2014 Mobility Assessment Report

Functional Planning & Policy

Montgomery County Planning Department

Overview

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- Multi-Modal Monitoring
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  - Bikes
  - Bus
  - Rail
  - Future Efforts
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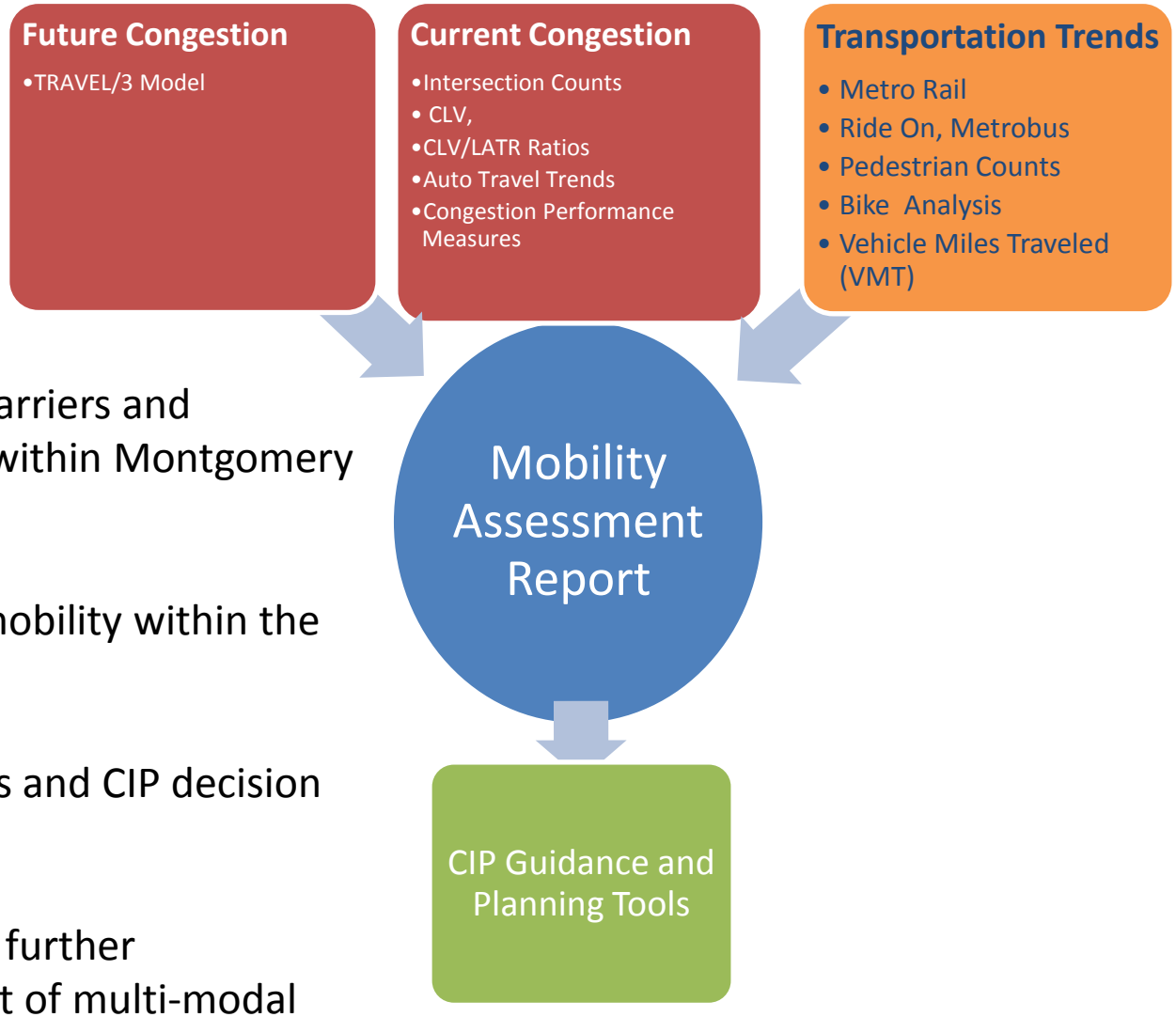
  - Intersections Ranked by CLV
  - Intersections By Exceeding Congestion Policy Area Standard
- Intersection and Roadway Analysis on the ICC
  - Corridor Study
  - In-House Study of Effects of CLVs
- Roadway Congestion Analysis
  - Measuring Congestion on Roadways
  - Roadway Segment Examples

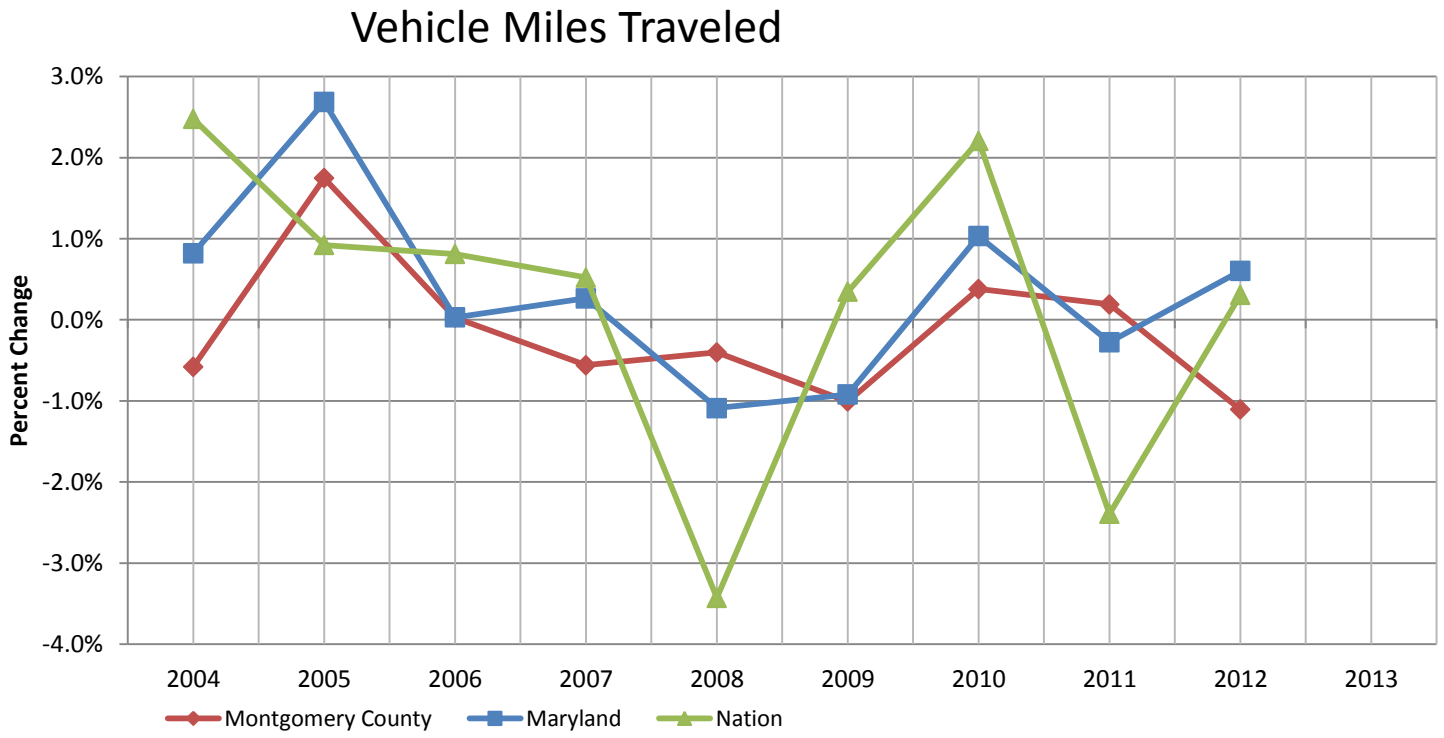


- Document analysis of barriers and constraints to mobility within Montgomery County.
- Provide a snapshot of mobility within the County.
- Inform planning analysis and CIP decision making process.
- Will continue to pursue further expansion/development of multi-modal measures in next MAR in spring of 2016

