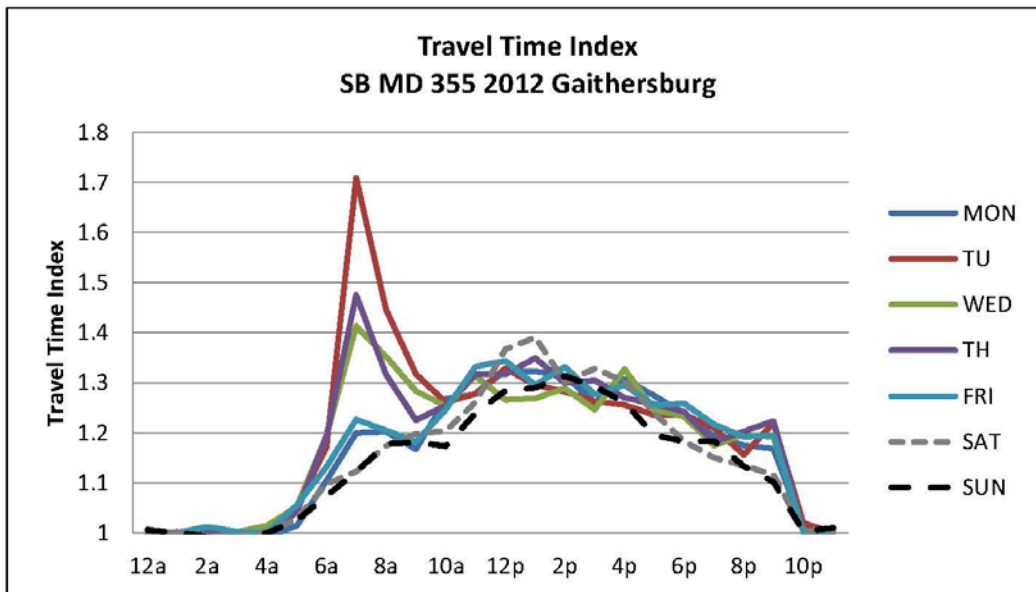
Southbound

Percentage of Congestion
SB MD 355 2012
Gaithersburg

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	16%	41%	30%	24%	29%	29%	25%	24%	20%	10%
Weekend	0%	9%	18%	18%	19%	29%	28%	22%	18%	17%	6%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Germantown East

Northbound

Percentage of Congestion
NB MD 355 2012
Germantown East

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	13%	17%	19%	15%	19%	24%	26%	25%	19%	8%
Weekend	0%	13%	10%	10%	14%	18%	18%	20%	13%	12%	5%

Congestion % Color Scale

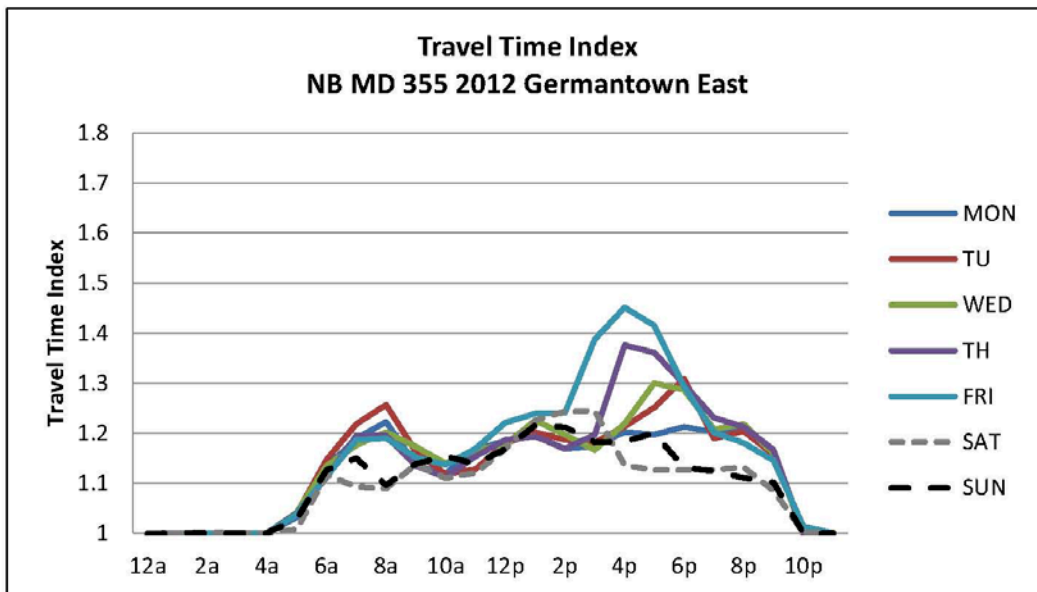
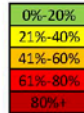
Uncongested - Light

Light - Moderate

Moderate - Heavy

Heavy - Severe

Severe

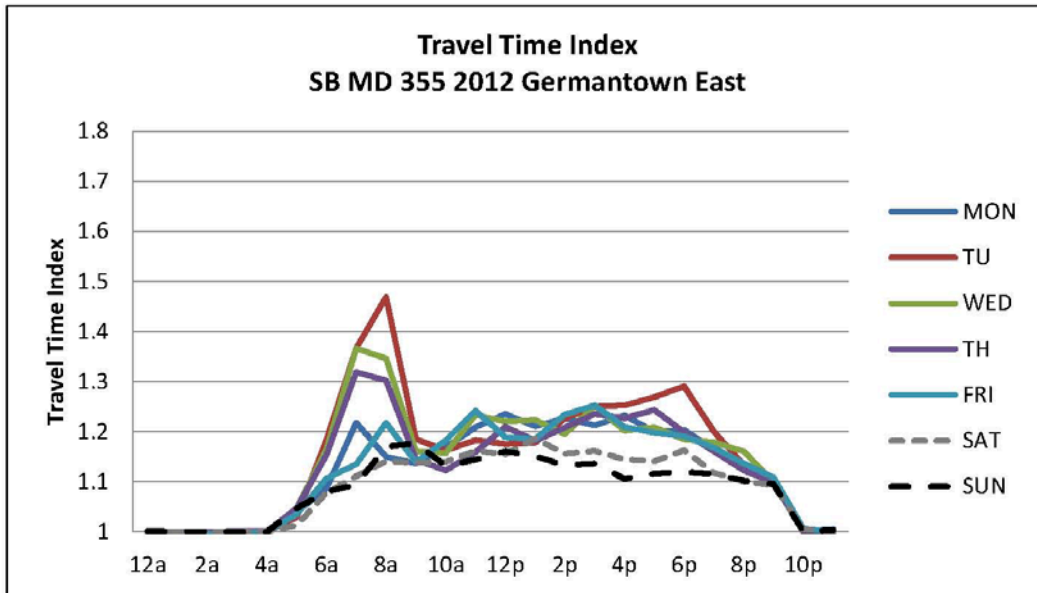
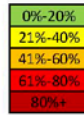


