



**CONGESTION MITIGATION PROCESS
TECHNICAL REPORT**

APPROVED DECEMBER 1, 2016

RICHMOND REGIONAL TRANSPORTATION PLANNING ORGANIZATION

The Richmond Regional Transportation Planning Organization (TPO) is the federal and state designated regional transportation planning organization that serves as the forum for cooperative transportation decision-making in the Richmond area. The Richmond Regional Planning District Commission is the contraction agent and staff for the Richmond Regional TPO.

ACKNOWLEDGEMENT

This report was prepared in cooperation with the United States Department of Transportation (USDOT), Federal Highway Administration, Federal Transit Administration, Virginia Department of Rail and Public Transportation, and the Virginia Department of Transportation.

DISCLAIMER

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Planning District Commission

Metropolitan Planning Organization

Town of
Ashland
Counties of
Charles City
Chesterfield
Goochland
Hanover
Henrico
New Kent
Powhatan
City of
Richmond

RRTPO AGENDA 12/1/16; ITEM I.D.3.

**CONGESTION MANAGEMENT PROCESS (CMP)
TECHNICAL REPORT UPDATE 2016**

Richmond Regional Transportation Planning Organization

Executive Director
Robert A. Crum, Jr.

On motion of Patricia S. O'Bannon, seconded by Kathy C. Graziano, the Richmond Regional Transportation Planning Organization unanimously approved the following resolution:

RESOLVED, that the Richmond Regional Transportation Planning Organization approves the 2016 Update of Congestion Management Process Technical Report as presented.

This is to certify that the Richmond Regional Transportation Planning Organization approved the above resolution at its meeting held December 1, 2016.

WITNESS:

BY:

Sharon E. Robeson
Administrative Secretary
Richmond Regional Planning
District Commission

Barbara Schoeb Nelson
Secretary
Richmond Regional Transportation
Planning Organization



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INTRODUCTION

The Richmond Regional Transportation Planning Organization (RRTPO) Congestion Management Process (CMP) is defined by the Federal Highway Administration (FHWA) as a systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assess alternative strategies for congestion management that meet state and local needs. The CMP is intended to apply these strategies to capacity increasing projects and improvements and transition them into the funding and implementation stages for major corridors identified in the CMP roadway network.

Federal regulations require that a CMP be in place in all Transportation Management Areas (TMAs), urban areas over 200,000 in population, and implemented as a continuous part of the metropolitan planning process, which includes the Metropolitan Transportation Plan (MTP), the Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP). Utilizing various sources of data and analysis of trends and conditions, the CMP addresses regional congestion issues through monitoring the region's roadway network, identifying congested corridors, and developing strategies and recommendations to alleviate congestion on the roadway network.

The CMP takes two approaches in evaluating congestion in the Richmond region. Congestion is analyzed region wide using statistics from the US Census Bureau and the Texas Transportation Institute, and congestion on the CMP network, which is within the TPO study area, is analyzed using tools from the I-95 Corridor Coalition Vehicle Probe Project (VPP) based at the University of Maryland, and safety data developed by VDOT.

At a regional scale Richmond for the most part performs better than

other regions of its size according to the Urban Mobility Scorecard. Compared to its peer urbanized areas the Richmond urbanized area has the lowest percentage of congested lane miles and the lowest amount of time during which congestion is experienced. It also has the lowest Travel Time Index (TTI) and Planning Time Index (PTI). TTI and PTI are measures of congestion and reliability. Over the past 5 years annual hours of delay have been increasing steadily in the Richmond urbanized area yet it is still below the average for the peer urbanized areas. Daily vehicle miles travelled, which has held relatively steady over the past decade, is the one performance measure where the Richmond urbanized area is above the average for the peer urbanized areas. According to 2013 ACS 5-year data driving alone is the prominent means to work with most commutes taking under 30 minutes and are within 25 miles.

The CMP network was analyzed using VPP analytic tools to determine the location and duration of recurring congestion. Several corridors on the network experience recurring congestion during am and pm peak hours. The location and duration of the congestion is often localized and is of a limited duration. Some areas which experience congestion did not register through the use of the VPP tools due to characteristics associated with granularity of the data. The VPP suite of tools, however, will allow for the analysis over time of most of the areas with congestion. Data on TTIs, PTIs and bottlenecks are being compiled in order to watch the trends on the CMP network. Areas with high Potential for Safety Improvement (PSI) scores were also taken into consideration in the CMP. The scores used in this report are based on accidents and conditions from 2010 through 2012.

The congestion performance measures, PSI scores, and local knowledge of congestion will be used to review the appropriateness and effectiveness of

the mitigation strategies which are planned for in the MTP and programmed in the TIP.

BACKGROUND AND METHODOLOGY

The Richmond Regional Transportation Planning Organization (RRTPO) is the federally designated Metropolitan Planning Organization (MPO) for the Richmond region and as such is required to maintain a Congestion Management Process (CMP) as an integral part of the planning process. A CMP provides performance measures and congestion mitigation strategies that align with the goals and objectives of the MTP and are programmed in the TIP. The CMP, as an ongoing systematic process, provides for the collection of up-to-date information concerning transportation system's performance and provides alternative strategies for congestion management which meet state and local needs. The CMP applies these strategies to capacity increasing projects and improvements and transitions them into the funding and implementation stages for major corridors identified in the CMP roadway network.

Federal regulations require that a CMP be in place in all Transportation Management Areas (TMAs), which are urban areas over 200,000 in population. The CMP is to be implemented as a continuous part of the metropolitan planning process, which includes the Metropolitan Transportation Plan (MTP), the Transportation Improvement Program (TIP), and the Unified Work Program (UWP). Utilizing various sources of data and the analysis of trends and conditions, the CMP addresses regional congestion issues by monitoring the region's roadway network, identifying congested corridors, and developing strategies and recommendations to alleviate congestion on the roadway network.

The process for incorporating congestion issues into the planning process is defined by the following steps:

1. Develop regional objectives
2. Define the CMP network
3. Develop multimodal performance measures
4. Collect data/monitor system performance
5. Analyze congestion problems and needs
6. Identify and assess strategies
7. Program and implement strategies
8. Evaluate strategy effectiveness

This update to the CMP coincides with the 2040 Metropolitan Transportation Plan (plan2040). The 2011 CMP Update incorporated two new sources of data; INRIX 2010 historic speed data and comprehensive 2009 accident data from the Virginia Department of Transportation (VDOT). Since the last CMP update, the I-95 Corridor Coalition has worked with the University of Maryland in developing the Vehicle Probe Project (VPP) suite of analytics and visualization tools to use with vehicle probe data sources such as INRIX, Here, and the National Performance Management Research Data Set (NPMRDS). The VPP tools allow for the analysis of historic probe data for most of the RRTPO CMP network. The VPP suite of tools will be used in the analysis of network specific performance measures. The Urban Mobility Scorecard produced by the Texas Transportation Institute (TTI) will be used in the analysis of performance measures at a regional level and will be used to as a comparison to peer regions across the country. Potential for Safety Improvement (PSI) scores developed by the HSIP staff of the Traffic Engineering Division of VDOT will be used to highlight safety issues on the CMP network. A PSI score is the number of serious or fatal crashes minus the predicted rate for that type/volume roadway and is valuable in highlighting areas in which safety

improvements should be evaluated.

Federal Regulations and Policy

The Congestion Management Process (CMP) has been a part of the nation's surface transportation funding program and authorization bills since 1991 when it was introduced under the Intermodal Surface Transportation Efficiency Act (ISTEA). At that time it was known as the Congestion Management System (CMS), and continued as such under the Transportation Equity Act for the 21st Century (TEA-21). The CMS was created to support effective decision making as part of the metropolitan transportation planning processes. In 2005, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was enacted and refers to a "congestion management process" instead of a congestion management system, recognizing that the CMS was often treated as a stand-alone data analysis exercise or a report on congestion. The CMP is intended as an on-going and evolving process, fully integrated into the metropolitan transportation planning process and which continually addresses the results of performance measures, concerns of the region and/or community, new objectives and goals of the Transportation Planning Organization (TPO), and up-to-date information on congestion issues. The name change is also intended to encourage regions to incorporate congestion management into the planning process rather than have it as a stand-alone program or system. In 2012 Moving Ahead for Progress in the 21st Century Act (MAP21) was enacted and incorporated performance-based multimodal focus into the transportation planning process of TPOs. The Fixing America's Surface Transportation Act (FAST Act), signed into law on December 4, 2015, carries the same performance-based approach from MAP-21.

Citing the Code of Federal Regulations

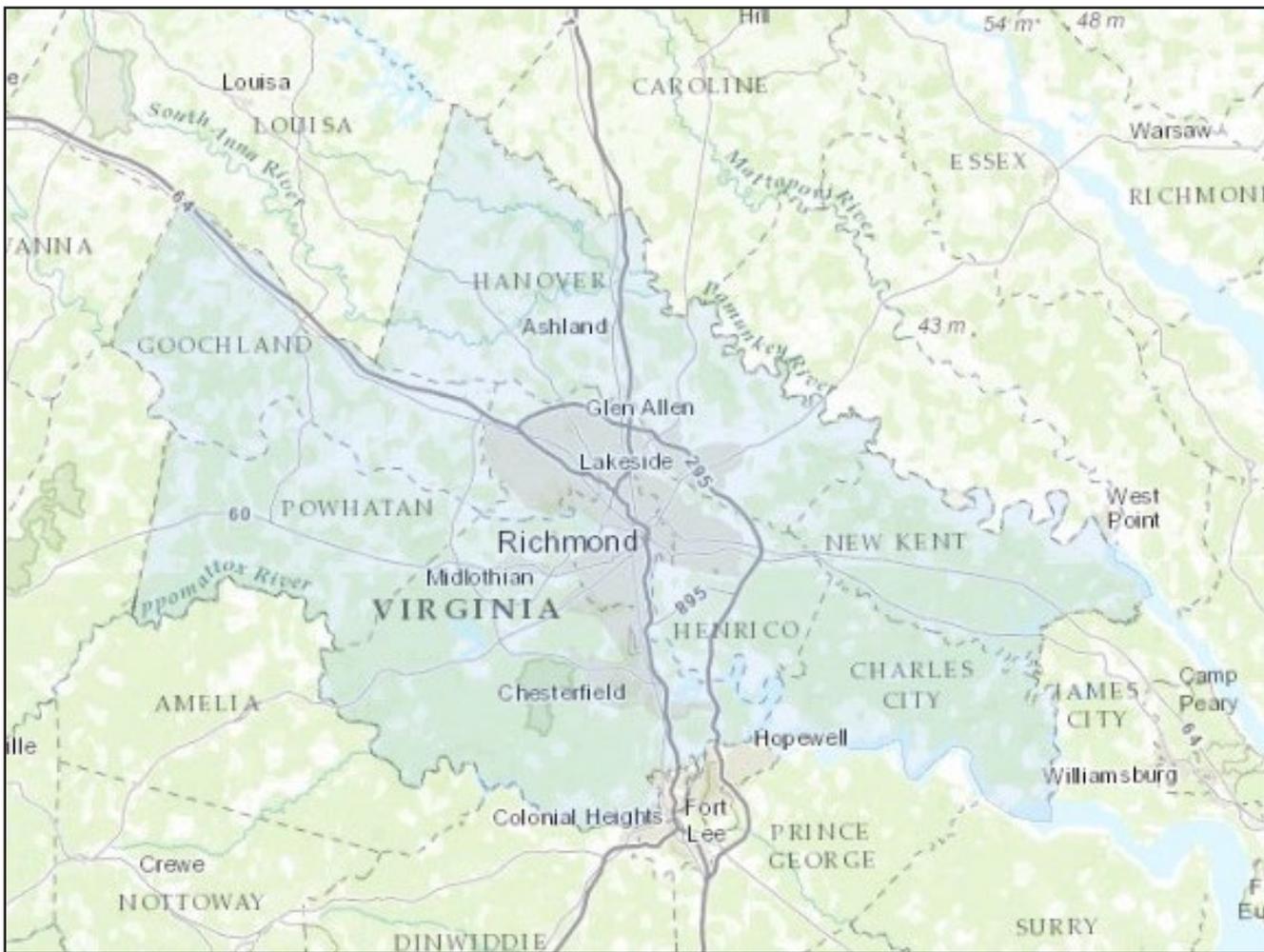
Title 23 Chapter 1, Section 450.320, a congestion management process in transportation management areas is defined as a "process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding...through the use of travel demand reduction and operational management strategies".

The development of the CMP is flexible allowing each metropolitan area to address how they will analyze and identify conditions for congestion and safety concerning their transportation networks. The CMP is an ongoing process which continually evolves and grows with new congestion issues, new data sources, new strategies, and even changes in goals and objectives over time. The results of the CMP are multimodal system performance measures, and strategies that manage demand, reduce Single Occupancy Vehicle (SOV) travel and ensure the continued reliability of the transportation system.

RRTPO CONGESTION MANAGEMENT GOALS

In developing the CMP Technical Report, the goals of the MTP were taken into consideration. The MTP's goals focus on access to employment, congestion mitigation, freight mobility, multimodal connectivity, system reliability, safety and transportation/land use integration. To achieve these goals the CMP puts forth strategies to maintain and optimize the current transportation network and to promote alternatives to Single Occupancy Vehicle travel and thereby increasing mode choice. These strategies can be grouped as:

Traffic Operations Strategies which focus on increasing the efficiencies of the roadway network through the use of intelligent transportation systems (ITS).



Map 1: Richmond Regional Planning District Commission Boundary, Source: ESRI

Public Transportation Strategies which focus on improving transit service and coverage and rely on transportation demand management (TDM) and ITS.

Demand Management Strategies which focus on providing more transportation options by promoting the use of alternative modes, managing and pricing assets, altering work patterns, and influencing land use.

Road Capacity Strategies which focus on adding a capacity to the roadway network through redesign and new construction.

The implementation of these strategies is not mutually exclusive and they often overlap, with new construction to add capacity being the last option to be considered.



PERFORMANCE MEASURES

REGIONAL PERFORMANCE MEASURES

Commuting Patterns

Based on the 2009-2013 5-Year Estimates from the American Community Survey data, commuting data for the Richmond Region, by jurisdiction, was analyzed to determine the length of time commuters traveled to work and the means of transportation which was taken. The Longitudinal Employer Household Dynamics program (LEHD) was used to obtain the distance traveled to jobs.

Means of Transportation to Work

The majority of commuters in the Richmond region drive to work alone. Carpooling comes in a distant second at only 9.05% of commuters carpooling and the category of worked at home makes up 4.57%. Transit and other make up the remaining 4.67% with transit accounting for 1.82% of commuters region wide.

In most jurisdictions the percentage of commuters driving alone is above 80%. The percentage of commuters driving alone in each jurisdiction is: Charles City 81%, Chesterfield 86%, Goochland 84%, Hanover 85%, Henrico 84%, New Kent 83%, Powhatan 83%, and Richmond 70%. The only jurisdiction

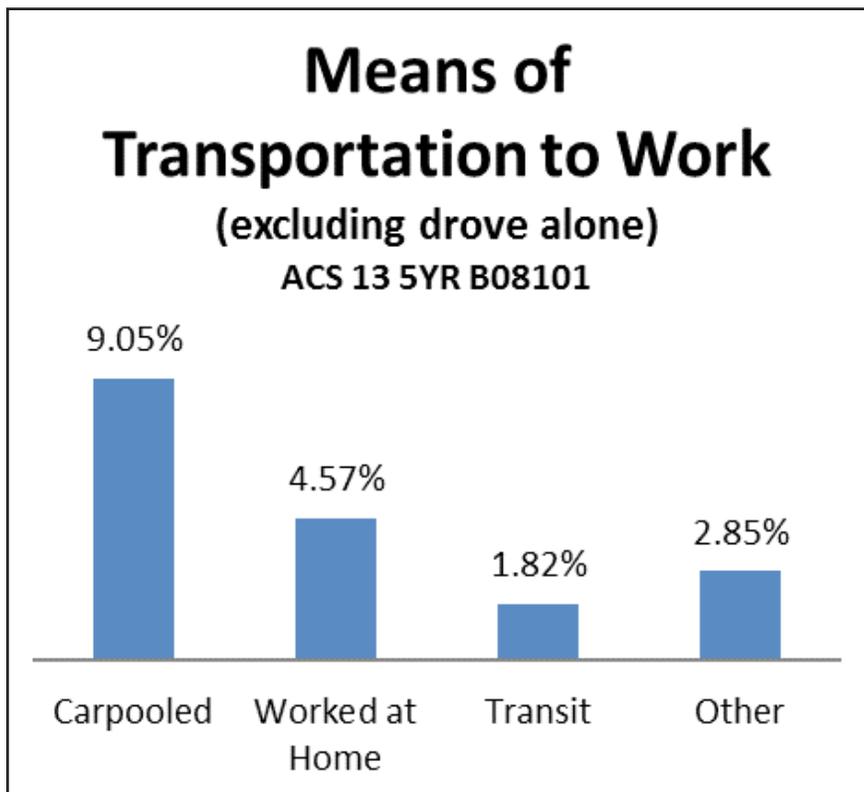


Figure 1: Means of Transportation to Work by Mode

with less than 80% of its commuters driving alone is the City of Richmond. The percentage of commuters driving alone in the City of Richmond is 70%. Richmond on the other hand has the largest share of commuters who use public transit at 6%. Carpooling made up the largest share of commuters when looking at means other than drove alone. Worked at home has the

next highest share in each jurisdiction except for the City of Richmond. Goochland has nearly the same share for carpooled and worked at home at 8% and 7% respectively. Other, motorcycle, bicycle, walking, taxicab and other, makes up a significant share, 8%, of the mode to work for commuters in the City of Richmond.

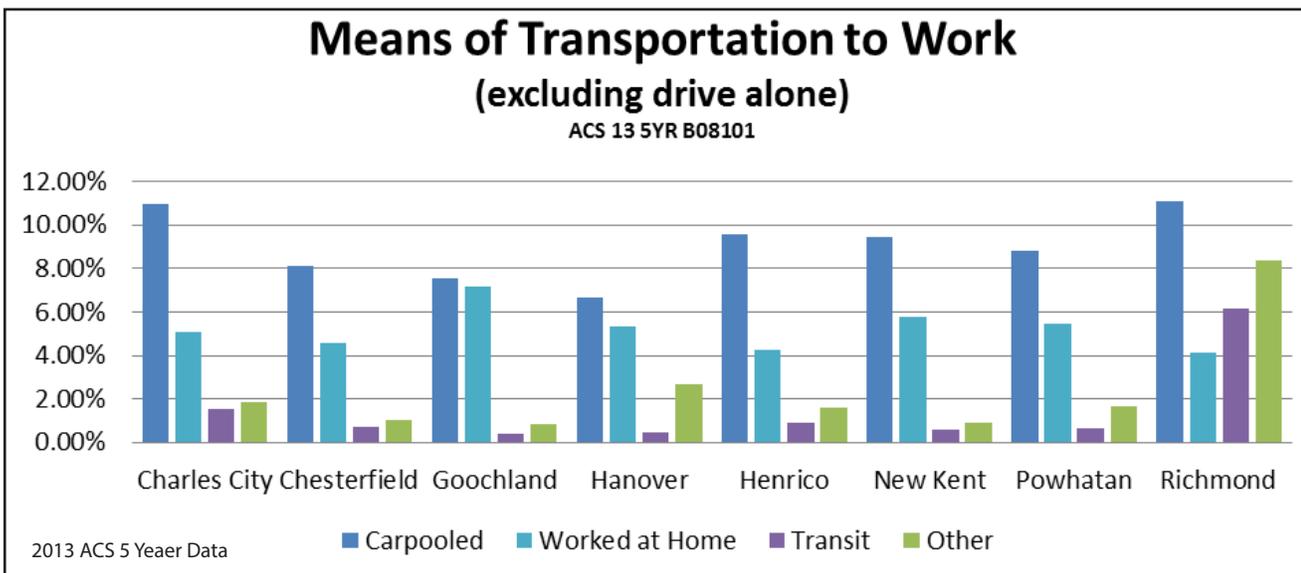


Figure 2: Means of Transportation to Work by County

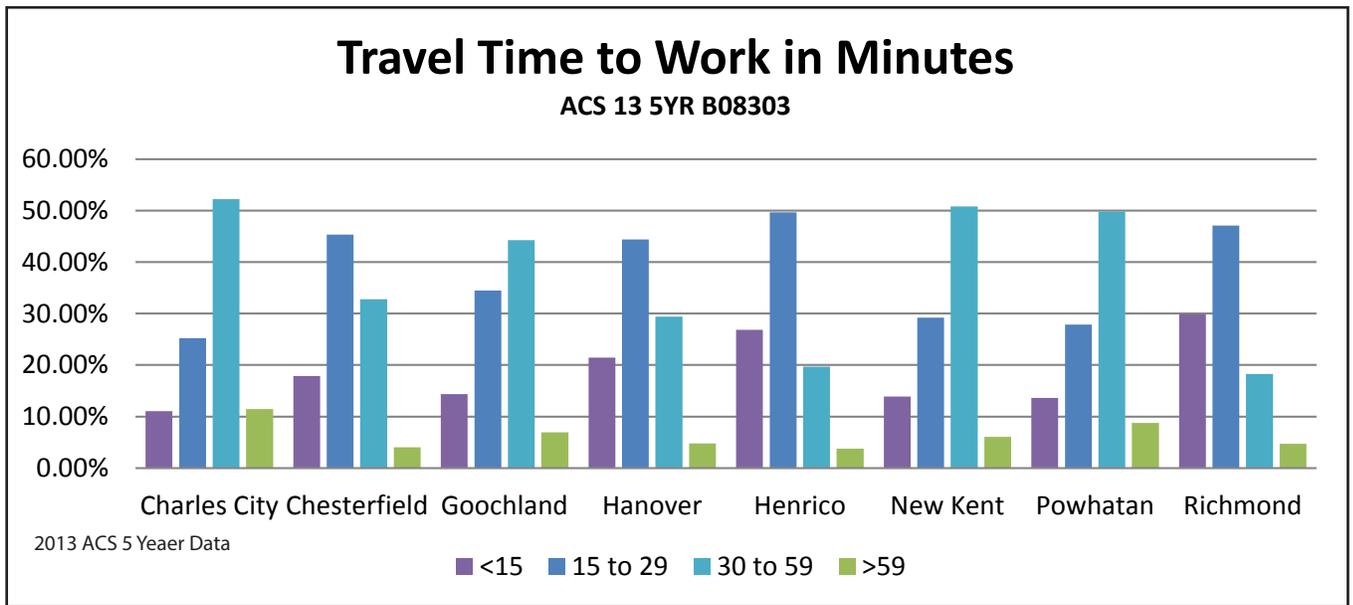


Figure 4: Travel Time to Work by County

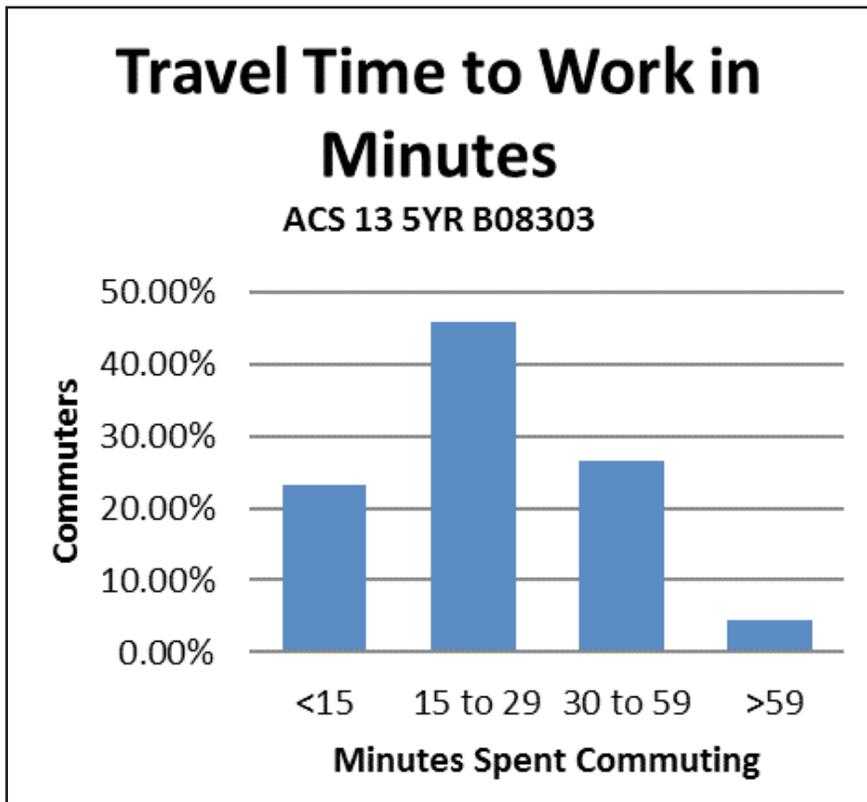


Figure 5: Travel Time to Work in Minutes

Travel Time to Work

The largest percent of commuters in the Richmond region, 45%, spend 15 to 29 minutes commuting. Of the rest, 23% of commuters have a commute of less than 15 minutes and 27% have a trip of between 30 to 59 minutes. Commuters with a commute of 1 hour or more make up only 4% of the region’s commuters.

The breakdown among the jurisdictions shows differences between the smaller jurisdictions and the larger ones. The larger jurisdictions have a higher proportion of commuters commuting under 30 minutes compared to commuting 30 to 60 minutes. The proportions are for Chesterfield 63% to 33%, Hanover 66% to 29%,

Henrico 77% to 20%, and Richmond 77% to 18%. The smaller jurisdictions have either larger percentages of commuters with the longer commutes or the proportion of commutes less than 30 minutes and commutes of 30 to 60 minutes are similar. Charles City has 36% of commuters commuting less than 30 minutes and 52% commuting 30 to 60 minutes, for Goochland it is 49% to 44%, New Kent 43% to 51%, and Powhatan 41% to 50%. Charles City has the highest percentage of commuters commuting 1 hour or longer at 11% of commuters making a commute this long.

Distance to Jobs

Just over 50% of the commuters in the Richmond region have commutes of less than 10 miles. Commuters traveling 11 to 24 miles make up the next largest percentage at 31%, and more commuters travel over 50 miles, 14%, than those who travel 25 to 50 miles, 4%.

The smaller jurisdictions have between 62% and 70% of commuters with commutes of 50 miles or less while the larger jurisdictions have 82% to 85% of commuters with commutes of this length. The largest percentage of commuters in the smaller jurisdictions travel 11 to 24 miles, whereas the largest percentage of commuter in the larger jurisdictions travel under

10 miles. Powhatan commuters don't follow this pattern having the highest percentage of commuters traveling less than 10 miles to jobs. Chesterfield's commuters are evenly split between commutes of less than 10 miles and 11 to 24 miles with 41% of commuters having trips of each category. Hanover's commuters are also almost evenly split between commutes of less than 10 minutes and 11 to 24 minutes at 43% and 41% respectively. Even though only 4% of commuters region wide travel 25 to 50 miles to jobs the percentage of commuters from Goochland and New Kent are notable at 29% and 24% respectively. Charles City also has a large percentage of commuters traveling this far at 20%. The only jurisdiction which has a large percentage of commuters traveling over 50 miles is Powhatan. Commuters in the City of Richmond have the shortest commutes with 68% of commuters commuting less than 10 miles.

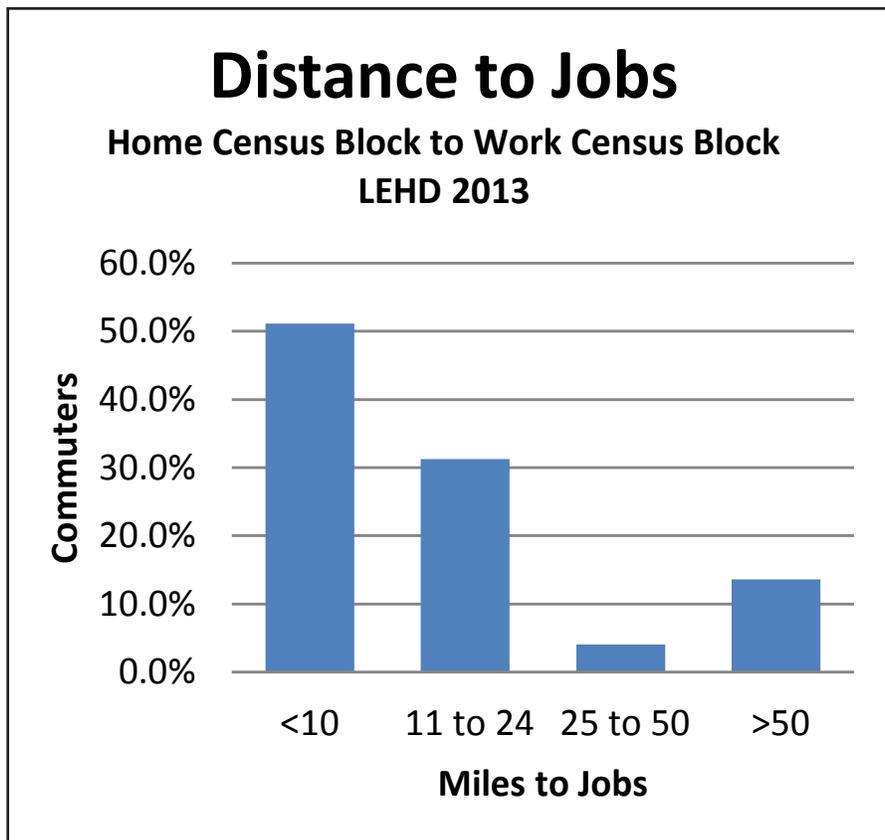


Figure 6: Distance to Jobs in Miles

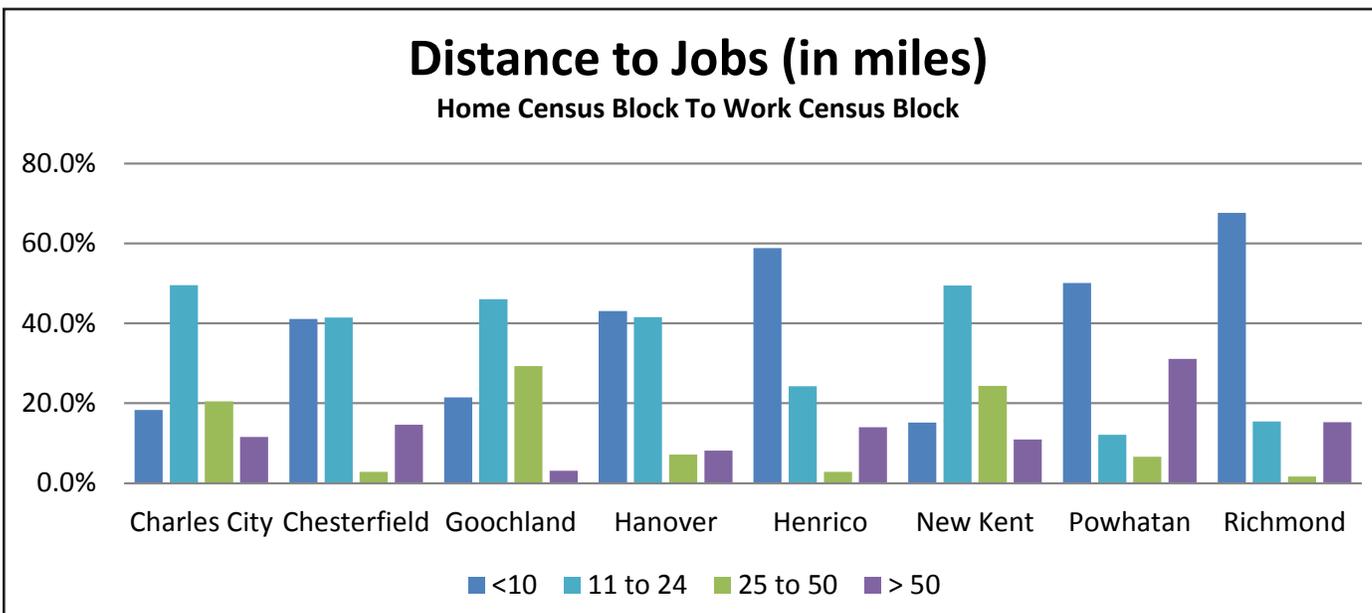


Figure 7: Distance to Jobs by County

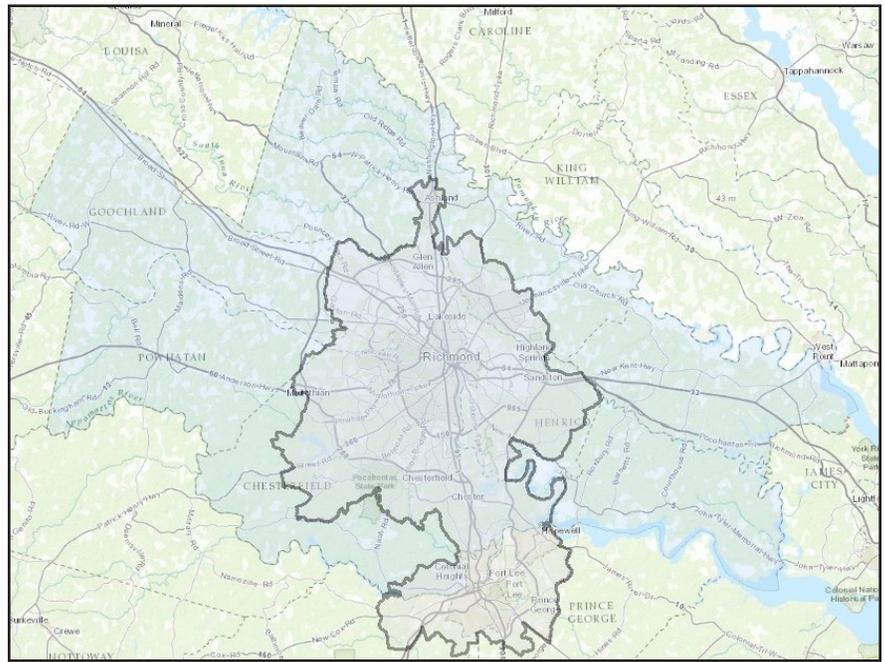
CMP PERFORMANCE MEASURES

The Texas Transportation Institute (TTI) at Texas A&M University publishes an annual Urban Mobility Scorecard, formerly called the Urban Mobility Report. The Urban Mobility Scorecard uses highway performance data from the Federal Highway Administration and, beginning with the 2015 scorecard, traffic speed data collected by INRIX. The scorecard provides information on several factors related to congestion and mobility for urban areas in the United States. Richmond is included in the study under the classification of a large urban area (1 million to 3 million people). This is the first year Richmond has been classified as a large urban area. Since 1982 Richmond has been a medium urban area (500,000 to 1 million people). Richmond, being the smallest in the large urban category, will be compared to the 7 smallest large urban areas and the 6 largest medium urban areas instead of to the large urban areas as a whole. The data from the Urban Mobility Scorecard allows for the tracking of trends related to the performance of the roadway network.