Brief Update:
National & Local Travel Trends

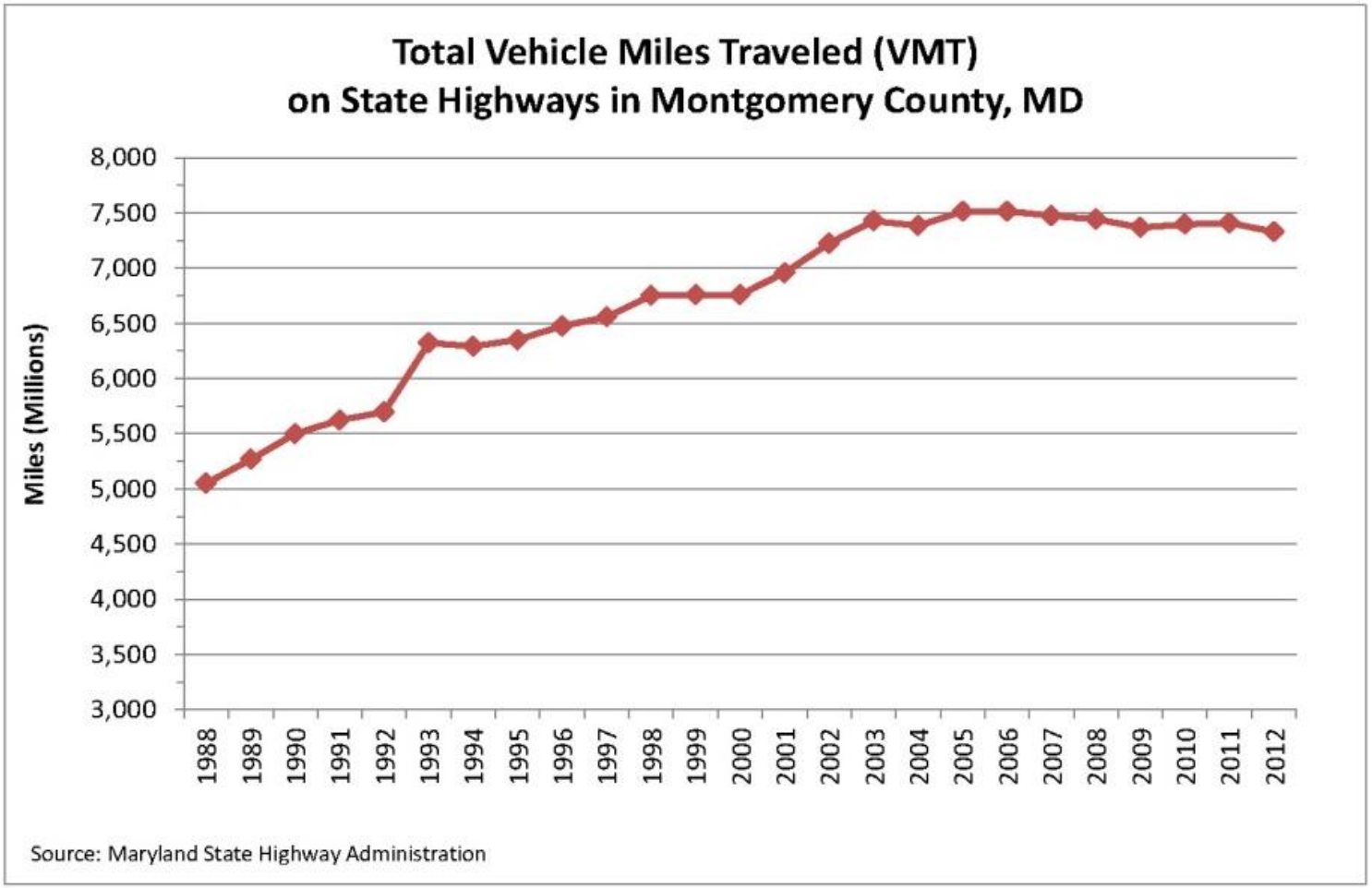
National & Local Travel Trends

- Nationwide VMT has increased slightly (from 2011-2012).
- County VMT has decreased slightly (from 2011-2012)-Stabilized
- State VMT has increased slightly - Stabilizing – Rebounding from the lowest point in 2008



National & Local Travel Trends

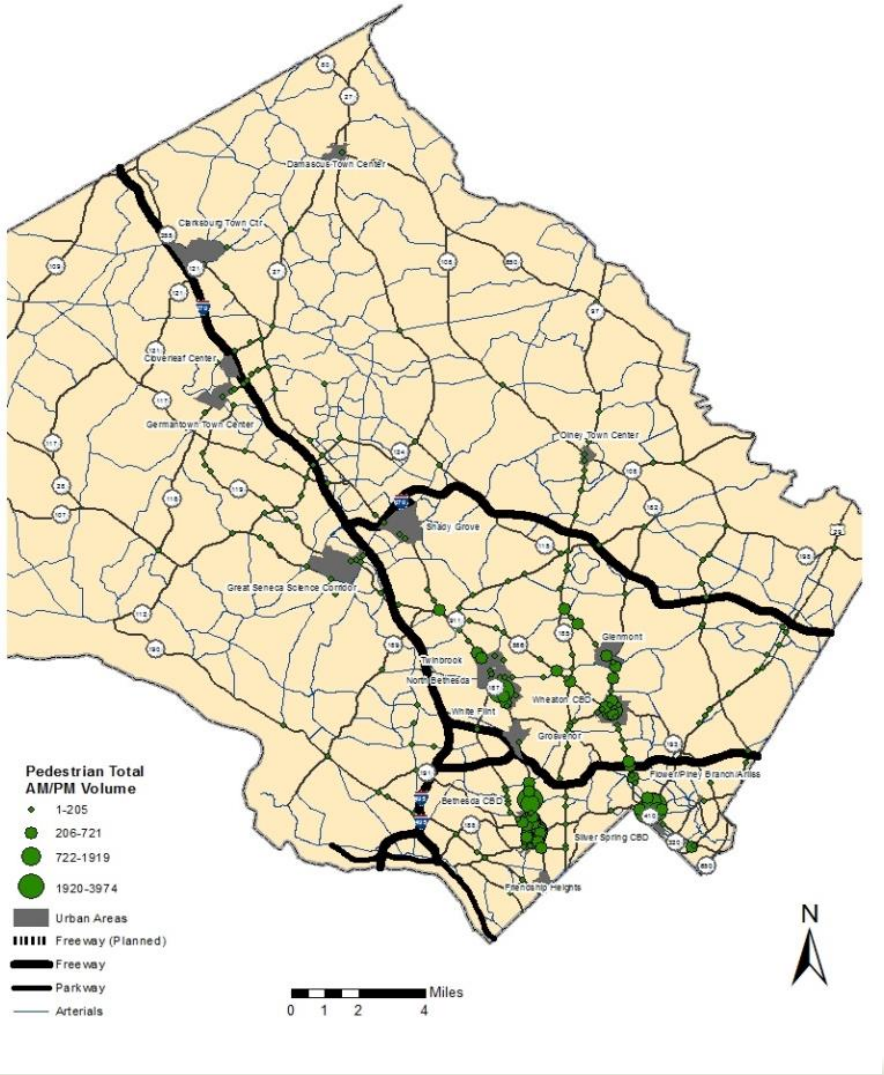
County VMT has been stabilizing



Multi-Modal Monitoring Highlights

Multi-Modal Monitoring: Pedestrian

- In Urban areas, 91 out of 262 intersections have pedestrian counts.
- Outside of urban areas, there are 171 pedestrian counts that have been collected
- 42% of intersections in total have pedestrian data in the County
- Bethesda CBD, Wheaton CBD and Silver Spring CBD all have high pedestrian activity