Southbound

Percentage of Congestion
SB MD 355 2012
Germantown East

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	14%	28%	30%	15%	20%	22%	22%	21%	17%	6%
Weekend	1%	8%	16%	16%	16%	15%	13%	13%	14%	12%	5%

Congestion % Color Scale
 Uncongested - Light 0%-20%
 Light - Moderate 21%-40%
 Moderate - Heavy 41%-60%
 Heavy - Severe 61%-80%
 Severe 80%+



Montgomery Village-Airpark

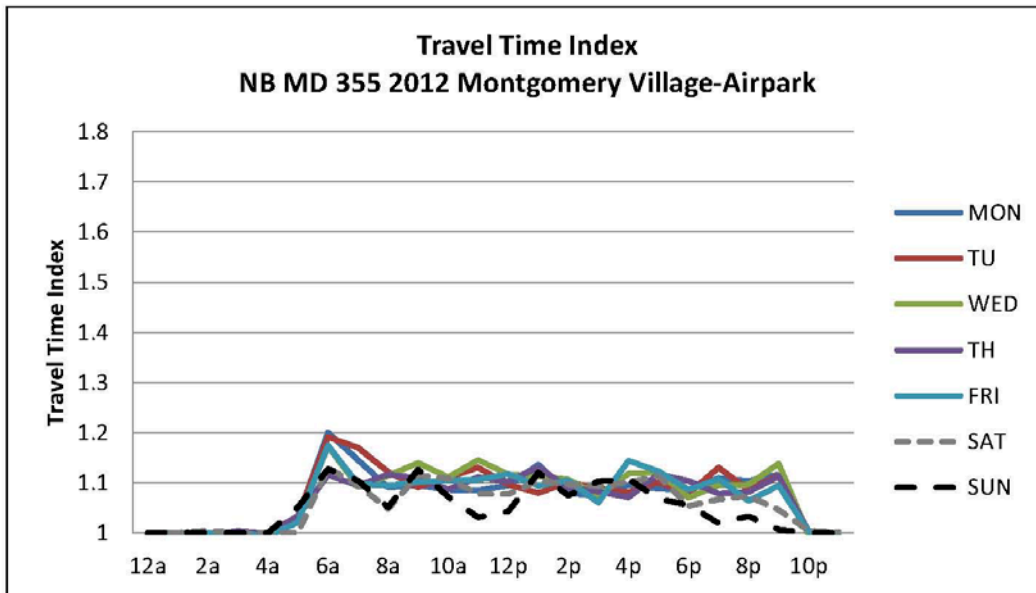
Northbound

Percentage of Congestion
 NB MD 355 2012
 Montgomery Village -
 Airpark

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	17%	12%	11%	11%	10%	10%	11%	8%	10%	5%
Weekend	0%	13%	5%	5%	12%	8%	10%	9%	5%	4%	2%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



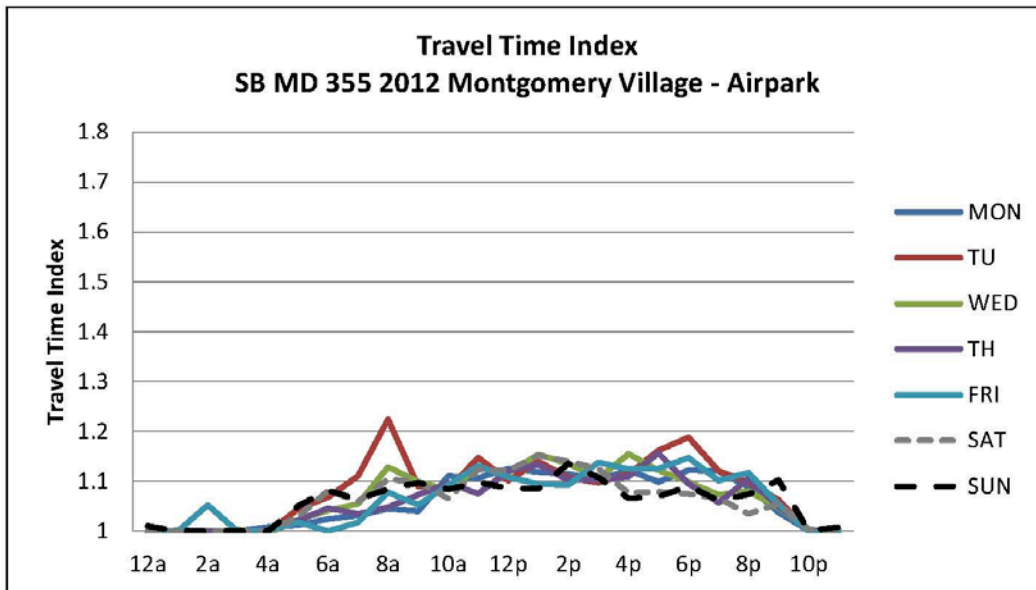
Southbound

Percentage of Congestion
 SB MD 355 2012
 Montgomery Village -
 Airpark

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	4%	5%	10%	7%	11%	12%	13%	13%	9%	4%
Weekend	1%	8%	9%	9%	10%	11%	7%	7%	8%	6%	3%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Rural East