The data is useful to detect directional changes in performance or regional characteristics, and to compare the Richmond Region with other similar regions. The data in the Urban Mobility Scorecard is for the entire Richmond urbanized area, not the TPO study area.

Daily Vehicle-Miles of Travel

Vehicle-Miles Traveled (VMT) is the total number of miles traveled by vehicles in a specified region for a



Map 2: 2010 Richmond Urbanized Area

specified time period and is used as an indicator of roadway use. DVMT is a measure commonly used to gauge the daily demand placed on a region's transportation network, and is used to determine federal-funding. The Federal Highway Administration (FHWA) along with each state department of transportation determine the state's AADT and converts it to VMT by multiplying the AADT by the length of the road segment. Richmond's DMVT for 2014 was 21,211,000 miles, 11,719,000 freeway miles and 9,492,000 arterial miles. Richmond's DVMT of 21,211,000 is above the average of 18,965,000 for the 13 comparison Urbanized Areas from the Urban Mobility Scorecard. DVMT

in the Richmond Urbanized Area had been growing until 2007 at which point it began a slight decline for 6 of the past 8 years.

Congested Hours, Congested Lane-Miles, and Congested VMT

When comparing Congested Hours, Congested Lane-Miles, and Congested VMT for the 13 urban areas, Richmond's level of congestion is the lowest for all three measures. The percent of Richmond's VMT which is congested is 16% whereas the next lowest percentage is for Memphis at 23%. Richmond's percentage of lane miles which are congested is 16%. Providence, Memphis, and Raleigh all

Urban Area	Population Group	Population		Total Daily Vehicle-Miles of Travel (000)	Congested Travel (% of peak VMT)	Congested System (% of lane-miles)	Number of Rush Hours (time when system may be congested)	Annual Hours of Delay		Travel Time Index		Freeway Planning Time Index 95th Percentile	
		(000)	Rank					Total Delay (000)	Rank	Value	Rank	Value	Rank
Providence RI-MA	Lrg	1,180	40	21,588	27	20	3.6	37,809	41	1.20	37	2.25	42
Louisville-Jefferson County KY-IN	Lrg	1,110	41	21,198	30	26	3.6	35,622	45	1.20	37	2.42	32
Salt Lake City-West Valley City UT	Lrg	1,100	42	17,098	27	25	3.0	26,925	51	1.18	46	2.13	49
Memphis TN-MS-AR	Lrg	1,085	43	22,461	23	20	2.0	37,824	40	1.19	42	2.08	55
Jacksonville FL	Lrg	1,085	43	20,990	24	21	2.9	29,680	48	1.18	46	2.27	39
Oklahoma City OK	Lrg	1,000	45	24,375	25	23	2.8	45,652	33	1.19	42	2.08	55
Richmond VA	Lrg	1,000	45	21,211	16	16	1.5	26,104	53	1.13	88	1.76	80
New Orleans LA	Med	975	47	13,661	40	29	5.0	39,159	38	1.32	13	3.46	3
Raleigh NC	Med	965	48	18,726	24	20	2.6	23,128	55	1.17	54	2.11	53
Bridgeport-Stamford CT-NY	Med	955	49	15,679	48	39	6.2	37,119	43	1.36	6	3.32	5
Buffalo NY	Med	945	50	15,873	25	21	2.9	26,851	52	1.17	54	2.13	49
Hartford CT	Med	910	51	18,095	30	26	3.8	28,296	49	1.20	37	2.30	38
Tucson AZ	Med	865	52	15,586	28	26	2.4	35,993	44	1.22	32	2.11	53
Average for 13 Urbanized Areas		1,013		18,965	28	24	3.3	33,089	46	1.21	41	2.34	43

Figure 8: TTI Mobility Scorecard

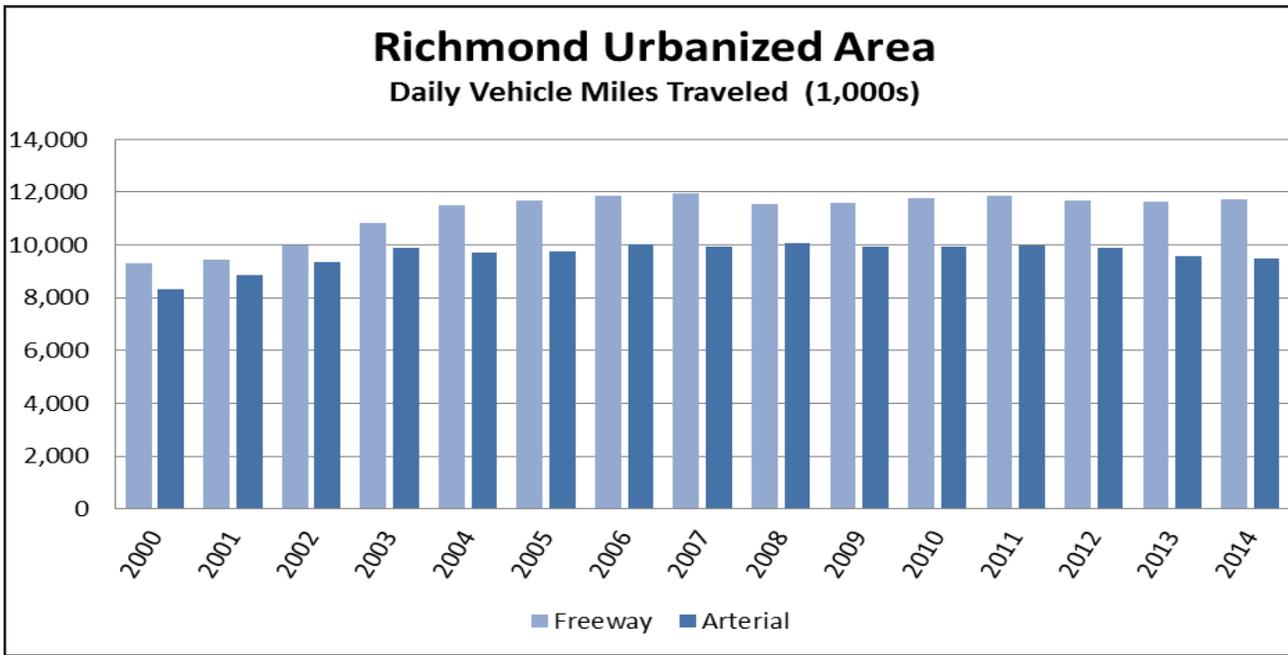


Figure 9: Richmond Urbanized Area Daily Vehicle Miles Traveled

tie for second lowest with 20 percent of their lane-miles being congested. Richmond also has the lowest number of congested hours at 1.5 hours. Memphis has 2 congested hours and Tucson has 2.4. Looking at these measures of congestion Richmond has very little congestion compared to its peers.

Annual Hours of Delay

Annual hours of delay is computed by TTI as the total travel time above that needed to complete a trip at free-flow speeds. The Richmond urbanized area ranks 53rd out of 101. The other 12 comparison regions range in rank from 33rd to 55th, making the Richmond urbanized area second in lowest hours

of delay behind Raleigh, NC. Annual hours of delay have increased steadily, correcting slightly around 2008 and then continuing to increase. This trend is similar in the other regions; although some declined further and some have had a flatter increase since their declines.

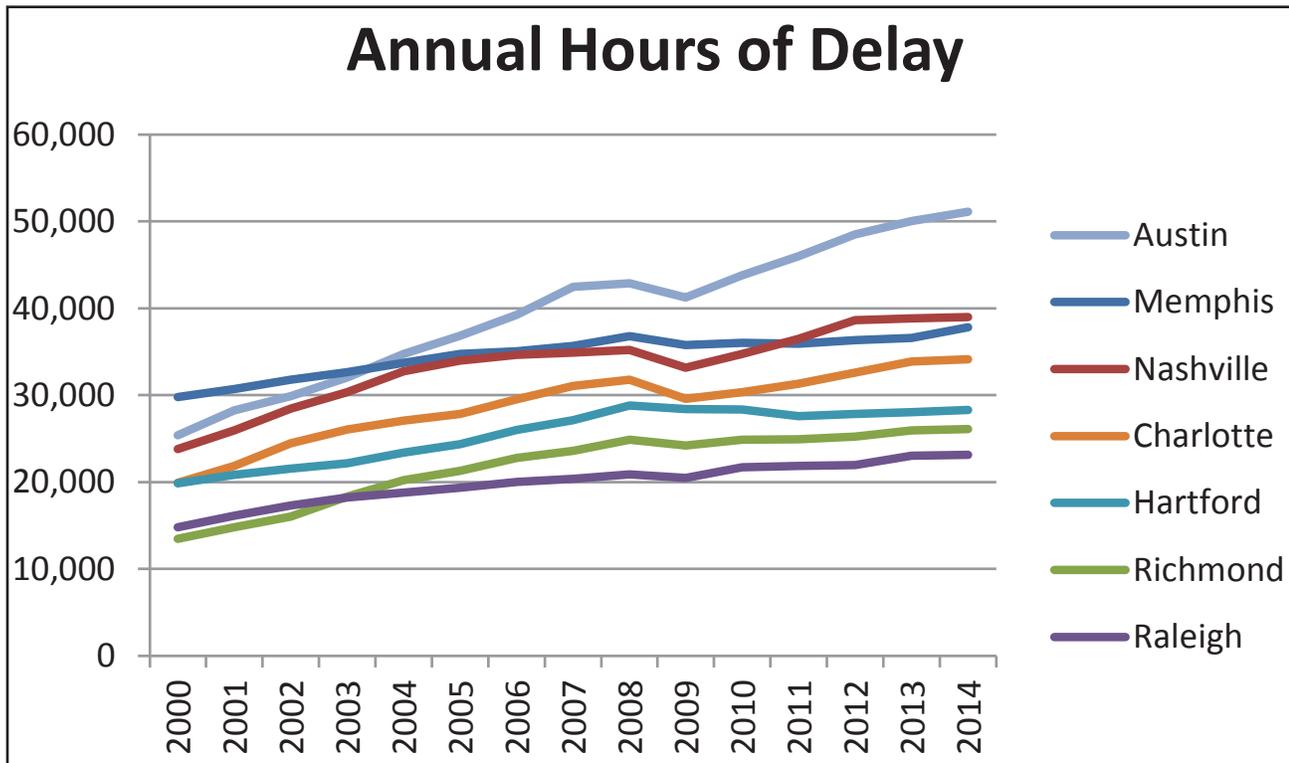


Figure 10: TTI Annual Hours of Delay Comparison

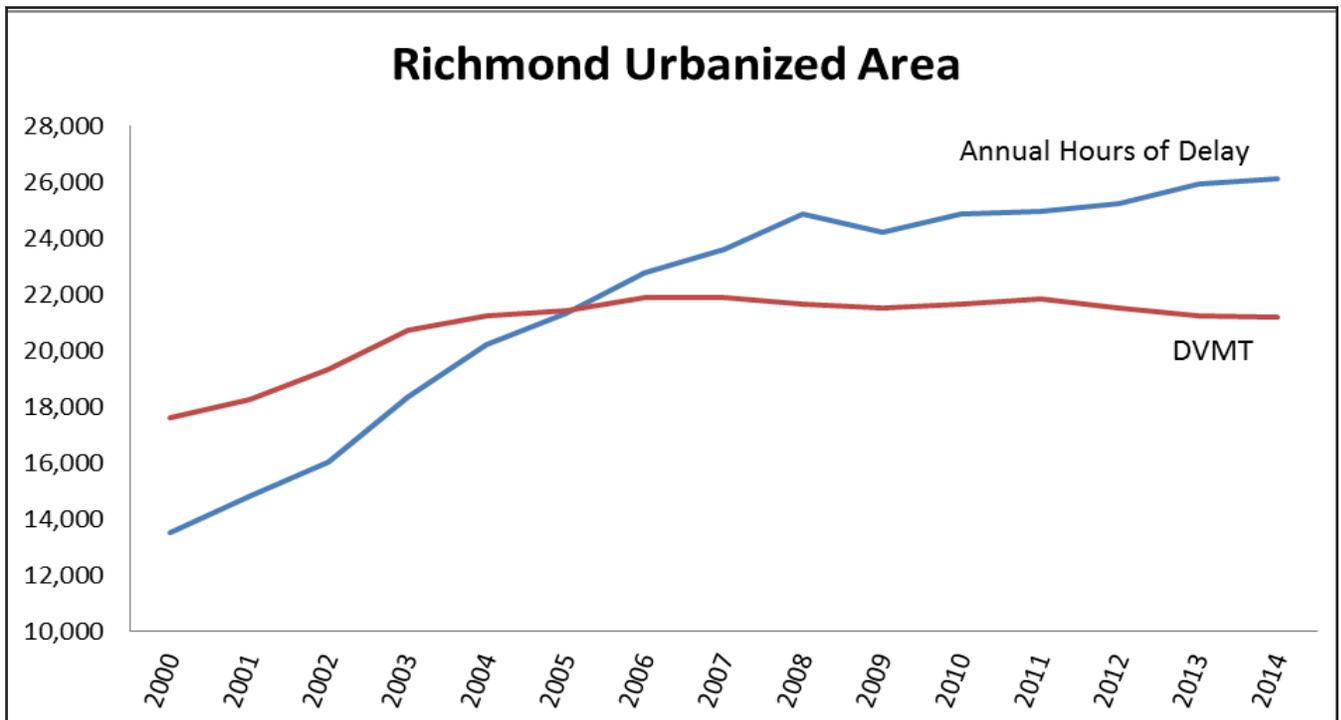


Figure 11: Richmond Urbanized Area Annual Hours of Delay and Daily Vehicle Miles Traveled Comparison

Travel Time Index

The travel time index is a ratio of travel time in peak period traffic to travel time in free-flow. It measures the amount of additional time needed to make a trip during a typical peak travel period in comparison to traveling at unimpeded speeds.

The travel time index is computed by dividing the average of all peak period trip times for a region by the average of all free flow (non-peak) travel times for the region. If an average trip in a region took 26 minutes during the peak travel period, but only 20 minutes under free-flow conditions, the travel time index would be $26/20 = 1.30$. This can also be expressed by stating that the delay penalty for driving during the peak period is approximately 6 minutes.

The travel time index for the Richmond Region was 1.13 in both 2014 and 2013. In 2005 the TTI was 1.11 and Richmond ranked 92nd lowest out of 101 urban areas for TTI. In 2006 it increased to 1.12 and increased in again in 2008 to 1.13. The following year TTI return to 1.12 where it remained until it reached its current level in 2013 of 1.13. With a TTI of 1.13 it would take a driver in the Richmond region 13%

longer to make a trip during peak travel periods as opposed to the same trip at times of the day when travel occurs at free-flow speeds. For the past decade the Richmond urbanized area has ranked in the high 80's to the low 90's and is currently ranked 88th out of the 101 other urban areas.

Richmond has the lowest TTI of the 13 peer urban areas. Raleigh and Buffalo tie in rank at 54th with TTIs of 1.17 and Bridgeport-Stamford has the highest TTI at 1.36 and ranks 6th. Similar to the others, Richmond's TTI increased until 2008 and then declined due to the Great Recession. By 2014 Richmond's TTI was again at 2008's level. Only Charlotte and Nashville have TTIs lower than they did in 2008. The TTI declines in Austin, Nashville, and Hartford began before 2008.

Planning Time Index

The Planning Time index is a measure of reliability. A 95th percentile Planning Time index represents the amount of time you must plan for a trip in order to be late only one time in a month. Richmond's PTI of 1.76 means that to ensure that you will not be late when making a trip which could take 20 minutes if there is no traffic, you

should plan on just over 35 minutes for the trip. In other words you should increase your expected trip time by 76% or approximately 15 minutes. Richmond ranks 80th out of the 101 urbanized areas ranked in the Urban Mobility Scorecard. That is the best ranking for the peer group with the next best rank being 55th which is held by both Memphis and Oklahoma City. Excluding Richmond, ten of the peer group urbanized areas rank between 32nd and 55th. New Orleans and Bridgeport-Stamford fall far below this with ranks of 3rd and 5th respectively.

The data seems to indicate that at a regional scale, the highway network in Richmond allows for easier, more reliable movement of workers as compared to most other metros. This scale of analysis is interesting in drawing broad conclusions about the state of congestion in the Richmond region, but such a scale may overlook the well-known spot areas of daily congestion where opportunities for applying mitigation strategies still exist.

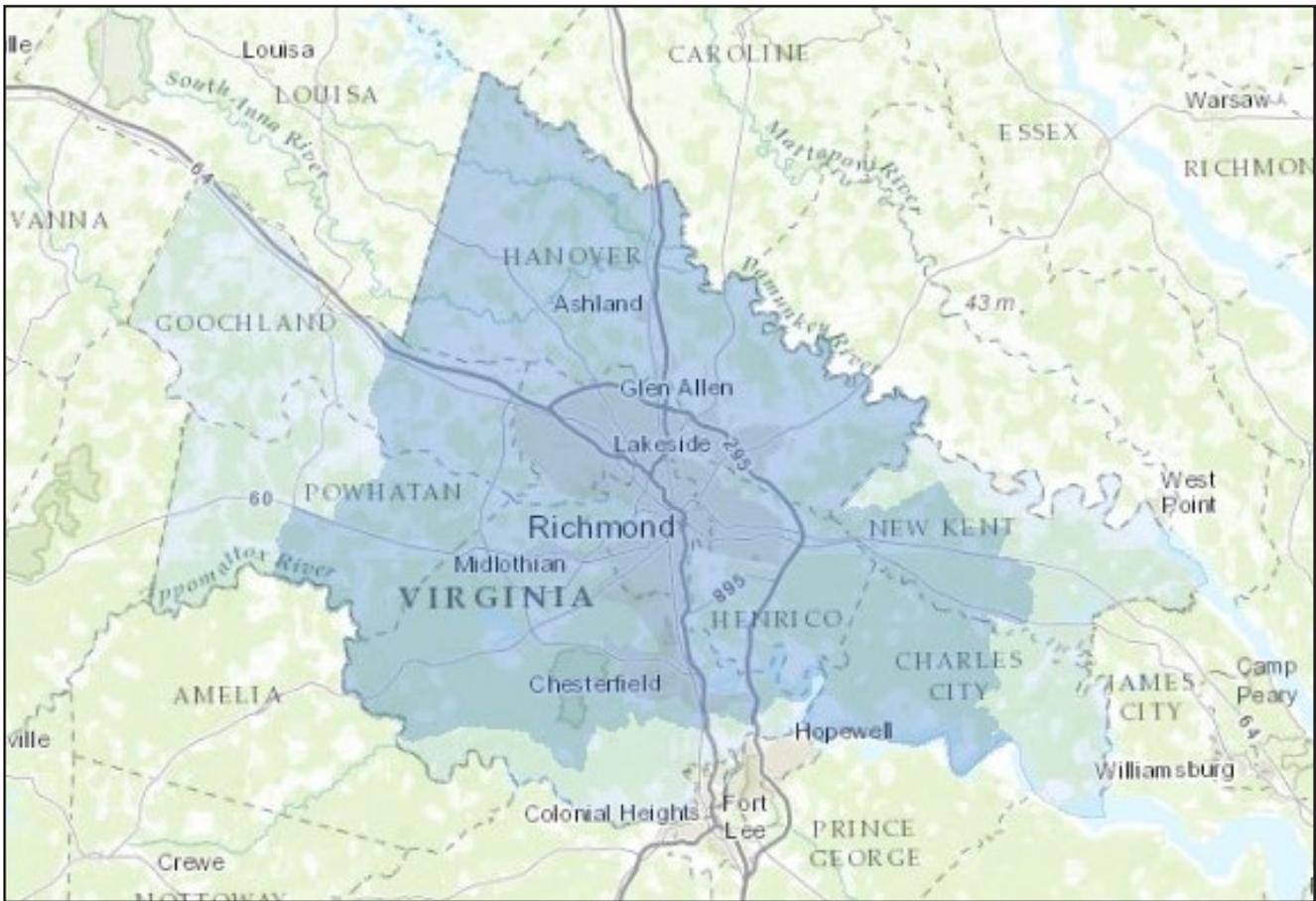
Richmond Urbanized Area Population, Travel Time Index, Annual Hours of Delay, and DVMT 2005-2014

Year	2005		2006		2007		2008		2009		2010		2011		2012		2013		2014	
	value	rank																		
Population	920	47	925	46	935	46	945	46	955	46	970	46	975	46	985	45	995	45	1,000	45
Travel Time Index	1.11	92	1.12	88	1.12	90	1.13	84	1.12	88	1.12	89	1.12	89	1.12	89	1.13	84	1.13	88
Annual Hours of Delay	21,310	53	22,764	53	23,608	52	24,854	52	24,197	52	24,860	52	24,944	52	25,239	53	25,934	52	26,104	53
DVMT	21,440		21,890		21,885		21,640		21,539		21,668		21,825		21,535		21,216		21,211	

Figure 12: Richmond Urbanized Area Total Population, Travel Time Index, Annual Hours of Delay, and DVMT 2005-2014



CMP NETWORK ANALYSIS



Map 3: Richmond Regional Transportation Planning Organization Study Area

The RRTPO CMP process consists of four activities that seek to define, identify, mitigate, and monitor congestion on the CMP network.

- **System Definition and Data Collection:** Identification of the roads to be included in the CMP study network. Determine the time frame and frequency of data which will be used to quantify congestion.
- **Congestion Definition and Identification:** Develop indicators of congestion that can be quantified through the use of performance measures (e.g. travel time and speed for roadway segments) (TTI, PTI, BI, Speed). Then apply the congestion indicators to the CMP network to determine congested corridors. The result will be the identification of locations where recurring congestion exist

along the CMP network.

- **Congestion Management Strategies:** Compile a list of congestion mitigation strategies which could be used to mitigate congestion.
- **System Monitoring:** Corridor performance data and trends, and projects in the TIP and MTP which will impact the corridor.

SYSTEM DEFINITION AND DATA COLLECTION

The CMP monitors the transportation system located in the Richmond Regional TPO study area. The study area is within the boundary of the Richmond Regional Planning District Commission (RRPDC) which is made up of the Town of Ashland, the Counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent and Powhatan, and the City of Richmond. Hanover and Henrico Counties are fully within the study area

as is the City of Richmond. A majority of Chesterfield County is also within the study area except for the southern portion which is within the Tri-Cities Area MPO. The eastern portions of Goochland and Powhatan Counties and the western portions of Charles City and New Kent Counties complete the study area.

Data for the CMP consists of 2014 Tuesday, Wednesday, Thursday INRIX traffic data obtained through the Vehicle Probe Project, and PSI safety designation score. Small portions of selected roadways are not covered by INRIX data.

The CMP network has not changed from the 2011 CMP Update. The CMP roadway network consists of interstates, other freeways and expressways, and other principal arterials in the Richmond Region TPO study area. There are 4 interstates I-95, I-195, I-295 and I-64 in the Richmond region, along with 5 roadways classified

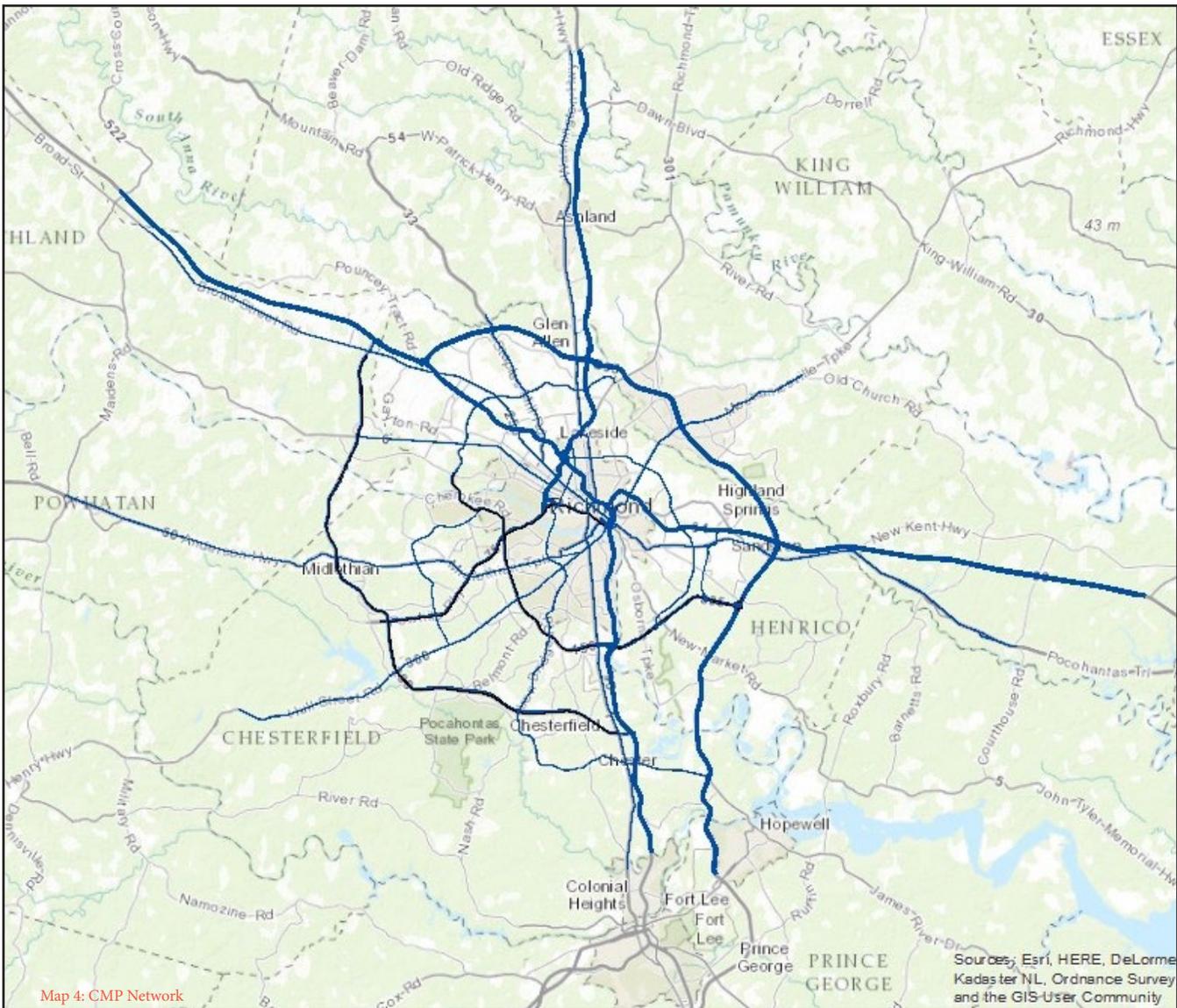
2016 Congestion Management Process Network

Road Name	Description
I 95	From the northern MPO boundary in Hanover County to the southern MPO boundary in Chesterfield County
I 64	From SR 617 (exit 167) in Goochland County to SR 155 (exit 214) in New Kent County
I 195	From the Bryan Park Interchange to I 95 (exit 74) in the City of Richmond
I 295	From I 64 (exit 177) in Henrico County to the southern MPO boundary in Chesterfield County
SR 6	From SR 288 in Henrico County to SR 161 (Boulevard) in the City of Richmond
SR 10*	From US 360 in the City of Richmond to I 295 in Chesterfield County
SR 76	From 288 in Chesterfield County to I 195 in the City of Richmond
SR 147	From US 60 in Chesterfield County to SR 150 in the City of Richmond
SR 150**	From I 95 in Chesterfield County to route 7518 (Parham Road) in Henrico County
SR 161	From I 95 (exit 80) in the City of Richmond to SR 10 in the City of Richmond
SR 288	From I 64 in Henrico County to I 95 in Chesterfield County
SR 895**	From I 95 in Chesterfield County to I 295 in Henrico County
US 1	From the northern MPO boundary in Hanover County to the southern MPO boundary in Chesterfield County
US 33	From Route 632 (Ashland Road) in Hanover County to US 250 in the City of Richmond
US 60	From US 522 (Maidens Road) in Powhatan County to US 360 downtown in the City of Richmond and from Laburnum Avenue to SR 155 in New Kent County
US 250	Broad Street from western MPO boundary to 18 th Street
US 360	From western MPO boundary in Chesterfield County to Route 606 (Studley Road) in Hanover County
Courthouse Rd*	From US 60 in Chesterfield County to US 360 in Chesterfield County
Parham Rd	From SR 150 in Henrico to US 301 in Henrico County
Laburnum Ave	From the Bryan Park Interchange to SR 895 in Henrico County
Airport Rd**	From I 64 (exit 197) in Henrico County to SR 895 Henrico County

* INRIX data is not available on these roadways

** Small portions of the roadway are not covered by INRIX data

Figure 13: CMP Network List



CONGESTION DEFINITION AND IDENTIFICATION

The CMP relies heavily on vehicle probe data purchased by VDOT and analyzed using analytical tools provided through the I-95 Corridor Coalition. In 2010 the RRTPO, known then as the Richmond Area Metropolitan Planning Organization (RAMPO), joined the I-95 Corridor Coalition, an interagency group established in 1993 to enhance regional transportation mobility, safety, and efficiency along I-95 in the Mid-Atlantic States. The coalition has grown from its original focus on vehicle travel along Interstate 95 to an organization which encompasses all modes of transportation and a geographic area far greater than the I-95 corridor. The I-95 Corridor

Coalition partnered with the CATT Labs at the University of Maryland in the development of the Vehicle Probe Project (VPP), a set of analytics and visualization tools for use with real-time traffic information data provided by INRIX. The Virginia Department of Transportation has purchased INRIX data for the entire state of Virginia for use in the Vehicle Probe Project. These analytics form the basis of the analysis which was performed in this CMP. The tools in the VPP are used to determine the location and intensity of congestion and the times at which congestion occurs.

Potential for Safety Improvement (PSI) scores developed by the HSIP staff of the Traffic Engineering Division of VDOT are used to highlight safety

issues on the CMP network. A PSI score is the number of serious or fatal crashes minus the predicted rate for that type/volume roadway.

There are two types of congestion, recurring and non-recurring. Recurring congestion is caused by the physical state of a roadway and is usually predictable. This congestion can occur due to an increase in demand, a change in roadway capacity from one section to another, multiple access points or unsafe conditions. As people use the roadway they become accustomed to this congestion. Morning and afternoon peak hours are when this type of congestion generally occurs, but it may occur at other times in areas with a high concentration of shopping area or at an event venue.

Non-recurring congestion is caused by some activity on a roadway, and is usually not expected. Traffic incidents, vehicle crashes and breakdowns, pot holes or other roadway failures, events which spill over on to the roadway such as building fires, all have an impact the ability of a roadway to handle the usual volume of traffic. Non-recurring congestion impacts the reliability of our region's transportation system.

The FHWA finds it acceptable for each MPO to approach the Congestion Management Process in a manner unique to their region and goals. The goals of the RRCMP are to maintain and optimize the current transportation network and to promote alternatives to Single Occupancy Vehicle travel thereby increasing mode choice. Strategies in the CMP are designed to promote a reliable transportation network.

CONGESTION MANAGEMENT STRATEGIES

Congestion management strategies are the ways which the RRTPO has available to handle congestion on the CMP network. There are many congestion management strategies which are broadly categorized as Demand Management Strategies, Traffic Operations Strategies, Public Transportation Strategies, and Road Capacity Strategies. The use of any combination of strategies is permissible, however all strategies should be evaluated before considering adding Single Occupancy Vehicle capacity.

The Congestion Management Process Guidebook describes the four categories of strategies as:

1. Demand Management Strategies which focus on providing more transportation options by promoting the use of alternative modes, managing and pricing assets, altering work patterns, and influencing land use
2. Traffic Operations Strategies

which focus on increasing the efficiencies of the roadway network through the use of intelligent transportation systems (ITS)

3. Public Transportation Strategies which focus on improving transit service and coverage and rely on transportation demand management (TDM) and ITS
4. Road Capacity Strategies which focus on adding a capacity to the roadway network through redesign and new construction

Sample RRTPO strategies for:

Demand Management

- Ridesharing
- Telecommuting
- Flexible work schedules
- Parking management
- Bicycle infrastructure and amenities
- Pedestrian infrastructure and amenities

Traffic Operations

- Operations centers
- Real-time traffic condition applications for drivers
- Timed signals
- Incident clearance - Safety Service Patrols
- Open road tolling
- Over height vehicle sensors
- Curve speed warning systems

Public Transportation

- Electronic fares
- GPS
- Apps for transit schedules
- Interface with other modes such as bicycles

Road Capacity

- Restriping and lane modifications
- Intersection improvements
- Interchange improvements and

collector distributor lanes

- Roundabouts
- Turn lanes
- Access management

Many congestion management strategies have been programmed into the Transportation Improvement Program and are important aspects of the Metropolitan Transportation Plan (MTP).