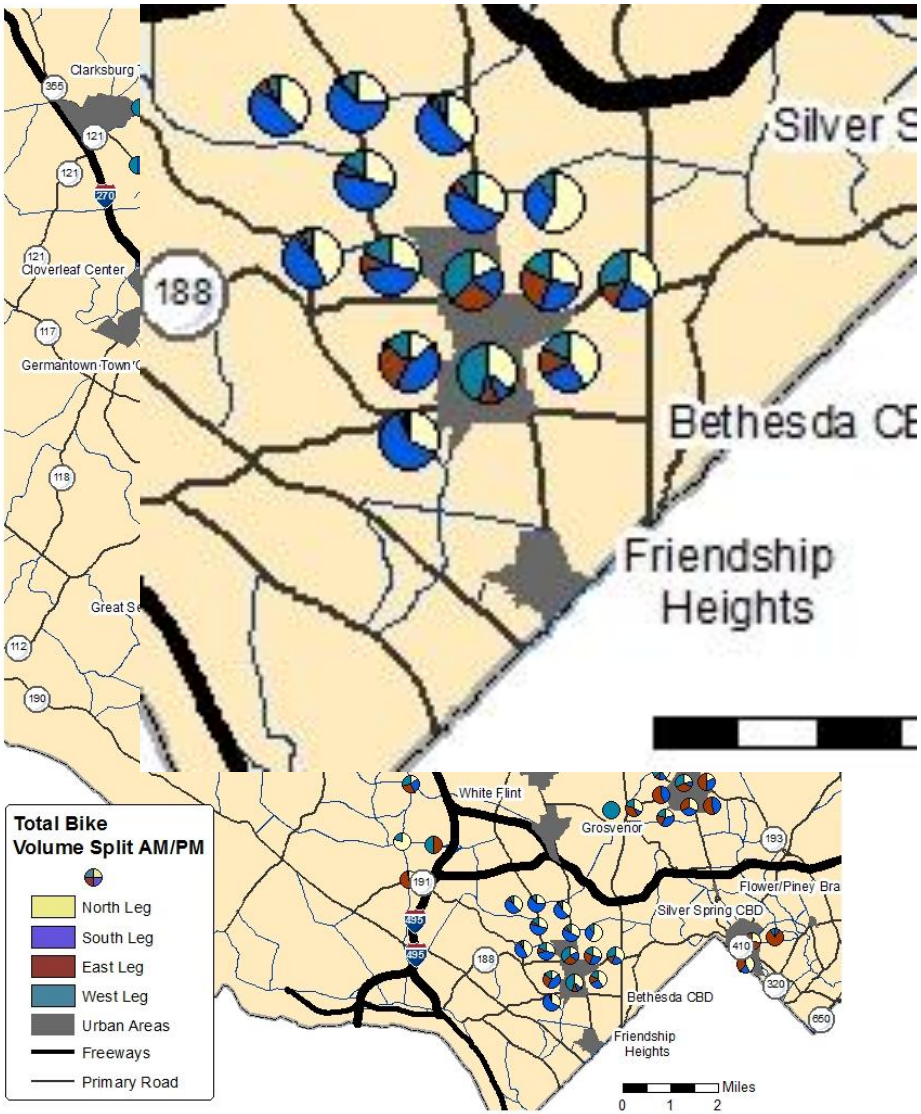


Multi-Modal Monitoring: Bicyclists

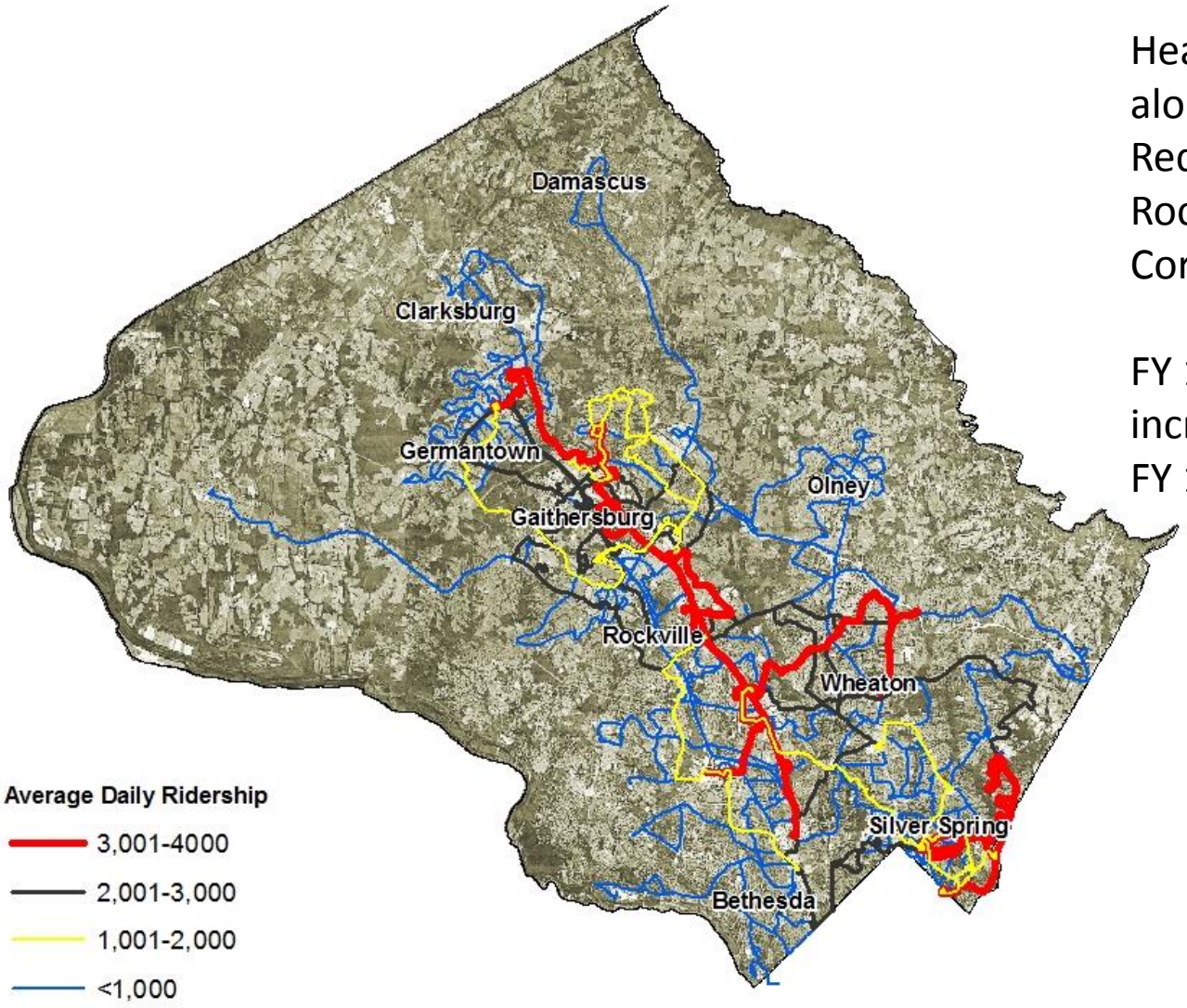
- Planning staff have developed a database platform to support the storage and analysis of bicycle count data.
- Can analyze turning movements at an intersection, to understand the flow along corridors.
- Useful for master plans
- Bike count data represent the least amount of information available for analysis

Multi-Modal Monitoring: Bike Analysis

- Highest Level of Bike Activity is in Bethesda CBD
- North and South movements are dominant MD 355 in Bethesda CBD



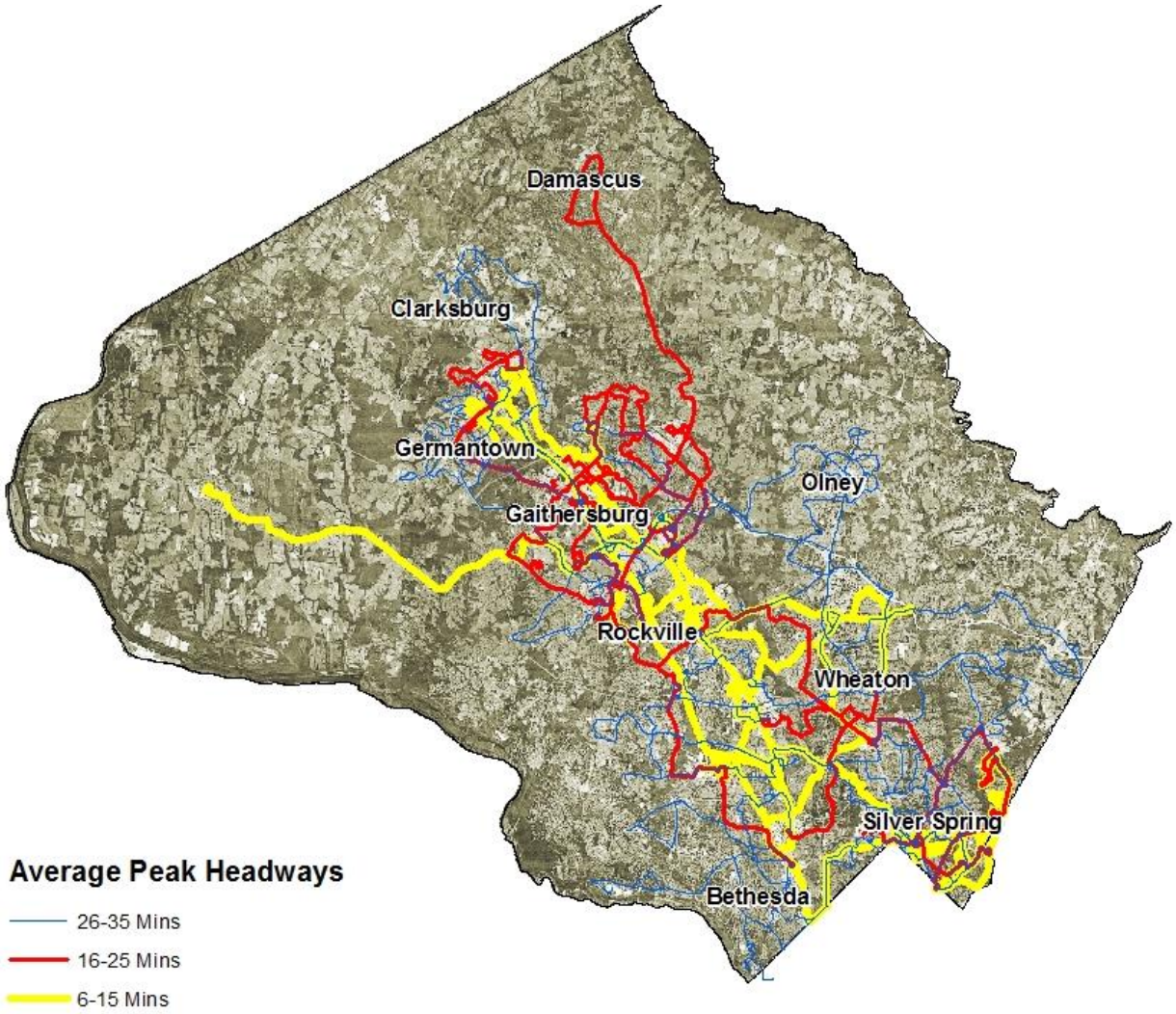
Multi-Modal Monitoring: Ride On



Heaviest ridership occurs along the 55 and 59 (In Red) – which serve Rockville-Gaithersburg Corridor

FY 13 has seen an increase from 87,990 in FY 12 to 88,370 riders.

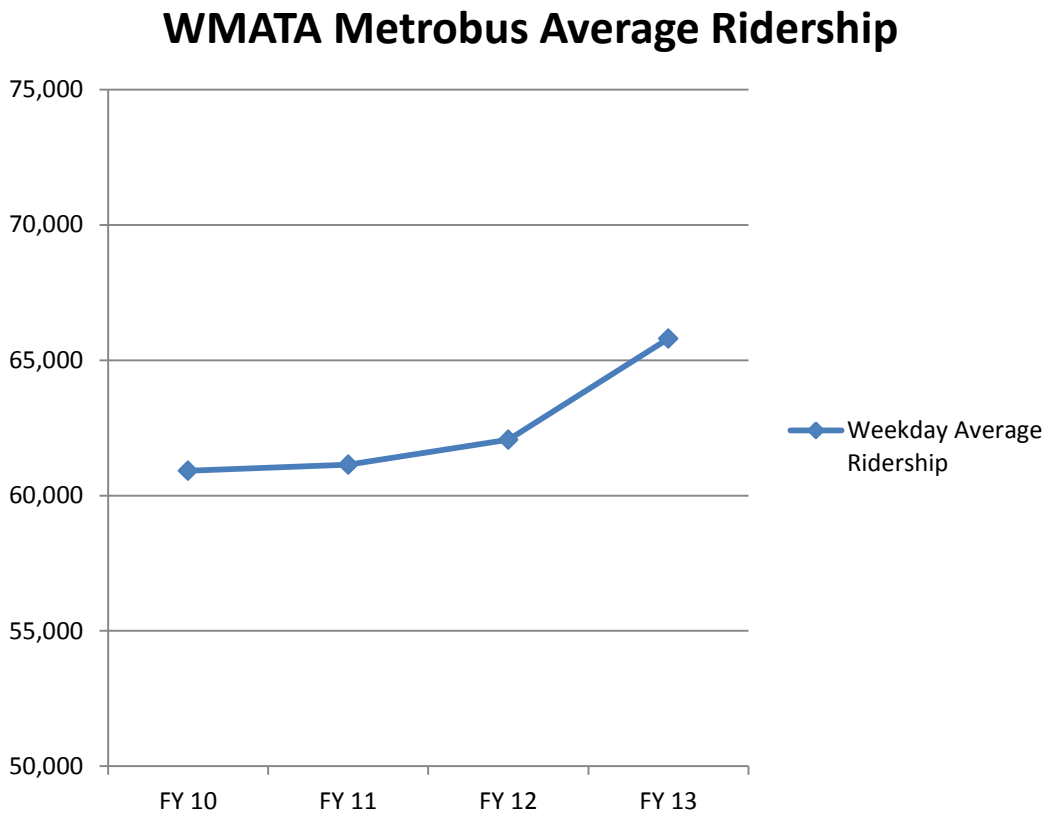
Multi-Modal Monitoring: Ride On



While over 70% of the routes have peak hour headways between 20 and 30 minutes, more widely used routes like the 55 and 59 have headways of 15 mins or less.