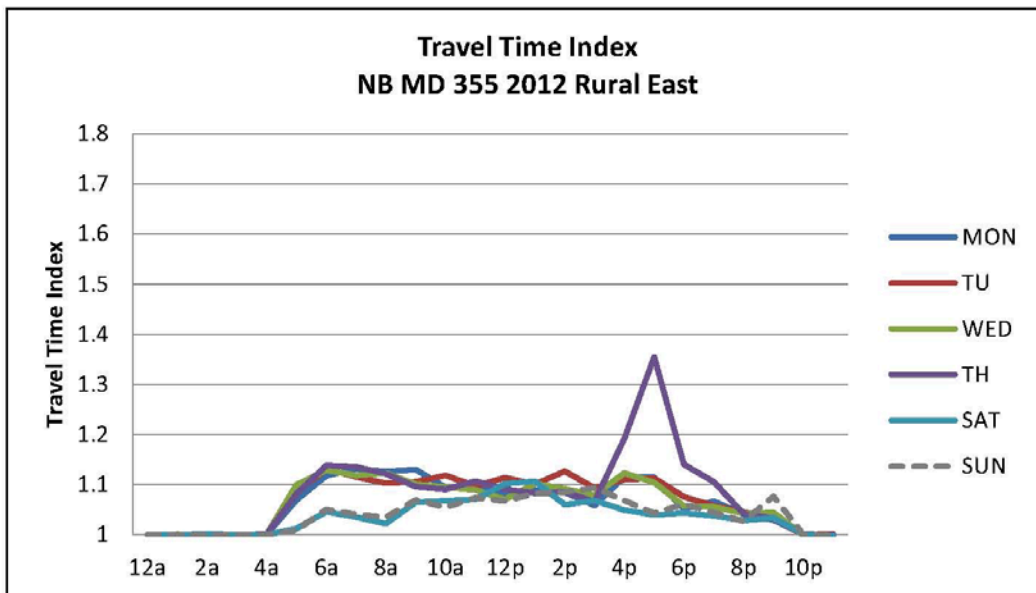
Northbound

Percentage of Congestion
NB MD 355 2012 Rural East

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	12%	12%	11%	11%	9%	16%	20%	10%	7%	2%
Weekend	0%	5%	3%	3%	7%	8%	6%	4%	5%	4%	2%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



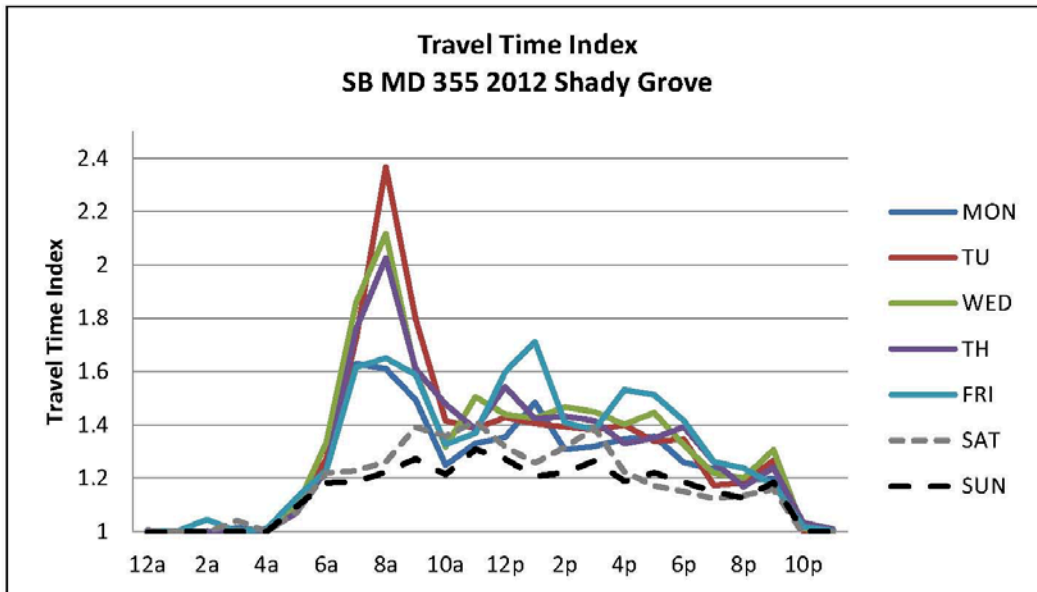
Southbound

Percentage of Congestion
SB MD 355 2012 Shady
Grove

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	48%	18%	74%	114%	119%	65%	61%	81%	87%	73%	60%
Weekend	51%	54%	61%	61%	61%	66%	63%	69%	44%	57%	56%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



MD 390

Silver Spring-Takoma Park

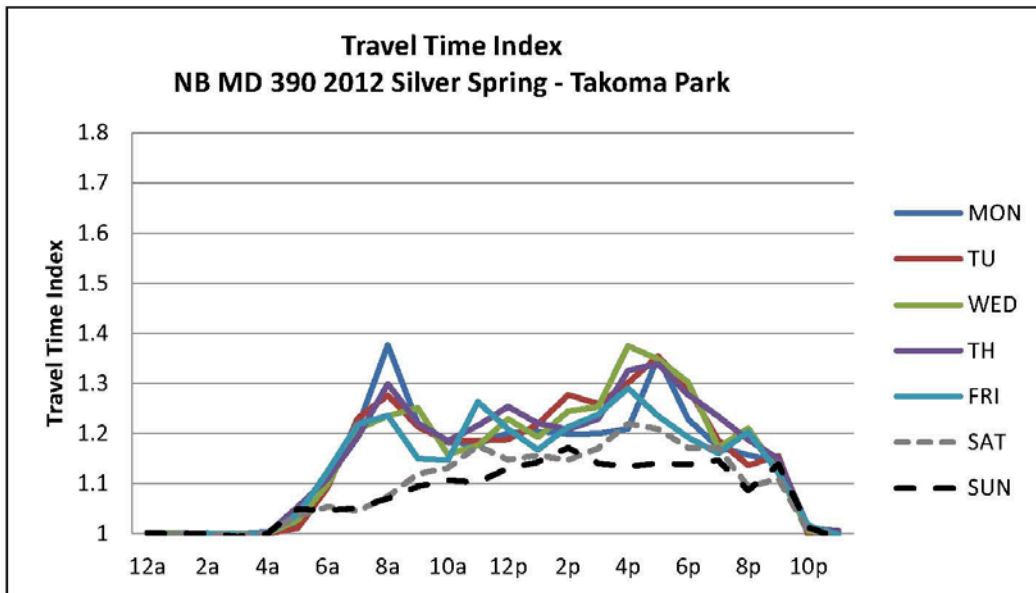
Northbound

Percentage of Congestion
 NB MD 390 2012 Silver
 Spring - Takoma Park

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	11%	21%	28%	21%	21%	30%	33%	26%	18%	8%
Weekend	1%	5%	7%	7%	11%	14%	18%	17%	15%	16%	6%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