Demand Management

Demand Management projects in the TIP include the transportation demand management services provided by RideFinders, along with bicycle and pedestrian infrastructure and amenity projects. RideFinders provides information to resident, employer and employees which includes commuter information, carpool ride-matching and incentives, van pool formation and operation support, the emergency ride home program, along with other programs which encourage commuters to leave their personal vehicle at home. Park and Ride lots are an integral part of demand management since they provide a place to park your car and share the remainder of your commute. Funding for a park and ride lot location study is currently in the TIP along with the construction of a park and ride lot in New Kent county near I-64. Bicycle and pedestrian projects in the TIP include several bike land and sidewalk projects which allow citizens to safely walk or bike to their destinations. The Floyd Avenue Bike Boulevard project in the City of Richmond is designed to offer a safe and welcoming east west commute route to cyclists as well as pedestrians. (Safe Routes to School Fox and Mumford Elementary schools)

Traffic Operations

These projects in the TIP include region wide Traffic/Operations improvements, and improvements to many of the jurisdictions' traffic signal systems. The region wide Traffic/Operations improvements include the funding of Safety Service Patrol which

plays an important role in VDOT's incident management strategy. The Safety Service Patrol works to detect incidents and disruption in traffic, minimize incident duration, clear obstructions from the roadway, ensure safe traffic control for emergency responders, and if needed ensure safe and incident free re-routing of traffic through lane change functions. The actions of the SSP play a major role in reducing the severity and longevity of nonrecurring congestion which may impacts the CMP network. The work of the SSP in offering motorist assist services including tire change assistance, fuel to get to the nearest gas station, jump starts, water for overheating radiators and calls to tow/recovery services help to prevent incidents and thereby non-recurring congestion. VDOT's Highway Safety Improvement Program (HSIP) implements several projects which improve the safety of the CMP network. Providing for safer roadways reduces the likelihood of incidents and the resulting non-recurring congestion.

Public Transportation

Public Transportation projects in the TIP include funding for the regions first Bus Rapid Transit (BRT) route. BRT is planned for the busy Broad Street corridor stretching from Willow Lawn at the western terminus to Rockets Landing at the eastern terminus. BRT incorporates many of the ITS features which are making public transportation more responsive and attractive to the general public. These features such as electronic fare boxes, location aware buses, and transit schedule applications are available for or are being implemented throughout the GRTC system. Multimodal improvements are also being planned in the TIP for transit in the Richmond region through projects centered on Franklin Street and Main Street Station. Franklin Street is being reopened as a pedestrian and bicycle thoroughfare with connections to the Visitors Center and Multimodal Transportation Hub at Main Street Station. These projects further enhance the ability of citizens

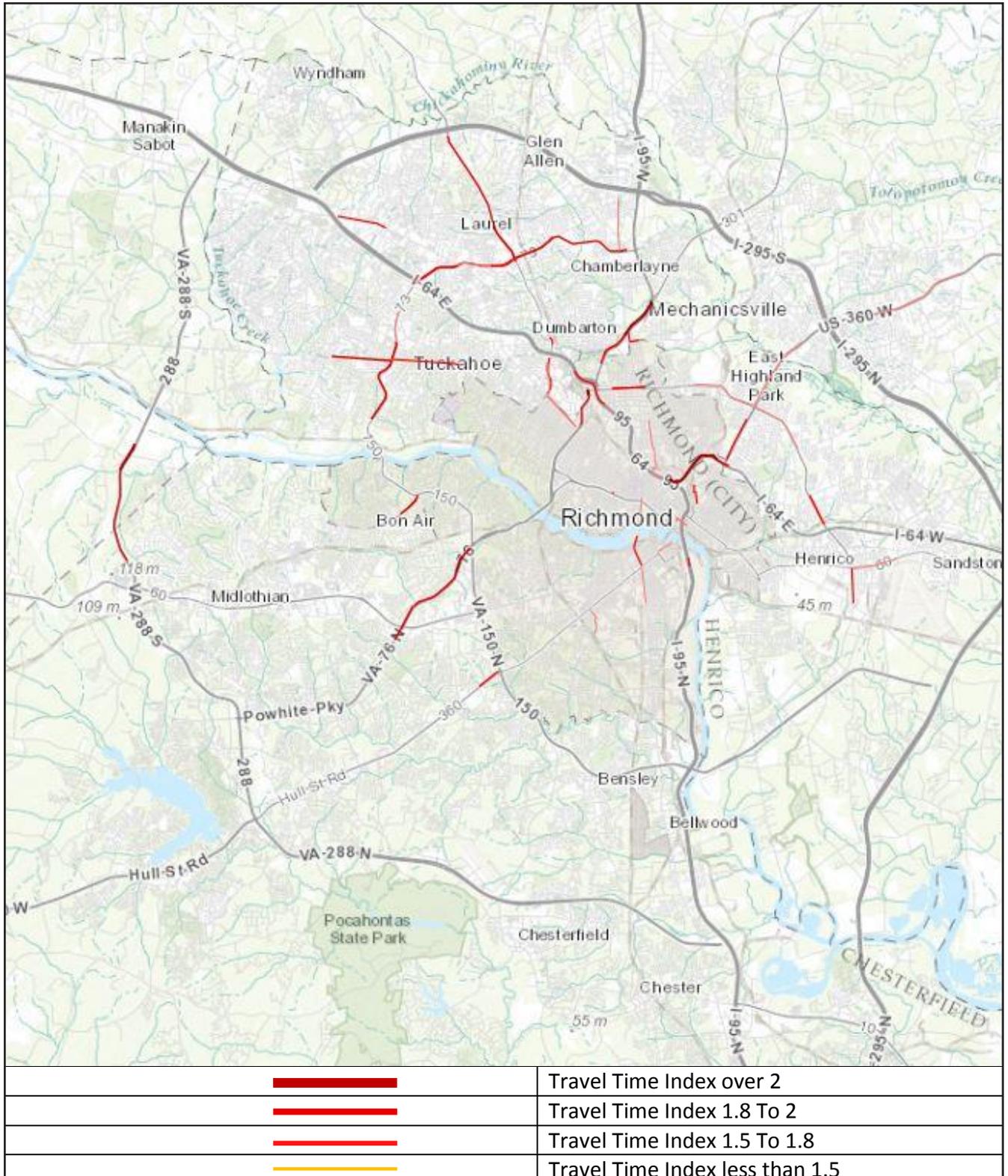
to connect and travel throughout the area by train, bus, taxi/shared ride, bicycle or on foot.

Road Capacity

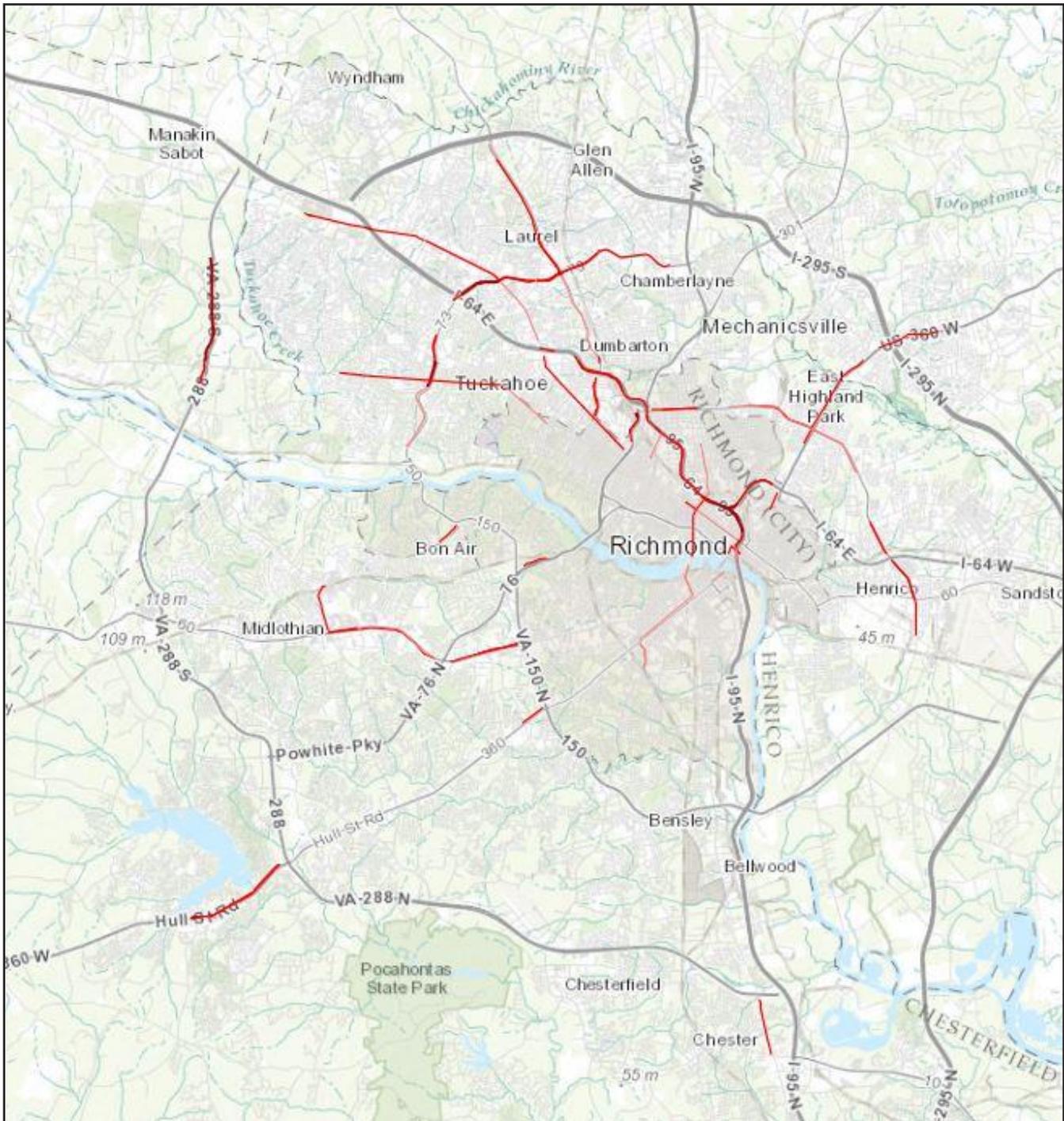
Road Capacity projects in the TIP are increasing the capacity of the CMP network through projects which enhance the safe flow of traffic, rather than increase the number of lane miles. Roundabouts, turn lanes and access management projects allow for traffic to progress smoothly through an area thereby reducing congestion caused by bottle neck situations. Intersection improvements, interchange improvements and collector distributors all lead to an increase in the safety of the roadway. Restriping and lane modifications to I-64 and I-95 near their intersections with I-295 are designed to provide greater safety in areas which experience congestion. The I-64/I-95 Overlap study area has projects scheduled to build pull out lanes for vehicles in need of assistance.

SYSTEM MONITORING

Performance metrics from the VPP suite were analyzed for the CMP network. Details of the network's congestion presented both spatially and in table formats. The following maps show the Travel Time Index for the morning peak period from 7 to 9 am and the evening peak period from 4 to 6 pm. Areas of recurring congestion are evident on both maps.



Map 5: AM Peak Travel Time Index

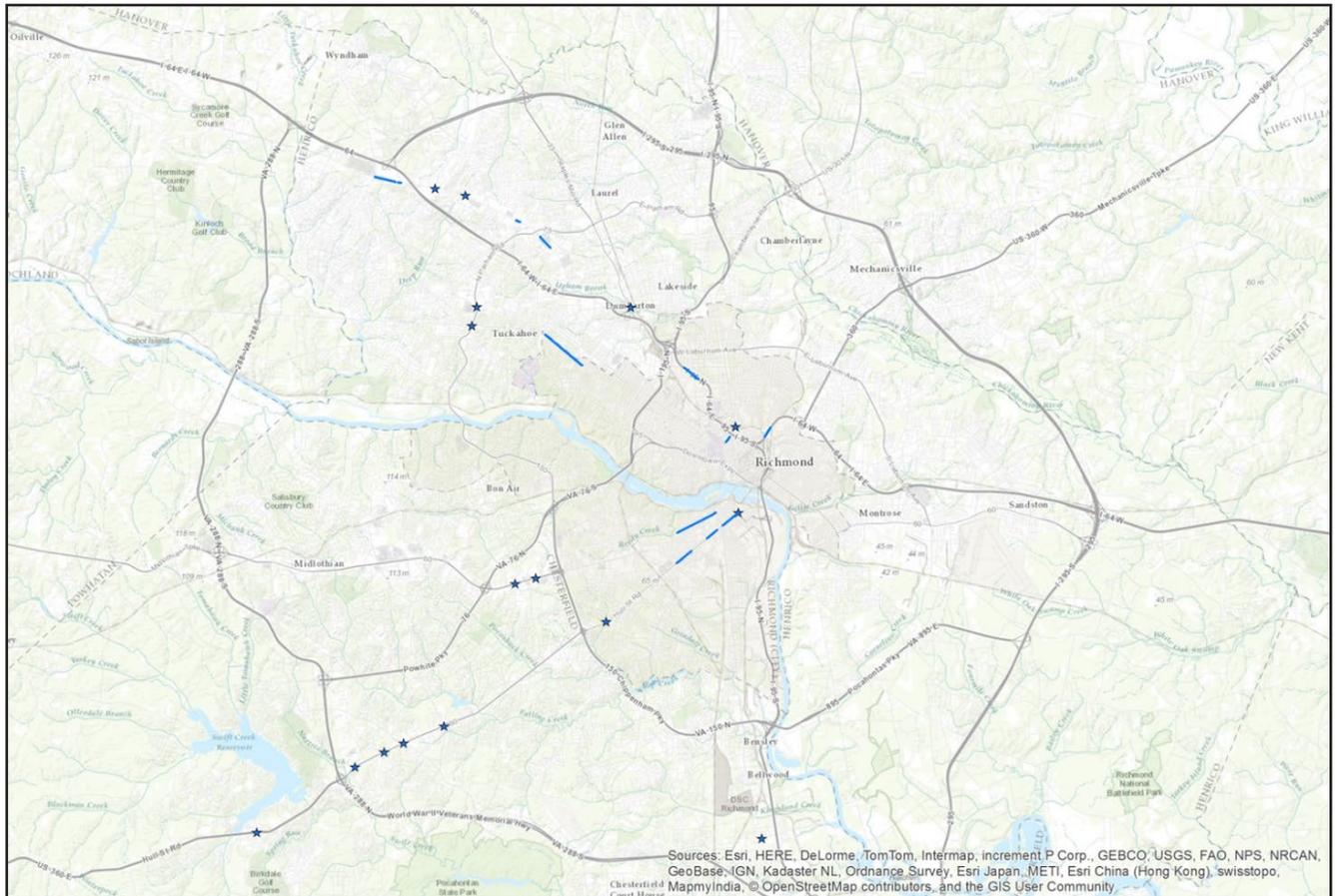


	Travel Time Index over 2
	Travel Time Index 1.8 To 2
	Travel Time Index 1.5 To 1.8
	Travel Time Index less than 1.5

Map 6: PM Peak Travel Time Index

SAFETY

Intersections and roadway segments which have high Potential for Safety Improvement (PSI) scores and are on the CMP network have been mapped. These are areas which would produce a high level of benefit from highway safety improvements. Improvements in the safety of the highways will lower incidents which in turn will help lower non-recurring congestion.



Map 7: VDOT Potential for Safety Improvement (PSI) on CMP Network

INTEGRATION OF THE CMP IN THE RRTPO UNIFIED PLANNING WORK PROGRAM (UPWP)

In addition to monitoring the performance of the regional roadway network as new improvements are implemented, the RRTPO works to integrate the data and analysis from the CMP into various elements of its Unified Planning Work Program (UPWP) in an effort to promote the CMP as a versatile tool for localities and partner agencies. In the FY2017 UPWP, the CMP has been paired with Intelligent Transportation Systems (ITS) under Task 3.3 Transportation Demand Management (TDM). As the lead agency responsible for developing TDM processes, strategies, and policies for the Richmond region, the RRTPO coordinates and partners with provider entities to implement TDM strategies and activities.

The CMP and ITS have overlapping efforts, analysis, and benefits with a goal of reducing congestion on the regional transportation network, resulting in its combination under one work element. The CMP Technical Report currently updates in conjunction with the metropolitan transportation plan (plan2040) every five years based on the update cycle. Besides technical assistance and data requests, the following are examples of how the CMP is currently being utilized in the RRTPO UPWP.

plan2040 Metropolitan Transportation Plan

The CMP Technical Report is updated within the same time cycle as the Metropolitan Transportation Plan, a long-range transportation plan that looks at the existing conditions of the regional transportation network, goals and performance measures, and developing a Fiscally Constrained Plan reflecting revenue projections and future transportation investments over the 20 year planning horizon. The data and analysis from the Technical Report are used to inform the Congestion Mitigation section of the Technical Document for plan2040.

The migration of an annual update cycle reflects the improved frequency of updates to the various data sources used in the development of the CMP Technical Report and will support integration with the Richmond/Tri-Cities Regional Travel Demand Model.

RRTPO Transportation Performance Measures Annual Progress Report

The performance management report is developed from state requirements established in 2009 requiring appropriate regional organizations to develop quantifiable measures and achievable goals related to transportation system performance. The 2012 Moving Ahead for Progress in the 21st Century (MAP-21) and later the 2015 Fixing America's Surface Transportation Act (FAST Act) emphasizes performance measurement as part of a "performance-based planning and programming" approach.

The data and analysis involved with the development of the CMP Technical Report informs several performance measures in the report as well as assists in identifying future potential measures based on available data sources and frequency of updates to data used. The measures identified in the report coordinate with the nine goals developed in plan2040 and are categorized as the following:

- Congestion Mitigation and System Reliability
- Transportation and Land Use Integration
- Environmental and Air Quality
- Freight Mobility
- Multimodal Connectivity and Access to Employment
- Safety and Security
- Preservation and Maintenance

Specific performance measures informed by the CMP include:

- Delay per peak period commuter (annual hours)
- Peak period travel time index
- Congestion costs (annual per

- peak period commuter)
- Fuel loss per peak period commuter (gallons)
- Daily VMT, per capita
- Travel Time to Work
- Highway Crashes and Fatalities (number and per 100 million VMT)
- Highway Crash and Fatality Rate (per 100 million VMT)
- Bicycle and Pedestrian Crashes and Fatalities

Regional Surface Transportation Program (RSTP) and Congestion Mitigation and Air Quality Program (CMAQ)

The RRTPO manages approximately \$160 million in regional transportation funds, \$113 million in the Regional Surface Transportation Program (RSTP) and \$47 million in the Congestion Mitigation and Air Quality (CMAQ) Program. These programs are funded by the federal government to empower localities to cooperatively determine the future of transportation in their region. The project selection and allocation decisions for expenditures are performed by the RRTPO Board, which are then submitted to the Commonwealth Transportation Board (CTB) and included in the Six-Year Improvement Program (SYIP).

The RSTP investments in the Richmond region support passenger and freight movement along the region's surface transportation systems and funds can be used to preserve and improve the conditions and performance on highways, bridge, and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects.

The CMAQ program focuses on transportation projects and programs that help improve air quality and reduce traffic congestion, a direct connection to the CMP. Projects must be located in areas that do not meet the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide, or particular matter (labeled as nonattainment areas) and

for former nonattainment areas that are now in compliance (maintenance areas).

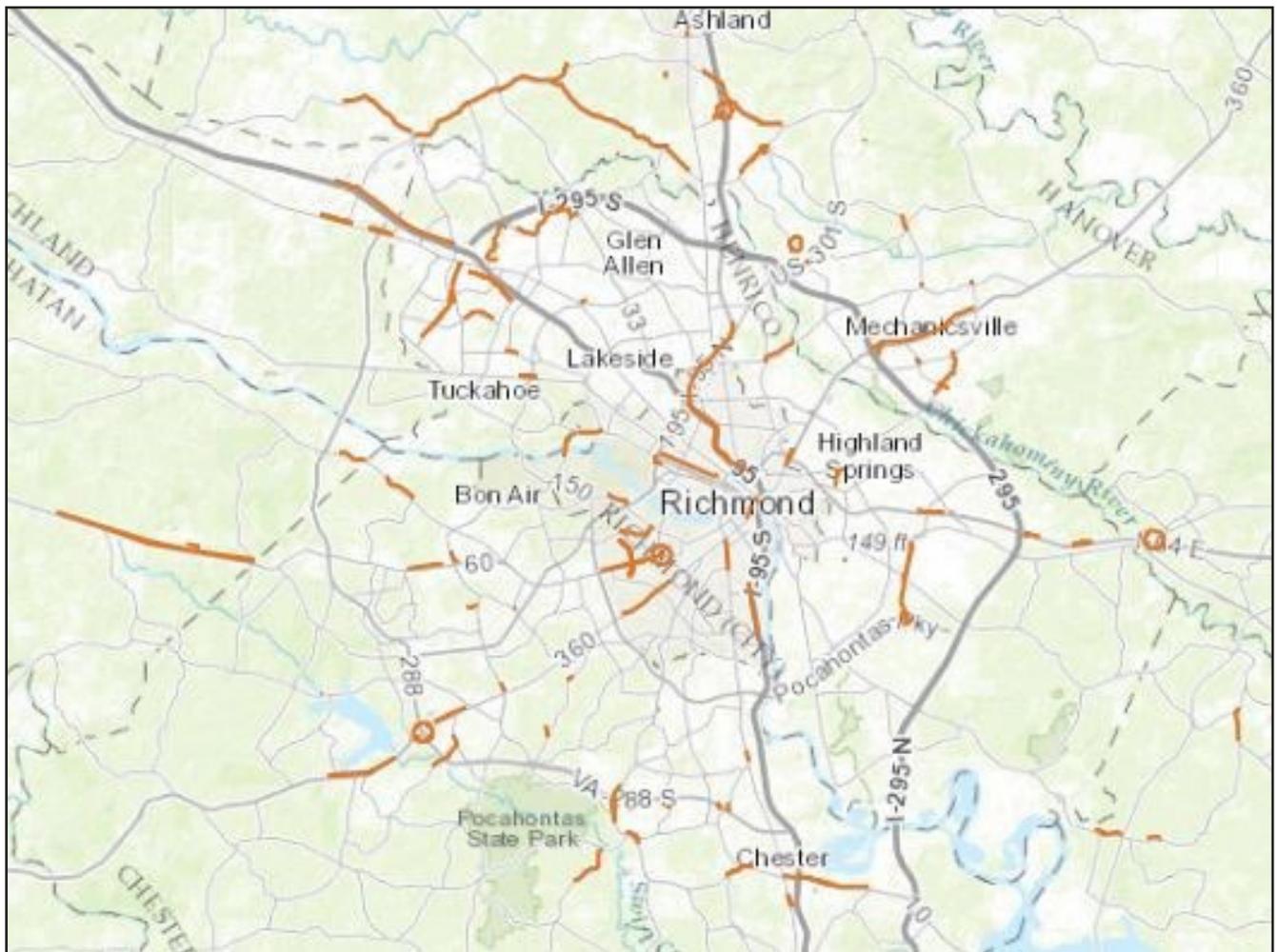
Transportation Improvement Projects on the CMP Network

The Transportation Improvement Program (TIP) provides a four-year program of federal, state, and local funded transportation projects that require RRTPO approval for obligation of public funds. The current FY2015-2018 TIP includes more than 200 projects with \$667 million in planned obligations, meaning that projects have been authorized to spend funds and advance from preliminary engineering phase to construction phase.

Many of the projects which have been

programmed in the TIP are located on the CMP network and advance the goals of the CMP. Projects which can be represented spatially are predominantly road projects. These projects help to ensure the continued efficiency and reliability of the transportation system through strategies which improve intersections and interchanges, redesign roadways, add turning lanes, park and ride lots, and added pedestrian and bicycle amenities. There are some TIP projects not represented on the map which also help to ensure the continued efficiency and reliability of the transportation system, these include improvements to traffic signal systems, a bike share system, transit system improvements implemented by GRTC Transit System,

along with the demand management programs provided through RideFinders. The list of projects on the next page includes details on the projects in the FY2015-2018 TIP.



Map 8: RRTPO FY2015-2018 Transportation Improvement Program (TIP) Projects

ERIC	Roads - Street Name	Jurisdiction	Project Name	Project Location	Project Length
101021	1 Jefferson Davis Hwy	Switzerland	Improve Intersection	0.18 MS Rt 1761 618 (Old Bermuda Hundred Rd) to 0.25 MN Rt 1761 618	2.44 mi
15955	1 Jefferson Davis Hwy	Richmond	Major Widening	0.01 km South Chesterman Ave to 0.016 km north Decatur St	1.725 km
1346	14 & S Washington Hwy	Switzerland	Bridge Replacement & Mod LIT at D508	Rt 145 (Chester Rd) to 0.351 MN Rt 145	3.351 mi
101034	6 Patterson Ave	Abland	Improve Intersection at Rt 54	0.139 MW Rt 54 to 0.086 MN Rt 54	2.306 mi
27027	10 Iron Bridge Rd	Henrico	Rt 6 - Ingotown Intersection	0.332 MW Parham Rd (Rt 7518) to 0.268 ME Parham Rd	2.6 mi
104888	10 Ironbridge Rd	Switzerland	RTE 10 - Upgrade signals -4 INT	Beach Road (Rt 655) to Chesterfield Meadows Road (Rt 929)	1.6402 mi
101020	10 West Hundred Rd	Switzerland	Major Widening	Whitstone Rd to Firth Lane	1.35 mi
10095	10 West Hundred Rd	Switzerland	Widened to 6 Lanes	Rt 1 to 195	2.43 mi
10095	10 West Hundred Rd	Switzerland	Upgrade Crosswalks	Rt 616 (Olbome Rd) to Chesterdowne Rd	1.0 mi
95574	10 West Hundred Rd	Switzerland	ARRA - Rt 10 Widened to Six Lanes	195 to Ware Bottom Spring Rd	1.01 mi
5618	31 Mountain Rd	Hanover	Intersection Improvement at Rt 623 (Ashland Rd)	0.05 MS Rt 623 (Ashland Rd) to 0.05 MN Rt 623 (Ashland Rd)	1.1 mi
10621	64 Anderson Highway	Powhatan	Route 60 Corridor East Special Area Plan	Route 678 (Rocky Oak Rd) to Chesterfield Ct	5.61 mi
102955	64 Middleham Turnpike	Switzerland	Widened 4 Lanes to 6 Lanes	Rt 727 (Averser Dr) to Rt 677 (Old Buckingham Rd)	1.25 mi
103571	64 Middleham Turnpike	Switzerland	Rt 60 - Add East Left Turn Lanes	At Rt 645 (Branchway Rd)	2.861 mi
10488	64 Middleham Turnpike	Richmond	Bridge Replacement	At Rt 163 (Beit Blvd)	2.19 mi
15834	64 Middleham Turnpike	Richmond	Reconstructor	0.058 km E of W Richmond Cl to 2.85 km E of W Richmond Cl	2.79 km
19003	64 Middleham Turnpike	Richmond	Rt 60 - Interchange Study	At Belt Bvc	
10745	64	Henric/Staffs/Toll Roads	I 64 Extnd acceleration/Deceleration lanes - PE only	At weigh stations from MM 202.86 to MM 204.41	
10746	64	Henric/Staffs/Toll Roads	I 64 EB pavement marking - PE only	At 1295	
10746	64	Henric/Staffs/Toll Roads	I 64 Interchange modification Study - PE only	Exit 205 from MM 204.75 to MM206.15	
70541	64	Henric/Staffs/Toll Roads	Widened from 4 to 6 Lanes and Improve Rt 623 Interchange	0.99 MW Rt 623 to 0.38 MW Rt 295 (Short Pump)	5.32 mi
9756	64	Henric/Staffs/Toll Roads	Replace Bridges over Rt 154	Approaches & Bridges over Rt 156 to 2.6 MW Rt 295	
10514	64	Henric/Staffs/Toll Roads	I 64 Replace Bridge	Approaches & Bridges Over Rt 33 (Nine Mile Rd)	
10505	95	Henric/Staffs/Toll Roads	I 95/I-64 Overlap Improvement	I 95/I-64 (Land) to I 95/I-64 (West)	
18944	95	Henric/Staffs/Toll Roads	Bridge Rehabilitation	0.2 MS Lombardy intersection to 0.02 MN Upham Brook	5.32 mi
58923	95	Henric/Staffs/Toll Roads	Interchange Modification	0.064 MW Rt 743 to 0.367 ME Rt 743	2.431 mi
9034	95	Henric/Staffs/Toll Roads	Rt 802 - Replace Bridge over I-95, Mod. Ramps & Airpark Rd	0.252 MW 195 to 0.431 ME I-95	2.683 mi
94855	95	Henric/Staffs/Toll Roads	ARRA - Hanover I-95 Ramp Improvements for Lewistown Rd (Rt 743)	0.063 MW Rt 743 to 0.367 ME Rt 743	2.429 mi
9034	14	Switzerland	Spot Widening	Rt 60 to Rt 727 (Krogger Center Blvd)	2.41 mi
9308	19	Henric/Staffs/Toll Roads	Rt 195: Bridge Replacement	Over Rt 76, Csk, Ramp S to 0.7 MW Rt 142	2.1 mi
94854	25	Switzerland	ARRA - Widened to 4 Lanes	0.226 MW Rt 621 (Manakin Rd) to 0.133 ME Rt 623 W (Hockett Rd)	2.861 mi
103071	25	Switzerland	ARRA-C - Goodland 250 Widened to 4 Lanes	0.226 MW Intersection Rt 621 to 0.133 ME Intersection Rt 623 W/99	2.8610 mi
104096	25	Switzerland	Rt 250/Rt 288 Interchange Feasibility Study	Henrico Cl to Mills Rd	
52444	25	Switzerland	Interchange Modification at Rt 145	0.226 MW Rt 621 to 0.133 ME Rt 623 W	2.861 mi
9034	28	Switzerland	Interchange Modification at Rt 145	Rt 288 to Rt 145 (Chester Rd) WB	2.281 mi
15955	36	Richmond	Major Widening	Elkhart Rd - Dixon Dr	2.24 mi
10102	36	Switzerland	Widened to Six Lanes	0.093 ME Warbro Rd (Rt 907) to 0.166 MW Gernto Rd (Rt 604)	2.848 mi
104898	36	Switzerland	Rt 360 - Widening	Lonis Parkway to Castle Rock Rd	2.9 mi
9768	36	Switzerland	Widening	0.284 MW Rt 3600 (Woodlake Village Pkwy) to 0.431 ME Rt 3600 (Woodlake Village Pkwy)	2.6715 mi
50027	36	Switzerland	Major Widening (6 Lanes)	0.211 MW Rt 621 (Wintercock Rd) to 0.227 MW Swift Creek	1.659 mi
104888	36	Richmond	Rt 360 - Rehab Mayo Bridge	East 14TH Street at James Blvd	2.26 mi
1355	36	Hanover	Widening	Intersection with Wyrbrook Lane (Rt 1133) to 0.2 ME Lee Davis Rd	
17768	36	Hanover	Widening from 4 to 6 & 8 Lanes	Rt 295 to Wyrbrook Lane (Rt 1133)	2.634 mi
17955	36	Multi-jurisdictional	Bridge Replacement	0.498 MW Hanover/Henrico Cl to 0.164ME Hanover/Henrico Cl	2.662 mi
1896	36	Hanover	Widening from 4 to 6 Lanes - PE only	0.2 ME Lee Davis Rd to Walnut Grove Rd	
10505	61	Switzerland	Rt 618 - Add Bridge at Rt 295	Over Rt 295	
6796	65	Switzerland	Southbound Right Turn Lane Improvement	Rt 360 to Rt 679 Connector	2.35 mi
5633	89	Henrico	Rt 895 - Airport Connector	0.17 km S Rt 895 - 0.137 km N Charles City Rd	2.6 km
6678	Capital Region Airport Commission	Richmond	I 64/Rt 895 Connector	0.17 MN Clarkson Rd to Charles City Rd	1.43 mi
15955	Commerce Rd	Richmond	Commerce Rd Improvement	Belt Rd (South Junction) to Bellemead Rd	2.0 mi
103899	Franklin Street	Richmond	Multimodal Improvement to Franklin St	14TH Street to 18TH Street	

Figure 14: List of FY2015-2018 TIP Projects

CONGESTION MEASURES

Detailed information about the AM and PM peak hour recurring congestion shown on the maps in the Technical Report may be found in the following tables. The measures refer to the eight 15 minute intervals which occur during the AM peak hours and the PM peak hours. Included are the highest Travel Time Index, the time of the highest TTI, the lowest percent of free flow speed, the highest planning time index, the number of congested 15 minute intervals, and the minimum speed. These measures provide greater detail to the nature of the congestion present on each segment of the corridor, and taken together, they form a more complete picture of the conditions experienced by people on the CMP network.