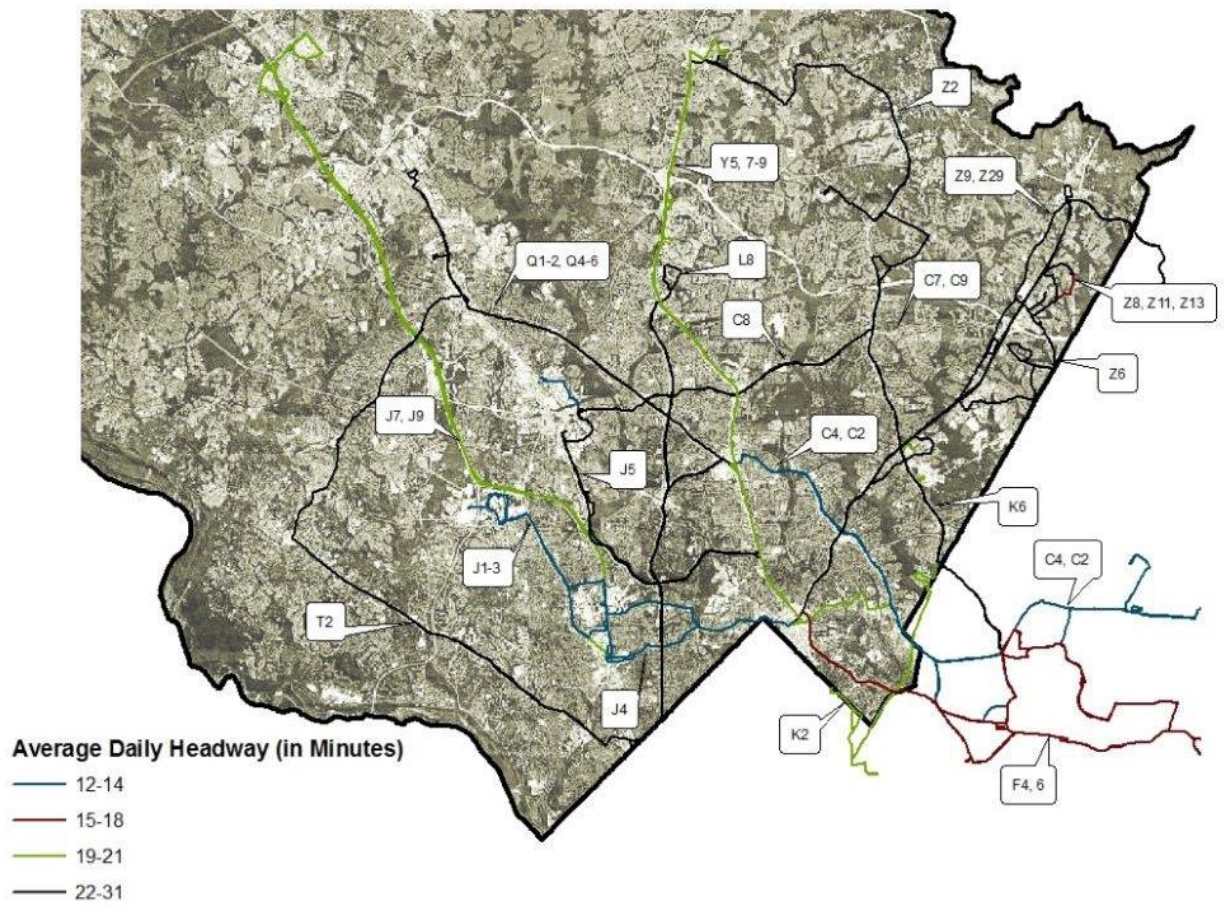
Ride-On continues to serve local areas where Metrobus does not serve.

Multi-Modal Monitoring: Metrobus Ridership



- Countywide average weekday ridership increased from 62,062 in FY 12 to 65,794 in FY 13.

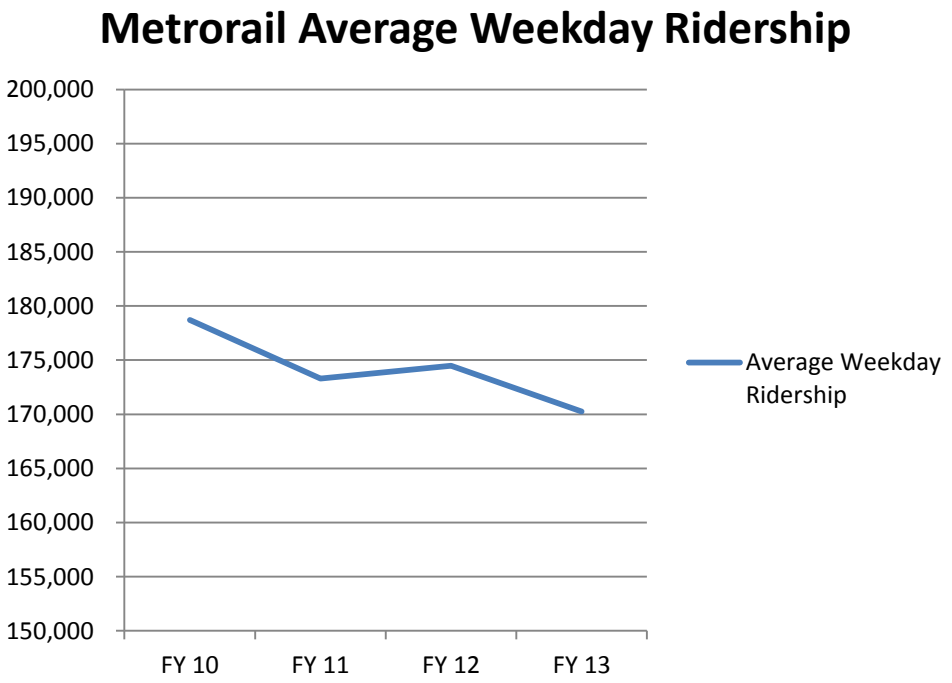
Multi-Modal Monitoring: Metrobus



- Most heavily traveled routes and with the least amount of time in headways are the C2-C4, J1-3 .
- Continues to serve major corridors rather than local roads.

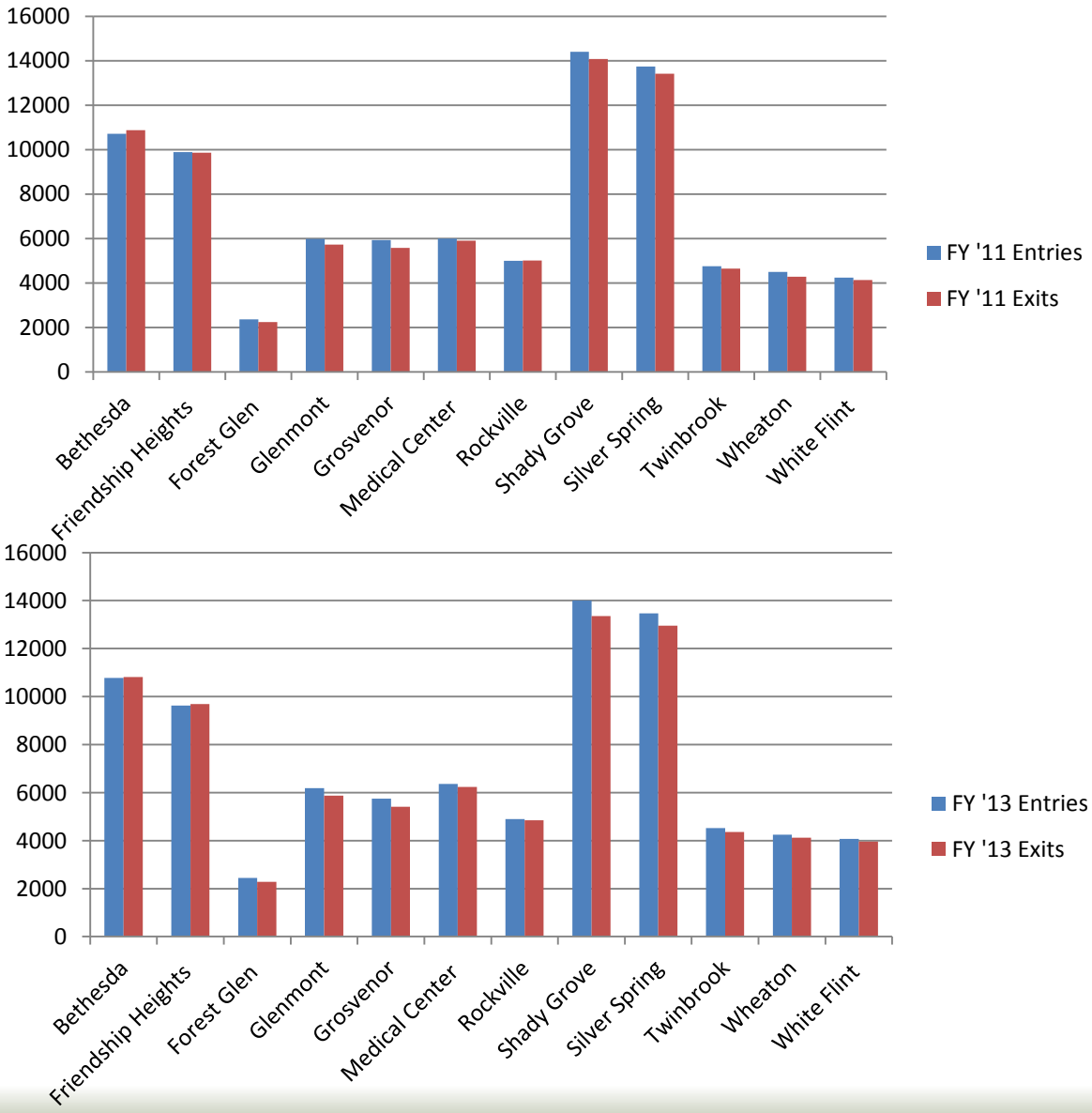
Multi-Modal Monitoring: Metrorail

- Average Weekday Ridership decreased between FY 11 (173,307) and FY 13 (170,255).