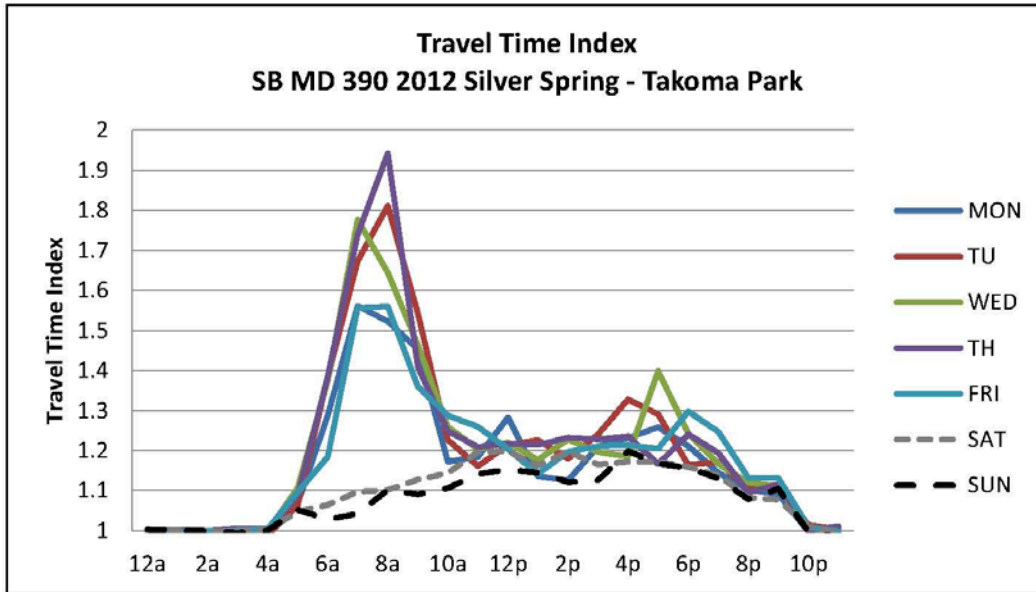
Southbound

Percentage of Congestion
 SB MD 390 2012 Silver
 Spring - Takoma Park

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	32%	66%	70%	45%	21%	24%	26%	23%	18%	6%
Weekend	1%	5%	10%	10%	11%	16%	19%	17%	16%	13%	4%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



MD 586

Aspen Hill

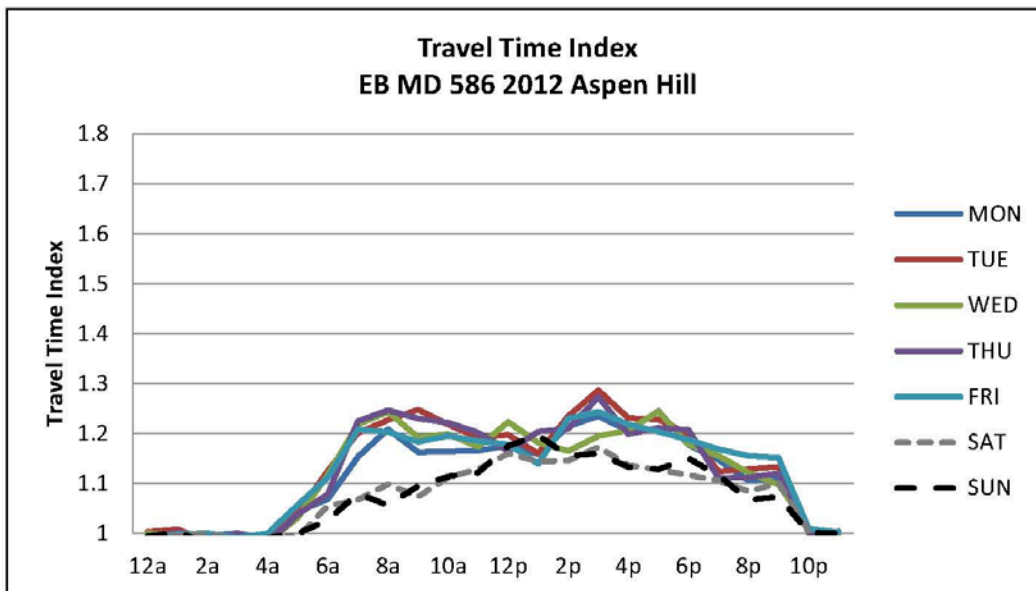
Eastbound

Percentage of Congestion
EB MD 586 Aspen Hill

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	10%	20%	23%	20%	20%	21%	23%	19%	14%	6%
Weekend	0%	4%	7%	8%	8%	15%	13%	13%	13%	11%	4%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



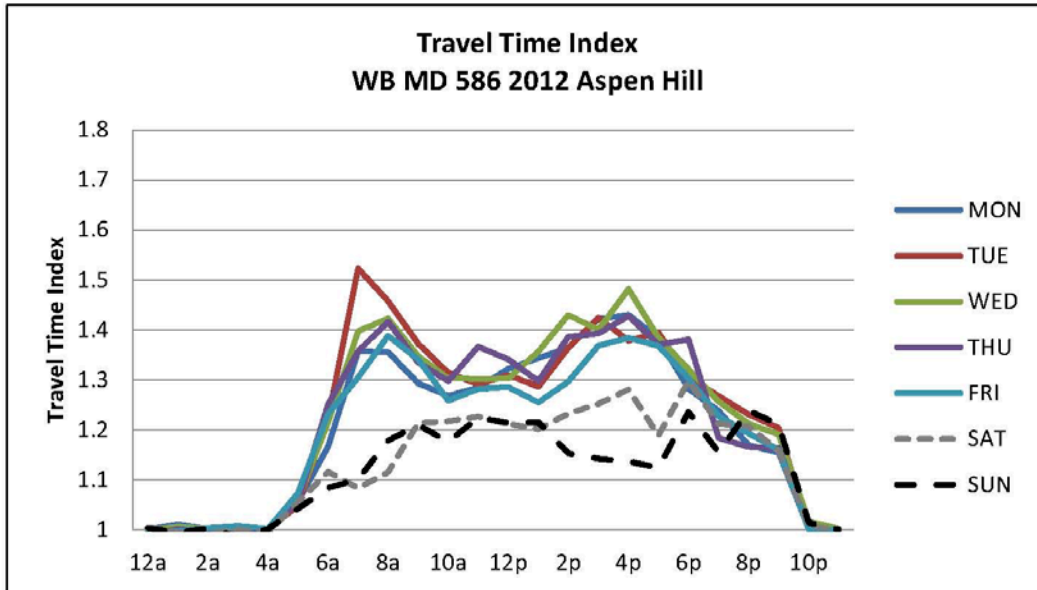
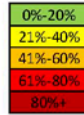
Southbound

Percentage of Congestion
WB MD 586 Aspen Hill

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	22%	39%	41%	34%	33%	42%	38%	32%	23%	9%
Weekend	1%	10%	9%	15%	21%	21%	21%	16%	27%	18%	10%

Congestion % Color Scale

- Uncongested - Light
- Light - Moderate
- Moderate - Heavy
- Heavy - Severe
- Severe