APPENDIX

I-64 From US-522/EXIT 159 To VA-33/EXIT 220														
From	TO	AADT	Eastbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
US-522/EXIT 159	US-522/EXIT 159		0.947	0.92	7:15 AM	6:00 PM	100	100	0	0	1	0.98	68.66	70.68
US-522/EXIT 159	VA-617/EXIT 167	17000	0.937	0.921	8:15 AM	6:00 PM	100	100	0	0	1	0.97	69.4	70.55
VA-617/EXIT 167	VA-617/EXIT 167		0.935	0.93	8:45 AM	5:45 PM	100	100	0	0	1	1	69.53	69.9
VA-617/EXIT 167	EXIT 173	21000	0.94	0.952	8:15 AM	5:45 PM	100	100	0	0	1	1	69.14	68.29
EXIT 173	EXIT 173		0.971	0.951	7:45 AM	5:45 PM	100	100	0	0	1.05	1.02	66.93	68.38
EXIT 173	GOOCHLAND--ECL	25000	0.994	1.024	7:45 AM	5:15 PM	100	97.65	0	0	1.1	1.05	65.38	63.47
GOOCHLAND--ECL	HENRICO--WCL		1.042	0.985	8:00 AM	5:30 PM	95.98	100	0	0	1.62	1.2	62.39	65.97
HENRICO--WCL	I-295/EXIT 177	33000	1.011	1.046	7:45 AM	5:15 PM	98.89	95.65	0	0	1.12	1.07	64.28	62.17
I-295/EXIT 177	I-295/EXIT 177		0.989	0.995	8:15 AM	5:30 PM	100	100	0	0	1.08	1.1	65.73	65.32
I-295/EXIT 177	US-250/EXIT 178	32000	1.04	1.011	8:15 AM	5:45 PM	96.15	98.95	0	0	1.14	1.12	62.5	64.32
US-250/EXIT 178	US-250/EXIT 178		1.063	1.001	8:15 AM	5:45 PM	94.11	99.94	0	0	1.23	1.1	61.17	64.96
US-250/EXIT 178	GASKINS/EXIT 180	38000	1.26	1.004	8:15 AM	5:30 PM	79.35	99.63	0	0	2.03	1.1	51.58	64.76
GASKINS/EXIT 180	GASKINS/EXIT 180		1.323	1.009	8:00 AM	5:30 PM	75.58	99.11	0	0	2.56	1.12	48.37	63.43
GASKINS/EXIT 180	PARHAM/EXIT 181	48000	1.313	1.022	8:00 AM	5:30 PM	76.19	97.81	0	0	2.25	1.17	48	61.62
PARHAM/EXIT 181	PARHAM/EXIT 181		1.288	1.016	8:00 AM	5:15 PM	77.63	98.42	0	0	2.21	1.12	49.68	62.99
PARHAM/EXIT 181	GLENSIDE/EXIT 183	51000	1.131	1.001	8:00 AM	5:30 PM	88.39	99.87	0	0	1.59	1.22	54.8	61.92
GLENSIDE/EXIT 183	GLENSIDE/EXIT 183		1.186	1.197	8:00 AM	5:30 PM	84.34	83.53	0	0	1.77	2.7	52.29	51.79
GLENSIDE/EXIT 183	BROAD ST/EXIT 183		1.178	1.529	7:45 AM	5:30 PM	84.92	65.38	0	1	2.33	4.2	53.5	41.19
BROAD ST/EXIT 183	BROAD ST/EXIT 183		1.185	1.641	7:45 AM	5:30 PM	84.42	60.94	0	2	2.38	4.43	52.34	37.78
BROAD ST/EXIT 183	DICKENS/EXIT 185	53000	1.212	1.619	8:00 AM	5:30 PM	82.53	61.78	0	1	2.14	3.53	49.52	37.07
DICKENS/EXIT 185	DICKENS/EXIT 185		1.245	1.648	8:00 AM	5:30 PM	80.33	60.67	0	1	2.26	3.81	49	37.01
DICKENS/EXIT 185	US-33/EXIT 185		1.194	1.825	8:00 AM	5:30 PM	83.73	54.81	0	3	2.58	3.88	51.91	33.98
US-33/EXIT 185	US-33/EXIT 185		1.359	1.814	8:30 AM	5:30 PM	73.57	55.11	0	3	2.9	4.69	44.88	33.62
US-33/EXIT 185	I-195/I-95/EXIT 186	67000	1.515	1.46	8:30 AM	5:30 PM	66.02	68.5	6	1	4	2.61	39.61	41.1
I-195/I-95/EXIT 186	I-195/I-95/EXIT 186		1.868	1.679	8:45 AM	5:30 PM	53.54	59.57	6	4	5.6	3.73	29.98	33.36
I-195/I-95/EXIT 186	I-95/EXIT 190	67000	1.132	1.24	7:00 AM	6:00 PM	88.38	80.66	0	0	1.43	1.89	46.84	42.75
I-95/EXIT 190	US-360/EXIT 192	46000	1.001	1.096	8:00 AM	5:30 PM	99.95	91.25	0	0	1.07	1.58	59.97	54.75
US-360/EXIT 192	US-360/EXIT 192		1	1.027	7:45 AM	5:30 PM	100	97.37	0	0	1.07	1.15	62	60.37
US-360/EXIT 192	NINE MILE/EXIT 193	36000	0.992	1.005	7:45 AM	5:30 PM	100	99.52	0	0	1.07	1.11	62.52	61.7
NINE MILE/EXIT 193	NINE MILE/EXIT 193		0.988	1.001	7:45 AM	5:45 PM	100	99.89	0	0	1.07	1.1	64.78	63.93
NINE MILE/EXIT 193	LABURNUM/EXIT 195	30000	0.979	0.983	8:00 AM	6:00 PM	100	100	0	0	1.05	1.07	64.36	64.07
LABURNUM/EXIT 195	LABURNUM/EXIT 195		0.984	0.996	8:30 AM	5:00 PM	100	100	0	0	1.07	1.08	66.04	65.26
LABURNUM/EXIT 195	VA-156/EXIT 197	23000	0.989	0.986	8:30 AM	5:30 PM	100	100	0	0	1.07	1.07	65.72	65.94
VA-156/EXIT 197	VA-156/EXIT 197		0.991	0.996	8:00 AM	5:15 PM	100	100	0	0	1.08	1.14	65.58	65.26
VA-156/EXIT 197	US-60/EXIT 200	17000	0.968	0.964	8:00 AM	5:00 PM	100	100	0	0	1.03	1.07	67.15	67.4
US-60/EXIT 200	US-60/EXIT 200		0.962	1.009	8:00 AM	5:00 PM	100	99.11	0	0	1.02	1.18	67.56	64.42
US-60/EXIT 200	33/249/EXIT 205	35000	1.011	0.977	7:30 AM	5:30 PM	98.95	100	0	0	1.38	1.14	64.32	66.53
33/249/EXIT 205	33/249/EXIT 205		0.943	0.956	7:45 AM	5:45 PM	100	100	0	0	1	1.03	68.94	68
33/249/EXIT 205	EXIT 211		0.952	0.955	8:00 AM	5:30 PM	100	100	0	0	0.98	1.02	68.26	68.08
EXIT 211	EXIT 211		0.921	0.981	7:00 AM	4:30 PM	100	100	0	0	0.98	1.02	70.57	66.26
EXIT 211	VA-155/EXIT 214	31000	0.934	1.055	8:00 AM	4:00 PM	100	94.77	0	0	0.98	1.14	69.56	61.6
VA-155/EXIT 214	VA-155/EXIT 214		0.927	1.017	8:00 AM	4:15 PM	100	98.31	0	0	1	1.12	70.09	63.9
VA-155/EXIT 214	VA-33/EXIT 220		0.926	0.975	8:00 AM	4:15 PM	100	100	0	0	0.97	1.03	70.2	66.66
VA-33/EXIT 220	VA-33/EXIT 220	31000	0.987	0.995	7:00 AM	4:15 PM	100	100	0	0	0.98	1	65.85	65.34

I-64 From US-522/EXIT 159 To VA-33/EXIT 220

Westbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM														
From	TO	AADT	Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			US-522/EXIT 159	US-522/EXIT 159		0.93	0.943	7:00 AM	5:45 PM	100	100	0	0	0.98
US-522/EXIT 159	VA-617/EXIT 167	17000	0.928	0.937	7:00 AM	5:30 PM	100	100	0	0	0.98	1	70.04	69.38
VA-617/EXIT 167	VA-617/EXIT 167		0.927	0.969	7:30 AM	5:45 PM	100	100	0	0	0.98	1.02	70.11	67.1
VA-617/EXIT 167	EXIT 173	21000	0.945	0.988	7:45 AM	6:00 PM	100	100	0	0	1	1.03	68.78	65.82
EXIT 173	EXIT 173		0.963	0.978	7:30 AM	4:30 PM	100	100	0	0	1.02	1.05	67.49	66.45
EXIT 173	GOOCHLAND--ECL	25000	0.966	1.024	7:45 AM	5:30 PM	100	97.63	0	0	1.03	1.05	67.31	63.46
GOOCHLAND--ECL	HENRICO--WCL		0.958	0.983	8:00 AM	4:30 PM	100	100	0	0	1.02	1.05	67.85	66.1
HENRICO--WCL	I-295/EXIT 177	33000	0.984	0.993	7:15 AM	4:45 PM	100	100	0	0	1.03	1.07	66.04	65.48
I-295/EXIT 177	I-295/EXIT 177		0.99	1.013	8:15 AM	5:15 PM	100	98.74	0	0	1.05	1.08	65.63	64.18
I-295/EXIT 177	US-250/EXIT 178	32000	1.019	1.084	7:45 AM	6:00 PM	98.17	92.29	0	0	1.12	1.25	63.81	59.99
US-250/EXIT 178	US-250/EXIT 178		1.033	1.313	8:00 AM	6:00 PM	96.78	76.14	0	0	1.14	2.6	62.91	49.49
US-250/EXIT 178	GASKINS/EXIT 180	38000	1.017	1.172	8:30 AM	6:00 PM	98.31	85.31	0	0	1.1	1.86	63.9	55.45
GASKINS/EXIT 180	GASKINS/EXIT 180		0.998	1.099	8:15 AM	5:45 PM	100	90.97	0	0	1.1	1.44	65.1	59.13
GASKINS/EXIT 180	PARHAM/EXIT 181	48000	1.03	1.156	8:15 AM	5:30 PM	97.11	86.49	0	0	1.1	1.55	63.12	56.22
PARHAM/EXIT 181	PARHAM/EXIT 181		0.995	1.152	8:45 AM	5:30 PM	100	86.83	0	0	1.07	1.58	63.29	54.7
PARHAM/EXIT 181	GLENSIDE/EXIT 183	51000	1.065	1.191	8:45 AM	5:30 PM	93.86	83.97	0	0	1.07	1.58	59.13	52.9
GLENSIDE/EXIT 183	GLENSIDE/EXIT 183		1.025	1.385	8:45 AM	5:30 PM	97.57	72.19	0	0	1.09	2.33	61.47	45.48
GLENSIDE/EXIT 183	BROAD ST/EXIT 183		1.029	1.365	8:45 AM	5:30 PM	97.14	73.29	0	0	1.11	2.33	61.2	46.17
BROAD ST/EXIT 183	BROAD ST/EXIT 183		1.016	1.379	8:45 AM	5:30 PM	98.43	72.54	0	0	1.13	2.17	62.01	45.7
BROAD ST/EXIT 183	DICKENS/EXIT 185	53000	1.025	1.466	8:45 AM	5:30 PM	97.57	68.23	0	1	1.15	2.44	59.52	41.62
DICKENS/EXIT 185	DICKENS/EXIT 185		1.032	1.509	8:45 AM	5:45 PM	96.87	66.28	0	2	1.15	2.44	59.09	40.43
DICKENS/EXIT 185	US-33/EXIT 185		1.023	1.591	8:30 AM	5:45 PM	97.74	62.84	0	2	1.17	2.54	59.62	38.33
US-33/EXIT 185	US-33/EXIT 185		1.071	1.698	8:00 AM	5:45 PM	93.35	58.9	0	3	1.24	3.1	57.88	36.52
US-33/EXIT 185	I-195/I-95/EXIT 186	67000	1.229	1.627	8:00 AM	5:45 PM	81.36	61.47	0	3	1.71	3.22	47.19	35.65
I-195/I-95/EXIT 186	I-195/I-95/EXIT 186		1.207	1.418	8:00 AM	5:45 PM	82.85	70.5	0	0	1.93	3.18	44.74	38.07
I-195/I-95/EXIT 186	I-95/EXIT 190	67000	2.061	3.552	7:45 AM	5:30 PM	48.52	28.15	5	7	4	7.43	25.23	14.64
I-95/EXIT 190	US-360/EXIT 192	46000	2.368	1.817	8:00 AM	5:30 PM	42.24	55.03	5	4	4.21	5.36	24.92	32.47
US-360/EXIT 192	US-360/EXIT 192		1.941	1.117	8:00 AM	5:30 PM	51.53	89.5	2	0	4.43	1.82	31.95	55.49
US-360/EXIT 192	NINE MILE/EXIT 193	36000	1.261	1.003	8:00 AM	5:30 PM	79.3	99.72	0	0	2.65	1.13	48.37	60.83
NINE MILE/EXIT 193	NINE MILE/EXIT 193		1.032	0.996	8:00 AM	5:45 PM	96.9	100	0	0	1.27	1.11	60.08	62.26
NINE MILE/EXIT 193	LABURNUM/EXIT 195	30000	0.994	0.996	7:15 AM	5:30 PM	100	100	0	0	1.07	1.07	64.38	64.26
LABURNUM/EXIT 195	LABURNUM/EXIT 195		1.003	0.985	8:45 AM	5:30 PM	99.75	100	0	0	1.16	1.19	63.84	64.97
LABURNUM/EXIT 195	VA-156/EXIT 197	23000	1.054	0.96	8:00 AM	6:00 PM	94.88	100	0	0	1.07	1.05	61.67	67.69
VA-156/EXIT 197	VA-156/EXIT 197		1.053	0.993	8:00 AM	6:00 PM	94.97	100	0	0	1.18	1.12	61.73	65.43
VA-156/EXIT 197	US-60/EXIT 200	17000	1.023	0.964	8:00 AM	5:45 PM	97.71	100	0	0	1.03	1.02	63.51	67.41
US-60/EXIT 200	US-60/EXIT 200		0.962	0.962	8:30 AM	5:30 PM	100	100	0	0	1.03	1.05	67.55	67.54
US-60/EXIT 200	33/249/EXIT 205	35000	0.982	0.988	9:00 AM	5:45 PM	100	100	0	0	1.1	1.23	65.2	64.77
33/249/EXIT 205	33/249/EXIT 205		0.971	0.938	8:45 AM	5:45 PM	100	100	0	0	1.03	1.02	66.91	69.3
33/249/EXIT 205	EXIT 211		0.927	0.933	8:30 AM	5:30 PM	100	100	0	0	0.98	1	70.15	69.69
EXIT 211	EXIT 211		0.908	0.922	7:00 AM	5:30 PM	100	100	0	0	0.98	0.98	71.56	70.53
EXIT 211	VA-155/EXIT 214	31000	0.929	0.933	7:00 AM	5:30 PM	100	100	0	0	1	1	70	69.7
VA-155/EXIT 214	VA-155/EXIT 214		0.928	0.93	7:00 AM	6:00 PM	100	100	0	0	0.98	0.98	70.06	69.93
VA-155/EXIT 214	VA-33/EXIT 220		0.946	0.957	7:15 AM	6:00 PM	100	100	0	0	0.98	1.02	68.73	67.93
VA-33/EXIT 220	VA-33/EXIT 220	31000	0.932	0.949	8:30 AM	6:00 PM	100	100	0	0	1	1	69.76	68.52

I-95 From VA-207/Exit 104 to Exit 58														
From	To	AADT	Northbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
VA-207/EXIT 104	VA-30/EXIT 98	49000	0.923	1.027	8:00 AM	6:00 PM	100	97.35	0	0	0.97	1.02	70.4	63.28
VA-30/EXIT 98	VA-30/EXIT 98		0.921	1.205	8:00 AM	6:00 PM	100	83.02	0	0	0.98	1	70.54	53.96
VA-30/EXIT 98	VA-54/EXIT 92	51000	0.923	1.021	8:15 AM	6:00 PM	100	97.95	0	0	0.97	1	70.46	63.67
VA-54/EXIT 92	VA-54/EXIT 92		0.945	1.001	9:00 AM	6:00 PM	100	99.92	0	0	1.02	1.03	68.81	64.95
VA-54/EXIT 92	EXIT 89	54000	0.938	0.981	9:00 AM	6:00 PM	100	100	0	0	0.98	1.02	69.26	66.29
EXIT 89	EXIT 89		0.954	0.984	8:00 AM	6:00 PM	100	100	0	0	0.98	1.02	68.11	66.03
EXIT 89	VA-656/EXIT 86	58000	1.114	1.05	7:00 AM	4:45 PM	89.77	95.26	0	0	1	1.05	58.35	61.92
VA-656/EXIT 86	VA-656/EXIT 86		1.126	1.137	7:45 AM	4:45 PM	88.78	87.95	0	0	1.02	1.05	57.71	57.17
VA-656/EXIT 86	I-295/EXIT 84	67000	0.996	1.039	8:15 AM	4:45 PM	100	96.29	0	0	1.02	1.05	65.23	62.59
I-295/EXIT 84	I-295/EXIT 84		0.961	1.061	8:15 AM	4:45 PM	100	94.29	0	0	1.02	1.19	65.53	59.4
I-295/EXIT 84	PARHAM RD/EXIT 83	53000	0.961	1.012	8:15 AM	5:15 PM	100	98.8	0	0	1.02	1.05	66.57	63.23
PARHAM RD/EXIT 83	PARHAM RD/EXIT 83		0.982	1	8:00 AM	5:30 PM	100	99.97	0	0	1.05	1.08	65.16	63.98
PARHAM RD/EXIT 83	US-301/EXIT 82	47000	0.99	1.018	8:15 AM	5:30 PM	100	98.21	0	0	1.05	1.09	63.63	61.87
US-301/EXIT 82	US-301/EXIT 82		0.998	1.061	8:00 AM	5:30 PM	100	94.27	0	0	1.05	1.08	64.14	60.33
US-301/EXIT 82	US-1/EXIT 81	49000	0.984	1.025	7:45 AM	5:30 PM	100	97.52	0	0	1.03	1.09	61.98	59.49
US-1/EXIT 81	US-1/EXIT 81		1.027	1.03	7:45 AM	5:30 PM	97.33	97.07	0	0	1.11	1.13	58.4	58.24
US-1/EXIT 81	VA-161/EXIT 80	57000	0.995	1.046	8:00 AM	6:00 PM	100	95.63	0	0	1.05	1.09	60.3	57.38
VA-161/EXIT 80	VA-161/EXIT 80		1.038	1.07	8:00 AM	5:15 PM	96.31	93.43	0	0	1.15	1.33	58.75	56.99
VA-161/EXIT 80	I-95 (NORTH)/I-64		1.003	1.129	8:00 AM	4:30 PM	99.67	88.61	0	0	1.09	1.11	60.8	54.05
I-95 (NORTH)/I-64	BOULEVARD/EXIT 78	72000	1.165	1.2	8:00 AM	5:45 PM	85.82	83.35	0	0	1.62	1.67	51.49	50.01
BOULEVARD/EXIT 78	BOULEVARD/EXIT 78		1.244	1.335	8:00 AM	5:45 PM	80.38	74.9	0	0	1.94	2.31	48.23	44.94
BOULEVARD/EXIT 78	EXIT 78		1.259	1.375	7:45 AM	5:45 PM	79.42	72.72	0	0	2.14	2.61	47.65	43.63
EXIT 78	EXIT 78		1.272	1.368	7:45 AM	5:45 PM	78.6	73.12	0	0	2.14	2.61	47.16	43.87
EXIT 78	US-301/EXIT 76	67000	1.295	1.505	9:00 AM	5:45 PM	77.24	66.45	0	2	2.64	3.22	44.8	38.54
US-301/EXIT 76	US-301/EXIT 76		1.523	2.261	9:00 AM	5:30 PM	65.66	44.24	2	7	3.93	4.21	38.74	26.1
US-301/EXIT 76	CLAYNE AVE/EXIT 76	58000	1.503	2.411	9:00 AM	5:30 PM	66.53	41.48	2	7	4	4.29	39.92	24.89
CLAYNE AVE/EXIT 76	CLAYNE AVE/EXIT 76		1.43	2.636	8:45 AM	5:30 PM	69.95	37.93	1	7	3.93	4.21	41.27	22.38
CLAYNE AVE/EXIT 76	I-64/I-95 (SOUTH)	69000	1.401	2.791	7:45 AM	5:30 PM	71.39	35.83	0	6	3.47	4.92	42.12	21.14
I-64/I-95 (SOUTH)	I-64/I-95 (SOUTH)		1.212	2.831	7:45 AM	5:30 PM	82.53	35.33	0	6	1.93	5.8	47.87	20.49
I-64/I-95 (SOUTH)	I-64/7TH ST/EXIT 75		1.151	2.445	7:45 AM	5:30 PM	86.84	40.9	0	5	1.41	4.83	50.37	23.72
I-64/7TH ST/EXIT 75	I-64/7TH ST/EXIT 75		1.172	2.712	7:45 AM	5:30 PM	85.29	36.88	0	6	1.71	5.8	49.47	21.39
I-64/7TH ST/EXIT 75	BROAD ST/EXIT 74	61000	1.117	2.275	8:00 AM	5:30 PM	89.53	43.95	0	6	1.36	4.75	51.03	25.05
BROAD ST/EXIT 74	BROAD ST/EXIT 74		1.101	1.996	8:00 AM	5:30 PM	90.79	50.11	0	4	1.33	4.07	51.75	28.56
BROAD ST/EXIT 74	FRANKLIN ST/EXIT 74		1.118	1.991	8:00 AM	5:30 PM	89.43	50.22	0	5	1.32	4.83	51.87	29.13
FRANKLIN ST/EXIT 74	FRANKLIN ST/EXIT 74		1.124	1.827	8:00 AM	5:45 PM	88.93	54.74	0	6	1.33	3.8	50.69	31.2
FRANKLIN ST/EXIT 74	I-195/DTE/EXIT 74	58000	1.122	1.745	8:00 AM	5:30 PM	89.14	57.32	0	3	1.78	3.56	50.81	32.67
I-195/DTE/EXIT 74	I-195/DTE/EXIT 74		1.139	1.47	8:00 AM	5:45 PM	87.81	68.04	0	2	1.27	2.85	50.05	38.78
I-195/DTE/EXIT 74	MAURY ST/EXIT 73	53000	1.288	1.219	8:00 AM	5:30 PM	77.66	82.07	0	0	1.69	1.84	45.82	48.42
MAURY ST/EXIT 73	MAURY ST/EXIT 73		1.513	1.251	8:00 AM	5:30 PM	66.08	79.95	1	0	2.48	1.41	40.97	49.57
MAURY ST/EXIT 73	EXIT 69	46000	1.362	1.116	8:00 AM	5:45 PM	73.43	89.59	0	0	2.63	1.07	46.26	56.44
EXIT 69	EXIT 69		1.201	1.042	8:00 AM	4:00 PM	83.3	95.97	0	0	2.03	1.02	50.81	58.54
EXIT 69	VA-150/EXIT 67	47000	1.075	1.055	8:00 AM	5:45 PM	93.05	94.81	0	0	1.34	1.03	58.62	59.73
VA-150/EXIT 67	VA-150/EXIT 67		0.981	0.991	7:45 AM	6:00 PM	100	100	0	0	1.03	1.02	64.25	63.56
VA-150/EXIT 67	WILLIS RD/EXIT 64	50000	1.006	0.973	8:00 AM	5:30 PM	99.36	100	0	0	1.05	1.03	63.59	65.78
WILLIS RD/EXIT 64	WILLIS RD/EXIT 64		0.985	0.96	8:15 AM	5:15 PM	100	100	0	0	1.03	1.03	63.99	65.64
WILLIS RD/EXIT 64	VA-288/EXIT 62	48000	1.007	0.97	7:45 AM	5:30 PM	99.29	100	0	0	1.24	1.05	61.56	63.92
VA-288/EXIT 62	VA-288/EXIT 62		1.05	0.988	8:00 AM	5:45 PM	95.2	100	0	0	1.21	1.08	60.93	64.78
VA-288/EXIT 62	VA-10/EXIT 61	56000	1.014	1.041	8:00 AM	5:45 PM	98.6	96.05	0	0	1.17	1.43	62.12	60.51
VA-10/EXIT 61	VA-10/EXIT 61		0.99	1.083	7:30 AM	6:00 PM	100	92.3	0	0	1.05	1.34	63.65	58.15
VA-10/EXIT 61	Exit 58	47000	1.04	1.048	7:45 AM	6:00 PM	96.19	95.44	0	0	1.03	1.11	59.64	59.17

I-95 From VA-207/Exit 104 to Exit 58														
From	To	AADT	Southbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
VA-207/EXIT 104	VA-30/EXIT 98	49000	0.93	0.923	9:00 AM	5:45 PM	100	100	0	0	0.98	0.97	69.93	70.39
VA-30/EXIT 98	VA-30/EXIT 98		1.002	0.953	8:45 AM	5:30 PM	99.8	100	0	0	1	1	64.87	68.17
VA-30/EXIT 98	VA-54/EXIT 92	51000	0.964	0.999	8:30 AM	4:45 PM	100	100	0	0	1	0.98	67.46	65.04
VA-54/EXIT 92	VA-54/EXIT 92		0.944	1.016	7:45 AM	4:00 PM	100	98.43	0	0	1	1	68.87	63.98
VA-54/EXIT 92	EXIT 89	54000	0.954	1.032	8:15 AM	4:15 PM	100	96.89	0	0	1	1	68.12	62.98
EXIT 89	EXIT 89		1.005	1.017	9:00 AM	4:00 PM	99.46	98.35	0	0	1.03	1	64.65	63.93
EXIT 89	VA-656/EXIT 86	58000	0.998	0.964	8:45 AM	5:15 PM	100	100	0	0	1.05	0.98	64.11	66.4
VA-656/EXIT 86	VA-656/EXIT 86		1.108	1.021	8:30 AM	5:15 PM	90.22	97.91	0	0	1.35	1.03	58.64	63.64
VA-656/EXIT 86	I-295/EXIT 84	67000	0.99	0.996	8:30 AM	5:15 PM	100	100	0	0	1.12	1.05	64.62	64.27
I-295/EXIT 84	I-295/EXIT 84		0.979	0.973	8:30 AM	5:30 PM	100	100	0	0	1.05	1.05	65.34	65.76
I-295/EXIT 84	PARHAM RD/EXIT 83	53000	1.068	0.957	8:45 AM	5:45 PM	93.64	100	0	0	1.02	1.03	59.93	66.9
PARHAM RD/EXIT 83	PARHAM RD/EXIT 83		1.115	0.969	8:30 AM	5:15 PM	89.71	100	0	0	1.03	1.16	58.31	67.1
PARHAM RD/EXIT 83	US-301/EXIT 82	47000	1.359	1.034	8:30 AM	4:00 PM	73.61	96.7	0	0	1.03	2.56	47.11	61.89
US-301/EXIT 82	US-301/EXIT 82		2.077	1.156	8:00 AM	4:00 PM	48.15	86.52	4	0	1.41	4.43	29.85	53.64
US-301/EXIT 82	US-1/EXIT 81	49000	2.064	1.198	8:00 AM	6:00 PM	48.46	83.44	4	0	2.35	4.07	29.56	50.9
US-1/EXIT 81	US-1/EXIT 81		2.042	1.252	8:00 AM	5:30 PM	48.98	79.88	4	0	2.5	3.75	29.39	47.93
US-1/EXIT 81	VA-161/EXIT 80	57000	1.935	1.376	8:00 AM	5:30 PM	51.67	72.68	4	0	2.61	3.33	31	43.61
VA-161/EXIT 80	VA-161/EXIT 80		1.552	1.328	8:00 AM	5:30 PM	64.42	75.32	4	0	2.14	2.31	38.65	45.19
VA-161/EXIT 80	I-95 (NORTH)/I-64		1.346	1.227	9:00 AM	5:45 PM	74.28	81.52	0	0	1.76	3.16	44.57	48.91
I-95 (NORTH)/I-64	BOULEVARD/EXIT 78	72000	1.673	1.76	9:00 AM	5:30 PM	59.78	56.82	4	4	4.29	4.62	35.87	34.09
BOULEVARD/EXIT 78	BOULEVARD/EXIT 78		1.479	1.801	9:00 AM	5:30 PM	67.63	55.52	2	3	3.75	4	40.58	33.31
BOULEVARD/EXIT 78	EXIT 78		1.377	1.727	9:00 AM	5:30 PM	72.6	57.9	0	3	3.75	3.53	43.56	34.74
EXIT 78	EXIT 78		1.389	1.796	8:45 AM	5:30 PM	72.02	55.69	0	5	3.59	3.39	43.93	33.97
EXIT 78	US-301/EXIT 76	67000	1.167	1.671	8:15 AM	5:30 PM	85.71	59.84	0	4	3.22	1.81	49.71	34.71
US-301/EXIT 76	US-301/EXIT 76		1.146	1.534	8:00 AM	5:15 PM	87.29	65.17	0	3	3.22	1.57	50.63	37.8
US-301/EXIT 76	CLAYNE AVE/EXIT 76	58000	1.185	1.531	8:00 AM	5:15 PM	84.36	65.32	0	3	3.11	1.51	49.77	38.54
CLAYNE AVE/EXIT 76	CLAYNE AVE/EXIT 76		1.173	1.466	8:00 AM	5:30 PM	85.22	68.22	0	2	2.76	1.53	49.43	39.57
CLAYNE AVE/EXIT 76	I-64/I-95 (SOUTH)	69000	1.17	1.422	8:00 AM	5:30 PM	85.46	70.32	0	0	2.48	1.46	48.71	40.08
I-64/I-95 (SOUTH)	I-64/I-95 (SOUTH)		1.161	1.335	8:30 AM	5:30 PM	86.13	74.88	0	0	2.5	1.13	51.68	44.93
I-64/I-95 (SOUTH)	I-64/7TH ST/EXIT 75		1.111	1.314	8:30 AM	5:30 PM	89.98	76.08	0	0	1.51	1.07	53.09	44.89
I-64/7TH ST/EXIT 75	I-64/7TH ST/EXIT 75		1.154	1.295	8:30 AM	5:30 PM	86.68	77.22	0	0	1.71	1.13	52.01	46.33
I-64/7TH ST/EXIT 75	BROAD ST/EXIT 74	61000	1.198	1.252	8:15 AM	5:30 PM	83.5	79.85	0	0	2.07	1.28	50.1	47.91
BROAD ST/EXIT 74	BROAD ST/EXIT 74		1.155	1.176	8:15 AM	5:30 PM	86.61	85.03	0	0	1.74	1.18	51.1	50.17
BROAD ST/EXIT 74	FRANKLIN ST/EXIT 74		1.11	1.206	8:15 AM	5:30 PM	90.1	82.92	0	0	1.88	1.3	54.06	49.75
FRANKLIN ST/EXIT 74	FRANKLIN ST/EXIT 74		1.043	1.166	8:15 AM	5:30 PM	95.86	85.75	0	0	1.78	1.16	54.64	48.88
FRANKLIN ST/EXIT 74	I-195/DTE/EXIT 74	58000	1.044	1.127	8:15 AM	5:30 PM	95.79	88.71	0	0	1.65	1.14	53.64	49.68
I-195/DTE/EXIT 74	I-195/DTE/EXIT 74		1.023	1.1	8:15 AM	5:30 PM	97.77	90.89	0	0	1.58	1.08	55.73	51.81
I-195/DTE/EXIT 74	MAURY ST/EXIT 73	53000	1.021	1.054	8:00 AM	5:30 PM	97.95	94.92	0	0	1.33	1.03	58.77	56.95
MAURY ST/EXIT 73	MAURY ST/EXIT 73		1.053	1.048	8:00 AM	5:30 PM	94.94	95.43	0	0	1.31	1.02	59.81	60.12
MAURY ST/EXIT 73	EXIT 69	46000	1.028	1.096	7:45 AM	5:30 PM	97.26	91.26	0	0	1.68	1	60.3	56.58
EXIT 69	EXIT 69		0.958	1.192	8:00 AM	5:30 PM	100	83.9	0	0	2.1	1.02	65.74	52.86
EXIT 69	VA-150/EXIT 67	47000	0.961	1.138	8:00 AM	5:30 PM	100	87.9	0	0	1.82	1.02	64.51	54.5
VA-150/EXIT 67	VA-150/EXIT 67		0.948	1.061	7:00 AM	5:30 PM	100	94.27	0	0	1.51	1	65.37	58.45
VA-150/EXIT 67	WILLIS RD/EXIT 64	50000	0.951	1.081	7:15 AM	5:45 PM	100	92.53	0	0	1.88	1	65.2	57.37
WILLIS RD/EXIT 64	WILLIS RD/EXIT 64		0.98	1.062	9:00 AM	5:45 PM	100	94.13	0	0	1.59	1.02	63.25	58.36
WILLIS RD/EXIT 64	VA-288/EXIT 62	48000	1.05	1.112	9:00 AM	5:45 PM	95.22	89.94	0	0	1.97	1.02	59.99	56.66
VA-288/EXIT 62	VA-288/EXIT 62		1.076	1.267	8:45 AM	6:00 PM	92.95	78.94	0	0	2.74	1.03	58.56	49.73
VA-288/EXIT 62	VA-10/EXIT 61	56000	1.1	1.207	8:45 AM	5:45 PM	90.87	82.85	0	0	2.48	1.05	56.34	51.37
VA-10/EXIT 61	VA-10/EXIT 61		1.084	1.072	8:30 AM	6:00 PM	92.27	93.26	0	0	1.41	1.05	57.21	57.82
VA-10/EXIT 61	Exit 58	47000	1.098	1.04	8:45 AM	6:00 PM	91.08	96.14	0	0	1.05	1	57.38	60.57

I-195 From I-64/I-95 at Laburnum Ave to I-95														
From	To	ADDT	Northbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		MinSpeed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-64/I-95	LABURNUM AVE	38000	1.982	2.243	8:00 AM	5:45 PM	50.47	44.59	5	4	4.83	5.27	29.27	25.86
LABURNUM AVE	LABURNUM AVE		2.017	2.478	8:00 AM	5:30 PM	49.58	40.35	4	6	4.07	5.18	28.26	23
LABURNUM AVE	HAMILTON ST	35000	1.673	1.957	8:00 AM	5:30 PM	59.76	51.09	3	3	3.18	3.86	32.27	27.59
HAMILTON ST	HAMILTON ST		1.723	1.797	8:00 AM	5:30 PM	58.03	55.66	4	3	3.63	4.14	33.66	32.28
HAMILTON ST	BROAD ST	35000	1.502	1.456	8:15 AM	5:30 PM	66.57	68.68	3	1	3.29	3.11	37.28	38.46
BROAD ST	BROAD ST		1.44	1.37	8:15 AM	5:30 PM	69.47	72.98	1	0	3.16	2.86	41.68	43.79
BROAD ST	MONUMENT AVE	35000	1.263	1.194	8:15 AM	5:30 PM	79.19	83.77	0	0	2.58	1.77	49.1	51.94
MONUMENT AVE	MONUMENT AVE		1.219	1.201	8:15 AM	5:15 PM	82.02	83.29	0	0	2.52	1.8	51.67	52.47
MONUMENT AVE	GROVE AVE	37000	1.173	1.166	8:15 AM	5:15 PM	85.24	85.76	0	0	2.14	1.51	52.85	53.17
GROVE AVE	GROVE AVE		1.325	1.051	8:15 AM	6:00 PM	75.45	95.14	0	0	3.37	1.16	48.29	60.89
GROVE AVE	FLOYD AVE	37000	1.177	1.224	8:15 AM	5:30 PM	84.94	81.73	0	0	1.5	1.4	53.51	51.49
ROSEWOOD AVE	ROSEWOOD AVE		1.047	1.073	9:00 AM	5:45 PM	95.51	93.2	0	0	1.16	1.23	56.35	54.99
ROSEWOOD AVE	BOULEVARD	15000	1.1	1.178	9:00 AM	5:30 PM	90.9	84.88	0	0	1.4	1.88	54.54	50.93
BOULEVARD	BOULEVARD		1.034	1.101	8:15 AM	5:30 PM	96.67	90.8	0	0	1.13	1.36	58	54.48
BOULEVARD	ROBINSON ST	22000	1.031	1.072	9:00 AM	5:15 PM	97.02	93.32	0	0	1.11	1.28	58.21	55.99
ROBINSON ST	ROBINSON ST		1.025	1.066	7:00 AM	5:15 PM	97.57	93.78	0	0	1.13	1.25	58.54	56.27
ROBINSON ST	MEADOW ST	22000	1.047	1.077	7:00 AM	5:15 PM	95.53	92.85	0	0	1.16	1.28	56.36	54.78
MEADOW ST	MEADOW ST		1.059	1.107	7:15 AM	5:45 PM	94.44	90.31	0	0	1.25	1.57	51.94	49.67
MEADOW ST	TOLL BOOTH	22000	0.701	0.768	7:15 AM	5:45 PM	100	100	0	0	1.03	1.11	44.21	40.39
TOLL BOOTH	CHERRY ST	22000	0.995	1.133	8:15 AM	5:30 PM	100	88.3	0	0	1.42	1.68	47.25	41.5
CHERRY ST	CHERRY ST		1.061	1.23	9:00 AM	5:30 PM	94.27	81.32	0	0	1.2	1.74	55.62	47.98
CHERRY ST	BELVIDERE/BYRD ST	22000	1.085	1.269	7:30 AM	5:30 PM	92.2	78.78	0	0	1.18	1.9	54.4	46.48
BELVIDERE/BYRD ST	BELVIDERE/BYRD ST		1.108	1.376	8:15 AM	5:30 PM	90.25	72.67	0	0	1.28	2.22	54.15	43.6
BELVIDERE/BYRD ST	US-301	22000	1.127	1.666	7:00 AM	5:30 PM	88.74	60.03	0	2	1.18	3.41	51.47	34.82
US-301	US-301		1.067	1.401	7:45 AM	5:30 PM	93.72	71.4	0	0	1.3	2	56.23	42.84
US-301	7TH ST	20000	1.117	1.586	9:00 AM	5:30 PM	89.55	63.05	0	1	1.23	2.76	51.94	36.57
7TH ST	7TH ST		1.055	1.538	9:00 AM	5:30 PM	94.81	65	0	1	1.18	2.81	55.94	38.35
7TH ST	CANAL ST	20000	1.1	1.487	9:00 AM	5:30 PM	90.9	67.27	0	1	1.28	2.86	54.54	40.36
CANAL ST	CANAL ST		0.982	1.272	8:00 AM	5:30 PM	100	78.6	0	0	1.1	2.41	53.97	41.66
CANAL ST	I-95	20000	1.125	1.285	9:00 AM	5:30 PM	88.89	77.85	0	0	1.39	1.89	47.11	41.26