- "Since Recession, recovery of rail ridership has been behind Metrobus
  - Expansion of Telework & AWS
  - 40% of all riders are Federal Employees"
    - WMATA Office of Planning

Multi-Modal Monitoring: Metrorail

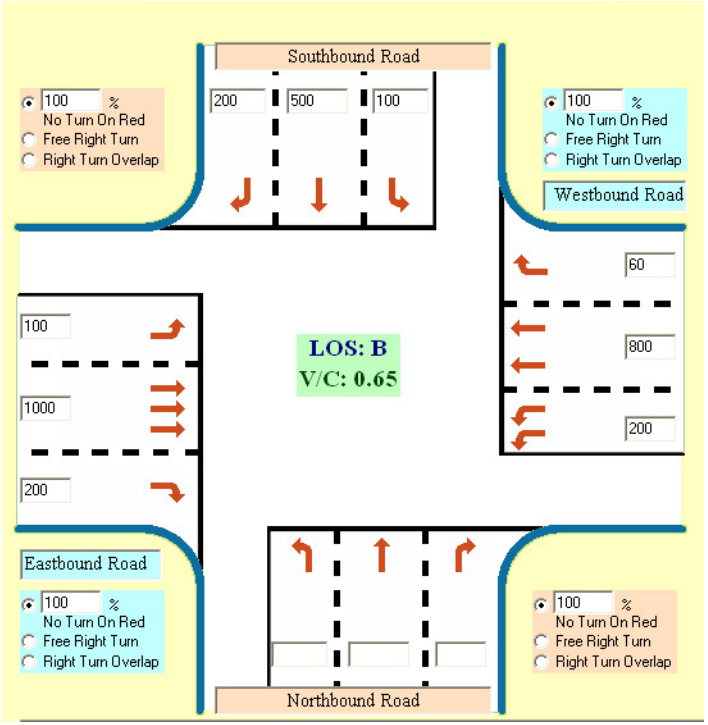


Multi-Modal Monitoring Continuing Efforts

- Since 2012, new development applications are required to include a Pedestrian and Bicycle Impact Statement which includes pedestrian and bike count data for Local Area Transportation Review.
- Planning Department will continue to collect pedestrian and bicycle counts for future analysis.
- Will investigate new sources like Capital Bikeshare to collect bicycle usage data
- Will investigate additional sources to analyze rail and bus

Intersection Analysis

Intersection Analysis



2 Ways in Ranking CLV

1) Regular CLV

Rank	Intersection Name	CLV	LATR Standard
30	Ridge Road at Skylark Rd	1629	1350

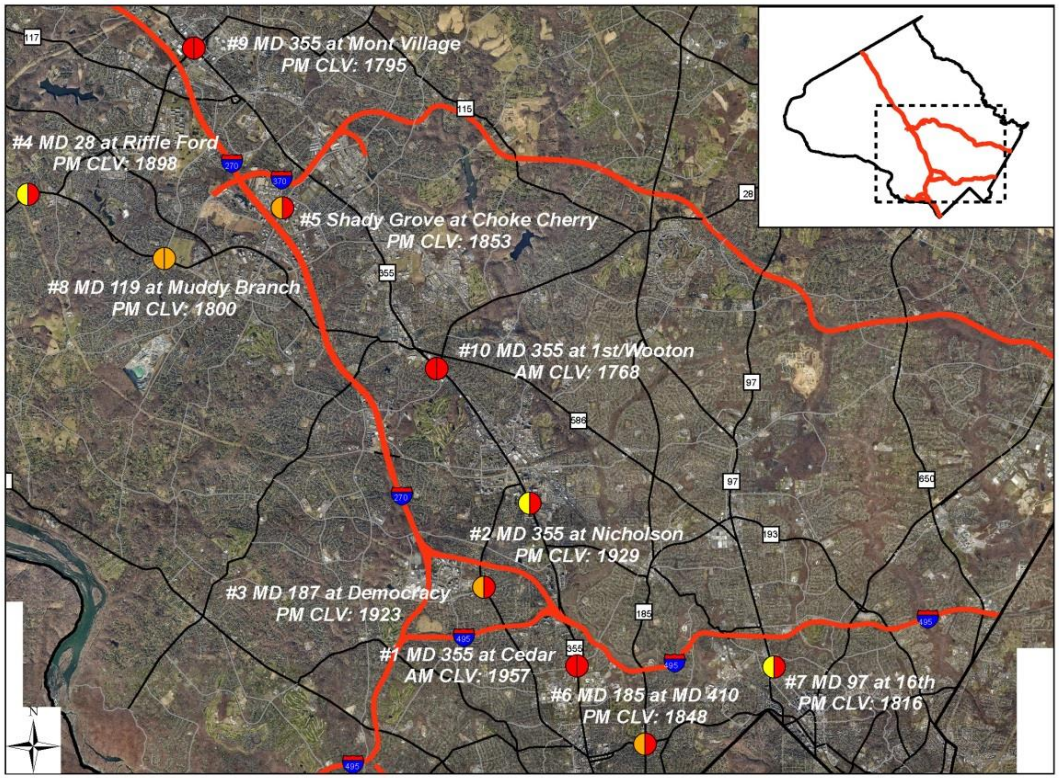
2) Applying Policy Area Congestion Standard

Rank	Intersection Name	CLV	LATR Standard	Exceeds LATR Standard By
7	Ridge Road at Skylark Rd	1629	1350	17%

AM Peak CLV → ← PM Peak CLV

Intersections Analysis: By CLV

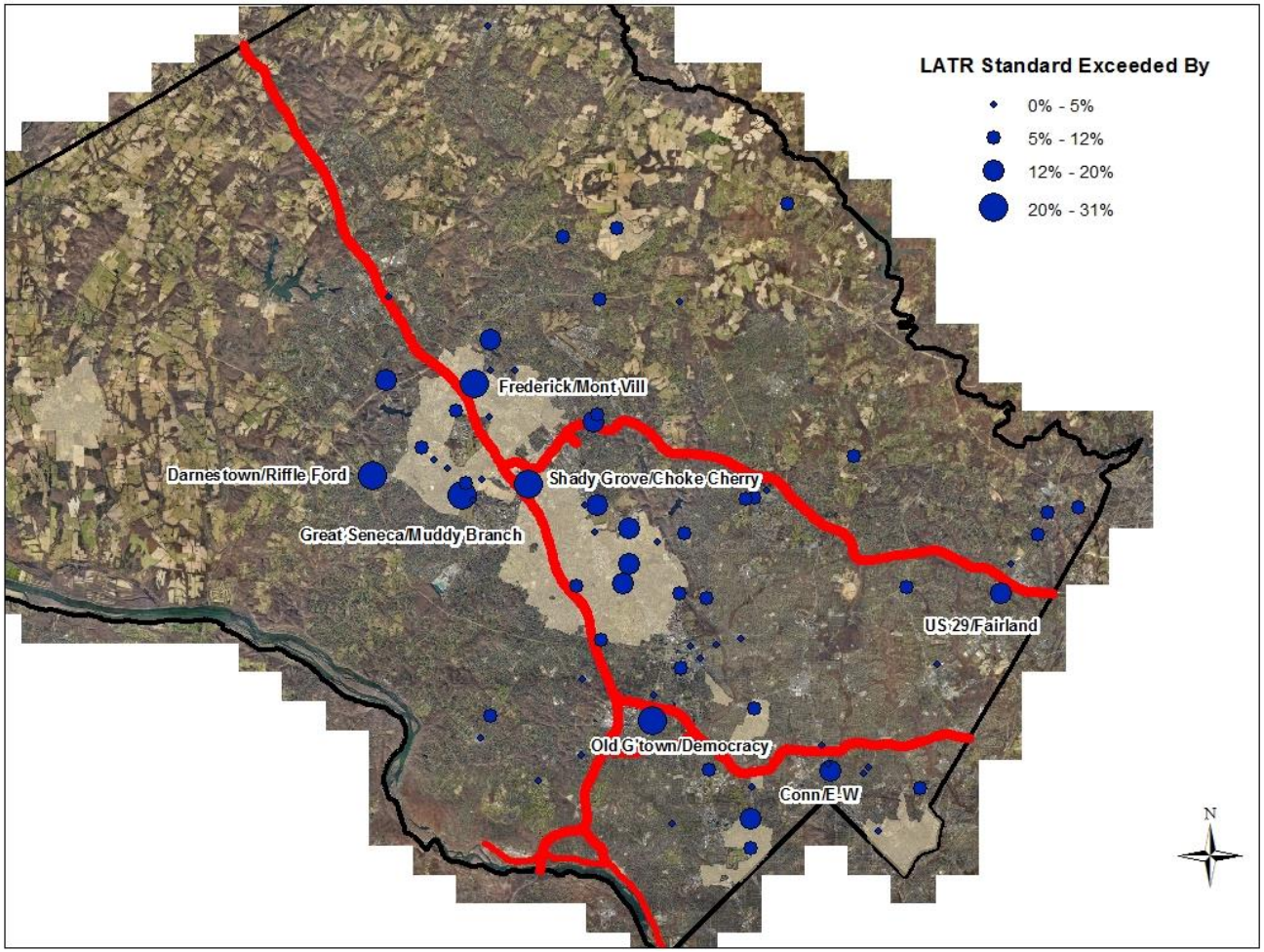
Ranking	Name	Countdate	AM CLV	PM CLV	Policy Area	Congestion Standard	Highest CLV	V/C Ratio	Peak Level of Service
1	Rockville Pike at W Cedar Ln	11/6/2013	1957	1612	Bethesda - Chevy Chase	1600	1957	1.22	FF
2	Rockville Pike at Nicholson Ln	5/19/2011	1234	1929	White Flint	1800	1929	1.07	BF
3	Old Georgetown Rd at Democracy Blvd	6/9/2009	1423	1923	North Bethesda	1550	1923	1.24	BC
4	Darnestown Rd at Riffle Ford Rd	3/12/2009	1061	1898	North Potomac	1450	1898	1.31	BF
5	Shady Grove Rd at Choke Cherry Ln	5/19/2010	1363	1853	Rockville City	1500	1853	1.23	CF
6	Connecticut Ave at East West Hwy	11/6/2013	1684	1848	Bethesda - Chevy Chase	1600	1848	1.03	CF
7	Georgia Ave at 16th St	6/15/2011	1122	1816	Silver Spring - Takoma Park	1600	1816	1.14	BF
8	Great Seneca Hwy at Muddy Branch Rd	1/4/2011	1464	1800	Gaithersburg City	1425	1800	1.26	FF
9	Frederick Rd at Montgomery Village Ave	4/25/2012	1536	1795	Gaithersburg City	1425	1795	1.26	FF
10	Rockville Pike at First St/Wootton Pkwy	5/24/2011	1768	1610	Rockville City	1500	1768	1.18	FF



Intersection Analysis: Congestion Exceeding Policy Area Standards

- In 2011, 83% of intersections in database did not exceed its applicable policy area standard
- In 2013, 89% of intersections in database did not exceed its applicable policy area standard
  - Since 2005, this is the highest percentage of intersections that are within allowable levels of congestion
- Rockville, Gaithersburg, and North Bethesda policy areas have the most intersections exceeding their applicable policy area standard

Intersection Analysis: Congestion Exceeding Policy Area Standards

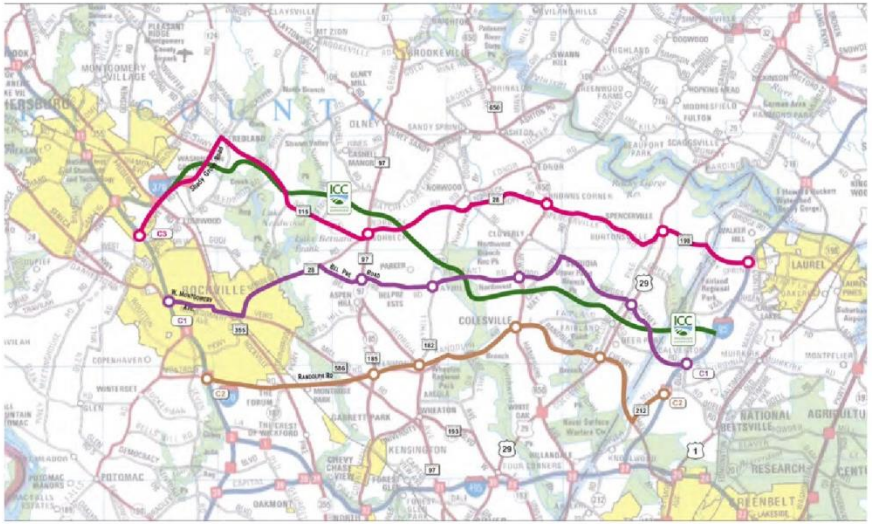


Intersection & Roadway Analysis on the ICC

Intersection & Roadway Analysis on the ICC

- In 2012, there were 30,000 vehicles per average weekday, and in September 2013, there were 40,000 vehicles.
- Traffic on MD 200 continues to grow steadily at a rate of 3% per month.

Change in Travel Time "Before" and "After" MD 200 Travel Time (Minutes) Via Corridors 1-3				
Origin-Destination Pairs	Before	After	Savings	Travel Time Savings Via MD 200 (Min)
Corridor 1 (S. Gaithersburg to Laurel)	45	40	5 (11%)	23 (58%)
Corridor 2 (Rockville to Calverton)	44	42	2 (5%)	25 (60%)
Corridor 3 (S. Rockville to Beltsville)	40	38	2 (5%)	21 (55%)



Source: SHA/MDTA/MWCOG ICC Before/After Study, 2013

Intersection & Roadway Analysis on the ICC

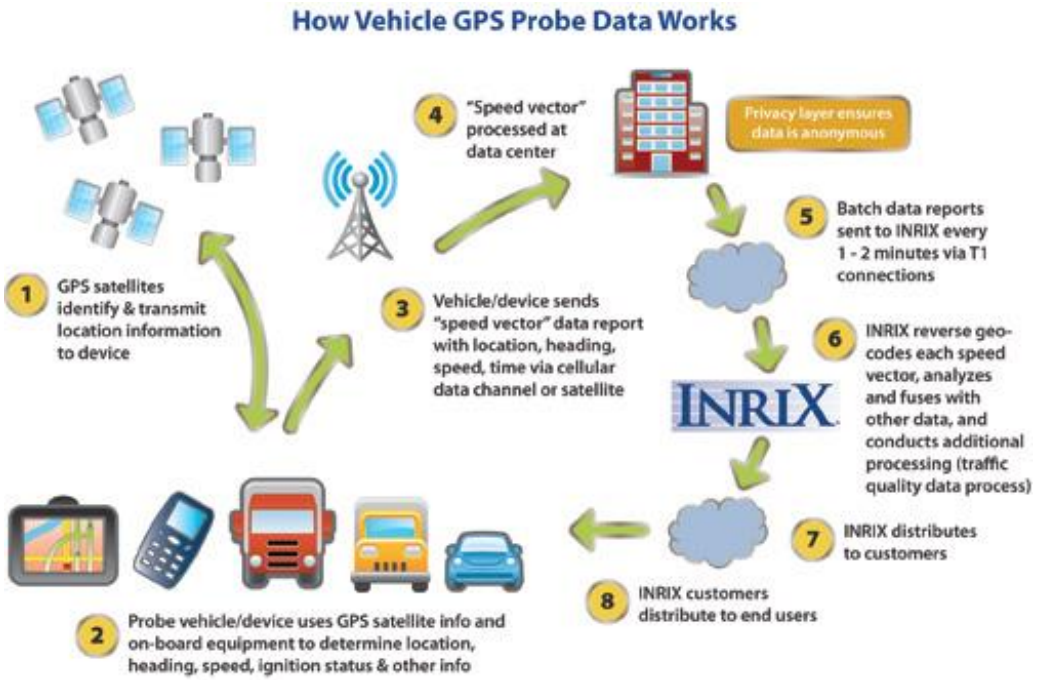
- The average of the sampled intersection's CLV within the vicinity of the ICC shows a drop of 11% **after** completion of the ICC

Selected Intersections	Current Countdate	CLV (Pre-ICC)	CLV (Post ICC)	Percent Change
New Hampshire Ave at Norbeck Rd	5/8/2012	1053	875	-16.9%
Norbeck Rd at Layhill Rd	5/1/2012	941	797	-15.3%
Georgia Ave at Randolph Rd	2/29/2012	1657	1421	-14.2%
New Hampshire Ave at Randolph Rd	5/15/2012	1834	1580	-13.8%
Georgia Ave at Bel Pre Rd	10/1/2012	1530	1326	-13.3%
Norbeck Rd at Wintergate Dr	2/2/2012	1200	1050	-12.5%
Norbeck Rd at Bel Pre Rd	2/14/2012	1464	1330	-9.2%
Georgia Ave at Norbeck Rd	9/11/2012	1816	1656	-8.8%
New Hampshire Ave at Bonifant Rd	2/16/2012	1237	1166	-5.7%
Columbia Pk at Fairland Rd	10/11/2012	1636	1678	2.6%
Average Percent Change				-10.7%

Measuring Congestion on Roadways

Measuring Congestion on Roadways

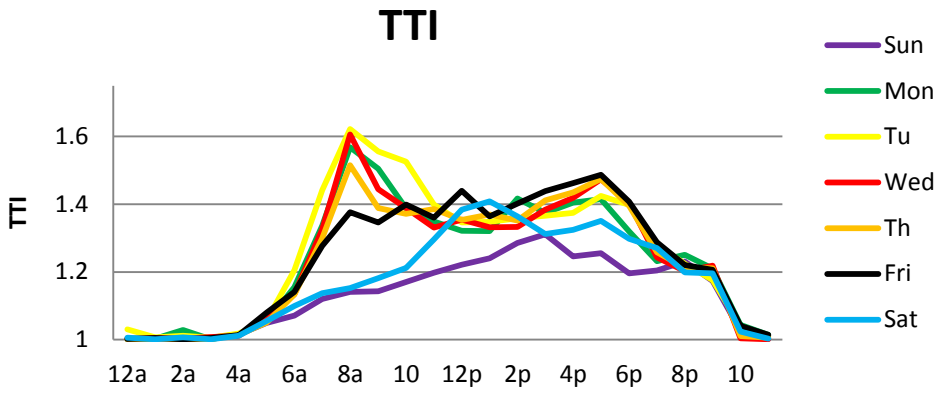
- What kind of data do we use to monitor roadway congestion?
  - INRIX GPS Probe Data