Kensington-Wheaton

Eastbound

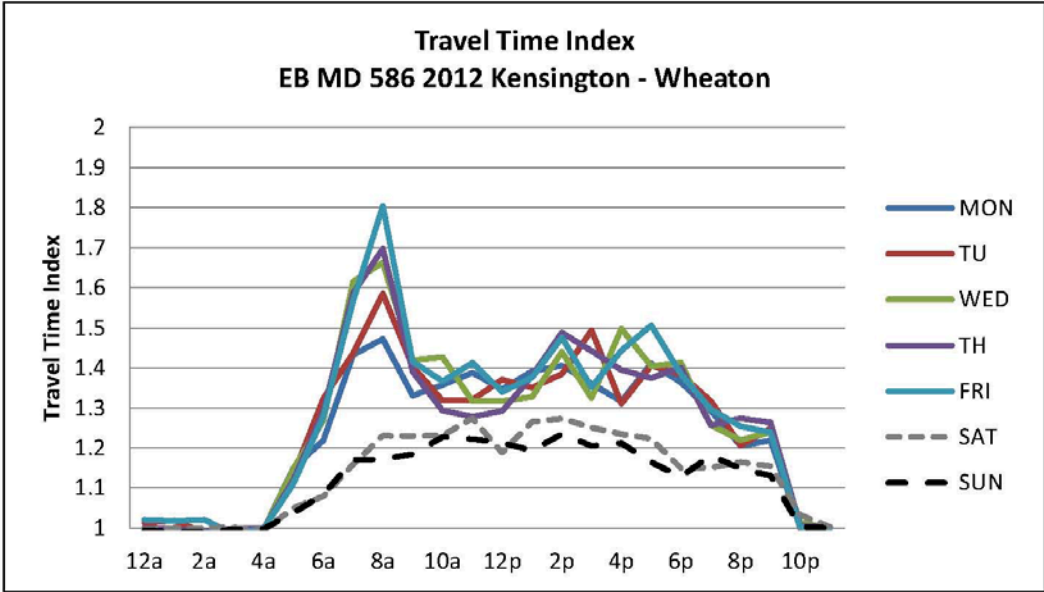
Percentage of Congestion
 EB MD 586 2012 Kensington
 - Wheaton

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	2%	28%	53%	64%	39%	37%	39%	42%	39%	28%	12%
Weekend	1%	8%	20%	20%	21%	23%	22%	19%	14%	17%	8%

Congestion % Color Scale

Uncongested - Light
 Light - Moderate
 Moderate - Heavy
 Heavy - Severe
 Severe

0%-20%
21%-40%
41%-60%
61%-80%
80%+



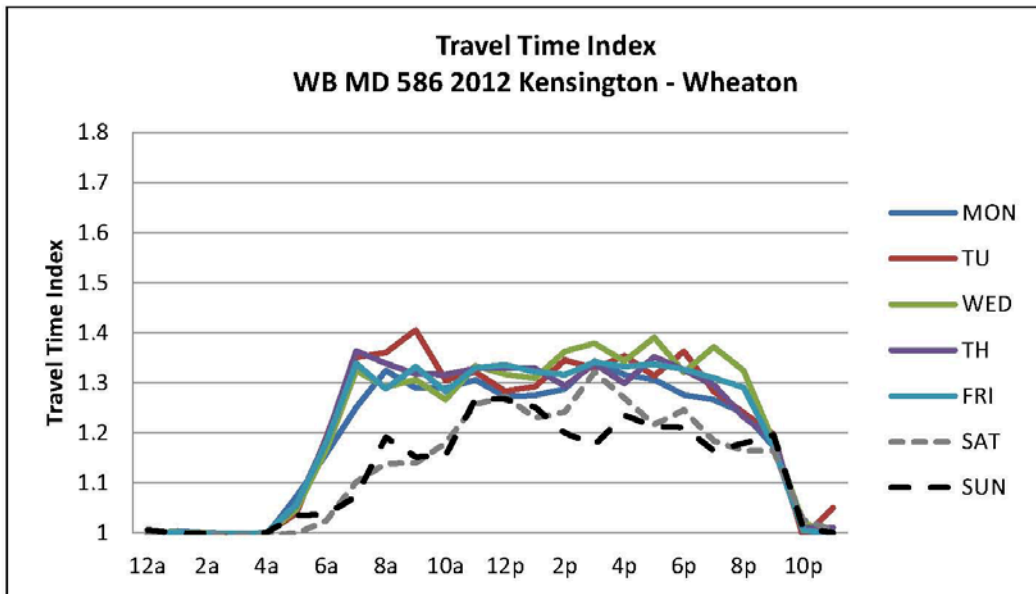
Westbound

Percentage of Congestion
WB MD 586 2012
Kensington - Wheaton

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	18%	33%	32%	33%	31%	33%	34%	32%	30%	12%
Weekend	0%	3%	16%	16%	15%	23%	25%	21%	23%	17%	9%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



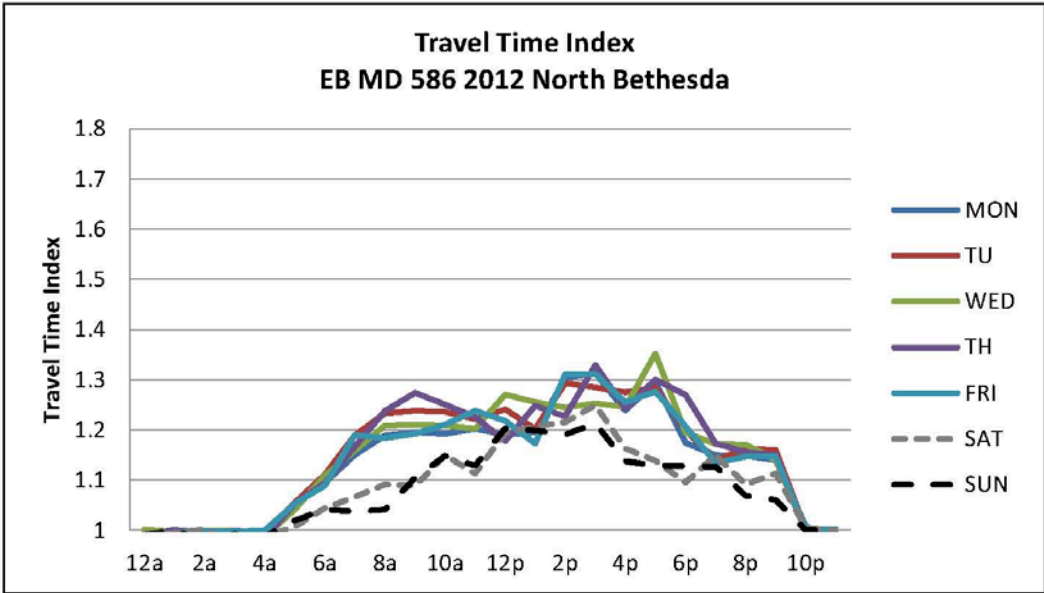
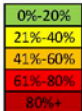
North Bethesda