I-195 From I-64/I-95 at Laburnum Ave to I-95														
From	To	ADDT	Southbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-64/I-95	LABURNUM AVE	38000	1.018	1.061	7:45 AM	5:30 PM	98.21	94.25	0	0	1.08	1.4	55	52.78
LABURNUM AVE	LABURNUM AVE		1.031	1.107	7:45 AM	5:30 PM	96.96	90.31	0	0	1.1	1.57	53.33	49.67
LABURNUM AVE	HAMILTON ST	35000	0.987	1.16	7:45 AM	5:30 PM	100	86.19	0	0	1.05	1.93	58.78	49.99
HAMILTON ST	HAMILTON ST		1.006	1.184	9:00 AM	5:30 PM	99.41	84.47	0	0	1.09	1.81	57.66	48.99
HAMILTON ST	BROAD ST	35000	1.033	1.379	9:00 AM	5:30 PM	96.78	72.49	0	0	1.13	2.95	57.1	42.77
BROAD ST	BROAD ST		1.005	1.35	7:45 AM	5:30 PM	99.49	74.1	0	0	1.11	2.44	60.69	45.2
BROAD ST	MONUMENT AVE	35000	0.998	1.247	7:45 AM	5:30 PM	100	80.22	0	0	1.09	2	60.13	48.13
MONUMENT AVE	MONUMENT AVE		0.995	1.116	7:45 AM	5:30 PM	100	89.57	0	0	1.07	1.43	60.3	53.74
MONUMENT AVE	GROVE AVE	37000	1.055	1.269	9:00 AM	5:45 PM	94.82	78.81	0	0	1.22	2.3	58.79	48.86
GROVE AVE	GROVE AVE		1.152	1.148	9:00 AM	5:45 PM	86.81	87.15	0	0	1.32	1.29	53.82	54.03
GROVE AVE	FLOYD AVE	37000	1.086	1.019	8:45 AM	5:45 PM	92.12	98.16	0	0	1.45	1.09	53.43	56.93
ROSEWOOD AVE	ROSEWOOD AVE		1.144	1.021	8:45 AM	6:00 PM	87.42	97.91	0	0	1.97	1.12	49.83	55.81
ROSEWOOD AVE	BOULEVARD	15000	1.201	1.039	8:45 AM	6:00 PM	83.25	96.22	0	0	2.27	1.11	49.12	56.77
BOULEVARD	BOULEVARD		1.223	1.085	8:30 AM	5:00 PM	81.78	92.19	0	0	2.11	1.31	48.25	54.39
BOULEVARD	ROBINSON ST	22000	1.211	1.058	8:30 AM	5:00 PM	82.55	94.5	0	0	2.14	1.15	49.53	56.7
ROBINSON ST	ROBINSON ST		1.156	1.032	8:30 AM	5:00 PM	86.48	96.91	0	0	1.93	1.14	50.16	56.21
ROBINSON ST	MEADOW ST	22000	1.151	1.036	8:30 AM	5:00 PM	86.88	96.57	0	0	1.81	1.16	50.39	56.01
MEADOW ST	MEADOW ST		1.274	1.115	8:30 AM	6:00 PM	78.49	89.72	0	0	1.84	1.46	44.74	51.14
MEADOW ST	TOLL BOOTH	22000	1.62	1.324	8:30 AM	5:45 PM	61.74	75.52	5	0	3.1	3.1	19.14	23.41
TOLL BOOTH	CHERRY ST	22000	1.113	1.11	8:30 AM	6:00 PM	89.89	90.07	0	0	1.63	1.57	39.55	39.63
CHERRY ST	CHERRY ST		1.176	1.041	8:45 AM	5:45 PM	85.05	96.07	0	0	2.03	1.2	50.18	56.68
CHERRY ST	BELVIDERE/BYRD ST	22000	1.22	1.124	8:45 AM	5:15 PM	81.98	88.98	0	0	2.22	1.18	49.19	53.39
BELVIDERE/BYRD ST	BELVIDERE/BYRD ST		1.381	1.097	8:30 AM	5:30 PM	72.43	91.15	0	0	2.4	1.94	43.46	54.69
BELVIDERE/BYRD ST	US-301	22000	1.297	1.058	8:30 AM	5:30 PM	77.08	94.48	0	0	2.5	1.2	46.25	56.69
US-301	US-301		1.302	1.052	8:30 AM	5:30 PM	76.8	95.03	0	0	2.5	1.2	46.08	57.02
US-301	7TH ST	20000	1.312	1.057	8:30 AM	5:30 PM	76.23	94.63	0	0	2.4	1.25	45.74	56.78
7TH ST	7TH ST		1.253	1.072	8:30 AM	5:15 PM	79.84	93.28	0	0	2.26	1.3	48.7	56.9
7TH ST	CANAL ST	20000	1.231	1.129	8:30 AM	5:15 PM	81.21	88.56	0	0	2.26	1.65	49.54	54.02
CANAL ST	CANAL ST		1.224	1.149	8:30 AM	5:15 PM	81.7	87.05	0	0	2.26	1.69	49.84	53.1
CANAL ST	I-95	20000	1.15	1.327	8:30 AM	5:15 PM	86.95	75.38	0	0	1.65	2.55	48.69	42.21

VA 288 from I95 to I64														
From	TO	AADT	Northbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-95	I-95		1.06	1.064	8:15 AM	5:45 PM	94.38	93.97	0	0	1.25	1.33	56.63	56.38
I-95	US-1	34000	1.106	1.06	8:00 AM	5:45 PM	90.38	94.33	0	0	1.29	1.21	56.94	59.43
US-1	US-1		1.042	1.061	8:00 AM	5:45 PM	95.94	94.21	0	0	1.19	1.21	60.44	59.35
US-1	CHESTER RD	39000	0.993	1.003	9:00 AM	5:45 PM	100	99.71	0	0	1.07	1.08	65.44	64.81
CHESTER RD	CHESTER RD		0.996	0.993	8:30 AM	6:00 PM	100	100	0	0	1.05	1.07	65.26	65.45
CHESTER RD	VA-10/IRON BRIDGE RD	39000	0.965	0.985	9:00 AM	6:00 PM	100	100	0	0	1.02	1.05	67.33	66.01
VA-10/IRON BRIDGE RD	VA-10/IRON BRIDGE RD		0.987	1.046	9:00 AM	5:45 PM	100	95.6	0	0	1.08	1.18	65.87	62.14
VA-10/IRON BRIDGE RD	COURTHOUSE RD	48000	0.979	1.011	8:00 AM	5:45 PM	100	98.91	0	0	1.03	1.1	66.4	64.29
COURTHOUSE RD	COURTHOUSE RD		0.976	0.97	8:15 AM	6:00 PM	100	100	0	0	1.02	1.05	66.59	67.02
COURTHOUSE RD	CW CENTRE PKWY	40000	0.967	0.982	8:00 AM	4:00 PM	100	100	0	0	1.02	1.05	67.25	66.22
CW CENTRE PKWY	CW CENTRE PKWY		1.01	1.106	9:00 AM	6:00 PM	98.98	90.43	0	0	1.08	1.1	64.34	58.78
CW CENTRE PKWY	US-360/HULL STREET RD		1.001	1.117	7:00 AM	6:00 PM	99.86	89.55	0	0	1.1	1.27	64.91	58.21
US-360/HULL STREET RD	US-360/HULL STREET RD		1.13	1.143	7:45 AM	6:00 PM	88.52	87.48	0	0	1.37	1.47	55.77	55.11
US-360/HULL STREET RD	VA-76/POWHITE PKWY	54000	1.006	0.994	7:45 AM	5:45 PM	99.43	100	0	0	1.08	1.07	64.63	65.42
VA-76/POWHITE PKWY	VA-76/POWHITE PKWY		0.975	1.006	9:00 AM	5:45 PM	100	99.43	0	0	1.05	1.05	66.66	64.63
VA-76/POWHITE PKWY	LUCKS LN		0.984	1.001	8:00 AM	5:00 PM	100	99.91	0	0	1.07	1.05	66.07	64.94
LUCKS LN	LUCKS LN		0.988	0.993	8:15 AM	4:45 PM	100	100	0	0	1.05	1.07	65.79	65.44
LUCKS LN	WOOLRIDGE RD	43000	0.964	0.971	7:45 AM	6:00 PM	100	100	0	0	1.05	1.05	67.4	66.95
WOOLRIDGE RD	WOOLRIDGE RD		0.979	0.977	7:45 AM	6:00 PM	100	100	0	0	1.07	1.05	66.42	66.56
WOOLRIDGE RD	US-60/MIDLOTHIAN TPKE	19000	0.981	0.982	8:45 AM	6:00 PM	100	100	0	0	1.07	1.05	66.27	66.22
US-60/MIDLOTHIAN TPKE	US-60/MIDLOTHIAN TPKE		1.222	0.949	8:00 AM	5:45 PM	81.82	100	0	0	2.95	1.02	53.18	68.51
US-60/MIDLOTHIAN TPKE	HUGUENOT TRL	44000	1.619	0.96	8:00 AM	6:00 PM	61.75	100	3	0	2.95	1.02	40.14	67.69
HUGUENOT TRL	HUGUENOT TRL		2.046	0.959	8:00 AM	5:45 PM	48.88	100	5	0	3.42	1.03	31.77	67.79
HUGUENOT TRL	VA-6/PATTERSON AVE	49000	1.111	0.969	8:00 AM	5:45 PM	90.05	100	0	0	1.33	1.03	58.53	67.05
VA-6/PATTERSON AVE	VA-6/PATTERSON AVE		0.961	0.957	8:00 AM	5:45 PM	100	100	0	0	1.03	1.03	67.63	67.94
VA-6/PATTERSON AVE	W CREEK PKWY	38000	0.963	0.969	9:00 AM	6:00 PM	100	100	0	0	1.05	1.05	67.47	67.08
W CREEK PKWY	W CREEK PKWY		0.961	0.965	8:00 AM	5:45 PM	100	100	0	0	1.03	1.03	67.67	67.37
W CREEK PKWY	TUCKAHOE CREEK PKWY	38000	0.953	0.962	8:00 AM	5:45 PM	100	100	0	0	1.03	1.05	68.17	67.58
TUCKAHOE CREEK PKWY	TUCKAHOE CREEK PKWY		0.95	1.001	8:00 AM	5:45 PM	100	99.92	0	0	1.02	1.1	68.44	64.95
TUCKAHOE CREEK PKWY	US-250/BROAD STREET	47000	0.96	1.074	8:00 AM	5:30 PM	100	93.14	0	0	1.03	1.38	67.74	60.54
US-250/BROAD STREET	US-250/BROAD STREET		1.078	1.124	8:00 AM	5:30 PM	92.74	88.98	0	0	1.25	1.25	60.28	57.84
US-250/BROAD STREET	I-64	39000	1.025	1.093	8:00 AM	5:30 PM	97.59	91.52	0	0	1.12	1.19	62.46	58.57

VA 288 from I95 to I64														
From	TO	AADT	Southbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-95	I-95		1.151	1.299	7:45 AM	5:45 PM	86.92	76.98	0	0	1.9	2.27	51.28	45.42
I-95	US-1	34000	1.371	1.2	7:45 AM	5:45 PM	72.94	83.33	0	0	2.67	1.78	46.68	53.33
US-1	US-1		1.121	1.084	8:00 AM	5:45 PM	89.17	92.23	0	0	1.76	1.3	57.96	59.95
US-1	CHESTER RD	39000	1.037	1.011	8:00 AM	6:00 PM	96.45	98.95	0	0	1.12	1.08	62.69	64.32
CHESTER RD	CHESTER RD		1.023	0.978	7:45 AM	5:15 PM	97.75	100	0	0	1.07	1.05	63.54	66.43
CHESTER RD	VA-10/IRON BRIDGE RD	39000	0.971	0.971	8:30 AM	5:15 PM	100	100	0	0	1.02	1.03	66.94	66.91
VA-10/IRON BRIDGE RD	VA-10/IRON BRIDGE RD		0.999	1.005	7:45 AM	5:45 PM	100	99.54	0	0	1.08	1.1	65.08	64.7
VA-10/IRON BRIDGE RD	COURTHOUSE RD	48000	0.979	0.996	7:45 AM	5:45 PM	100	100	0	0	1.05	1.07	66.4	65.24
COURTHOUSE RD	COURTHOUSE RD		0.958	0.955	8:00 AM	6:00 PM	100	100	0	0	1.03	1.03	67.88	68.08
COURTHOUSE RD	CW CENTRE PKWY	40000	0.968	0.966	7:45 AM	5:30 PM	100	100	0	0	1.02	1.02	67.14	67.32
CW CENTRE PKWY	CW CENTRE PKWY		0.972	0.963	7:45 AM	5:30 PM	100	100	0	0	1.03	1.03	66.84	67.51
CW CENTRE PKWY	US-360/HULL STREET RD		0.978	0.969	7:45 AM	5:30 PM	100	100	0	0	1.03	1.05	66.48	67.06
US-360/HULL STREET RD	US-360/HULL STREET RD		1.05	1.058	8:15 AM	5:30 PM	95.26	94.52	0	0	1.23	1.3	61.92	61.44
US-360/HULL STREET RD	VA-76/POWHITE PKWY	54000	0.976	1.348	7:45 AM	5:45 PM	100	74.18	0	0	1.03	3.25	66.61	48.22
VA-76/POWHITE PKWY	VA-76/POWHITE PKWY		0.966	1.156	9:00 AM	5:45 PM	100	86.54	0	0	1.03	1.25	67.27	56.25
VA-76/POWHITE PKWY	LUCKS LN		0.953	1.037	9:00 AM	5:45 PM	100	96.46	0	0	1.02	1.14	68.18	62.7
LUCKS LN	LUCKS LN		0.957	0.968	9:00 AM	6:00 PM	100	100	0	0	1.03	1.05	67.92	67.13
LUCKS LN	WOOLRIDGE RD	43000	0.974	0.979	9:00 AM	6:00 PM	100	100	0	0	1.03	1.05	66.73	66.42
WOOLRIDGE RD	WOOLRIDGE RD		0.945	0.939	9:00 AM	6:00 PM	100	100	0	0	1	1.02	68.81	69.21
WOOLRIDGE RD	US-60/MIDLOTHIAN TPKE	19000	0.96	0.952	8:30 AM	6:00 PM	100	100	0	0	1.02	1.02	67.69	68.29
US-60/MIDLOTHIAN TPKE	US-60/MIDLOTHIAN TPKE		0.974	0.958	9:00 AM	4:15 PM	100	100	0	0	1.03	1.05	65.72	66.82
US-60/MIDLOTHIAN TPKE	HUGUENOT TRL	44000	0.985	0.985	8:30 AM	6:00 PM	100	100	0	0	1.03	1.05	66	65.97
HUGUENOT TRL	HUGUENOT TRL		0.978	0.974	8:15 AM	5:45 PM	100	100	0	0	1.03	1.07	66.46	66.74
HUGUENOT TRL	VA-6/PATTERSON AVE	49000	0.963	1.089	8:15 AM	5:45 PM	100	91.86	0	0	1.03	1.3	67.51	59.71
VA-6/PATTERSON AVE	VA-6/PATTERSON AVE		0.993	1.858	8:00 AM	5:45 PM	100	53.83	0	4	1.07	2.83	65.46	34.99
VA-6/PATTERSON AVE	W CREEK PKWY	38000	0.983	2.658	8:00 AM	5:30 PM	100	37.62	0	4	1.07	4.33	66.1	24.45
W CREEK PKWY	W CREEK PKWY		0.978	3.004	8:30 AM	5:30 PM	100	33.29	0	4	1.05	5	66.46	21.64
W CREEK PKWY	TUCKAHOE CREEK PKWY	38000	0.975	2.442	9:00 AM	5:30 PM	100	40.95	0	4	1.05	4.64	66.67	26.62
TUCKAHOE CREEK PKWY	TUCKAHOE CREEK PKWY		1.002	2.129	9:00 AM	5:30 PM	99.85	46.97	0	3	1.07	4.64	64.9	30.53
TUCKAHOE CREEK PKWY	US-250/BROAD STREET	47000	1.014	1.288	9:00 AM	5:45 PM	98.62	77.62	0	0	1.2	3.25	64.1	50.45
US-250/BROAD STREET	US-250/BROAD STREET		1.028	1.489	8:15 AM	6:00 PM	97.28	67.15	0	2	1.16	1.18	63.23	43.65
US-250/BROAD STREET	I-64	39000	1.014	1.043	9:00 AM	5:45 PM	98.63	95.92	0	0	1.09	1.17	62.14	60.43

US 1 From Verdon Road To Woods Edge Road

From	To	AADT	Northbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
VERDON RD	VA-30/KINGS DOMINION BLVD	43000	1.191	1.127	8:30 AM	4:00 PM	83.93	88.77	0	0	1.6	1.44	47	49.71
VA-30/KINGS DOMINION BLVD	VA-54/ENGLAND ST		1.109	1.058	7:00 AM	4:00 PM	90.21	94.5	0	0	1.21	1.18	46.91	49.14
VA-54/ENGLAND ST	ASHCAKE RD	17000	1.216	1.26	9:00 AM	5:15 PM	82.27	79.38	0	0	1.68	1.76	30.44	29.37
ASHCAKE RD	ASHCAKE RD		1.178	1.187	8:00 AM	4:00 PM	84.91	84.21	0	0	1.52	1.47	39.91	39.58
ASHCAKE RD	LEWISTOWN RD	16000	0.942	0.952	8:15 AM	4:15 PM	100	100	0	0	2.33	3	22.29	22.06
LEWISTOWN RD	SLIDING HILL RD	15000	1.17	1.131	9:00 AM	5:00 PM	85.49	88.44	0	0	1.61	1.41	38.47	39.8
SLIDING HILL RD	I-295		1.26	1.369	8:00 AM	4:45 PM	79.37	73.05	0	0	1.95	1.95	34.13	31.41
I-295	I-295		1.145	1.135	7:15 AM	5:45 PM	87.35	88.1	0	0	1.59	1.38	44.55	44.93
I-295	E PARHAM RD	21000	1.441	1.275	7:45 AM	5:45 PM	69.41	78.41	4	0	2.73	2.16	28.46	32.15
E PARHAM RD	VA-161/HILLIARD RD	25000	1.308	1.366	8:00 AM	5:30 PM	76.44	73.19	0	0	2.29	2.46	24.46	23.42
VA-161/HILLIARD RD	I-95 (RICHMOND)	23000	1.365	1.308	7:15 AM	6:00 PM	73.28	76.48	0	0	2.3	1.84	33.71	35.18
I-95	I-95		1.231	1.278	7:15 AM	4:30 PM	81.26	78.26	0	0	1.89	2.27	27.63	26.61
I-95	CHAMBERLAYNE AVE	18000	1.523	1.394	7:30 AM	5:00 PM	65.67	71.74	6	0	2.45	2.25	17.73	19.37
CHAMBERLAYNE AVE	W LABURNUM AVE	15000	1.334	1.371	8:30 AM	5:45 PM	74.97	72.92	0	0	2	1.89	26.99	26.25
W LABURNUM AVE	W BROOKLAND PARK BLVD	16000	1.299	1.378	8:30 AM	5:30 PM	76.97	72.56	0	0	1.89	2	27.71	26.12
W BROOKLAND PARK BLVD	W BROOKLAND PARK BLVD		1.037	1.077	8:45 AM	6:00 PM	96.41	92.85	0	0	1.8	1.5	26.03	25.07
W BROOKLAND PARK BLVD	I-64/I-95	22000	1.416	1.486	8:45 AM	4:30 PM	70.64	67.27	0	7	2.36	2.36	23.31	22.2
I-64/I-95	I-64/I-95		1.179	1.218	8:30 AM	5:15 PM	84.83	82.09	0	0	1.59	1.75	29.69	28.73
I-64/I-95	I-195/DOWNTOWN EXPY	31000	1.287	1.661	9:00 AM	5:30 PM	77.68	60.2	0	9	1.92	2.78	19.42	15.05
I-195/DOWNTOWN EXPY	I-195/DOWNTOWN EXPY		1.462	1.796	8:00 AM	5:15 PM	68.41	55.68	3	9	2.27	2.83	23.26	18.93
I-195/DOWNTOWN EXPY	HOLLY ST		1.465	1.579	9:00 AM	5:15 PM	68.26	63.32	4	6	2.11	2.38	25.94	24.06
HOLLY ST	ROBERT E LEE BRIDGE	31000	1.362	1.54	8:45 AM	5:45 PM	73.4	64.91	0	6	2.24	2.47	34.5	30.51
ROBERT E LEE BRIDGE	ROBERT E LEE BRIDGE		1.229	1.213	8:45 AM	5:30 PM	81.4	82.46	0	0	1.78	1.6	39.07	39.58
ROBERT E LEE BRIDGE	US-360/HULL ST	21000	1.544	1.484	8:15 AM	5:30 PM	64.76	67.37	8	9	2.05	2.05	26.55	27.62
US-360/HULL ST	N HOPKINS RD	18000	1.482	1.394	7:45 AM	4:00 PM	67.46	71.74	6	0	2.33	1.84	23.61	25.11
N HOPKINS RD	BELLEMEADE RD	12000	1.384	1.362	7:45 AM	5:00 PM	72.28	73.42	0	0	2.4	2.12	26.02	26.43
BELLEMEADE RD	BELLEMEADE RD		0.954	1	8:15 AM	4:45 PM	100	100	0	0	1.36	1.5	31.44	30
BELLEMEADE RD	TERMINAL AVE		1.176	1.2	8:45 AM	4:00 PM	85.05	83.36	0	0	1.7	1.7	33.17	32.51
TERMINAL AVE	VA-161/BELLS RD		1.227	1.18	8:45 AM	4:00 PM	81.51	84.77	0	0	1.84	1.75	28.53	29.67
VA-161/BELLS RD	WALMSLEY BLVD	14000	1.214	1.223	7:30 AM	4:30 PM	82.34	81.76	0	0	1.9	1.73	31.29	31.07
WALMSLEY BLVD	VA-150/CHIPPENHAM PKWY	20000	1.347	1.433	8:15 AM	4:15 PM	74.26	69.76	0	1	2.1	2.1	31.19	29.3
VA-150/CHIPPENHAM PKWY	VA-150/CHIPPENHAM PKWY		1.161	1.159	7:45 AM	4:15 PM	86.16	86.28	0	0	1.65	1.54	37.05	37.1
VA-150/CHIPPENHAM PKWY	WILLIS RD	20000	1.253	1.253	8:00 AM	4:15 PM	79.84	79.79	0	0	1.65	1.59	34.33	34.31
WILLIS RD	VA-288	16000	1.201	1.233	9:00 AM	4:00 PM	83.24	81.07	0	0	1.62	1.62	34.96	34.05
VA-288	VA-288		1.1	1.097	7:45 AM	6:00 PM	90.92	91.14	0	0	1.26	1.23	44.55	44.66
VA-288	VA-10/W HUNDRED RD	23000	1.285	1.313	8:45 AM	5:45 PM	77.8	76.17	0	0	1.64	1.71	31.9	31.23
VA-10/W HUNDRED RD	VA-10/W HUNDRED RD		1.133	1.214	8:00 AM	5:15 PM	88.27	82.34	0	0	1.33	1.57	38.84	36.23
VA-10/W HUNDRED RD	WOODS EDGE RD	18000	0.913	0.988	8:00 AM	5:00 PM	100	100	0	0	1.77	1.92	25.19	23.28

US 1 From Verdon Road To Woods Edge Road															
From	To	AADT	Southbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM												
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed		
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
VERDON RD	VA-30/KINGS DOMINION BLVD	43000	1.279	1.21	8:00 AM	4:00 PM	78.2	82.67	0	0	1.72	1.53	43.01	45.47	
VA-30/KINGS DOMINION BLVD	VA-54/ENGLAND ST		1.08	1.106	8:45 AM	4:45 PM	92.6	90.44	0	0	1.22	1.32	46.3	45.22	
VA-54/ENGLAND ST	ASHCAKE RD	17000	1.002	1.003	7:45 AM	4:45 PM	99.82	99.71	0	0	2.33	2	27.95	27.92	
ASHCAKE RD	ASHCAKE RD		1.142	1.207	8:00 AM	4:30 PM	87.54	82.86	0	0	1.42	1.54	32.39	30.66	
ASHCAKE RD	LEWISTOWN RD	16000	1.244	1.201	7:45 AM	4:00 PM	80.4	83.25	0	0	1.66	1.5	38.59	39.96	
LEWISTOWN RD	SLIDING HILL RD	15000	1.195	1.211	8:45 AM	6:00 PM	83.66	82.57	0	0	1.52	1.57	39.32	38.81	
SLIDING HILL RD	I-295		1.218	1.436	8:15 AM	5:30 PM	82.09	69.63	0	1	1.79	1.95	35.3	29.94	
I-295	I-295		1.122	1.125	7:15 AM	5:30 PM	89.1	88.9	0	0	1.47	1.39	44.55	44.45	
I-295	E PARHAM RD	21000	1.357	1.392	7:15 AM	5:30 PM	73.72	71.85	0	0	2.44	2.44	28.75	28.02	
E PARHAM RD	VA-161/HILLIARD RD	25000	1.333	1.402	8:00 AM	5:15 PM	75.03	71.31	0	0	2	2.25	27.01	25.67	
VA-161/HILLIARD RD	I-95 (RICHMOND)	23000	1.248	1.264	8:00 AM	5:45 PM	80.13	79.09	0	0	1.87	1.61	36.06	35.59	
I-95	I-95		1.323	1.293	7:30 AM	5:15 PM	75.56	77.37	0	0	2.41	2.05	30.98	31.72	
I-95	CHAMBERLAYNE AVE	18000	1.413	1.394	8:15 AM	5:30 PM	70.79	71.75	0	0	2.33	2.33	19.82	20.09	
CHAMBERLAYNE AVE	W LABURNUM AVE	15000	1.298	1.322	8:15 AM	5:30 PM	77.03	75.65	0	0	1.7	1.79	26.19	25.72	
W LABURNUM AVE	W BROOKLAND PARK BLVD	16000	1.253	1.269	8:45 AM	4:30 PM	79.83	78.77	0	0	1.94	1.67	27.94	27.57	
W BROOKLAND PARK BLVD	W BROOKLAND PARK BLVD		0.726	0.708	8:15 AM	4:00 PM	100	100	0	0	1	1.06	26.18	26.83	
W BROOKLAND PARK BLVD	I-64/I-95	22000	1.455	1.349	8:15 AM	5:15 PM	68.74	74.11	4	0	2.5	1.84	24.06	25.94	
I-64/I-95	I-64/I-95		1.013	1.027	8:15 AM	5:30 PM	98.73	97.37	0	0	1.5	1.5	29.62	29.21	
I-64/I-95	I-195/DOWNTOWN EXPY	31000	1.117	1.194	9:00 AM	5:30 PM	89.55	83.73	0	0	1.69	1.83	19.7	18.42	
I-195/DOWNTOWN EXPY	I-195/DOWNTOWN EXPY		1.322	1.251	8:00 AM	5:45 PM	75.63	79.93	0	0	2	1.76	22.69	23.98	
I-195/DOWNTOWN EXPY	HOLLY ST		1.282	1.38	7:00 AM	5:45 PM	78	72.49	0	0	1.86	1.95	30.42	28.27	
HOLLY ST	ROBERT E LEE BRIDGE	31000	1.419	1.414	7:00 AM	6:00 PM	70.49	70.74	0	0	2.04	2.35	33.13	33.25	
ROBERT E LEE BRIDGE	ROBERT E LEE BRIDGE		1.1	1.118	7:00 AM	5:45 PM	90.9	89.48	0	0	1.67	1.72	45.45	44.74	
ROBERT E LEE BRIDGE	US-360/HULL ST	21000	1.428	1.496	8:30 AM	5:30 PM	70.05	66.85	0	8	1.86	2.17	27.32	26.07	
US-360/HULL ST	N HOPKINS RD	18000	1.397	1.336	8:45 AM	5:15 PM	71.59	74.85	0	0	2.13	1.79	24.34	25.45	
N HOPKINS RD	BELLEMEADE RD	12000	1.246	1.234	9:00 AM	4:15 PM	80.25	81.03	0	0	1.64	1.64	28.89	29.17	
BELLEMEADE RD	BELLEMEADE RD		1.141	1.089	9:00 AM	5:15 PM	87.67	91.87	0	0	1.58	1.67	26.3	27.56	
BELLEMEADE RD	TERMINAL AVE		1.27	1.214	7:00 AM	6:00 PM	78.72	82.38	0	0	1.7	1.56	30.7	32.13	
TERMINAL AVE	VA-161/BELLS RD		1.19	1.255	8:30 AM	4:15 PM	84.03	79.67	0	0	1.64	1.71	30.25	28.68	
VA-161/BELLS RD	WALMSLEY BLVD	14000	1.208	1.217	8:15 AM	4:30 PM	82.78	82.2	0	0	1.48	1.6	33.11	32.88	
WALMSLEY BLVD	VA-150/CHIPPENHAM PKWY	20000	1.354	1.452	8:15 AM	4:15 PM	73.88	68.86	0	1	1.91	2	31.03	28.92	
VA-150/CHIPPENHAM PKWY	VA-150/CHIPPENHAM PKWY		1.169	1.181	9:00 AM	5:15 PM	85.55	84.66	0	0	1.57	1.57	37.64	37.25	
VA-150/CHIPPENHAM PKWY	WILLIS RD	20000	1.299	1.241	7:45 AM	4:45 PM	76.98	80.59	0	0	1.63	1.52	33.87	35.46	
WILLIS RD	VA-288	16000	1.243	1.116	8:00 AM	4:00 PM	80.45	89.62	0	0	2	1.45	33.79	37.64	
VA-288	VA-288		1.105	1.121	8:00 AM	6:00 PM	90.52	89.2	0	0	1.32	1.39	45.26	44.6	
VA-288	VA-10/W HUNDRED RD	23000	1.278	1.502	8:00 AM	5:30 PM	78.25	66.57	0	5	1.6	2.22	31.3	26.63	
VA-10/W HUNDRED RD	VA-10/W HUNDRED RD		0.93	0.987	8:45 AM	6:00 PM	100	100	0	0	1.5	1.75	22.57	21.27	
VA-10/W HUNDRED RD	WOODS EDGE RD	18000	1.088	1.127	8:15 AM	5:00 PM	91.93	88.75	0	0	1.26	1.29	40.45	39.05	

US 33 From US 250 West Broad Street To Ashland Road														
From	TO	AADT	Eastbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
US-250/W BROAD ST	US-250/W BROAD ST		0.923	0.981	7:45 AM	4:45 PM	100	100	0	0	1.47	1.83	23.84	22.43
US-250/W BROAD ST	I-64	19000	1.591	1.563	8:30 AM	5:15 PM	62.84	64	8	4	2.47	2.18	23.25	23.68
I-64	I-64		1.373	1.339	7:30 AM	5:30 PM	72.82	74.67	0	0	1.73	1.8	32.77	33.6
I-64	DUMBARTON RD/WHARFSIDE RD		1.539	1.633	8:00 AM	5:30 PM	64.97	61.22	3	5	2.77	3	23.39	22.04
DUMBARTON RD/WHARFSIDE RD	DUMBARTON RD/WHARFSIDE RD		1.16	1.217	8:15 AM	5:30 PM	86.2	82.2	0	0	1.67	1.84	30.17	28.77
DUMBARTON RD/WHARFSIDE RD	GLENSIDE DR/HILLIARD RD	34000	1.282	1.489	9:00 AM	5:30 PM	78.03	67.18	0	2	1.9	2.22	31.21	26.87
GLENSIDE DR/HILLIARD RD	GLENSIDE DR/HILLIARD RD		0.721	0.851	8:15 AM	5:30 PM	100	100	0	0	1.16	1.38	30.53	25.84
GLENSIDE DR/HILLIARD RD	E PARHAM RD	33000	1.256	1.434	9:00 AM	5:45 PM	79.64	69.74	0	2	2	2	33.45	29.29
E PARHAM RD	E PARHAM RD		1.524	1.707	8:45 AM	5:45 PM	65.6	58.57	1	4	5.83	5.83	22.96	20.5
E PARHAM RD	HUNGARY RD	23000	1.41	1.518	7:30 AM	5:30 PM	70.91	65.88	0	7	2.15	2.26	30.49	28.33
HUNGARY RD	SPRINGFIELD RD/MOUNTAIN RD	19000	1.368	1.472	8:45 AM	5:00 PM	73.08	67.94	0	5	2.17	2.5	36.54	33.97
SPRINGFIELD RD/MOUNTAIN RD	I-295	23000	1.281	1.394	8:45 AM	4:30 PM	78.06	71.76	0	0	1.72	2.08	39.03	35.88
I-295	I-295		1.205	1.162	7:30 AM	5:45 PM	83.02	86.04	0	0	1.67	1.57	45.66	47.32
I-295	ASHLAND RD	19000	1.258	1.145	7:30 AM	5:00 PM	79.52	87.35	0	0	2.08	1.41	41.35	45.42

US 33 From US 250 West Broad Street To Ashland Road														
From	TO	AADT	Westbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
US-250/W BROAD ST	US-250/W BROAD ST		0.872	0.833	8:30 AM	5:45 PM	100	100	0	0	2.38	3.17	21.8	22.81
US-250/W BROAD ST	I-64	19000	1.437	1.649	9:00 AM	4:45 PM	69.58	60.62	1	9	2.11	2.5	27.83	24.25
I-64	I-64		1.164	1.21	8:00 AM	5:15 PM	85.93	82.62	0	0	1.45	1.62	36.09	34.7
I-64	DUMBARTON RD/WHARFSIDE RD		1.24	1.471	8:00 AM	5:15 PM	80.68	68	0	1	2.06	2.47	29.85	25.16
DUMBARTON RD/WHARFSIDE RD	DUMBARTON RD/WHARFSIDE RD		1.362	1.438	8:00 AM	5:15 PM	73.43	69.52	0	1	3	2.63	30.84	29.2
DUMBARTON RD/WHARFSIDE RD	GLENSIDE DR/HILLIARD RD	34000	1.147	1.303	8:00 AM	5:15 PM	87.15	76.76	0	0	1.64	1.78	35.73	31.47
GLENSIDE DR/HILLIARD RD	GLENSIDE DR/HILLIARD RD		1.303	1.438	9:00 AM	4:15 PM	76.75	69.56	0	1	3.6	3.27	27.63	25.04
GLENSIDE DR/HILLIARD RD	E PARHAM RD	33000	1.18	1.354	8:00 AM	5:30 PM	84.76	73.83	0	0	1.78	2.28	34.75	30.27
E PARHAM RD	E PARHAM RD		1.096	1.001	8:15 AM	4:15 PM	91.24	99.94	0	0	1.65	1.5	30.11	32.98
E PARHAM RD	HUNGARY RD	23000	1.846	1.526	8:00 AM	4:30 PM	54.18	65.53	7	9	3.21	2.65	24.38	29.49
HUNGARY RD	SPRINGFIELD RD/MOUNTAIN RD	19000	1.619	1.539	8:45 AM	4:15 PM	61.75	64.98	6	9	2.52	2.52	32.73	34.44
SPRINGFIELD RD/MOUNTAIN RD	I-295	23000	1.687	1.485	8:00 AM	5:30 PM	59.29	67.33	6	5	3.69	3	28.46	32.32
I-295	I-295		1.264	1.22	8:15 AM	4:30 PM	79.09	81.98	0	0	1.83	1.83	43.5	45.09
I-295	ASHLAND RD	19000	1.261	1.318	8:00 AM	4:30 PM	79.28	75.89	0	0	1.89	2.41	42.02	40.22

US 60 from Sanburne Parkway to VA-155 North Courthouse Road													
From	TO	Eastbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
		Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SANBURNE PKWY	VA-156/S AIRPORT DR	1.45	1.387	7:30 AM	4:00 PM	68.98	72.07	4	0	2.41	2.41	28.28	29.55
VA-156/S AIRPORT DR	VA-156/S AIRPORT DR	0.764	0.682	7:15 AM	4:00 PM	100	100	0	0	1.29	1.06	23.55	26.38
VA-156/S AIRPORT DR	DRYBRIDGE RD	1.12	1.145	8:00 AM	5:00 PM	89.26	87.33	0	0	1.26	1.26	34.81	34.06
DRYBRIDGE RD	I-295	1.167	1.223	7:15 AM	5:15 PM	85.67	81.76	0	0	1.53	1.57	49.69	47.42
I-295	I-295	1.148	1.131	7:15 AM	4:30 PM	87.07	88.45	0	0	1.51	1.51	48.76	49.53
I-295	VA-156/MEADOW RD/ELKO RD	1.328	1.246	8:00 AM	5:45 PM	75.29	80.24	0	0	2.04	1.9	41.41	44.13
VA-156/MEADOW RD/ELKO RD	WHITE OAK RD	1.145	1.115	8:15 AM	5:45 PM	87.36	89.66	0	0	1.66	1.51	46.3	47.52
WHITE OAK RD	VA-33/NEW KENT HWY	1.133	1.103	7:30 AM	5:45 PM	88.25	90.69	0	0	1.5	1.42	45.01	46.25
VA-33/NEW KENT HWY	VA-33/NEW KENT HWY	0.856	0.819	8:30 AM	5:30 PM	100	100	0	0	1.62	1.21	39.71	41.51
VA-33/NEW KENT HWY	ROXBURY RD/EMMAUS CHURCH RD	1.1	1.074	7:45 AM	5:45 PM	90.94	93.07	0	0	1.23	1.2	49.11	50.26
ROXBURY RD/EMMAUS CHURCH RD	MOUNTCASTLE RD	1.117	1.068	8:00 AM	4:00 PM	89.56	93.64	0	0	1.34	1.18	52.84	55.25
MOUNTCASTLE RD	N ADKINS RD	1.091	1.048	8:00 AM	4:00 PM	91.69	95.46	0	0	1.37	1.13	54.1	56.32
N ADKINS RD	VA-155/N COURTHOUSE RD	1.144	1.176	8:00 AM	4:15 PM	87.38	85	0	0	1.31	1.49	48.06	46.75

US 60 from Sanburne Parkway to VA-155 North Courthouse Road													
From	TO	Westbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
		Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SANBURNE PKWY	VA-156/S AIRPORT DR	1.283	1.219	8:15 AM	4:15 PM	77.95	82.05	0	0	1.9	1.73	29.62	31.18
VA-156/S AIRPORT DR	VA-156/S AIRPORT DR	0.749	0.717	8:00 AM	4:45 PM	100	100	0	0	1.27	1.19	25.37	26.49
VA-156/S AIRPORT DR	DRYBRIDGE RD	1.087	1.104	8:00 AM	4:45 PM	91.97	90.55	0	0	1.36	1.23	34.95	34.41
DRYBRIDGE RD	I-295	1.21	1.157	8:15 AM	5:30 PM	82.66	86.47	0	0	1.81	1.53	47.94	50.15
I-295	I-295	1.116	1.09	8:15 AM	5:30 PM	89.6	91.71	0	0	1.57	1.53	49.28	50.44
I-295	VA-156/MEADOW RD/ELKO RD	1.176	1.155	8:15 AM	5:30 PM	85.02	86.56	0	0	1.79	1.72	42.51	43.28
VA-156/MEADOW RD/ELKO RD	WHITE OAK RD	1.23	1.162	7:45 AM	5:30 PM	81.3	86.09	0	0	2.16	1.8	43.9	46.49
WHITE OAK RD	VA-33/NEW KENT HWY	1.118	1.129	8:00 AM	5:15 PM	89.42	88.6	0	0	1.29	1.33	47.39	46.96
VA-33/NEW KENT HWY	VA-33/NEW KENT HWY	0.857	0.967	8:45 AM	4:15 PM	100	100	0	0	1.61	2.42	33.85	30
VA-33/NEW KENT HWY	ROXBURY RD/EMMAUS CHURCH RD	1.059	1.059	8:00 AM	5:15 PM	94.39	94.39	0	0	1.15	1.15	50.97	50.97
ROXBURY RD/EMMAUS CHURCH RD	MOUNTCASTLE RD	1.104	1.132	8:45 AM	4:45 PM	90.56	88.32	0	0	1.59	1.64	53.43	52.11
MOUNTCASTLE RD	N ADKINS RD	1.085	1.107	7:30 AM	4:00 PM	92.15	90.3	0	0	1.76	1.71	55.29	54.18
N ADKINS RD	VA-155/N COURTHOUSE RD	1.167	1.149	8:00 AM	4:15 PM	85.71	87.02	0	0	1.49	1.31	47.14	47.86

US 60 from US-522/Maidens Road To Chippenham Parkway													
From	TO	Eastbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
		Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
US-522/MAIDENS RD	VA-13	1.079	1.07	7:45 AM	4:15 PM	92.64	93.42	0	0	1.23	1.18	54.66	55.12
VA-13	DORSET RD	1.154	1.105	7:45 AM	4:00 PM	86.69	90.48	0	0	1.49	1.32	50.28	52.48
DORSET RD	COUNTY LINE RD	1.162	1.142	7:45 AM	5:30 PM	86.05	87.58	0	0	1.34	1.31	50.77	51.67
COUNTY LINE RD	OLD HUNDRED RD	1.243	1.139	7:45 AM	4:45 PM	80.43	87.83	0	0	1.76	1.49	46.65	50.94
OLD HUNDRED RD	WINTERFIELD RD	1.273	1.246	8:00 AM	4:45 PM	78.58	80.26	0	0	1.61	1.56	41.65	42.54
WINTERFIELD RD	WOOLRIDGE RD	1.182	1.247	8:15 AM	5:45 PM	84.61	80.2	0	0	1.64	1.64	34.69	32.88
WOOLRIDGE RD	WOOLRIDGE RD	1.477	1.182	8:15 AM	4:15 PM	67.7	84.58	1	0	3.3	2.54	22.34	27.91
WOOLRIDGE RD	VA-147/HUGUENOT RD	1.119	1.305	7:15 AM	4:30 PM	89.34	76.64	0	0	1.38	1.76	39.31	33.72
VA-147/HUGUENOT RD	VA-147/HUGUENOT RD	0.863	1.114	7:15 AM	5:15 PM	100	89.78	0	0	1.5	1.93	31.28	24.24
VA-147/HUGUENOT RD	KOGER CENTER BLVD	1.339	1.615	8:30 AM	5:15 PM	74.68	61.93	0	8	2.28	2.28	30.62	25.39
KOGER CENTER BLVD	KOGER CENTER BLVD	1.029	1.227	8:30 AM	4:30 PM	97.17	81.53	0	0	1.64	2	34.98	29.35
KOGER CENTER BLVD	VA-76/POWHITE PKWY	1.135	1.572	8:45 AM	5:30 PM	88.07	63.6	0	3	1.39	2.15	37.87	27.35
VA-76/POWHITE PKWY	VA-76/POWHITE PKWY	1.034	1.175	8:00 AM	5:30 PM	96.67	85.08	0	0	1.2	1.55	46.4	40.84
VA-76/POWHITE PKWY	BUFORD RD	1.281	1.563	8:15 AM	5:30 PM	78.05	64	0	3	2	2.44	34.34	28.16
BUFORD RD	BOULDERS PKWY	1.275	1.624	8:00 AM	5:30 PM	78.45	61.57	0	7	1.91	2.33	32.95	25.86
BOULDERS PKWY	CHIPPENHAM PKWY	1.182	1.521	8:15 AM	4:45 PM	84.58	65.74	0	7	1.72	2.39	36.37	28.27

US 60 from US-522/Maidens Road To Chippenham Parkway													
From	TO	Westbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
		Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
US-522/MAIDENS RD	VA-13	1.107	1.105	8:45 AM	4:15 PM	90.32	90.53	0	0	1.3	1.3	54.19	54.32
VA-13	DORSET RD	1.117	1.107	8:00 AM	5:45 PM	89.49	90.32	0	0	1.28	1.26	52.8	53.29
DORSET RD	COUNTY LINE RD	1.208	1.224	8:00 AM	5:45 PM	82.76	81.72	0	0	1.53	1.61	48	47.4
COUNTY LINE RD	OLD HUNDRED RD	1.049	1.084	8:30 AM	4:45 PM	95.29	92.27	0	0	1.18	1.28	56.22	54.44
OLD HUNDRED RD	WINTERFIELD RD	1.167	1.23	7:45 AM	5:30 PM	85.67	81.33	0	0	1.41	1.63	44.55	42.29
WINTERFIELD RD	WOOLRIDGE RD	1.144	1.383	8:15 AM	5:30 PM	87.38	72.32	0	0	1.48	2	34.95	28.93
WOOLRIDGE RD	WOOLRIDGE RD	1.323	1.35	8:30 AM	5:30 PM	75.58	74.06	0	0	2.54	2.2	24.94	24.44
WOOLRIDGE RD	VA-147/HUGUENOT RD	1.046	1.273	8:45 AM	5:15 PM	95.62	78.57	0	0	1.31	1.75	40.16	33
VA-147/HUGUENOT RD	VA-147/HUGUENOT RD	1.05	1.1	8:30 AM	5:15 PM	95.21	90.94	0	0	1.65	1.65	31.42	30.01
VA-147/HUGUENOT RD	KOGER CENTER BLVD	1.315	1.622	8:00 AM	5:15 PM	76.07	61.66	0	5	1.95	2.73	31.19	25.28
KOGER CENTER BLVD	KOGER CENTER BLVD	0.965	1.085	8:00 AM	5:15 PM	100	92.21	0	0	1.36	1.7	35.23	31.35
KOGER CENTER BLVD	VA-76/POWHITE PKWY	1.232	1.484	8:00 AM	5:15 PM	81.17	67.4	0	3	1.56	2	34.09	28.31
VA-76/POWHITE PKWY	VA-76/POWHITE PKWY	1.09	1.29	8:45 AM	5:45 PM	91.71	77.52	0	0	1.37	1.92	44.02	37.21
VA-76/POWHITE PKWY	BUFORD RD	1.302	1.345	8:00 AM	5:45 PM	76.82	74.33	0	0	1.88	1.96	34.57	33.45
BUFORD RD	BOULDERS PKWY	1.422	1.657	8:00 AM	5:15 PM	70.31	60.36	0	7	2.1	2.63	29.53	25.35
BOULDERS PKWY	CHIPPENHAM PKWY	1.407	1.647	8:00 AM	5:45 PM	71.08	60.72	0	8	2.11	2.86	28.43	24.29

US 360 From SkinQuarter Road to Mayos Bridge														
From	TO	AADT	Eastbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SKINQUARTER RD	BEAVER BRIDGE RD	18000	1.068	1.083	9:00 AM	4:00 PM	93.61	92.36	0	0	1.24	1.24	57.1	56.34
BEAVER BRIDGE RD	BALDWIN CREEK RD	18000	1.052	1.045	9:00 AM	4:00 PM	95.02	95.72	0	0	1.17	1.13	57.96	58.39
BALDWIN CREEK RD	OTTERDALE RD	21000	1.204	1.217	8:00 AM	6:00 PM	83.03	82.2	0	0	1.61	1.61	50.65	50.14
OTTERDALE RD	WINTERPOCK RD	44000	1.265	1.355	7:30 AM	6:00 PM	79.06	73.82	0	0	1.67	1.79	39.53	36.91
WINTERPOCK RD	WINTERPOCK RD		1.507	2.317	9:00 AM	4:30 PM	66.38	43.15	1	9	2.86	5	26.55	17.26
WINTERPOCK RD	VA-288	77000	1.235	1.54	7:30 AM	5:30 PM	80.95	64.93	0	9	1.57	1.91	35.62	28.57
VA-288	VA-288		1.174	1.121	7:30 AM	5:15 PM	85.18	89.2	0	0	1.56	1.43	42.59	44.6
VA-288	N BAILEY BRIDGE RD	38000	1.295	1.398	7:00 AM	5:15 PM	77.21	71.51	0	0	2.05	1.95	33.2	30.75
N BAILEY BRIDGE RD	GENITO RD	38000	1.191	1.273	9:00 AM	5:15 PM	83.98	78.58	0	0	1.65	1.72	36.11	33.79
GENITO RD	COURTHOUSE RD	38000	1.219	1.23	9:00 AM	5:15 PM	82.02	81.29	0	0	1.78	1.86	33.63	33.33
COURTHOUSE RD	WALMSLEY /HICKS	40000	1.147	1.188	7:45 AM	4:15 PM	87.18	84.16	0	0	1.38	1.5	44.46	42.92
WALMSLEY /HICKS	TURNER RD	38000	1.185	1.239	8:00 AM	5:30 PM	84.41	80.69	0	0	1.58	1.53	41.36	39.54
TURNER RD	CHIPPENHAM PKWY	38000	1.437	1.335	7:45 AM	5:00 PM	69.6	74.93	1	0	2.33	1.83	29.23	31.47
CHIPPENHAM PKWY	CHIPPENHAM PKWY		1.3	1.227	7:45 AM	5:15 PM	76.95	81.48	0	0	2.11	1.82	30.78	32.59
CHIPPENHAM PKWY	WARWICK RD	24000	1.215	1.257	8:15 AM	5:00 PM	82.28	79.56	0	0	1.56	1.56	32.09	31.03
WARWICK RD	WARWICK RD		0.71	0.751	7:45 AM	5:15 PM	100	100	0	0	0.85	0.85	30.97	29.28
WARWICK RD	VA-161/E BELT BLVD	24000	1.272	1.343	7:45 AM	5:30 PM	78.62	74.48	0	0	1.56	1.62	33.02	31.28
VA-161/E BELT BLVD	VA-161/E BELT BLVD		1.172	1.144	7:00 AM	4:00 PM	85.3	87.43	0	0	2.14	2	25.59	26.23
VA-161/E BELT BLVD	US-301/US-1		1.22	1.45	8:30 AM	4:45 PM	81.94	68.97	0	7	1.48	1.94	25.4	21.38
US-301/US-1	US-301/US-1		0.722	0.765	8:45 AM	4:45 PM	100	100	0	0	1	1.14	22.16	20.92
US-301/US-1	COMMERCE RD	13000	1.092	1.132	8:30 AM	4:30 PM	91.57	88.35	0	0	1.44	1.53	21.06	20.32
COMMERCE RD	MAYOS BRIDGE	20000	1.458	1.432	8:15 AM	5:30 PM	68.61	69.85	3	2	2.2	2.36	22.64	23.05
MAYOS BRIDGE	MAYOS BRIDGE		1.322	1.466	8:15 AM	5:30 PM	75.67	68.22	0	1	2.25	2.77	27.24	24.56

US 360 From SkinQuarter Road to Mayos Bridge														
From	TO	AADT	Westbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SKINQUARTER RD	BEAVER BRIDGE RD	18000	1.06	1.092	9:00 AM	4:00 PM	94.31	91.56	0	0	1.28	1.28	55.64	54.02
BEAVER BRIDGE RD	BALDWIN CREEK RD	18000	1.025	1.03	9:00 AM	5:15 PM	97.58	97.08	0	0	1.13	1.13	57.57	57.28
BALDWIN CREEK RD	OTTERDALE RD	21000	1.089	1.07	8:30 AM	5:00 PM	91.86	93.46	0	0	1.26	1.2	54.2	55.14
OTTERDALE RD	WINTERPOCK RD	44000	1.323	1.308	7:15 AM	6:00 PM	75.57	76.47	0	0	1.7	1.76	38.54	39
WINTERPOCK RD	WINTERPOCK RD		1.264	1.888	8:00 AM	5:45 PM	79.11	52.98	0	5	2.04	3.36	37.18	24.9
WINTERPOCK RD	VA-288	77000	1.254	1.664	8:00 AM	5:30 PM	79.73	60.11	0	5	1.61	2.37	35.88	27.05
VA-288	VA-288		1.07	1.179	8:45 AM	6:00 PM	93.47	84.8	0	0	1.26	1.58	45.8	41.55
VA-288	N BAILEY BRIDGE RD	38000	1.137	1.128	8:15 AM	6:00 PM	87.98	88.66	0	0	1.63	1.57	38.71	39.01
N BAILEY BRIDGE RD	GENITO RD	38000	1.115	1.122	8:15 AM	5:00 PM	89.7	89.12	0	0	1.59	1.48	38.57	38.32
GENITO RD	COURTHOUSE RD	38000	1.196	1.279	7:00 AM	5:15 PM	83.59	78.17	0	0	1.64	1.86	34.27	32.05
COURTHOUSE RD	WALMSLEY /HICKS	40000	1.238	1.298	8:15 AM	5:45 PM	80.81	77.06	0	0	1.44	1.79	42.02	40.07
WALMSLEY /HICKS	TURNER RD	38000	1.415	1.182	8:15 AM	5:30 PM	70.67	84.63	0	0	1.92	1.55	33.92	40.62
TURNER RD	CHIPPENHAM PKWY	38000	1.54	1.596	8:45 AM	5:30 PM	64.95	62.67	6	4	2.39	2.53	27.93	26.95
CHIPPENHAM PKWY	CHIPPENHAM PKWY		1.156	1.258	8:30 AM	5:30 PM	86.47	79.47	0	0	1.65	1.9	32.86	30.2
CHIPPENHAM PKWY	WARWICK RD	24000	1.125	1.204	9:00 AM	5:30 PM	88.87	83.05	0	0	1.31	1.52	33.77	31.56
WARWICK RD	WARWICK RD		0.845	0.975	8:30 AM	4:15 PM	100	100	0	0	0.96	1.13	30.76	26.67
WARWICK RD	VA-161/E BELT BLVD	24000	1.28	1.372	9:00 AM	5:00 PM	78.1	72.88	0	0	1.58	1.86	32.02	29.88
VA-161/E BELT BLVD	VA-161/E BELT BLVD		1.135	1.36	8:15 AM	5:15 PM	88.13	73.55	0	0	1.94	2.38	27.32	22.8
VA-161/E BELT BLVD	US-301/US-1		1.294	1.33	8:45 AM	4:15 PM	77.25	75.19	0	0	1.68	1.68	24.72	24.06
US-301/US-1	US-301/US-1		0.759	0.862	8:45 AM	5:45 PM	100	100	0	0	0.94	1.23	21.08	18.56
US-301/US-1	COMMERCE RD	13000	1.032	1.279	8:45 AM	4:15 PM	96.86	78.19	0	0	1.24	1.75	20.34	16.42
COMMERCE RD	MAYOS BRIDGE	20000	1.309	1.396	8:00 AM	5:15 PM	76.38	71.62	0	0	1.81	1.93	22.15	20.77
MAYOS BRIDGE	MAYOS BRIDGE		1.295	1.319	8:00 AM	5:30 PM	77.24	75.81	0	0	1.76	1.95	28.58	28.05

US 360 from Mayos Bridge to Studley Road														
From	TO	AADT	Eastbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
MAYOS BRIDGE	MAYOS BRIDGE		1.322	1.466	8:15 AM	5:30 PM	75.67	68.22	0	1	2.25	2.77	27.24	24.56
MAYOS BRIDGE	I-195/DOWNTOWN EXPY		1.175	1.23	8:00 AM	5:30 PM	85.11	81.28	0	0	2	3	15.32	14.63
I-195/DOWNTOWN EXPY	I-195/DOWNTOWN EXPY		1.32	1.256	8:15 AM	5:30 PM	75.79	79.61	0	0	2.15	2.33	21.22	22.29
I-195/DOWNTOWN EXPY	MAIN ST/N 14TH ST/CARY ST		1.422	1.531	8:00 AM	5:15 PM	70.33	65.33	0	4	3	3.5	14.77	13.72
MAIN ST/N 14TH ST/CARY ST	US-60/E MAIN ST/18TH ST		1.489	1.465	8:30 AM	5:30 PM	67.14	68.24	4	1	3	2.33	14.1	14.33
US-60/E MAIN ST/18TH ST	VA-33/E BROAD ST		1.03	0.997	7:15 AM	5:00 PM	97.05	100	0	0	1.82	1.33	19.41	20.07
VA-33/E BROAD ST	LEIGH STREET VIA		1.248	1.175	8:00 AM	5:00 PM	80.11	85.07	0	0	1.75	1.47	22.43	23.82
LEIGH STREET VIA	N 17TH ST		1.507	1.382	8:45 AM	5:00 PM	66.37	72.37	4	0	2.11	2	25.22	27.5
N 17TH ST	FAIRFIELD AVE		1.384	1.248	7:30 AM	4:30 PM	72.23	80.11	0	0	1.84	1.94	25.28	28.04
FAIRFIELD AVE	I-64	13000	1.206	1.274	8:00 AM	4:30 PM	82.89	78.46	0	0	1.87	2.15	23.21	21.97
I-64	I-64		1.23	1.327	8:00 AM	4:45 PM	81.27	75.35	0	0	1.95	1.95	30.07	27.88
I-64	DILL RD		1.321	1.341	8:45 AM	5:30 PM	75.68	74.57	0	0	2.32	2	33.3	32.81
DILL RD	E LABURNUM AVE		1.298	1.605	7:30 AM	5:15 PM	77.03	62.29	0	5	2.24	2.53	29.27	23.67
E LABURNUM AVE	ATLEE RD/COLD HARBOR RD		1.353	1.558	8:45 AM	5:15 PM	73.9	64.18	0	5	1.81	2.13	36.21	31.45
ATLEE RD/COLD HARBOR RD	ATLEE RD/COLD HARBOR RD		1.07	1.118	8:30 AM	5:15 PM	93.48	89.44	0	0	1.35	1.42	50.48	48.3
ATLEE RD/COLD HARBOR RD	I-295		1.057	1.223	8:15 AM	5:45 PM	94.59	81.78	0	0	1.26	2.08	51.08	44.16
I-295	I-295		1.053	1.77	8:45 AM	5:45 PM	94.94	56.5	0	5	1.25	2.94	47.47	28.25
I-295	LEE DAVIS RD	50000	1.282	1.521	8:15 AM	4:00 PM	77.98	65.76	0	5	1.83	2.21	32.75	27.62
LEE DAVIS RD	WALNUT GROVE RD	27000	1.276	1.272	8:00 AM	4:00 PM	78.34	78.62	0	0	1.56	1.61	39.17	39.31
WALNUT GROVE RD	POLE GREEN RD	23000	1.101	1.112	8:00 AM	5:30 PM	90.79	89.95	0	0	1.23	1.26	52.66	52.17
POLE GREEN RD	OLD CHURCH RD/STUDLEY RD	23000	1.131	1.189	7:45 AM	5:45 PM	88.38	84.12	0	0	1.41	1.57	51.26	48.79

US 360 from Mayos Bridge to Studley Road														
From	TO	AADT	Westbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
MAYOS BRIDGE	MAYOS BRIDGE		1.295	1.319	8:00 AM	5:30 PM	77.24	75.81	0	0	1.76	1.95	28.58	28.05
MAYOS BRIDGE	I-195/DOWNTOWN EXPY		1.017	1.042	9:00 AM	5:30 PM	98.31	95.96	0	0	1.24	1.3	25.56	24.95
I-195/DOWNTOWN EXPY	I-195/DOWNTOWN EXPY		1.031	1.048	9:00 AM	4:00 PM	97	95.46	0	0	1.26	1.41	23.28	22.91
I-195/DOWNTOWN EXPY	MAIN ST/N 14TH ST/CARY ST		1.085	1.066	8:45 AM	5:15 PM	92.15	93.8	0	0	1.54	1.54	18.43	18.76
MAIN ST/N 14TH ST/CARY ST	US-60/E MAIN ST/18TH ST		1.49	1.689	8:00 AM	5:15 PM	67.12	59.2	3	9	2.08	2.5	16.78	14.8
US-60/E MAIN ST/18TH ST	VA-33/E BROAD ST		1.075	1.109	9:00 AM	5:30 PM	93	90.18	0	0	2.13	1.89	15.81	15.33
VA-33/E BROAD ST	LEIGH STREET VIA		1.221	1.098	8:00 AM	4:15 PM	81.9	91.1	0	0	1.93	1.61	23.75	26.42
LEIGH STREET VIA	N 17TH ST		1.254	1.142	8:45 AM	4:00 PM	79.77	87.59	0	0	1.63	1.39	31.11	34.16
N 17TH ST	FAIRFIELD AVE		1.197	1.224	9:00 AM	4:30 PM	83.53	81.72	0	0	1.71	1.57	30.07	29.42
FAIRFIELD AVE	I-64	13000	1.412	1.5	8:15 AM	5:30 PM	70.83	66.66	0	7	2.42	2.64	20.54	19.33
I-64	I-64		1.343	1.208	8:00 AM	4:45 PM	74.45	82.79	0	0	2.36	1.94	24.57	27.32
I-64	DILL RD		1.616	1.361	8:00 AM	5:00 PM	61.89	73.48	6	0	2.44	2	27.23	32.33
DILL RD	E LABURNUM AVE		1.264	1.287	8:00 AM	5:15 PM	79.1	77.69	0	0	1.95	1.86	30.85	30.3
E LABURNUM AVE	ATLEE RD/COLD HARBOR RD		1.437	1.417	8:00 AM	4:15 PM	69.61	70.55	1	0	1.96	1.81	34.11	34.57
ATLEE RD/COLD HARBOR RD	ATLEE RD/COLD HARBOR RD		1.148	1.143	8:00 AM	4:30 PM	87.14	87.5	0	0	1.4	1.47	48.8	49
ATLEE RD/COLD HARBOR RD	I-295		1.113	1.134	8:30 AM	5:30 PM	89.87	88.22	0	0	1.32	1.38	48.53	47.64
I-295	I-295		1.1	1.093	8:30 AM	5:45 PM	90.9	91.5	0	0	1.33	1.33	47.27	47.58
I-295	LEE DAVIS RD	50000	1.293	1.309	8:00 AM	5:30 PM	77.34	76.39	0	0	1.86	1.86	31.71	31.32
LEE DAVIS RD	WALNUT GROVE RD	27000	1.468	1.38	8:00 AM	5:15 PM	68.1	72.48	3	0	2.08	1.67	34.05	36.24
WALNUT GROVE RD	POLE GREEN RD	23000	1.16	1.149	7:45 AM	5:15 PM	86.17	87.05	0	0	1.41	1.35	49.98	50.49
POLE GREEN RD	OLD CHURCH RD/STUDLEY RD	23000	1.132	1.162	7:45 AM	5:15 PM	88.36	86.05	0	0	1.38	1.49	51.25	49.91

Laburnum Ave From New Market Road To I-64/I-95													
From	TO	Northbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
		Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
NEW MARKET RD	DARBYTOWN RD	1.198	1.191	7:30 AM	6:00 PM	83.47	83.98	0	0	1.71	1.66	44.24	44.51
DARBYTOWN RD	DARBYTOWN RD	1.127	1.318	7:30 AM	4:45 PM	88.76	75.88	0	0	3	3.67	29.29	25.04
DARBYTOWN RD	CHARLES CITY RD	1.239	1.239	8:45 AM	4:15 PM	80.73	80.69	0	0	1.96	1.88	39.56	39.54
CHARLES CITY RD	CHARLES CITY RD	1.1	1.195	8:00 AM	4:45 PM	90.94	83.67	0	0	1.94	1.65	30.01	27.61
CHARLES CITY RD	WILLIAMSBURG RD	1.572	1.644	8:15 AM	4:00 PM	63.63	60.84	7	9	2.38	2.53	24.18	23.12
WILLIAMSBURG RD	WILLIAMSBURG RD	1.161	1.148	9:00 AM	4:00 PM	86.14	87.14	0	0	2.44	2.44	18.95	19.17
WILLIAMSBURG RD	I-64	1.411	1.601	8:15 AM	5:15 PM	70.89	62.46	0	9	2.19	2.33	24.81	21.86
I-64	I-64	1.174	1.241	7:30 AM	5:45 PM	85.18	80.55	0	0	1.58	1.65	32.37	30.61
I-64	VA-33/NINE MILE RD	1.555	1.629	8:30 AM	5:15 PM	64.33	61.38	9	9	2.86	2.5	25.73	24.55
VA-33/NINE MILE RD	VA-33/NINE MILE RD	0.797	0.95	8:15 AM	5:15 PM	100	100	0	0	1.05	1.29	27.62	23.16
VA-33/NINE MILE RD	CREIGHTON RD	1.268	1.304	8:00 AM	5:15 PM	78.87	76.66	0	0	1.88	1.81	37.07	36.03
CREIGHTON RD	CREIGHTON RD	1.079	1.173	8:15 AM	5:15 PM	92.71	85.29	0	0	2.33	2.15	25.96	23.88
CREIGHTON RD	MECHANICSVILLE TPKE	1.462	1.465	8:00 AM	5:15 PM	68.42	68.28	2	9	2.26	2.26	29.42	29.36
MECHANICSVILLE TPKE	MECHANICSVILLE TPKE	0.851	0.888	8:00 AM	4:15 PM	100	100	0	0	1.5	1.31	24.68	23.65
MECHANICSVILLE TPKE	MEADOWBRIDGE RD	1.492	1.44	7:45 AM	5:30 PM	67.02	69.45	3	2	2.21	2.1	28.15	29.17
MEADOWBRIDGE RD	PILOTS LN	1.33	1.434	8:00 AM	5:30 PM	75.17	69.73	0	1	1.95	1.95	30.82	28.59
PILOTS LN	PILOTS LN	1.276	1.13	8:00 AM	4:45 PM	78.37	88.5	0	0	2.24	1.81	29.78	33.63
PILOTS LN	CHAMBERLAYNE AVE	1.804	1.642	8:00 AM	5:00 PM	55.42	60.89	9	9	2.53	2.24	21.06	23.14
CHAMBERLAYNE AVE	CHAMBERLAYNE AVE	1.186	1.117	8:15 AM	5:15 PM	84.35	89.57	0	0	1.64	1.53	19.4	20.6
CHAMBERLAYNE AVE	HERMITAGE RD	1.63	1.557	8:30 AM	5:30 PM	61.33	64.22	8	9	2.25	2	22.08	23.12
HERMITAGE RD	I-64/I-95	1.278	1.326	8:00 AM	5:45 PM	78.27	75.41	0	0	1.76	1.76	28.96	27.9
I-64/I-95	I-64/I-95	1.304	1.404	8:45 AM	4:45 PM	76.68	71.25	0	0	1.82	1.9	30.67	28.5

Laburnum Ave From New Market Road To I-64/I-95													
From	TO	Southbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
		Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
NEW MARKET RD	DARBYTOWN RD	1.347	1.329	8:00 AM	6:00 PM	74.24	75.24	0	0	1.83	1.83	40.83	41.38
DARBYTOWN RD	DARBYTOWN RD	1.425	1.174	7:30 AM	5:30 PM	70.15	85.21	0	0	3	2.79	27.36	33.23
DARBYTOWN RD	CHARLES CITY RD	1.124	1.184	7:30 AM	5:45 PM	88.98	84.48	0	0	1.5	1.6	42.71	40.55
CHARLES CITY RD	CHARLES CITY RD	1.173	1.084	8:00 AM	4:30 PM	85.23	92.26	0	0	1.55	2.21	26.42	28.6
CHARLES CITY RD	WILLIAMSBURG RD	1.406	1.398	8:00 AM	5:15 PM	71.13	71.52	0	0	2.11	2	28.45	28.61
WILLIAMSBURG RD	WILLIAMSBURG RD	1.095	1.066	9:00 AM	4:15 PM	91.35	93.81	0	0	2	1.86	23.75	24.39
WILLIAMSBURG RD	I-64	1.298	1.518	9:00 AM	5:45 PM	77.06	65.88	0	9	1.94	2.2	25.43	21.74
I-64	I-64	1.119	1.281	7:45 AM	5:00 PM	89.34	78.07	0	0	1.71	1.93	25.91	22.64
I-64	VA-33/NINE MILE RD	1.467	1.496	7:45 AM	6:00 PM	68.18	66.83	4	8	2.67	2.5	27.27	26.73
VA-33/NINE MILE RD	VA-33/NINE MILE RD	0.801	0.828	8:00 AM	4:30 PM	100	100	0	0	1.16	1.38	27.46	26.56
VA-33/NINE MILE RD	CREIGHTON RD	1.369	1.37	8:00 AM	4:45 PM	73.07	72.98	0	0	2.14	2.14	32.88	32.84
CREIGHTON RD	CREIGHTON RD	1.313	1.442	8:00 AM	5:45 PM	76.19	69.36	0	3	1.91	2	32	29.13
CREIGHTON RD	MECHANICSVILLE TPKE	1.29	1.355	8:30 AM	5:45 PM	77.55	73.77	0	0	3.1	2.58	24.04	22.87
MECHANICSVILLE TPKE	MECHANICSVILLE TPKE	0.867	0.97	8:30 AM	5:15 PM	100	100	0	0	1.29	1.38	25.38	22.69
MECHANICSVILLE TPKE	MEADOWBRIDGE RD	1.413	1.502	8:00 AM	5:30 PM	70.75	66.6	0	9	2.11	2.22	28.3	26.64
MEADOWBRIDGE RD	PILOTS LN	1.375	1.464	8:00 AM	4:45 PM	72.72	68.32	0	5	2.11	2.22	29.09	27.33
PILOTS LN	PILOTS LN	1.092	1.125	8:00 AM	5:15 PM	91.6	88.89	0	0	1.4	1.4	32.06	31.11
PILOTS LN	CHAMBERLAYNE AVE	1.394	1.374	8:45 AM	4:45 PM	71.73	72.76	0	0	2.18	1.85	26.54	26.92
CHAMBERLAYNE AVE	CHAMBERLAYNE AVE	0.871	0.879	8:15 AM	4:00 PM	100	100	0	0	1.54	1.25	22.96	22.75
CHAMBERLAYNE AVE	HERMITAGE RD	1.572	1.687	8:00 AM	5:30 PM	63.62	59.27	8	9	2.06	2.47	23.54	21.93
HERMITAGE RD	I-64/I-95	1.386	1.788	8:45 AM	5:30 PM	72.17	55.92	0	6	1.89	3.27	25.98	20.13
I-64/I-95	I-64/I-95	1.27	1.391	8:00 AM	5:30 PM	78.73	71.89	0	0	1.68	2.31	29.13	26.6

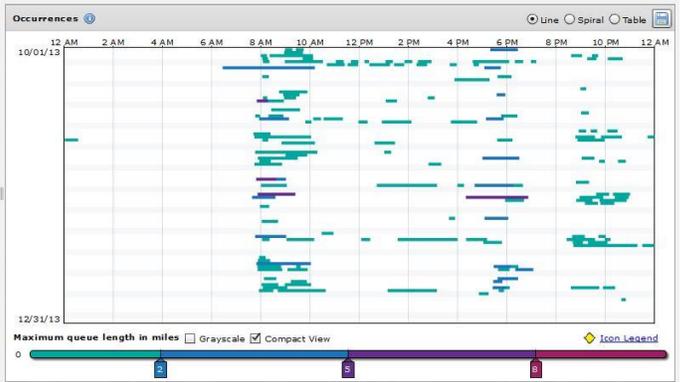
Parham Road From River Road To US 301 Chamberlayne Road														
From	TO	AADT	Eastbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
RIVER RD	RIVER RD		1.387	1.385	8:15 AM	5:45 PM	72.11	72.21	0	0	1.81	1.74	33.89	33.94
RIVER RD	RIDGE RD		1.902	1.498	8:30 AM	5:45 PM	52.57	66.77	9	3	3.67	2.2	23.13	29.38
RIDGE RD	RIDGE RD		2.367	2.057	8:00 AM	5:30 PM	42.25	48.61	9	9	4.5	4	15.21	17.5
RIDGE RD	VA-6/PATTERSON AVE	29000	1.87	2.045	8:00 AM	5:15 PM	53.46	48.89	6	9	4	4	14.97	13.69
VA-6/PATTERSON AVE	VA-6/PATTERSON AVE		0.955	0.997	8:45 AM	5:30 PM	100	100	0	0	1.28	1.64	24.08	23.06
VA-6/PATTERSON AVE	QUIOCCASIN RD	27000	1.411	1.538	9:00 AM	5:30 PM	70.86	65	0	9	2.06	2.33	24.8	22.75
QUIOCCASIN RD	QUIOCCASIN RD		1.485	1.791	8:30 AM	5:00 PM	67.33	55.83	4	9	3.6	3.27	24.24	20.1
QUIOCCASIN RD	THREE CHOPT RD	25000	1.476	1.716	9:00 AM	4:15 PM	67.76	58.27	1	9	2.31	2.47	25.07	21.56
THREE CHOPT RD	THREE CHOPT RD		1.279	1.417	8:45 AM	4:00 PM	78.17	70.58	0	0	2.57	3.27	28.14	25.41
THREE CHOPT RD	I-64	31000	1.304	1.279	7:45 AM	5:30 PM	76.68	78.2	0	0	2	1.82	30.67	31.28
I-64	I-64		1.444	1.596	8:00 AM	5:15 PM	69.27	62.68	2	6	2.47	3.08	25.63	23.19
I-64	US-250/W BROAD ST	22000	1.21	1.284	9:00 AM	4:15 PM	82.66	77.86	0	0		1.81	23.97	22.58
US-250/W BROAD ST	US-250/W BROAD ST		1.902	1.927	8:45 AM	5:15 PM	52.58	51.9	9	9	3.64	3.08	21.03	20.76
US-250/W BROAD ST	HUNGARY SPRING RD	21000	1.573	1.615	8:45 AM	5:30 PM	63.57	61.9	8	9	2.63	2.63	26.7	26
HUNGARY SPRING RD	HUNGARY SPRING RD		0.885	0.955	8:00 AM	4:45 PM	100	100	0	0	1.24	1.17	23.74	21.99
HUNGARY SPRING RD	US-33/STAPLES MILL RD	24000	1.54	1.893	8:30 AM	4:45 PM	64.93	52.82	6	9	2.2	2.93	28.57	23.24
US-33/STAPLES MILL RD	US-33/STAPLES MILL RD		1.7	2.098	9:00 AM	4:15 PM	58.83	47.66	6	9	4.38	5.83	20.59	16.68
US-33/STAPLES MILL RD	WOODMAN RD	26000	1.466	1.516	8:00 AM	5:30 PM	68.2	65.98	5	6	2.32	2.2	30.01	29.03
WOODMAN RD	WOODMAN RD		1.352	1.329	8:45 AM	5:30 PM	73.98	75.26	0	0	2.15	1.87	31.81	32.36
WOODMAN RD	US-1/BROOK RD	20000	1.516	1.524	8:00 AM	5:15 PM	65.98	65.6	6	9	2.14	2.05	29.69	29.52
US-1/BROOK RD	US-1/BROOK RD		0.926	0.803	8:15 AM	4:30 PM	100	100	0	0	1.58	1.27	20.51	23.66
US-1/BROOK RD	I-95		1.248	1.063	8:45 AM	5:00 PM	80.11	94.11	0	0	1.93	1.59	21.63	25.41
I-95	I-95		1.19	1.083	8:30 AM	4:15 PM	84	92.36	0	0	1.57	1.38	36.96	40.64
I-95	ST CHARLES RD		1.126	1.097	7:45 AM	5:45 PM	88.78	91.14	0	0	1.52	1.25	44.39	45.57
ST CHARLES RD	US-301/CHAMBERLAYNE RD	17000	1.401	1.28	8:15 AM	5:15 PM	71.35	78.13	0	0	2.18	1.78	34.25	37.5
US-301/CHAMBERLAYNE RD	US-301/CHAMBERLAYNE RD		0.405	0.39	8:00 AM	5:15 PM	100	100	0	0	0.54	0.63	37.03	38.51

Parham Road From River Road To US 301 Chamberlayne Road														
From	TO	AADT	Westbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
RIVER RD	RIVER RD		1.13	1.079	8:00 AM	5:30 PM	88.5	92.7	0	0	1.47	1.42	38.94	40.79
RIVER RD	RIDGE RD		1.308	1.375	8:00 AM	5:45 PM	76.47	72.73	0	0	1.8	1.73	34.41	32.73
RIDGE RD	RIDGE RD		1.143	1.096	8:00 AM	4:15 PM	87.52	91.21	0	0	1.83	2.06	28.88	30.1
RIDGE RD	VA-6/PATTERSON AVE	29000	1.342	1.602	8:00 AM	5:45 PM	74.53	62.43	0	6	2.31	2.5	22.36	18.73
VA-6/PATTERSON AVE	VA-6/PATTERSON AVE		1.074	1.048	8:00 AM	5:45 PM	93.09	95.43	0	0	1.92	1.64	21.41	21.95
VA-6/PATTERSON AVE	QUIOCCASIN RD	27000	1.903	2.681	8:30 AM	5:45 PM	52.54	37.3	7	9	3.36	4.63	19.44	13.8
QUIOCCASIN RD	QUIOCCASIN RD		1.194	1.42	8:15 AM	5:30 PM	83.77	70.42	0	0	2.89	3.25	21.78	18.31
QUIOCCASIN RD	THREE CHOPT RD	25000	1.387	1.74	8:00 AM	5:30 PM	72.11	57.49	0	9	2.18	3.08	26.68	21.27
THREE CHOPT RD	THREE CHOPT RD		1.433	1.446	8:00 AM	6:00 PM	69.79	69.15	1	1	3	3	23.03	22.82
THREE CHOPT RD	I-64	31000	1.284	1.358	8:00 AM	5:30 PM	77.9	73.64	0	0	2.17	2.44	30.38	28.72
I-64	I-64		1.374	1.459	8:00 AM	5:45 PM	72.78	68.54	0	2	2.18	2.47	26.93	25.36
I-64	US-250/W BROAD ST	22000	1.574	2.189	8:00 AM	5:15 PM	63.54	45.68	8	9	2.31	3.7	23.51	16.9
US-250/W BROAD ST	US-250/W BROAD ST		1.279	1.456	8:45 AM	5:00 PM	78.16	68.68	0	1	2.27	2.08	19.54	17.17
US-250/W BROAD ST	HUNGARY SPRING RD	21000	1.53	1.91	9:00 AM	5:30 PM	65.37	52.37	5	9	2.11	2.71	24.84	19.9
HUNGARY SPRING RD	HUNGARY SPRING RD		1.56	1.631	9:00 AM	4:15 PM	64.1	61.31	7	9	2.33	2.47	26.92	25.75
HUNGARY SPRING RD	US-33/STAPLES MILL RD	24000	1.167	1.042	8:30 AM	4:45 PM	85.71	95.93	0	0	1.4	1.22	24	26.86
US-33/STAPLES MILL RD	US-33/STAPLES MILL RD		1.012	0.871	8:45 AM	5:30 PM	98.86	100	0	0	1.75	1.11	20.76	24.1
US-33/STAPLES MILL RD	WOODMAN RD	26000	1.833	1.528	8:45 AM	5:15 PM	54.56	65.44	9	8	3.42	2.41	22.37	26.83
WOODMAN RD	WOODMAN RD		1.811	1.74	8:00 AM	5:15 PM	55.21	57.46	7	9	4.33	3.55	21.53	22.41
WOODMAN RD	US-1/BROOK RD	20000	1.319	1.369	8:15 AM	5:15 PM	75.84	73.07	0	0	1.79	1.87	32.61	31.42
US-1/BROOK RD	US-1/BROOK RD		0.758	0.607	8:00 AM	4:00 PM	100	100	0	0	1.33	1	21.12	26.34
US-1/BROOK RD	I-95		1.976	1.391	8:00 AM	4:00 PM	50.6	71.87	8	0	4.29	3	15.18	21.56
I-95	I-95		1.356	1.156	8:00 AM	5:15 PM	73.72	86.47	0	0	2.14	1.57	34.65	40.64
I-95	ST CHARLES RD		1.089	1.092	8:45 AM	4:30 PM	91.82	91.61	0	0	1.4	1.4	44.99	44.89
ST CHARLES RD	US-301/CHAMBERLAYNE RD	17000	1.178	1.237	8:00 AM	5:15 PM	84.87	80.83	0	0	1.59	1.84	39.04	37.18
US-301/CHAMBERLAYNE RD	US-301/CHAMBERLAYNE RD		0.552	0.612	8:00 AM	6:00 PM	100	100	0	0	0.64	0.74	41.65	37.61

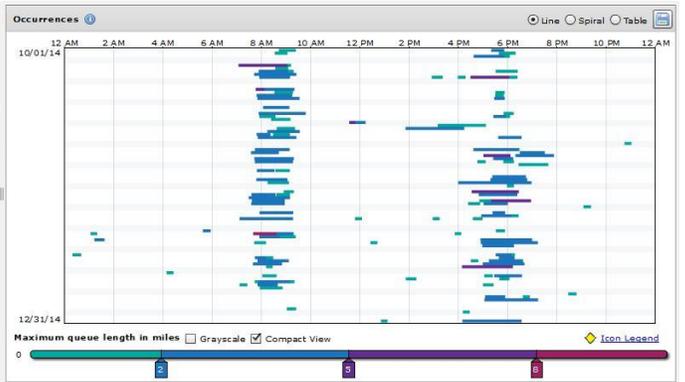
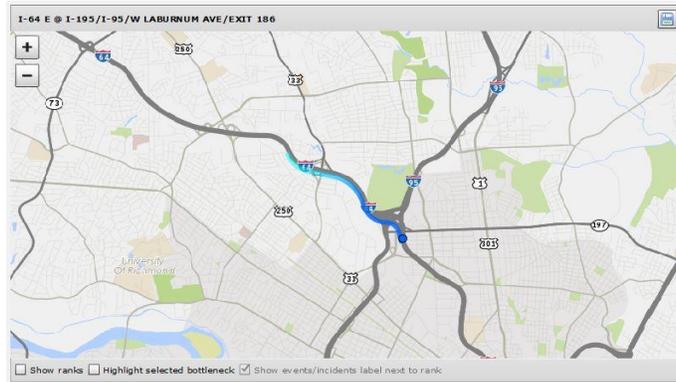
Corridors Performance Measures - Bottlenecks

I-64 E @ I-195/I-95/W LABURNUM AVE/EXIT 186

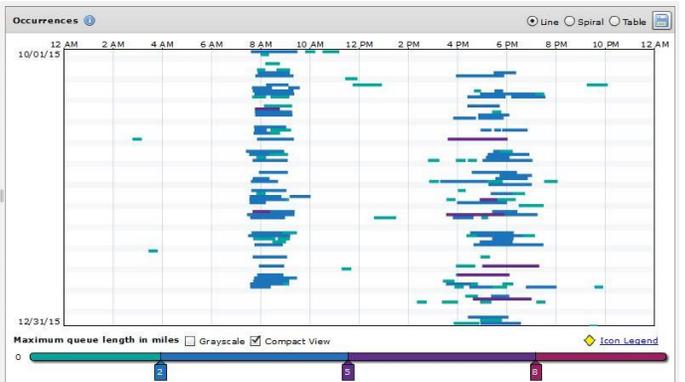
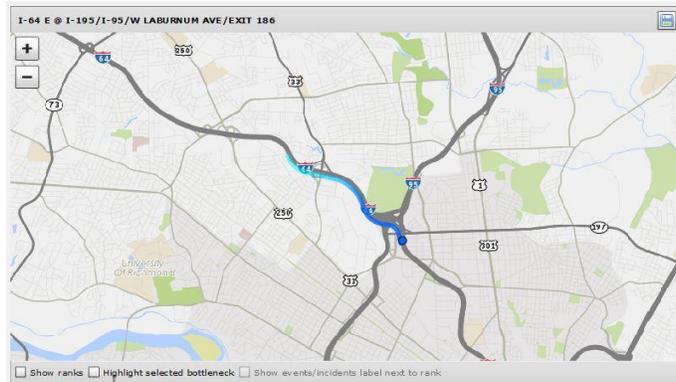
Location	Year	Bottleneck Rank	Average Duration	Average Max Length (miles)	Occurrences	Impact Factor	All Events or Incidents
I-64 E @ I-195/I-95/W LABURNUM AVE/EXIT 186	2013	4	47 m	0.86	147	5,930	45
	2014	1	56 m	2.23	135	16,868	189
	2015	1	61 m	2.29	148	20,656	132



4th Quarter 2013



4th Quarter 2014



4th Quarter 2015

I-64 W @ I-95/EXIT 190

Location	Year	Bottleneck Rank	Average Duration	Average Max Length (miles)	Occurrences	Impact Factor	All Events or Incidents
I-64 W @ I-95/EXIT 190	2013	1	42 m	1.13	175	8,311	44
	2014	2	58 m	1.23	148	10,590	57
	2015	2	62 m	1.14	224	15,775	122



4th Quarter 2013



4th Quarter 2014



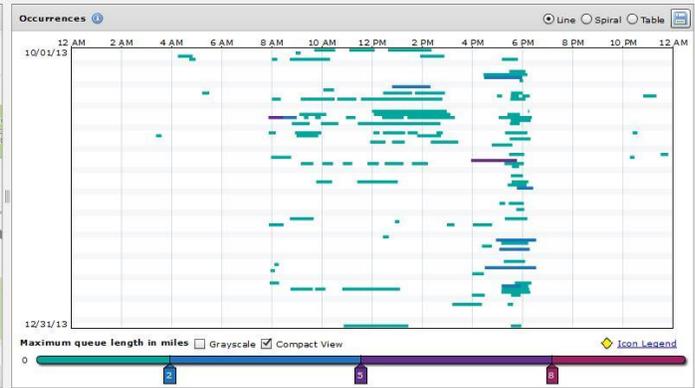
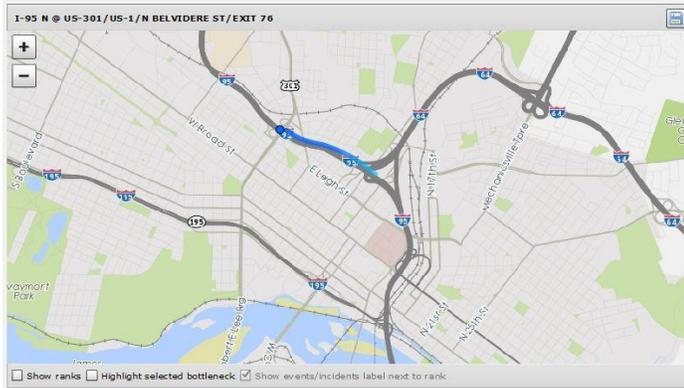
4th Quarter 2015

I-64 From PARHAM/EXIT 181 To NINE MILE/EXIT 193														
From	TO	AADT	Eastbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
PARHAM/EXIT 181	GLENSIDE/EXIT 183	51000	1.131	1.001	8:00 AM	5:30 PM	88.39	99.87	0	0	1.59	1.22	54.8	61.92
GLENSIDE/EXIT 183	GLENSIDE/EXIT 183		1.186	1.197	8:00 AM	5:30 PM	84.34	83.53	0	0	1.77	2.7	52.29	51.79
GLENSIDE/EXIT 183	BROAD ST/EXIT 183		1.178	1.529	7:45 AM	5:30 PM	84.92	65.38	0	1	2.33	4.2	53.5	41.19
BROAD ST/EXIT 183	BROAD ST/EXIT 183		1.185	1.641	7:45 AM	5:30 PM	84.42	60.94	0	2	2.38	4.43	52.34	37.78
BROAD ST/EXIT 183	DICKENS/EXIT 185	53000	1.212	1.619	8:00 AM	5:30 PM	82.53	61.78	0	1	2.14	3.53	49.52	37.07
DICKENS/EXIT 185	DICKENS/EXIT 185		1.245	1.648	8:00 AM	5:30 PM	80.33	60.67	0	1	2.26	3.81	49	37.01
DICKENS/EXIT 185	US-33/EXIT 185		1.194	1.825	8:00 AM	5:30 PM	83.73	54.81	0	3	2.58	3.88	51.91	33.98
US-33/EXIT 185	US-33/EXIT 185		1.359	1.814	8:30 AM	5:30 PM	73.57	55.11	0	3	2.9	4.69	44.88	33.62
US-33/EXIT 185	I-195/I-95/EXIT 186	67000	1.515	1.46	8:30 AM	5:30 PM	66.02	68.5	6	1	4	2.61	39.61	41.1
I-195/I-95/EXIT 186	I-195/I-95/EXIT 186		1.868	1.679	8:45 AM	5:30 PM	53.54	59.57	6	4	5.6	3.73	29.98	33.36
I-195/I-95/EXIT 186	I-95/EXIT 190	67000	1.132	1.24	7:00 AM	6:00 PM	88.38	80.66	0	0	1.43	1.89	46.84	42.75
I-95/EXIT 190	US-360/EXIT 192	46000	1.001	1.096	8:00 AM	5:30 PM	99.95	91.25	0	0	1.07	1.58	59.97	54.75
US-360/EXIT 192	US-360/EXIT 192		1	1.027	7:45 AM	5:30 PM	100	97.37	0	0	1.07	1.15	62	60.37
US-360/EXIT 192	NINE MILE/EXIT 193	36000	0.992	1.005	7:45 AM	5:30 PM	100	99.52	0	0	1.07	1.11	62.52	61.7

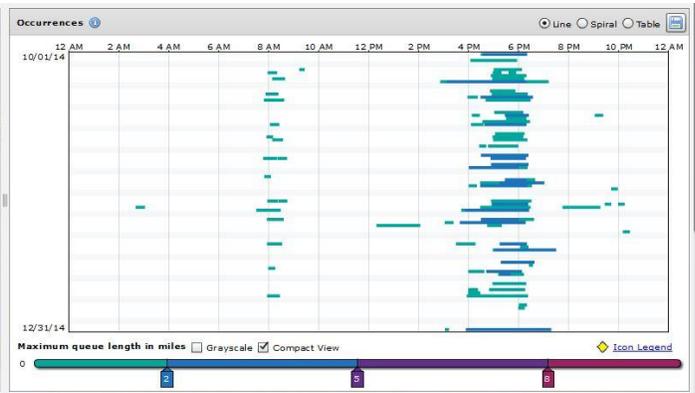
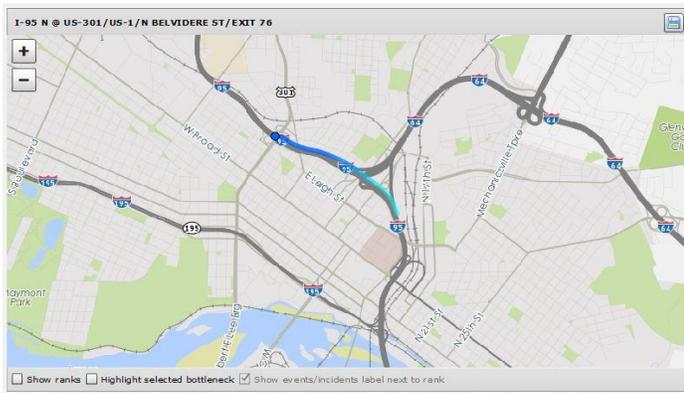
I-64 From PARHAM/EXIT 181 To NINE MILE/EXIT 193														
From	TO	AADT	Westbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
PARHAM/EXIT 181	GLENSIDE/EXIT 183	51000	1.065	1.191	8:45 AM	5:30 PM	93.86	83.97	0	0	1.07	1.58	59.13	52.9
GLENSIDE/EXIT 183	GLENSIDE/EXIT 183		1.025	1.385	8:45 AM	5:30 PM	97.57	72.19	0	0	1.09	2.33	61.47	45.48
GLENSIDE/EXIT 183	BROAD ST/EXIT 183		1.029	1.365	8:45 AM	5:30 PM	97.14	73.29	0	0	1.11	2.33	61.2	46.17
BROAD ST/EXIT 183	BROAD ST/EXIT 183		1.016	1.379	8:45 AM	5:30 PM	98.43	72.54	0	0	1.13	2.17	62.01	45.7
BROAD ST/EXIT 183	DICKENS/EXIT 185	53000	1.025	1.466	8:45 AM	5:30 PM	97.57	68.23	0	1	1.15	2.44	59.52	41.62
DICKENS/EXIT 185	DICKENS/EXIT 185		1.032	1.509	8:45 AM	5:45 PM	96.87	66.28	0	2	1.15	2.44	59.09	40.43
DICKENS/EXIT 185	US-33/EXIT 185		1.023	1.591	8:30 AM	5:45 PM	97.74	62.84	0	2	1.17	2.54	59.62	38.33
US-33/EXIT 185	US-33/EXIT 185		1.071	1.698	8:00 AM	5:45 PM	93.35	58.9	0	3	1.24	3.1	57.88	36.52
US-33/EXIT 185	I-195/I-95/EXIT 186	67000	1.229	1.627	8:00 AM	5:45 PM	81.36	61.47	0	3	1.71	3.22	47.19	35.65
I-195/I-95/EXIT 186	I-195/I-95/EXIT 186		1.207	1.418	8:00 AM	5:45 PM	82.85	70.5	0	0	1.93	3.18	44.74	38.07
I-195/I-95/EXIT 186	I-95/EXIT 190	67000	2.061	3.552	7:45 AM	5:30 PM	48.52	28.15	5	7	4	7.43	25.23	14.64
I-95/EXIT 190	US-360/EXIT 192	46000	2.368	1.817	8:00 AM	5:30 PM	42.24	55.03	5	4	4.21	5.36	24.92	32.47
US-360/EXIT 192	US-360/EXIT 192		1.941	1.117	8:00 AM	5:30 PM	51.53	89.5	2	0	4.43	1.82	31.95	55.49
US-360/EXIT 192	NINE MILE/EXIT 193	36000	1.261	1.003	8:00 AM	5:30 PM	79.3	99.72	0	0	2.65	1.13	48.37	60.83

I-95 N @ US-301/US-1/N BELVIDERE ST/EXIT 76

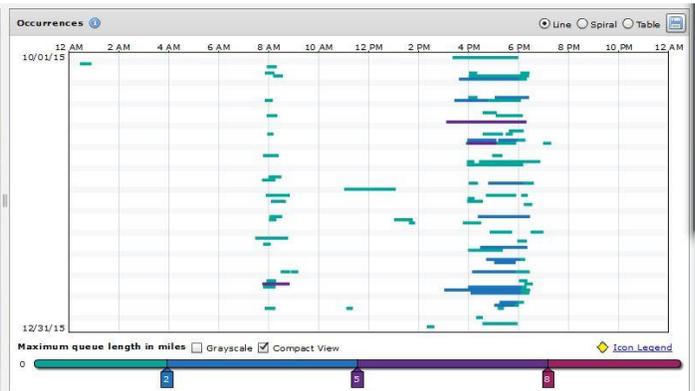
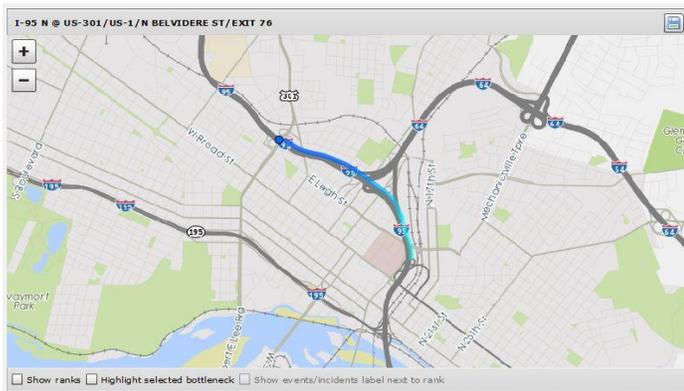
Location	Year	Bottleneck Rank	Average Duration X	Average Max Length (miles) X	Occurrences =	Impact Factor	All Events or Incidents
I-95 N @ US-301/US-1/N BELVIDERE ST/EXIT 76	2013	8	48 m	0.81	117	4,571	102
	2014	5	62 m	1.21	106	7,949	118
	2015	8	54 m	1.47	92	7,280	123



4th Quarter 2013



4th Quarter 2014



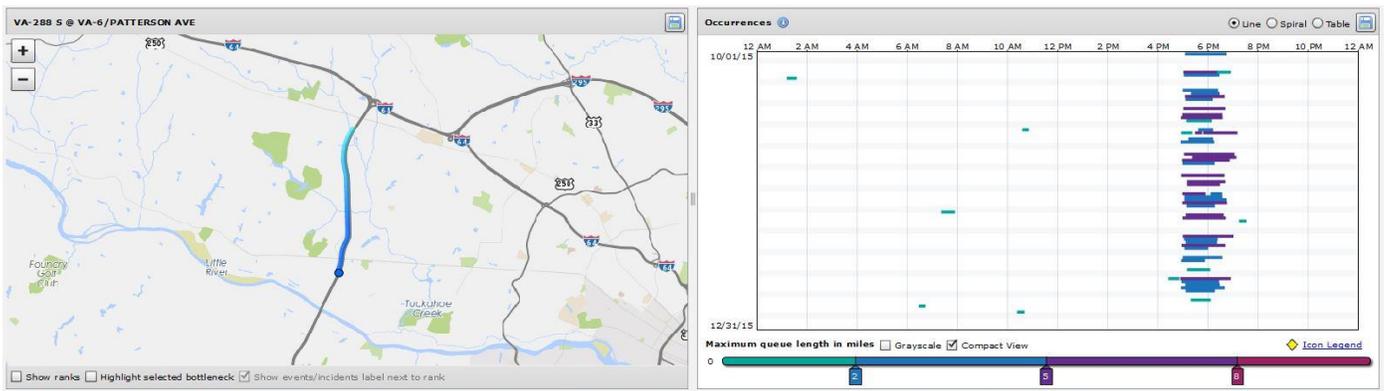
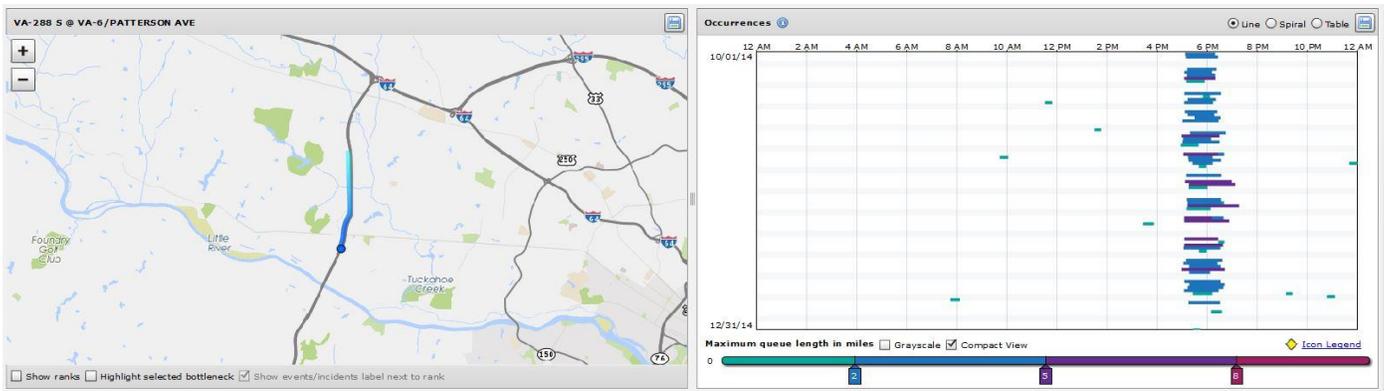
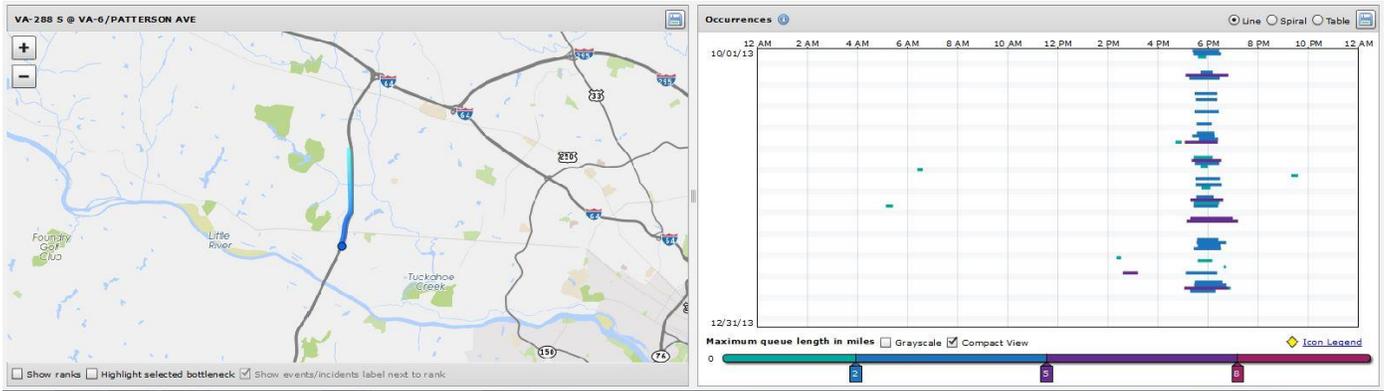
4th Quarter 2015