Measuring Congestion on Roadways

We display congestion on roadways in 2 ways

- 1) Using a Travel Time Index Graph



- 2) Using a Summary Average Congestion Chart

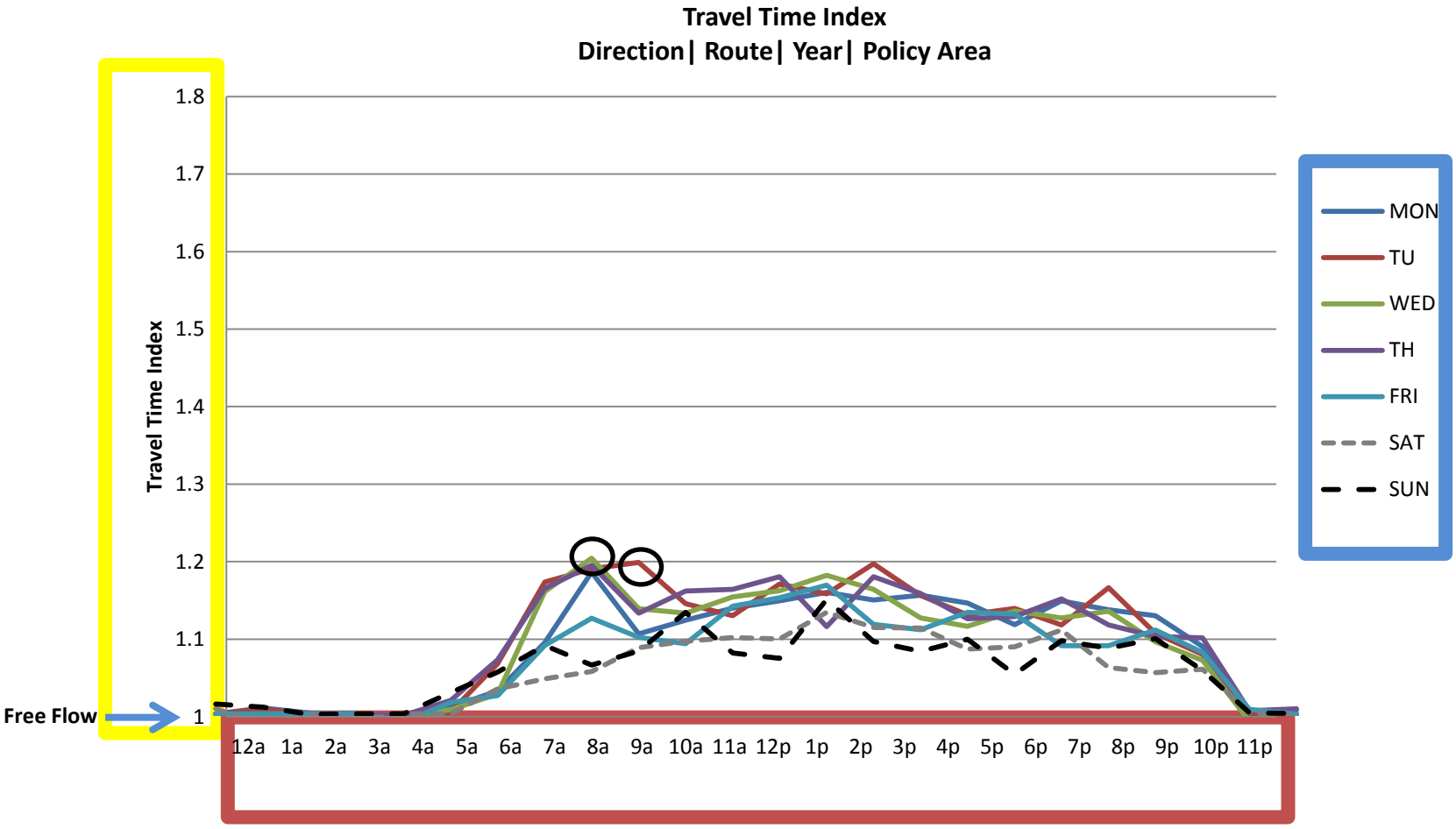
Percentage of Congestion
SB MD 355 2012 Shady Grove

	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%+

Measuring Congestion on Roadways

"Travel Time Index"



Measuring Congestion on Roadways

"Average Congestion"

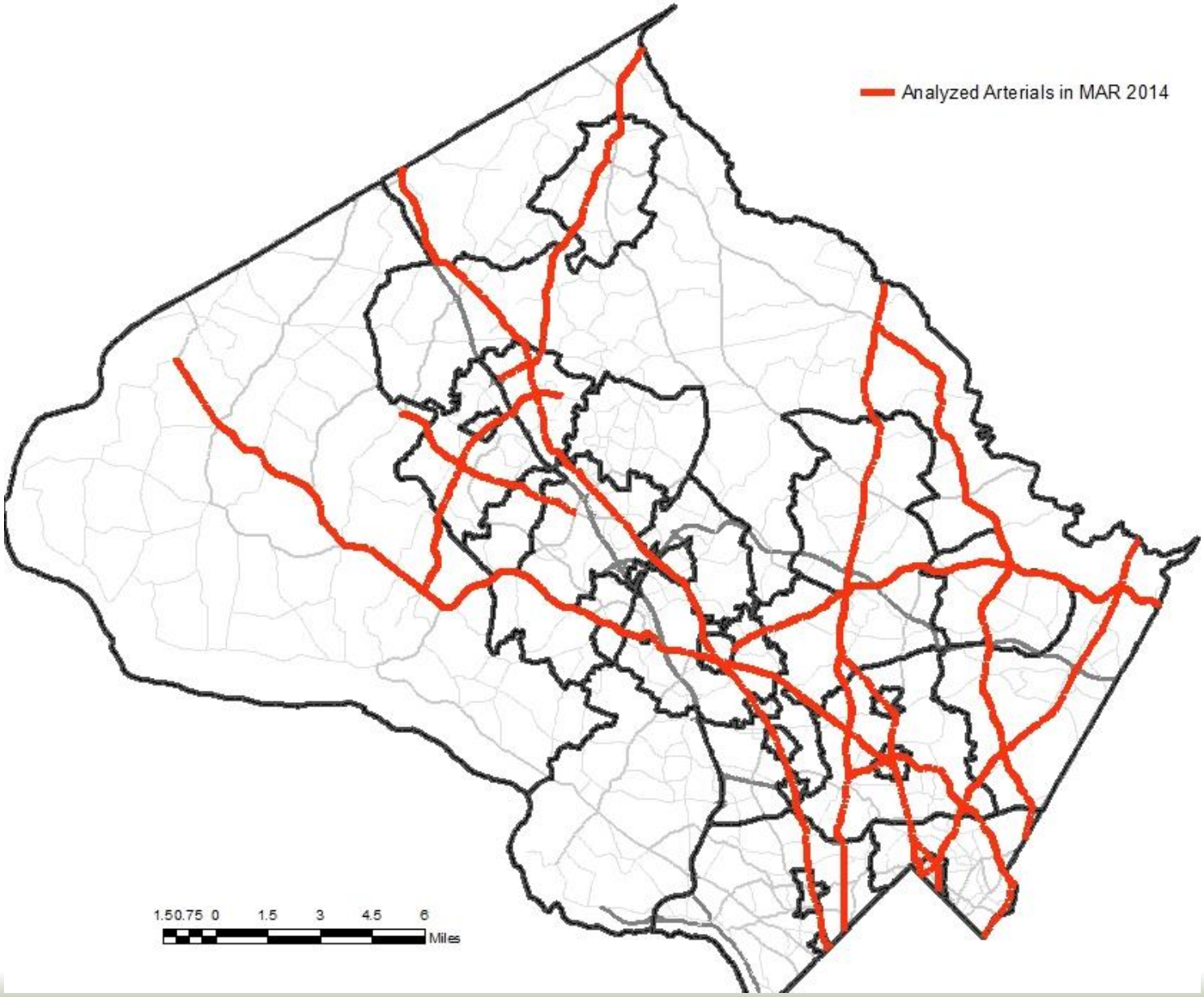
Percentage of Congestion
EB MD 28 2012
Gaithersburg