Eastbound

Percentage of Congestion
 EB MD 586 2012 North
 Bethesda

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	10%	17%	21%	22%	24%	25%	30%	21%	15%	8%
Weekend	0%	4%	7%	7%	10%	18%	15%	13%	11%	14%	4%

Congestion % Color Scale
 Uncongested - Light 0%-20%
 Light - Moderate 21%-40%
 Moderate - Heavy 41%-60%
 Heavy - Severe 61%-80%
 Severe 80%+



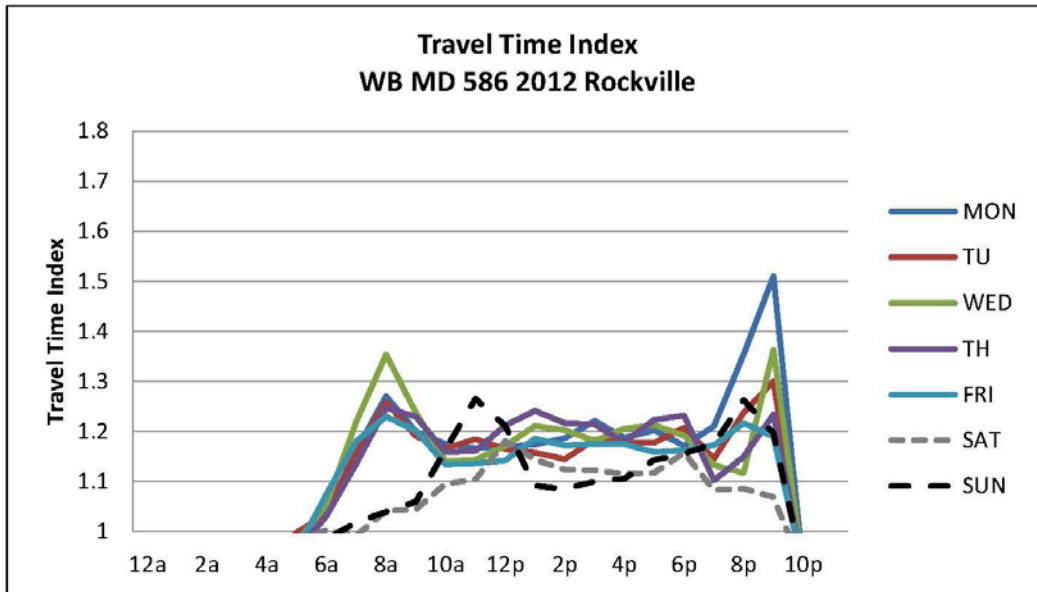
Westbound

Percentage of Congestion
WB MD 586 2012 Rockville

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	4%	14%	23%	18%	17%	17%	18%	19%	13%	10%
Weekend	0%	0%	4%	4%	6%	15%	11%	14%	16%	18%	11%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



US 650

Cloverly

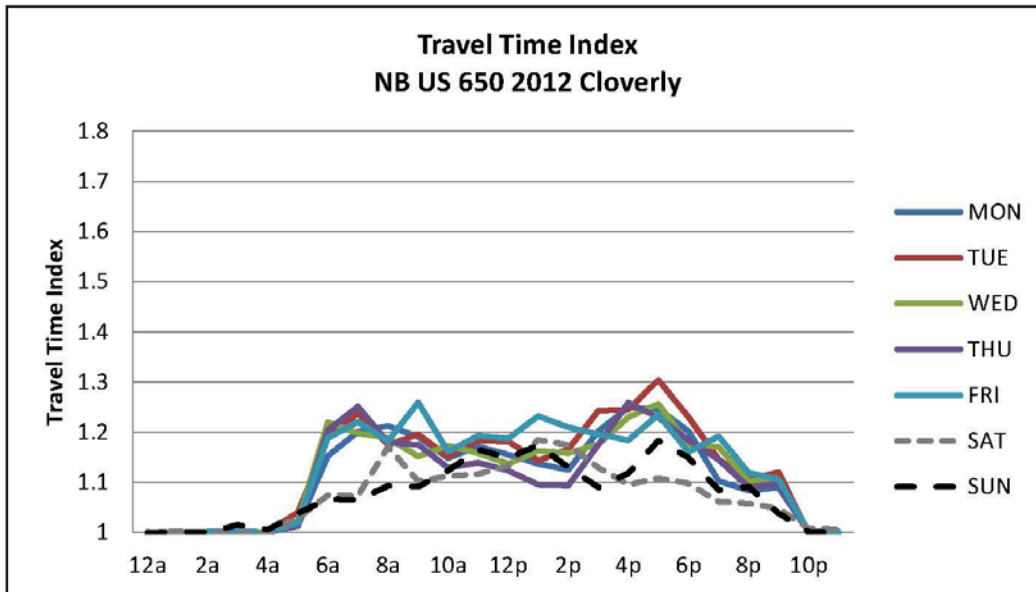
Northbound

Percentage of Congestion
NB US 650 2012 Cloverly

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	19%	22%	19%	19%	15%	23%	25%	19%	15%	5%
Weekend	1%	7%	13%	13%	10%	14%	11%	14%	12%	7%	3%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



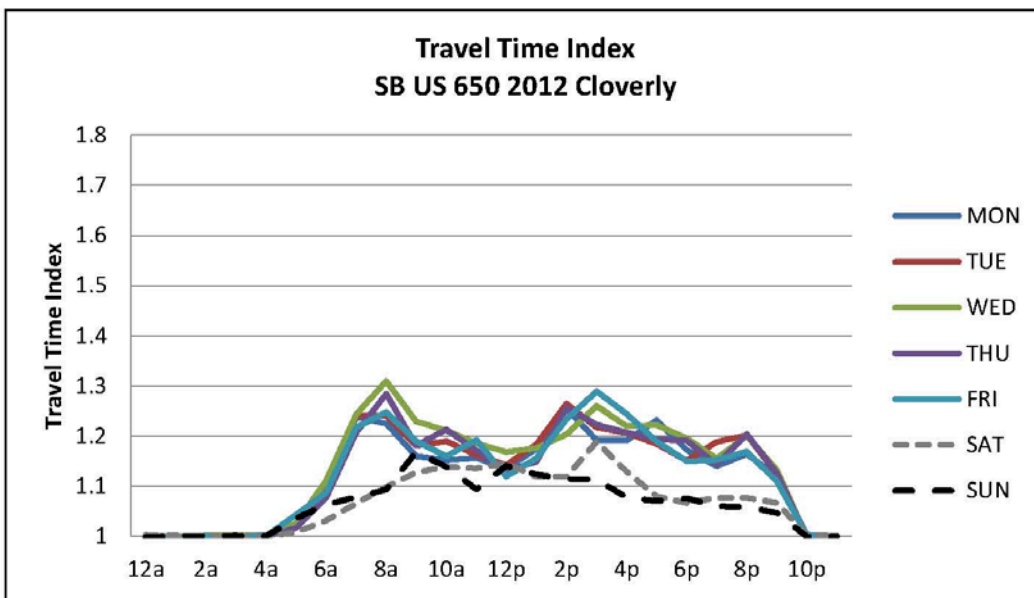
Southbound

Percentage of Congestion
SB US 650 2012 Cloverly

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	9%	23%	26%	19%	19%	21%	20%	17%	16%	8%
Weekend	0%	5%	10%	10%	15%	13%	10%	7%	7%	7%	3%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