I-95 From I-95 (NORTH)/I-64 to I-195/Down Town Expressway/EXIT 74														
From	To	AADT	Northbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-95 (NORTH)/I-64	BOULEVARD/EXIT 78	72000	1.165	1.2	8:00 AM	5:45 PM	85.82	83.35	0	0	1.62	1.67	51.49	50.01
BOULEVARD/EXIT 78	BOULEVARD/EXIT 78		1.244	1.335	8:00 AM	5:45 PM	80.38	74.9	0	0	1.94	2.31	48.23	44.94
BOULEVARD/EXIT 78	EXIT 78		1.259	1.375	7:45 AM	5:45 PM	79.42	72.72	0	0	2.14	2.61	47.65	43.63
EXIT 78	EXIT 78		1.272	1.368	7:45 AM	5:45 PM	78.6	73.12	0	0	2.14	2.61	47.16	43.87
EXIT 78	US-301/EXIT 76	67000	1.295	1.505	9:00 AM	5:45 PM	77.24	66.45	0	2	2.64	3.22	44.8	38.54
US-301/EXIT 76	US-301/EXIT 76		1.523	2.261	9:00 AM	5:30 PM	65.66	44.24	2	7	3.93	4.21	38.74	26.1
US-301EXIT 76	CLAYNE AVE/EXIT 76	58000	1.503	2.411	9:00 AM	5:30 PM	66.53	41.48	2	7	4	4.29	39.92	24.89
CLAYNE AVE/EXIT 76	CLAYNE AVE/EXIT 76		1.43	2.636	8:45 AM	5:30 PM	69.95	37.93	1	7	3.93	4.21	41.27	22.38
CLAYNE AVE/EXIT 76	I-64/I-95 (SOUTH)	69000	1.401	2.791	7:45 AM	5:30 PM	71.39	35.83	0	6	3.47	4.92	42.12	21.14
I-64/I-95 (SOUTH)	I-64/I-95 (SOUTH)		1.212	2.831	7:45 AM	5:30 PM	82.53	35.33	0	6	1.93	5.8	47.87	20.49
I-64/I-95 (SOUTH)	I-64/7TH ST/EXIT 75		1.151	2.445	7:45 AM	5:30 PM	86.84	40.9	0	5	1.41	4.83	50.37	23.72
I-64/7TH ST/EXIT 75	I-64/7TH ST/EXIT 75		1.172	2.712	7:45 AM	5:30 PM	85.29	36.88	0	6	1.71	5.8	49.47	21.39
I-64/7TH ST/EXIT 75	BROAD ST/EXIT 74	61000	1.117	2.275	8:00 AM	5:30 PM	89.53	43.95	0	6	1.36	4.75	51.03	25.05
BROAD ST/EXIT 74	BROAD ST/EXIT 74		1.101	1.996	8:00 AM	5:30 PM	90.79	50.11	0	4	1.33	4.07	51.75	28.56
BROAD ST/EXIT 74	FRANKLIN ST/EXIT 74		1.118	1.991	8:00 AM	5:30 PM	89.43	50.22	0	5	1.32	4.83	51.87	29.13
FRANKLIN ST/EXIT 74	FRANKLIN ST/EXIT 74		1.124	1.827	8:00 AM	5:45 PM	88.93	54.74	0	6	1.33	3.8	50.69	31.2
FRANKLIN ST/EXIT 74	I-195/DTE/EXIT 74	58000	1.122	1.745	8:00 AM	5:30 PM	89.14	57.32	0	3	1.78	3.56	50.81	32.67
I-195/DTE/EXIT 74	I-195/DTE/EXIT 74		1.139	1.47	8:00 AM	5:45 PM	87.81	68.04	0	2	1.27	2.85	50.05	38.78

I-95 From I-95 (NORTH)/I-64 to I-195/Down Town Expressway/EXIT 74														
From	To	AADT	Southbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-95 (NORTH)/I-64	BOULEVARD/EXIT 78	72000	1.673	1.76	9:00 AM	5:30 PM	59.78	56.82	4	4	4.29	4.62	35.87	34.09
BOULEVARD/EXIT 78	BOULEVARD/EXIT 78		1.479	1.801	9:00 AM	5:30 PM	67.63	55.52	2	3	3.75	4	40.58	33.31
BOULEVARD/EXIT 78	EXIT 78		1.377	1.727	9:00 AM	5:30 PM	72.6	57.9	0	3	3.75	3.53	43.56	34.74
EXIT 78	EXIT 78		1.389	1.796	8:45 AM	5:30 PM	72.02	55.69	0	5	3.59	3.39	43.93	33.97
EXIT 78	US-301/EXIT 76	67000	1.167	1.671	8:15 AM	5:30 PM	85.71	59.84	0	4	3.22	1.81	49.71	34.71
US-301/EXIT 76	US-301/EXIT 76		1.146	1.534	8:00 AM	5:15 PM	87.29	65.17	0	3	3.22	1.57	50.63	37.8
US-301EXIT 76	CLAYNE AVE/EXIT 76	58000	1.185	1.531	8:00 AM	5:15 PM	84.36	65.32	0	3	3.11	1.51	49.77	38.54
CLAYNE AVE/EXIT 76	CLAYNE AVE/EXIT 76		1.173	1.466	8:00 AM	5:30 PM	85.22	68.22	0	2	2.76	1.53	49.43	39.57
CLAYNE AVE/EXIT 76	I-64/I-95 (SOUTH)	69000	1.17	1.422	8:00 AM	5:30 PM	85.46	70.32	0	0	2.48	1.46	48.71	40.08
I-64/I-95 (SOUTH)	I-64/I-95 (SOUTH)		1.161	1.335	8:30 AM	5:30 PM	86.13	74.88	0	0	2.5	1.13	51.68	44.93
I-64/I-95 (SOUTH)	I-64/7TH ST/EXIT 75		1.111	1.314	8:30 AM	5:30 PM	89.98	76.08	0	0	1.51	1.07	53.09	44.89
I-64/7TH ST/EXIT 75	I-64/7TH ST/EXIT 75		1.154	1.295	8:30 AM	5:30 PM	86.68	77.22	0	0	1.71	1.13	52.01	46.33
I-64/7TH ST/EXIT 75	BROAD ST/EXIT 74	61000	1.198	1.252	8:15 AM	5:30 PM	83.5	79.85	0	0	2.07	1.28	50.1	47.91
BROAD ST/EXIT 74	BROAD ST/EXIT 74		1.155	1.176	8:15 AM	5:30 PM	86.61	85.03	0	0	1.74	1.18	51.1	50.17
BROAD ST/EXIT 74	FRANKLIN ST/EXIT 74		1.11	1.206	8:15 AM	5:30 PM	90.1	82.92	0	0	1.88	1.3	54.06	49.75
FRANKLIN ST/EXIT 74	FRANKLIN ST/EXIT 74		1.043	1.166	8:15 AM	5:30 PM	95.86	85.75	0	0	1.78	1.16	54.64	48.88
FRANKLIN ST/EXIT 74	I-195/DTE/EXIT 74	58000	1.044	1.127	8:15 AM	5:30 PM	95.79	88.71	0	0	1.65	1.14	53.64	49.68
I-195/DTE/EXIT 74	I-195/DTE/EXIT 74		1.023	1.1	8:15 AM	5:30 PM	97.77	90.89	0	0	1.58	1.08	55.73	51.81

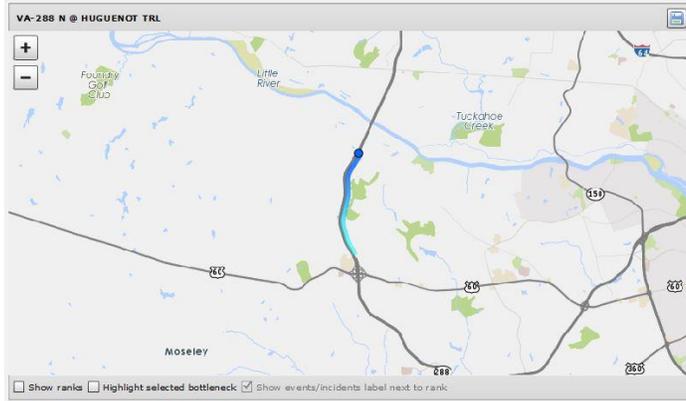
VA-288 S @ VA-6/PATTERSON AVE

Location	Year	Bottleneck Rank	Average Duration	X	Average Max Length (miles)	X	Occurrences	=	Impact Factor	All Events or Incidents
VA-288 S @ VA-6/PATTERSON AVE	2013	2	52 m		2.74		45		6,402	5
	2014	3	60 m		2.65		66		10,512	46
	2015	5	70 m		3.22		56		12,614	74

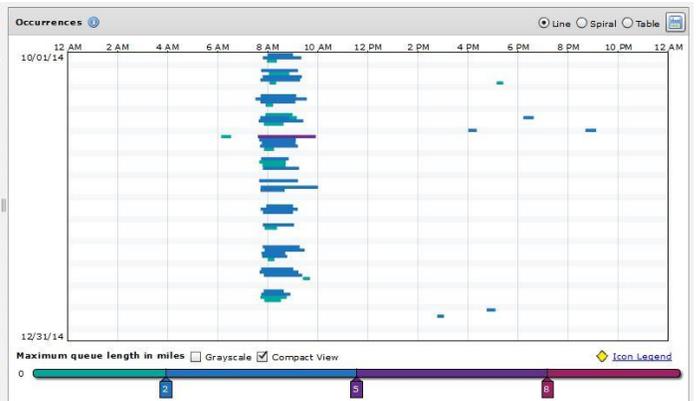
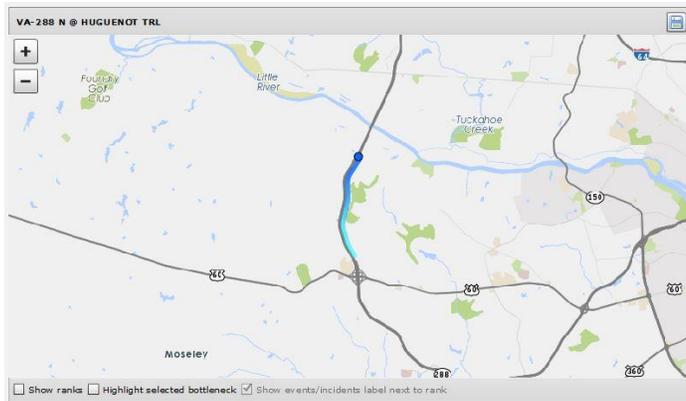


VA-288 N @ HUGUENOT TRL

Location	Year	Bottleneck Rank	Average Duration	X	Average Max Length (miles)	X	Occurrences =	Impact Factor	All Events or Incidents
VA-288 N @ HUGUENOT TRL	2013	3	54 m		2.35		48	6,097	17
	2014	4	63 m		2.71		54	9,214	23
	2015	4	80 m		3.38		47	12,698	65



4th Quarter 2013



4th Quarter 2014



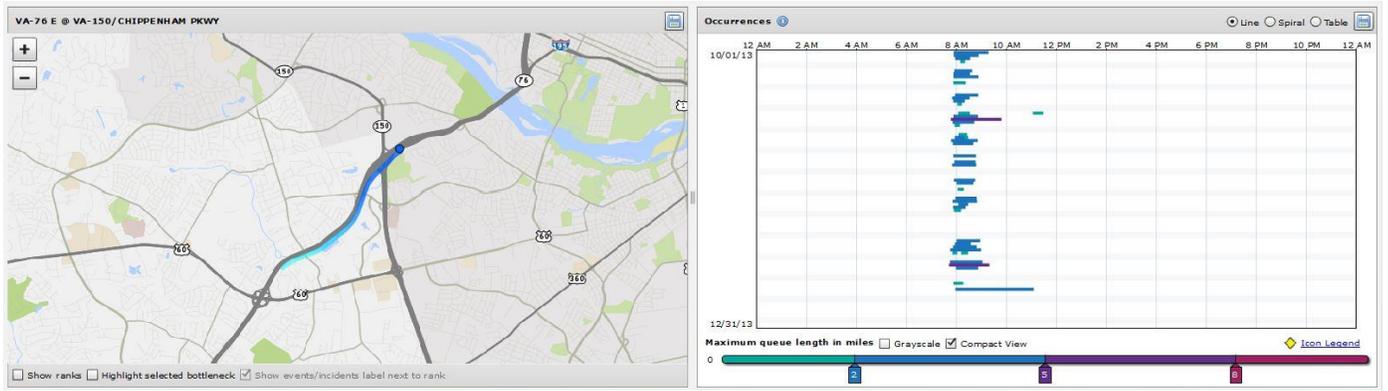
4th Quarter 2015

VA 288 From Midlothian Turnpike to I-64														
From	TO	AADT	Northbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
MIDLOTHIAN TPKE	MIDLOTHIAN TPKE		1.222	0.949	8:00 AM	5:45 PM	81.82	100	0	0	2.95	1.02	53.18	68.51
MIDLOTHIAN TPKE	HUGUENOT TRL	44000	1.619	0.96	8:00 AM	6:00 PM	61.75	100	3	0	2.95	1.02	40.14	67.69
HUGUENOT TRL	HUGUENOT TRL		2.046	0.959	8:00 AM	5:45 PM	48.88	100	5	0	3.42	1.03	31.77	67.79
HUGUENOT TRL	PATTERSON AVE	49000	1.111	0.969	8:00 AM	5:45 PM	90.05	100	0	0	1.33	1.03	58.53	67.05
PATTERSON AVE	PATTERSON AVE		0.961	0.957	8:00 AM	5:45 PM	100	100	0	0	1.03	1.03	67.63	67.94
PATTERSON AVE	W CREEK PKWY	38000	0.963	0.969	9:00 AM	6:00 PM	100	100	0	0	1.05	1.05	67.47	67.08
W CREEK PKWY	W CREEK PKWY		0.961	0.965	8:00 AM	5:45 PM	100	100	0	0	1.03	1.03	67.67	67.37
W CREEK PKWY	TUCKAHOE CREEK PKWY	38000	0.953	0.962	8:00 AM	5:45 PM	100	100	0	0	1.03	1.05	68.17	67.58
TUCKAHOE CREEK PKWY	TUCKAHOE CREEK PKWY		0.95	1.001	8:00 AM	5:45 PM	100	99.92	0	0	1.02	1.1	68.44	64.95
TUCKAHOE CREEK PKWY	BROAD STREET RD	47000	0.96	1.074	8:00 AM	5:30 PM	100	93.14	0	0	1.03	1.38	67.74	60.54
BROAD STREET RD	BROAD STREET RD		1.078	1.124	8:00 AM	5:30 PM	92.74	88.98	0	0	1.25	1.25	60.28	57.84
BROAD STREET RD	I-64	39000	1.025	1.093	8:00 AM	5:30 PM	97.59	91.52	0	0	1.12	1.19	1.12	58.57

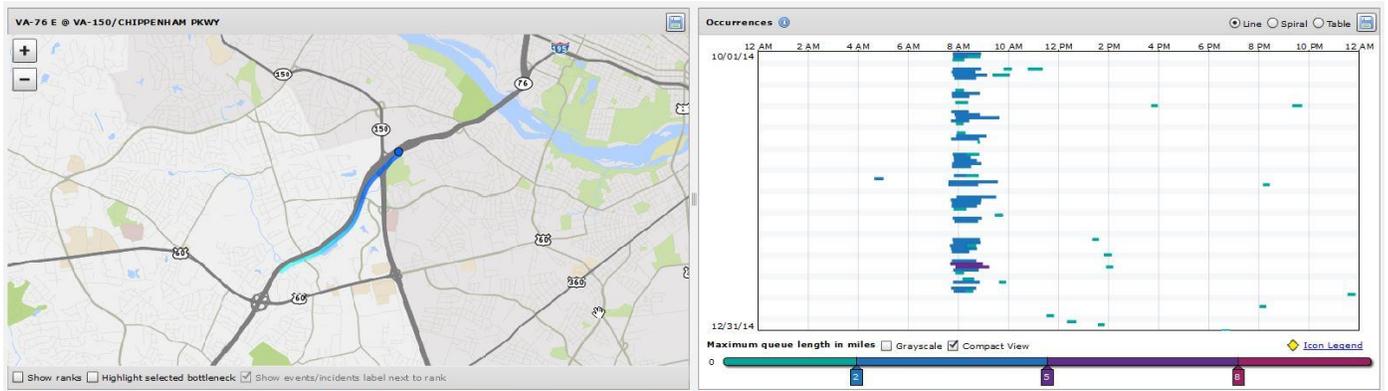
VA 288 From Midlothian Turnpike to I-64														
From	TO	AADT	Southbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
MIDLOTHIAN TPKE	MIDLOTHIAN TPKE		0.974	0.958	9:00 AM	4:15 PM	100	100	0	0	1.03	1.05	65.72	66.82
MIDLOTHIAN TPKE	HUGUENOT TRL	44000	0.985	0.985	8:30 AM	6:00 PM	100	100	0	0	1.03	1.05	66	65.97
HUGUENOT TRL	HUGUENOT TRL		0.978	0.974	8:15 AM	5:45 PM	100	100	0	0	1.03	1.07	66.46	66.74
HUGUENOT TRL	PATTERSON AVE	49000	0.963	1.089	8:15 AM	5:45 PM	100	91.86	0	0	1.03	1.3	67.51	59.71
PATTERSON AVE	PATTERSON AVE		0.993	1.858	8:00 AM	5:45 PM	100	53.83	0	4	1.07	2.83	65.46	34.99
PATTERSON AVE	W CREEK PKWY	38000	0.983	2.658	8:00 AM	5:30 PM	100	37.62	0	4	1.07	4.33	66.1	24.45
W CREEK PKWY	W CREEK PKWY		0.978	3.004	8:30 AM	5:30 PM	100	33.29	0	4	1.05	5	66.46	21.64
W CREEK PKWY	TUCKAHOE CREEK PKWY	38000	0.975	2.442	9:00 AM	5:30 PM	100	40.95	0	4	1.05	4.64	66.67	26.62
TUCKAHOE CREEK PKWY	TUCKAHOE CREEK PKWY		1.002	2.129	9:00 AM	5:30 PM	99.85	46.97	0	3	1.07	4.64	64.9	30.53
TUCKAHOE CREEK PKWY	BROAD STREET RD	47000	1.014	1.288	9:00 AM	5:45 PM	98.62	77.62	0	0	1.2	3.25	64.1	50.45
BROAD STREET RD	BROAD STREET RD		1.028	1.489	8:15 AM	6:00 PM	97.28	67.15	0	2	1.16	1.18	63.23	43.65
BROAD STREET RD	I-64	39000	1.014	1.043	9:00 AM	5:45 PM	98.63	95.92	0	0	1.09	1.17	62.14	60.43

VA-76 E @ VA-150/CHIPPENHAM PKWY

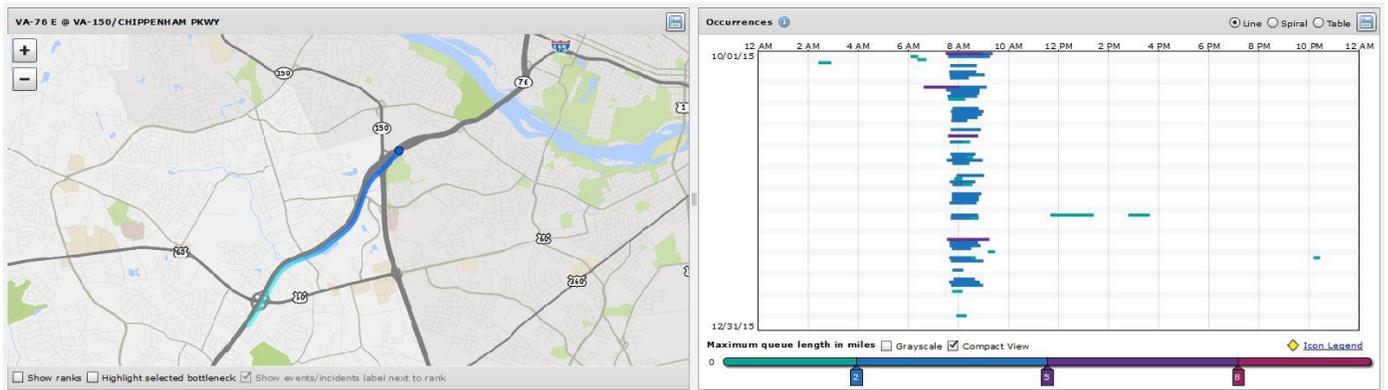
Location	Year	Bottleneck Rank	Average Duration	Average Max Length (miles)	X Occurrences	= Impact Factor	All Events or Incidents
VA-76 E @ VA-150/CHIPPENHAM PKWY	2013	7	47 m	2.45	45	5,187	14
	2014	6	47 m	2.18	67	6,869	10
	2015	6	58 m	2.93	55	9,356	24



4th Quarter 2013



4th Quarter 2014



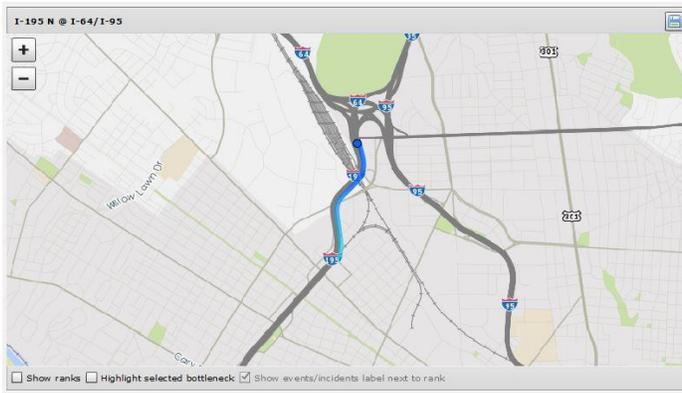
4th Quarter 2015

VA-76 From VA-288 to VA-146														
From	TO	AADT	Eastbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
VA-288	COURTHOUSE RD	31000	1.002	1.014	7:30 AM	5:45 PM	99.77	98.66	0	0	1.1	1.12	63.85	63.14
COURTHOUSE RD	MIDLOTHIAN TPKE	35000	1.128	1.012	8:15 AM	5:15 PM	88.69	98.77	0	0	1.83	1.08	56.76	63.21
MIDLOTHIAN TPKE	JAHNKE RD	47000	1.925	0.992	8:00 AM	5:45 PM	51.94	100	4	0	3.71	1.09	32.72	63.48
JAHNKE RD	JAHNKE RD		2.049	0.999	8:00 AM	6:00 PM	48.79	100	4	0	3.71	1.09	30.74	63.06
JAHNKE RD	CHIPPENHAM PKWY	50000	1.945	1.041	8:00 AM	5:45 PM	51.42	96.05	4	0	3.2	1.16	32.91	61.47
CHIPPENHAM PKWY	TOLL BOOTH		1.287	1.162	8:00 AM	5:15 PM	77.71	86.09	0	0	1.87	1.81	45.07	49.93
TOLL BOOTH	FOREST HILL AVE	77000	1.145	1.125	7:45 AM	4:45 PM	87.33	88.91	0	0	1.54	1.69	47.16	48.01
FOREST HILL AVE	VA-146	93000	1.06	1.024	7:45 AM	5:15 PM	94.3	97.67	0	0	1.18	1.13	56.58	58.6

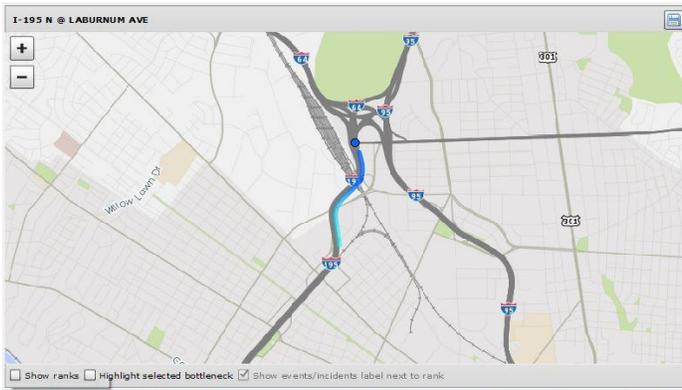
VA-76 From VA-288 to VA-146														
From	TO	AADT	Westbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
VA-288	COURTHOUSE RD	31000	1.021	1.025	8:30 AM	5:30 PM	97.97	97.55	0	0	1.13	1.13	60.74	60.48
COURTHOUSE RD	MIDLOTHIAN TPKE	35000	0.995	1.067	8:15 AM	5:30 PM	100	93.69	0	0	1.07	1.14	64.31	59.96
MIDLOTHIAN TPKE	JAHNKE RD	47000	1.009	1.186	8:15 AM	5:45 PM	99.11	84.34	0	0	1.09	1.94	61.45	52.29
JAHNKE RD	JAHNKE RD		1.023	1.242	8:15 AM	5:30 PM	97.71	80.54	0	0	1.13	2.25	61.56	50.74
JAHNKE RD	CHIPPENHAM PKWY	50000	1.011	1.246	8:15 AM	5:30 PM	98.95	80.26	0	0	1.11	2.03	60.36	48.96
CHIPPENHAM PKWY	TOLL BOOTH		1.022	1.535	8:15 AM	5:30 PM	97.81	65.14	0	2	1.19	3	55.75	37.13
TOLL BOOTH	FOREST HILL AVE	77000	1.017	1.289	8:15 AM	5:45 PM	98.29	77.57	0	0	1.09	2.42	57.01	44.99
FOREST HILL AVE	VA-146	93000	1.006	1.148	7:45 AM	5:30 PM	99.39	87.1	0	0	1.07	1.91	60.63	53.13

I-195 N @ I-64/I-95

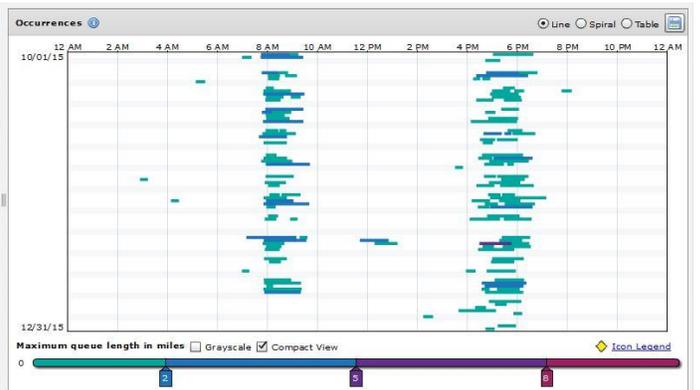
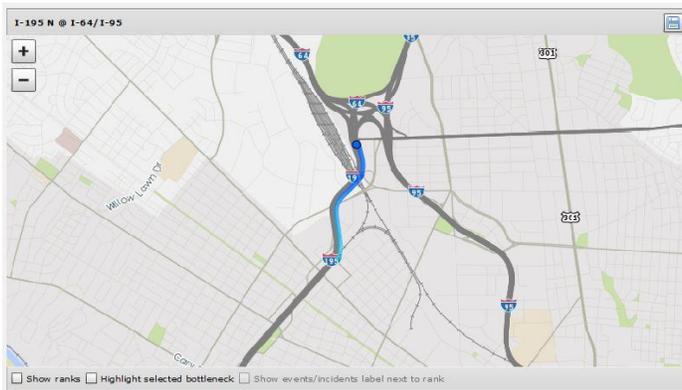
Location	Year	Bottleneck Rank	Average Duration	X	Average Max Length (miles)	X	Occurrences	=	Impact Factor	All Events or Incidents
I-195 N @ I-64/I-95	2013	5	46 m		1.13		107		5,541	18
	2014	7	48 m		0.82		158		6,233	28
	2015	7	53 m		1.08		141		8,060	38



4th Quarter 2013



4th Quarter 2014



4th Quarter 2015

I-195 From I-64/I-95 at Laburnum Ave to Monument Ave														
From	To	ADDT	Northbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-64/I-95	LABURNUM AVE	38000	1.982	2.243	8:00 AM	5:45 PM	50.47	44.59	5	4	4.83	5.27	29.27	25.86
LABURNUM AVE	LABURNUM AVE		2.017	2.478	8:00 AM	5:30 PM	49.58	40.35	4	6	4.07	5.18	28.26	23
LABURNUM AVE	HAMILTON ST	35000	1.673	1.957	8:00 AM	5:30 PM	59.76	51.09	3	3	3.18	3.86	32.27	27.59
HAMILTON ST	HAMILTON ST		1.723	1.797	8:00 AM	5:30 PM	58.03	55.66	4	3	3.63	4.14	33.66	32.28
HAMILTON ST	BROAD ST	35000	1.502	1.456	8:15 AM	5:30 PM	66.57	68.68	3	1	3.29	3.11	37.28	38.46
BROAD ST	BROAD ST		1.44	1.37	8:15 AM	5:30 PM	69.47	72.98	1	0	3.16	2.86	41.68	43.79
BROAD ST	MONUMENT AVE	35000	1.263	1.194	8:15 AM	5:30 PM	79.19	83.77	0	0	2.58	1.77	49.1	51.94

I-195 From I-64/I-95 at Laburnum Ave to Monument Ave														
From	To	ADDT	Southbound 2014 Tuesday Wednesday Thursday 7-9 AM and 4-6 PM											
			Travel Time Index (TTI)		Time of Max TTI		Lowest % of Freeflow		# of Congested 15 Min Intervals		Max Planning Time Index		Min Speed	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-64/I-95	LABURNUM AVE	38000	1.018	1.061	7:45 AM	5:30 PM	98.21	94.25	0	0	1.08	1.4	55	52.78
LABURNUM AVE	LABURNUM AVE		1.031	1.107	7:45 AM	5:30 PM	96.96	90.31	0	0	1.1	1.57	53.33	49.67
LABURNUM AVE	HAMILTON ST	35000	0.987	1.16	7:45 AM	5:30 PM	100	86.19	0	0	1.05	1.93	58.78	49.99
HAMILTON ST	HAMILTON ST		1.006	1.184	9:00 AM	5:30 PM	99.41	84.47	0	0	1.09	1.81	57.66	48.99
HAMILTON ST	BROAD ST	35000	1.033	1.379	9:00 AM	5:30 PM	96.78	72.49	0	0	1.13	2.95	57.1	42.77
BROAD ST	BROAD ST		1.005	1.35	7:45 AM	5:30 PM	99.49	74.1	0	0	1.11	2.44	60.69	45.2
BROAD ST	MONUMENT AVE	35000	0.998	1.247	7:45 AM	5:30 PM	100	80.22	0	0	1.09	2	60.13	48.13

Bottlenecks

Location	Year	Bottleneck Rank	Average Duration	X	Average Max Length (miles)	X	Occurrences	=	Impact Factor	All Events or Incidents
I-64 E @ I-195/I-95/W LABURNUM AVE/EXIT 186	2013	4	47 m		0.86		147		5,930	45
	2014	1	56 m		2.23		135		16,868	189
	2015	1	61 m		2.29		148		20,656	132
I-64 W @ I-95/EXIT 190	2013	1	42 m		1.13		175		8,311	44
	2014	2	58 m		1.23		148		10,590	57
	2015	2	62 m		1.14		224		15,775	122
VA-288 S @ VA-6/PATTERSON AVE	2013	2	52 m		2.74		45		6,402	5
	2014	3	60 m		2.65		66		10,512	46
	2015	5	70 m		3.22		56		12,614	74
VA-288 N @ HUGUENOT TRL	2013	3	54 m		2.35		48		6,097	17
	2014	4	63 m		2.71		54		9,214	23
	2015	4	80 m		3.38		47		12,698	65
I-95 N @ US-301/US-1/N BELVIDERE ST/EXIT 76	2013	8	48 m		0.81		117		4,571	102
	2014	5	62 m		1.21		106		7,949	118
	2015	8	54 m		1.47		92		7,280	123
VA-76 E @ VA-150/CHIPPENHAM PKWY	2013	7	47 m		2.45		45		5,187	14
	2014	6	47 m		2.18		67		6,869	10
	2015	6	58 m		2.93		55		9,356	24
I-195 N @ I-64/I-95	2013	5	46 m		1.13		107		5,541	18
	2014	7	48 m		0.82		158		6,233	28
	2015	7	53 m		1.08		141		8,060	38
VA-288 S @ US-360/HULL STREET RD	2013	13	25 m		2.19		23		1,258	11
	2014	11	31 m		1.43		66		2,929	24
	2015	3	39 m		2.16		169		14,217	46
I-95 S @ HERMITAGE RD/EXIT 78	2013	6	59 m		0.92		99		5,382	50
	2014	12	42 m		0.77		69		2,240	84
	2015	9	63 m		1.12		88		6,227	130
I-95 S @ VA-161/HERMITAGE RD/EXIT 80	2013	10	35 m		1.48		64		3,306	31
	2014	8	44 m		1.58		79		5,490	89
	2015	10	47 m		1.84		57		4,935	83
I-95 N @ I-195/DOWNTOWN EXPY/EXIT 74	2013	9	59 m		2.17		29		3,716	156
	2014	9	47 m		1.52		68		4,874	200
	2015	13	56 m		2.45		16		2,191	185
I-64 W @ VA-356/GLENSIDE DR/EXIT 183	2013	14	29 m		1.16		34		1,146	33
	2014	10	43 m		1.93		42		3,483	93
	2015	15	31 m		1.34		35		1,454	58
I-95 N @ MAURY ST/EXIT 73	2013	12	29 m		1.17		37		1,259	75
	2014	14	37 m		1.64		34		2,063	100
	2015	12	41 m		1.32		41		2,216	117
I-95 S @ VA-288/EXIT 62	2013	15	35 m		1.37		12		575	18
	2014	13	47 m		2.27		20		2,137	31
	2015	11	41 m		1.3		53		2,831	40
I-64 E @ US-33/STAPLES MILL RD/EXIT 185	2013	11	28 m		1.82		32		1,631	34
	2014	15	27 m		1.53		30		1,241	89
	2015	14	38 m		1.77		26		1,750	64

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