	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%

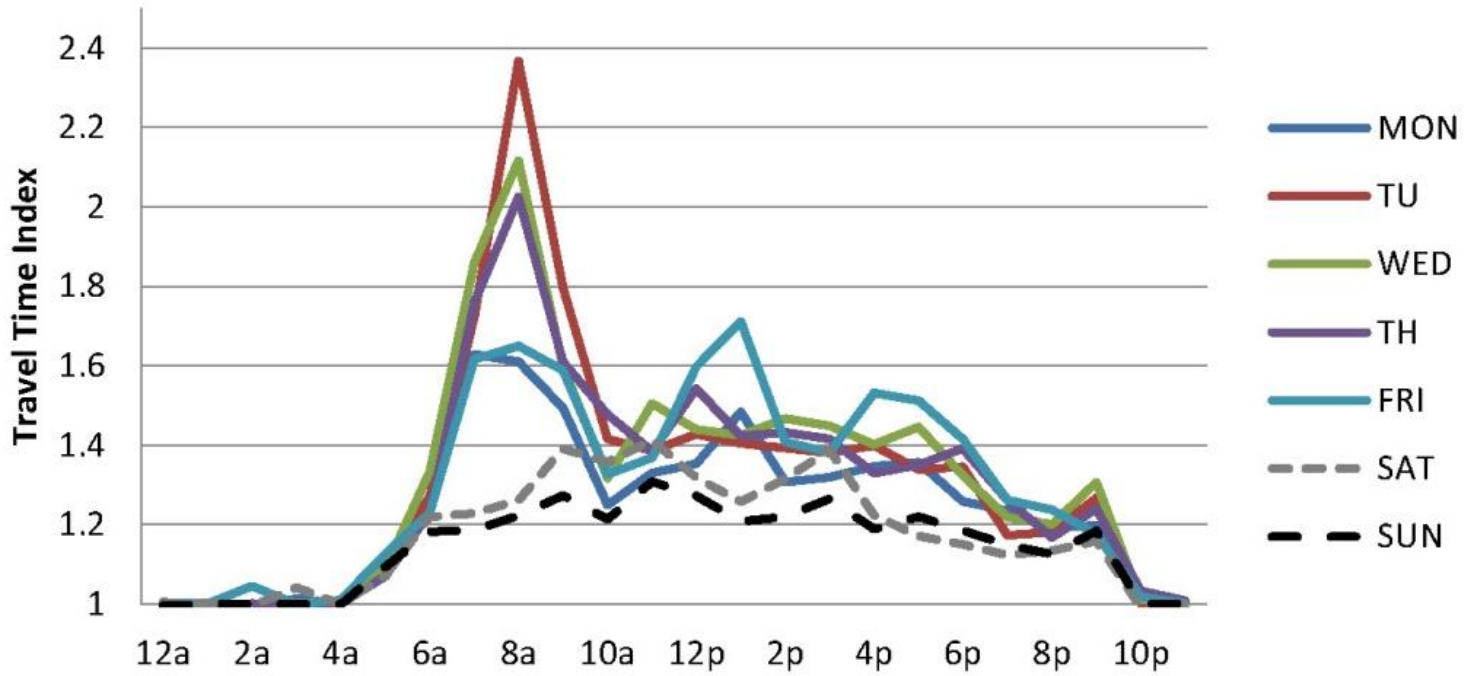
Congestion % Color Scale

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

Measuring Congestion on Roadways



Travel Time Index
SB MD 355 2012 Shady Grove



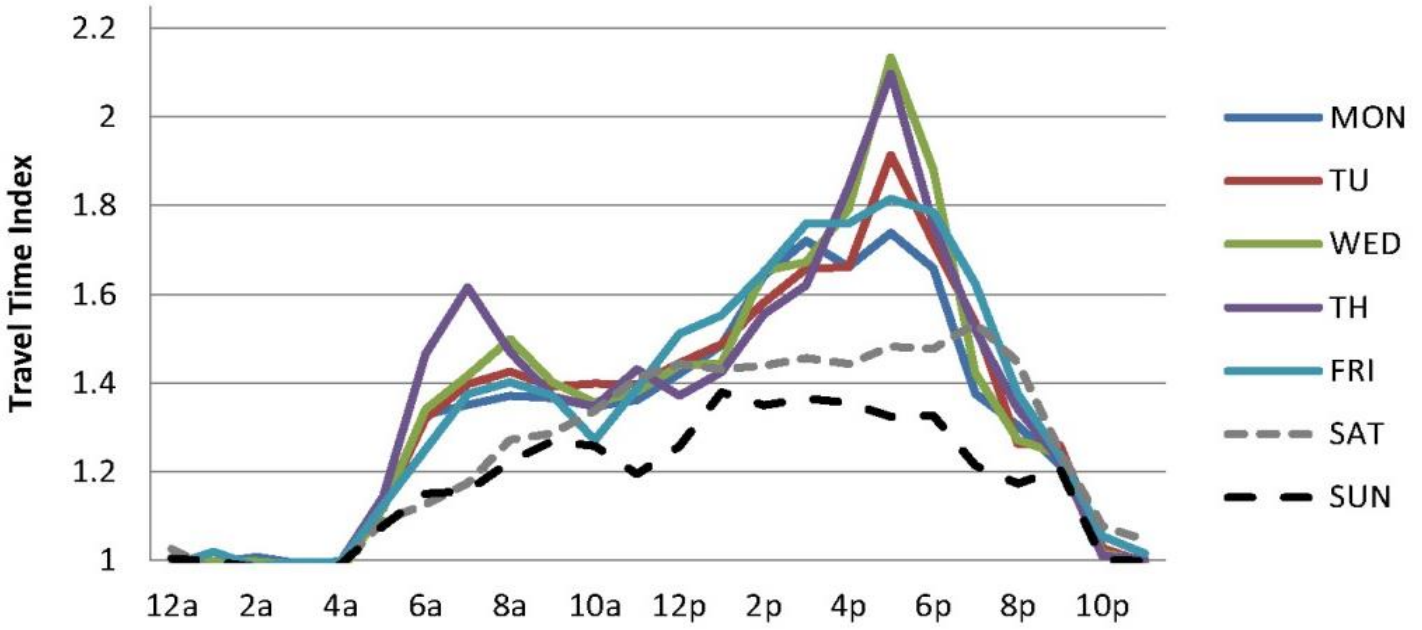
Percentage of AverageCongestion SB MD 355 2012 Shady Grove

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	48%	28%	74%	114%	119%	65%	61%	81%	87%	73%	60%
Weekend	51%	54%	61%	61%	61%	66%	63%	69%	44%	57%	56%

Average Congestion % Color Scale

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

Travel Time Index
NB MD 650 2012 Silver Spring - Takoma Park

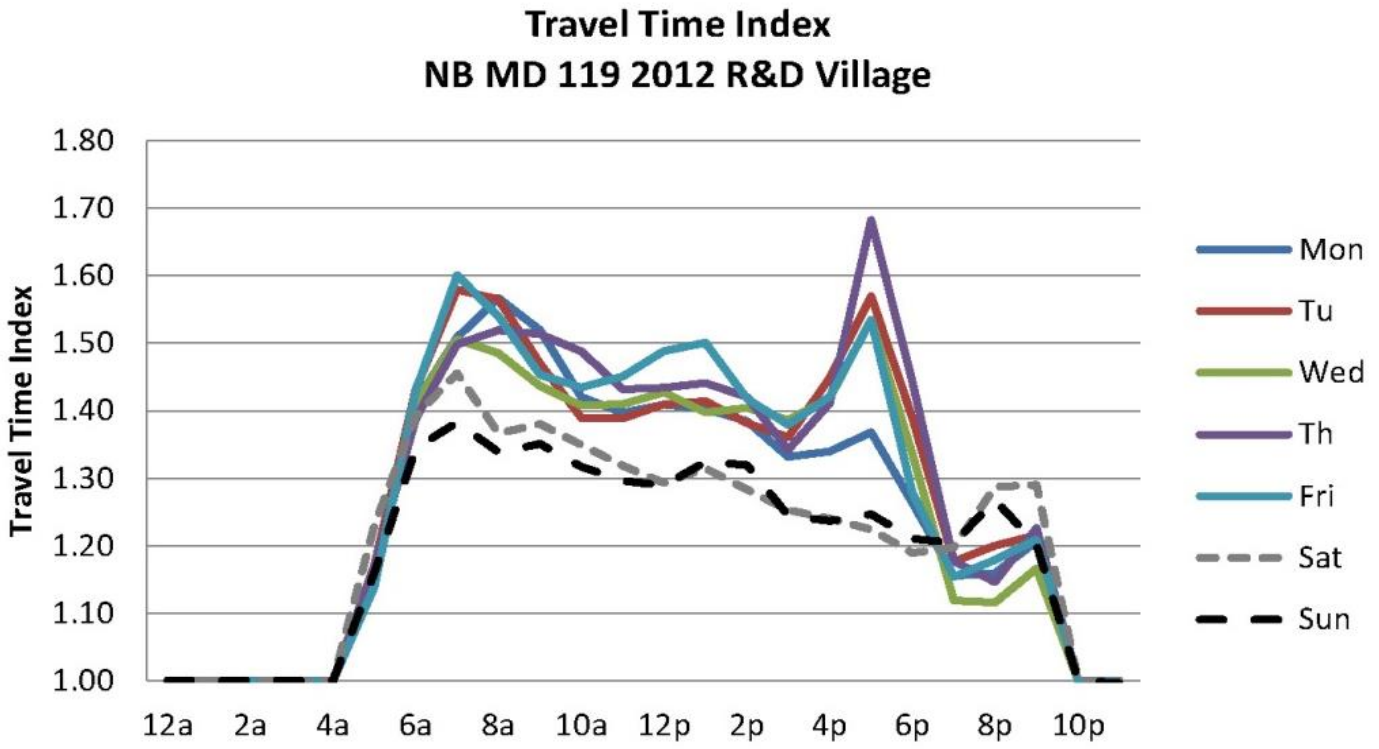


Percentage of Congestion
NB MD 650 2012 Silver Spring - Takoma Park

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



Percentage of Congestion NB MD 119 2012 R&D Village

	12a-5a	6a	7a	8a	9a	10a-3p	4p	5p	6p	7p	8p-11p
Weekday (M-F)	3%	41%	53%	50%	45%	42%	39%	51%	33%	16%	10%
Weekend	3%	34%	34%	34%	35%	30%	24%	25%	21%	20%	12%

Congestion % Color Scale

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

Congested Roadways Analysis

- Of the 120 corridors analyzed, 7 operate under “severe” congestion levels ranging from 87 to 119 percent.
- MD 355 southbound in the Shady Grove policy area had the highest congestion level, with congestion above 95 percent and peaking at 119 percent, during morning and evening peaks as well as midday.
- Six of the top ten most congested corridors are located within the Silver Spring-Takoma Park and Bethesda-Chevy Chase policy areas.

Congestion % Color Scale

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

Ranking	Roadname	Bound	Policy Area	Congestion	Type	"Worst" Time of Day
1	MD 355	SB	Shady Grove	119%	Severe	Both Peaks & Midday
2	MD 185	SB	Bethesda	112%	Severe	Morning Peak
3	MD 97	SB	Kensington Wheaton	99%	Severe	Morning Peak
4	US 29	SB	Fairland White Oak	96%	Severe	Morning Peak
5	US 650	NB	Silver Spring Takoma Park	94%	Severe	Evening Peak
6	MD 97	NB	Silver Spring Takoma Park	93%	Severe	Evening Peak
7	US 29	SB	Kensington Wheaton	87%	Severe	Morning Peak
8	MD 355	SB	Bethesda	80%	Heavy-Severe	Morning Peak
9	MD 390	SB	Silver Spring Takoma Park	70%	Heavy-Severe	Morning Peak
10	MD 355	NB	Bethesda	69%	Heavy-Severe	Midday & Evening Peak
11	MD 355	SB	Derwood	69%	Heavy-Severe	Morning Peak
12	MD 193	WB	Silver Spring Takoma Park	68%	Heavy-Severe	Morning & Evening Peak
13	US 29	NB	Kensington Wheaton	68%	Heavy-Severe	Evening Peak
14	MD 97	SB	Silver Spring Takoma Park	65%	Heavy-Severe	Morning Peak
15	MD 586	EB	Kensington Wheaton	64%	Heavy-Severe	Morning Peak
16	MD 355	SB	Rockville	63%	Heavy-Severe	Morning Peak
17	MD 355	NB	Shady Grove	60%	Moderate-Heavy	Morning Peak & Midday
18	MD 355	SB	Clarksburg	59%	Moderate-Heavy	Morning Peak
19	US 650	SB	Fairland White Oak	59%	Moderate-Heavy	Morning Peak
20	MD 28	WB	Aspen Hill	58%	Moderate-Heavy	Morning Peak
21	MD 28	SB	Rural East	57%	Moderate-Heavy	Morning Peak
22	US 29	NB	Fairland White Oak	57%	Moderate-Heavy	Evening Peak
23	MD 28	EB	Aspen Hill	53%	Moderate-Heavy	Evening Peak
24	MD 119	NB	R&D Village	53%	Moderate-Heavy	Morning Peak
25	MD 119	NB	Gaithersburg	52%	Moderate-Heavy	Morning Peak & Midday

Questions?

José S Dory
Transportation Analyst
MNCPPC
jose.dory@montgomeryplanning.org