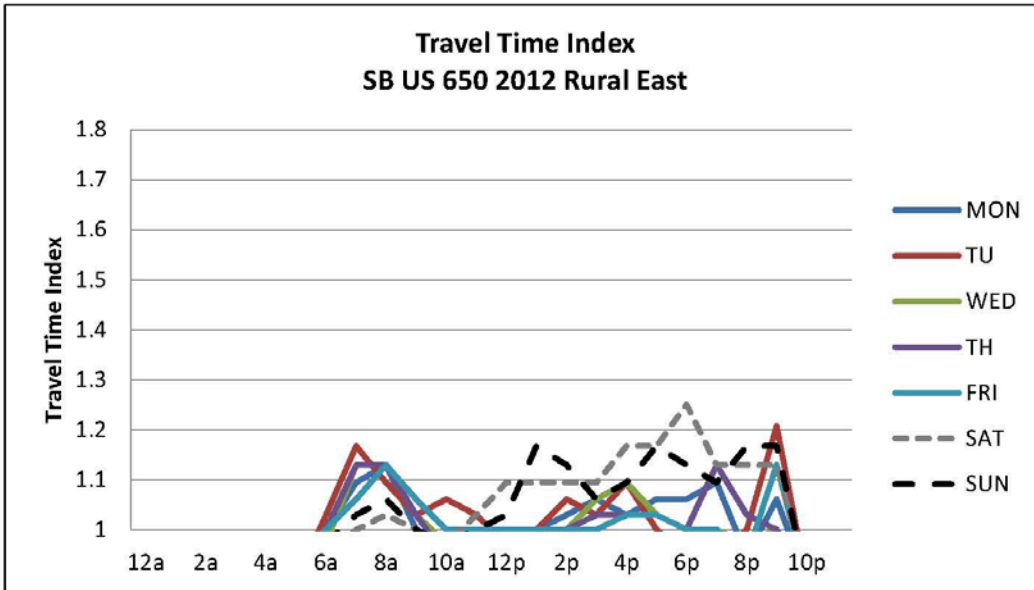
Southbound

Percentage of Congestion
SB US 650 2012 Rural East

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	0%	1%	10%	10%	3%	1%	8%	5%	5%	5%	3%
Weekend	0%	0%	6%	6%	0%	6%	9%	17%	13%	9%	8%

Congestion % Color Scale

- Uncongested - Light 0%-20%
- Light - Moderate 21%-40%
- Moderate - Heavy 41%-60%
- Heavy - Severe 61%-80%
- Severe 80%+



Silver Spring-Takoma Park

Northbound

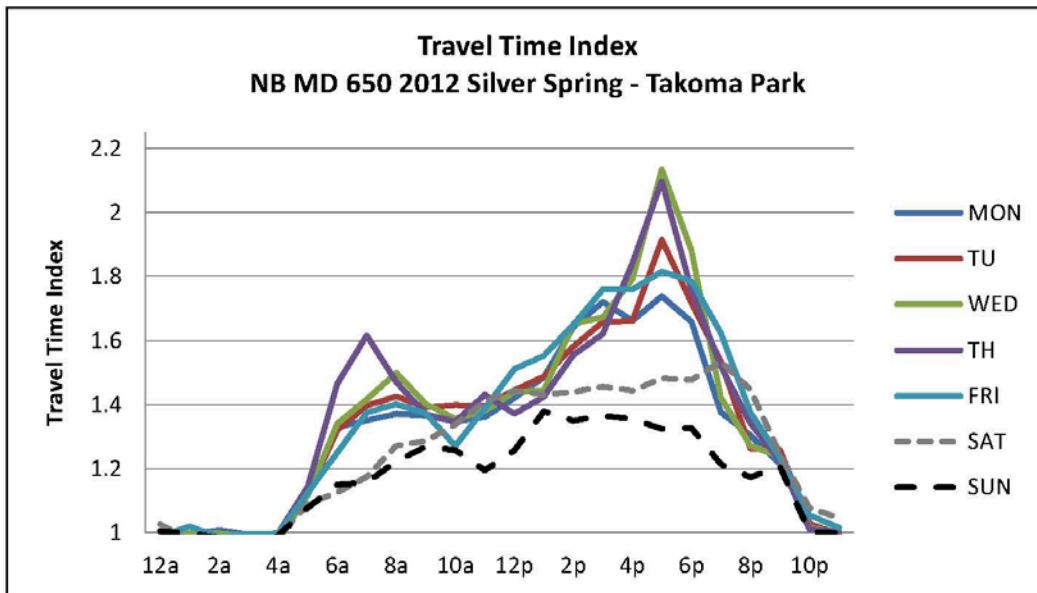
Percentage of Congestion
 NB MD 650 2012 Silver
 Spring - Takoma Park

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	2%	34%	43%	43%	38%	48%	74%	94%	76%	50%	14%
Weekend	2%	14%	25%	25%	28%	36%	40%	40%	40%	37%	15%

Congestion % Color Scale

Uncongested - Light
 Light - Moderate
 Moderate - Heavy
 Heavy - Severe
 Severe

0%-20%
21%-40%
41%-60%
61%-80%
80%+



Fairland-White Oak

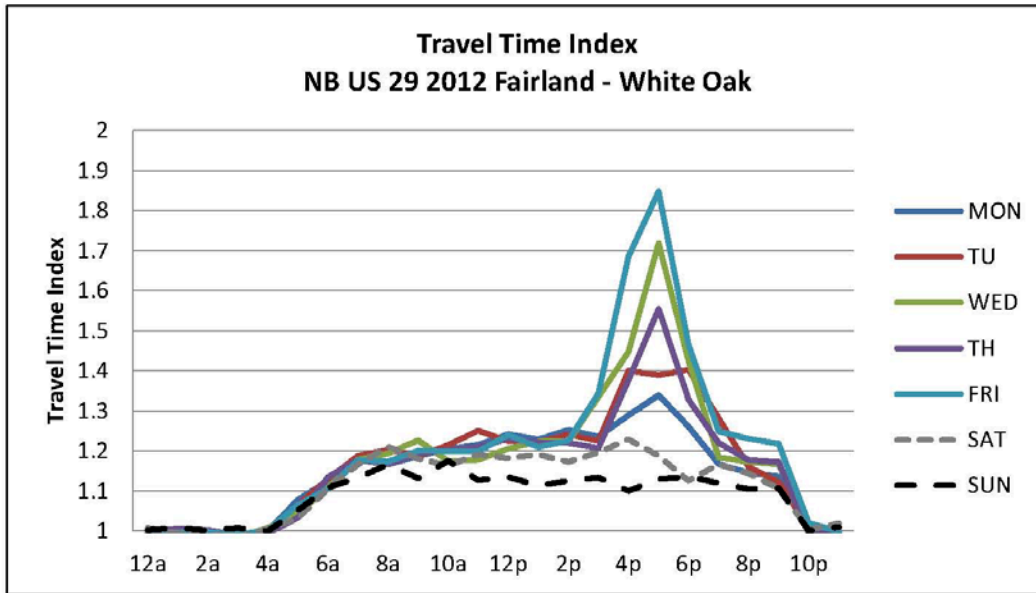
Northbound

Percentage of Congestion
NB US 29 2012 Fairland
White Oak

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	12%	18%	18%	20%	22%	44%	57%	38%	22%	9%
Weekend	1%	11%	19%	19%	16%	16%	16%	16%	13%	14%	6%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Southbound

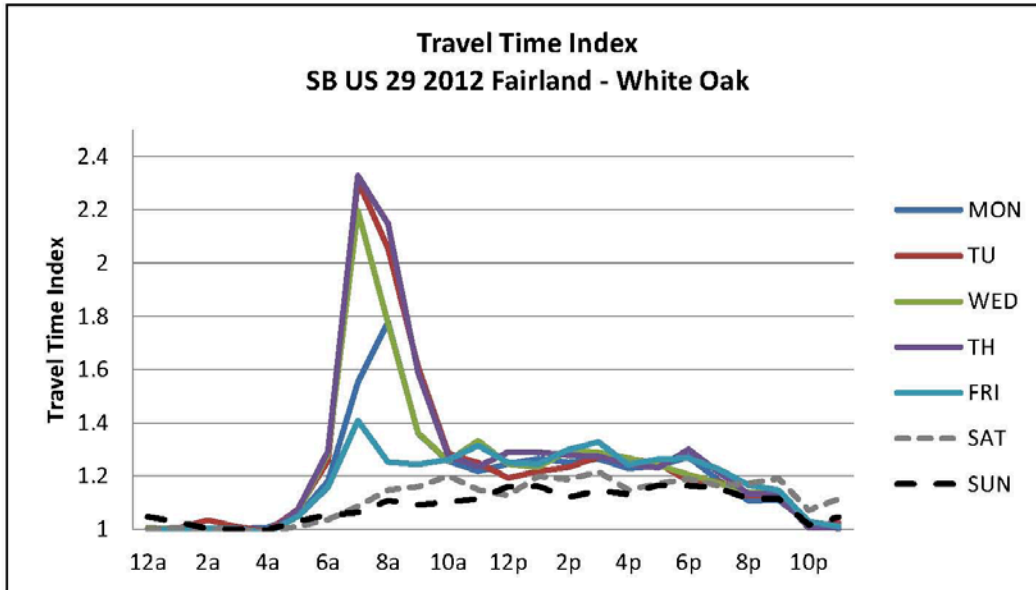
Percentage of Congestion
SB US 29 2012 Fairland -
White Oak

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	1%	24%	96%	80%	43%	26%	25%	24%	25%	20%	7%
Weekend	1%	5%	13%	13%	13%	16%	14%	17%	18%	16%	11%

Congestion % Color Scale

Uncongested - Light
Light - Moderate
Moderate - Heavy
Heavy - Severe
Severe

0%-20%
21%-40%
41%-60%
61%-80%
80%+



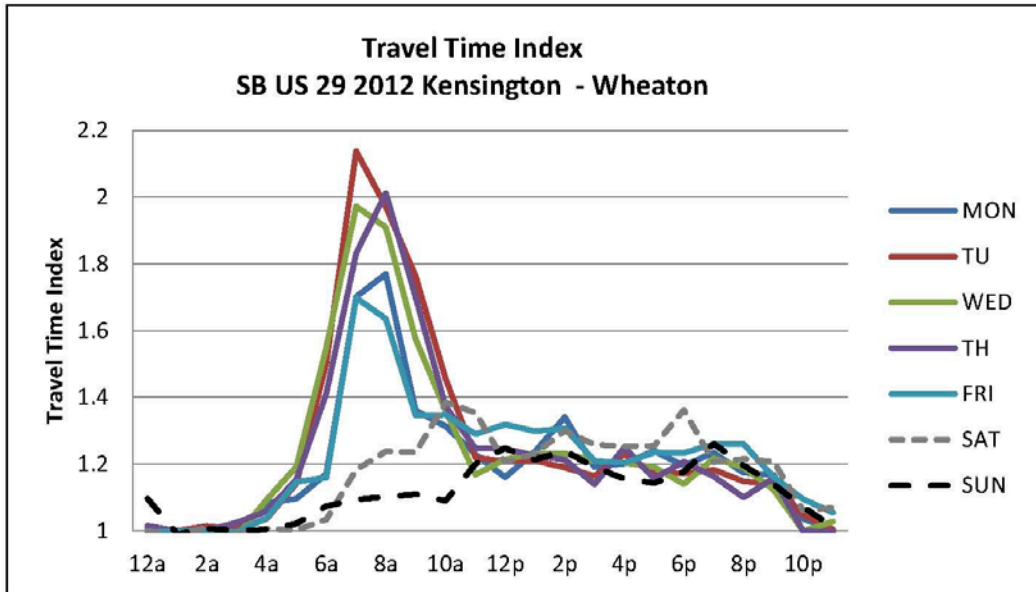
Southbound

Percentage of Congestion
SB US 29 2012 Kensington -
Wheaton

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	4%	36%	87%	86%	55%	24%	22%	20%	19%	21%	9%
Weekend	1%	5%	17%	17%	17%	24%	20%	20%	27%	23%	12%

Congestion % Color Scale

Uncongested - Light	0%-20%
Light - Moderate	21%-40%
Moderate - Heavy	41%-60%
Heavy - Severe	61%-80%
Severe	80%+



Mobility Assessment Report

Appendix

March 2014

Montgomery County Planning Department
M-NCPPC
MontgomeryPlanning.org

Bar code: