



INTERSTATE 64 PENINSULA STUDY

TRAFFIC/TRANSPORTATION TECHNICAL MEMORANDUM



OCTOBER 2012



1401 EAST BROAD STREET
RICHMOND, VA 23219

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ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
AADT	Annual Average Daily Traffic
AAWDT	Annual Average Weekday Traffic
ADT	Average Daily Traffic
APM	A.P. Moller-Maersk
EIS	Environmental Impact Statement
EB	East Bound
EBL	Express Bus Lanes
ETL	Express Toll Lanes
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
HOV	High Occupancy Vehicle
HOT	High Occupancy Toll
HRBT	Hampton Roads Bridge-Tunnel
I	Interstate
LOS	Level of Service
MAC	Media Access Control
MMBT	Monitor-Merrimac Bridge-Tunnel
MP	Mile Post
MPO	Metropolitan Planning Organization
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NHS	National Highway System
NIT	Norfolk International Terminal
NS	Norfolk Southern Railroad
PCE	Passenger car equivalent
SSD	Stopping sight distance
STRAHNET	Strategic Highway Network
SYIP	Six-Year Improvement Program
TEU	Twenty-Foot Equivalent Unit
TDM	Travel Demand Management
TPO	Transportation Planning Organization
TSM	Transportation Systems Management
VDOT	Virginia Department of Transportation
VDRPT	Virginia Department of Rail and Public Transportation
VOT	Value of Time
VPA	Virginia Port Authority
VPD	Vehicles per Day
VPH	Vehicles per Hour
WB	West Bound

I. Introduction

This *Traffic and Transportation Technical Memorandum* presents a detailed description of the traffic analyses conducted to evaluate baseline 2011 and future 2040 traffic, safety and geometric conditions within the study area of the Interstate 64 (I-64) Peninsula Study. This information can also serve as a basis for the Indirect and Cumulative Impacts Analysis.

A. Description

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating options to improve the 75 mile long Interstate 64 (I-64) corridor from the Interstate 95 (I-95) (Exit 190) interchange in the City of Richmond to the Interstate 664 (I-664) (Exit 264) interchange in the City of Hampton. This study is known as the Interstate 64 Peninsula Study (hereinafter referred to as the I-64 Study in this document). As shown in **Figure 1**, the study area is located within seven localities, including the City of Richmond, Henrico County, New Kent County, James City County, York County, the City of Newport News, and the City of Hampton.

The number of lanes on existing I-64 varies through the study area. In the vicinity of the City of Richmond, from Exit 190 to Exit 197, there are generally three travel lanes in each direction. Between Exit 197 and mile marker 254, there are generally two travel lanes in each direction. Beginning at mile marker 254 and continuing east to the City of Hampton area, I-64 widens to four lanes in each direction with three general purpose lanes and one 2+ person High Occupancy Vehicle (HOV 2+) lane during the AM and PM peak periods. There are some additional lanes between closely spaced interchanges at the eastern end of the corridor to provide for easier merging of traffic on and off of the I-64 mainline.

B. Alternatives

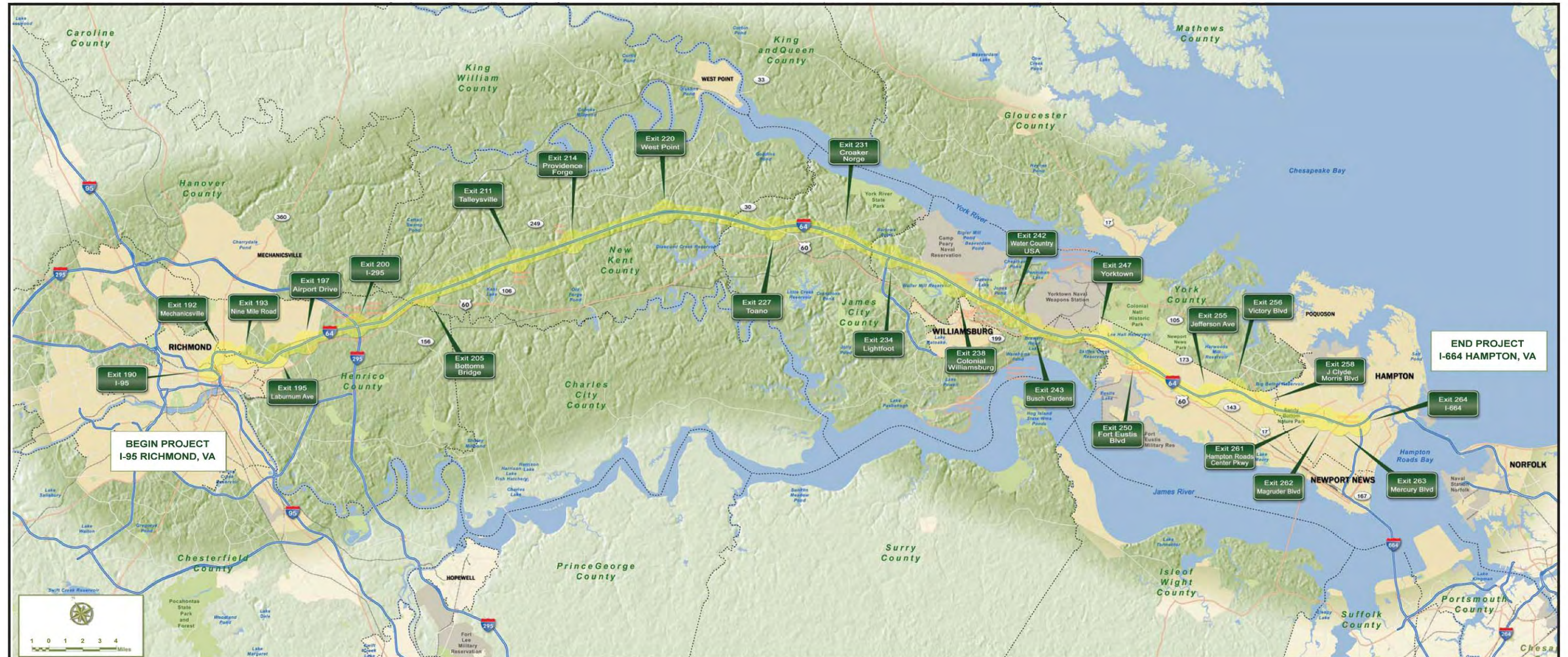
There are a number of possible solutions to address the need for improvements along the I-64 corridor, as described in detail in the *Alternatives Development Technical Memorandum*. The goals are to develop solutions that meet the project purpose and needs while avoiding and/or minimizing impacts to the human and natural environments. The following are the alternatives being carried forward in this study:

1. No-Build Alternative

The No-Build Alternative serves as a baseline for the comparison of future conditions and impacts. The No-Build Alternative assumes that the projects currently programmed and funded in the VDOT's Fiscal Year 2013 – 2018 Six-Year Improvement Program (SYIP) will be implemented. In addition to the programmed VDOT projects, the Tidewater Super-Regional Model developed by VDOT and used for this study includes other projects within the corridor that are part of the Richmond Area Metropolitan Planning Organization (MPO) or Hampton Roads Transportation Planning Organization's (TPO) Constrained Long Range Plans, as well as the Rural Long Range Transportation Plans (which are not fiscally constrained) for the Richmond and Hampton Roads Planning District Commissions. Those projects form a part of the base conditions and the effects of these projects on I-64 traffic are accounted for in all 2040 No-Build analyses.

2. Alternatives 1A/1B General Purpose Lanes

These alternatives involve adding additional general purpose travel lanes to the I-64 mainline to achieve a Level of Service (LOS) C or better in the design year 2040. Although there are numerous possible combinations for adding these lanes, the analysis focused on adding all needed lanes, within the existing right of way, to the greatest extent practicable, to either the outside of the existing lanes, which is Alternative 1A, or to the inside of the existing lanes within the median, which is Alternative 1B. For Alternative 1B, the lanes are also proposed in the median to the greatest extent practicable. However, not all sections of the corridor have sufficient median area to accommodate the needed additional lanes so in



BEGIN PROJECT
I-95 RICHMOND, VA

END PROJECT
I-664 HAMPTON, VA

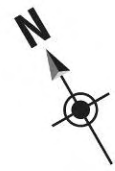


Figure 1
Project Location Map



these areas the additional lanes are proposed to the outside. For the 25 existing interchanges within the study area corridor, geometric deficiencies were examined along with design year 2040 traffic volumes and resulting LOS at each interchange location. Conceptual designs were investigated that would accommodate the future traffic and assumptions were made and applied to each interchange to establish a study footprint that would allow for enough flexibility during the final design stage to accommodate other concepts not yet examined. Further engineering and traffic analyses would be performed at each interchange as the project progresses. During the Interchange Modification Report (IMR) process, which is required by FHWA before any changes can be made to Interstate interchanges, each of these interchange configurations would serve as a starting point to be further studied and refined with a more in-depth examination of the needs at each location, in order to produce a constructible design.

3. Alternatives 2A/2B Full Toll Lanes

These alternatives evaluate the impacts of tolling the entire facility. However, as of the time of this study, there is no federal or state agreement in place that would allow for tolling I-64 from I-95 in the City of Richmond to I-664 in the City of Hampton. Therefore, these alternatives that involve tolling may or may not ultimately be possible. Notwithstanding, because tolling could be an option in the future, alternatives that involve tolling were considered in the range of possible alternatives evaluated. For the purposes of this study, it was assumed that if the facility is tolled, the tolling would be for all vehicles, in both directions, and for the entire length of the corridor from I-95 in the City of Richmond to I-664 in the City of Hampton. It was also assumed that there would be toll collection stations, using overhead gantries and all-electronic tolling, for every interchange-to-interchange sections of I-64. If Alternative 2A or 2B is identified as the Preferred Alternative, subsequent studies will refine the specifics of the tolling, such as whether or not it would encompass the entire length of the I-64 corridor along with the number and placement of the toll collection stations. In order to determine the number of lanes needed for Alternatives 2A/2B, the traffic studies included a toll diversion analysis. As a result of this analysis, the tolling of I-64 is expected to have either a neutral effect or result in a decrease in traffic volumes on the I-64 mainline due to people choosing to avoid a tolled I-64 and using other parallel routes instead. The tolls are not expected to result in increased volumes at any location on the I-64 mainline. This analysis indicated possible reductions to traffic on the I-64 corridor, however these reductions are not projected to change the number of lanes needed to achieve a LOS C or better in the design year 2040 from those indicated for the General Purpose Lanes Alternatives. Therefore, the proposed disturbance limits for Alternatives 2A/2B would be the same as Alternatives 1A/1B, respectively. Although there are numerous possible combinations for adding these lanes, the analysis focused on adding all needed lanes within the existing right of way, to the greatest extent practicable, to either the outside of the existing lanes, which is Alternative 2A, or to the inside of the existing lanes within the median, which is Alternative 2B. For Alternative 2B, the lanes are also proposed in the median to the greatest extent practicable. However, not all sections of the corridor have sufficient median area to accommodate the needed additional lanes so in these areas the additional lanes are proposed to the outside. In addition to the mainline improvements, due to only modest changes in traffic volumes, as determined in the toll diversion analysis, Alternatives 2A/2B also includes the same improvements to the 25 interchanges as described with Alternatives 1A/1B.

4. Alternative 3 Managed Lanes

This alternative involves the addition of separated, managed lanes located in the median. These managed lanes were examined for the entire length of the I-64 study area from I-95 in the City of Richmond to I-664 in the City of Hampton. As previously described, not all sections of the I-64 corridor have sufficient median area to accommodate the addition of any lanes. In these areas, the facility is proposed to be widened to the outside of the existing general purpose lanes in order to accommodate the managed lanes between the eastbound and westbound general purpose travel lanes. Managed lanes can refer to many different strategies, including:

- High Occupancy Vehicle (HOV) lanes.
- High Occupancy Toll (HOT) lanes.
- Express Toll Lanes (ETL).
- Express Bus Lanes (EBL).

For any of the managed lanes that involve toll collection (HOT or ETL lanes), traditional toll plazas were not included. All toll collection would be conducted by overhead gantries with all-electronic tolling used to collect all tolls at highway speeds. The Environmental Impact Statement (EIS) study does not identify what type of managed lanes would be constructed. Based on the results of the capacity analysis, the lane configurations developed for Alternative 3 along the I-64 corridor are described in the *Alternatives Development Technical Memorandum*. If Alternative 3 is identified as the Preferred Alternative, subsequent studies would refine the specifics of the managed lanes throughout the I-64 corridor.

C. Other Adjacent Studies

There are two other ongoing VDOT traffic studies within the study area. The traffic volumes development and capacity analysis for this study were carefully coordinated with these following two studies:

- I-64 Hampton Roads Bridge-Tunnel (HRBT) EIS – This ongoing VDOT study extends from I-664 in Hampton to I-564 in Norfolk. The purpose of this study is to identify the transportation needs of the corridor and to evaluate the impacts of proposed improvements to meet those needs. An EIS is being prepared for that project in accordance with the National Environmental Policy Act (NEPA).
- I-95/I-64 Overlap Study – This ongoing VDOT study is a preliminary planning study of the I-95/I-64 corridor through Richmond. This study encompasses the entire I-95/I-64 overlap area (from the I-95/I-64/I-195 “Bryant Park” interchange to the I-95/I-64 eastern junction which forms the western edge of this project’s study area), and also includes the interchanges bracketing that corridor (the I-64/Staples Mill Road interchange, the I-95/Hermitage Road interchange, and the I-95/Downtown Expressway interchange).

II. Data Collection

This section describes the traffic volume and travel speed data that was collected as part of the I-64 Study, along with an inventory of Park and Ride and rest area facilities along I-64. Raw data pertaining to this section can be found in **Appendix A** of this memorandum. The base year data provided necessary input parameters for traffic operations analyses of existing conditions, which is described in **Section III – Analysis of Existing Conditions**.

A. Traffic Data Collection

The traffic data collection effort for this study focused on weekday morning and afternoon peak hour conditions throughout the corridor, as well as summer Saturday and Sunday peak hour conditions at select locations. As described in the following sections, a variety of available data sources were used to establish Average Daily Traffic (ADT) volumes, non-summer weekday peak hour volumes, and summer weekend peak hour volumes. Traffic volumes were collected for freeway segments, on and off ramps, and intersections with nearby cross-streets. The ADT volumes and non-summer weekday AM and PM peak hour volumes were assembled for the entire I-64 corridor between Exit 190 in Richmond and Exit 264 in Hampton. Saturday and Sunday summer peak hour volumes were assembled for certain summer traffic-intensive interchanges near major tourism sites along the corridor (Exit 220 and Exits 234-243).

1. Summary of Traffic Volume Data Sources

The various sources of traffic volume data assembled for the I-64 Study are listed below. For the most part, this data was provided in “raw” format, and some degree of volume process and adjustment was

required to obtain consistent volumes for the traffic analysis. The methodology used to establish the balanced volumes for base year (2011) existing conditions is described in **Section III – Analysis of Existing Conditions**.

a. VDOT Traffic Volume Data Available From Previous Data Collection Efforts

The VDOT maintains an extensive traffic volume data collection program that tracks daily traffic volumes and vehicle types on interstate, arterial and primary routes. The program estimates annual average daily traffic (AADT) and annual average weekday traffic (AAWDT) as well as hourly volumes, peak hour volumes and directional factors that are useful in establishing design criteria. VDOT data included the following:

- AADT count data from 2010 for the following mainline segments:
 - Between Exit 190 and 192.
 - Between Exit 195 and 197.
 - Between Exit 205 and 211.
 - Between Exit 227 and 231.
 - Between Exit 234 and 238.
 - Between Exit 256 and 258.
 - Between Exit 263 and 264.
- Hourly count data from April 12, 2011 (Tuesday) for the following mainline segments:
 - Between Exit 190 and 192.
 - Between Exit 195 and 197.
 - Between Exit 205 and 211.
 - Between Exit 227 and 231.
 - Between Exit 234 and 238.
 - Between Exit 256 and 258.
- Hourly count data from September 2008 (Tuesdays, Wednesdays, and Thursdays) for ramps from Exit 205 through Exit 231, inclusive.
- Hourly count data from August 10, 2011 (Wednesday) for I-95 through traffic at the I-64 / I-95 interchange (Exit 190), along with the ramp from 7th Street to southbound I-95.
- 2010 AADT data for I-295 through traffic at the I-64 / I-295 interchange (Exit 200).
- Weekday peak period intersection turning movement counts at seven intersections, contained in recent Traffic Impact Analysis reports for developments near Exits 195, 205, 214, 231, and 255.
- Summer Saturday and Sunday hourly count data from June 25 and July 16, 2011 and June 26 and July 17, 2011 for the I-64 mainline segment between Exits 220 and 227.
- Summer Saturday and Sunday hourly count data from June 26 and July 24, 2010 and June 27 and July 25, 2010 for the I-64 mainline segments between Exits 234 and 238 and between Exits 227 and 231.
- For certain cross-street locations at Exits 192, 193, 197, 205, 211, 214, 220, 227, and 234, daily volumes are based on 2010 AADT volumes.
- For certain cross-street locations at Exits 231, 234, 238, 242, 243, 247, 250, 255, 256, 258, 261, 262, and 263, daily volumes are based on 2010 AAWDT volumes.
- Daily volume from February 25, 2010 (Thursday) for SR 143 south of I-64 (cross street ADT volume at Exit 247).

b. Traffic Volumes Provided by Other Agencies/Studies

Traffic data provided by other agencies or coordinated with other ongoing studies in the I-64 Corridor were as follows:

- Provided by Henrico County: daily volume from October 7, 2010 (Thursday) for Laburnum Avenue south of I-64 (cross street ADT volume at Exit 195).

- Coordinated with the I-95 / I-64 Overlap Study to ensure that volumes at the I-64 / I-95 interchange (Exit 190) were consistent between the two studies.
- Coordinated with the HRBT EIS Study to ensure that volumes at the I-64 / I-664 interchange (Exit 264) were consistent between the two studies.

c. Traffic Volumes Collected by I-64 Study Team

Traffic data collected by the I-64 Study team included the following:

- Hourly count data from April and May 2011 (Tuesdays and Wednesdays) for all study area ramps other than Exit 205 through Exit 231 and the rest area at Milepost 213.
- Hourly count data from September 13-15, 2011 (Tuesday-Thursday) for ramps of the rest area at Milepost 213.
- Weekday peak period intersection turning movement counts at 24 intersections, counted in April and May 2011 (Tuesdays, Wednesdays, and Thursdays).
- Summer Saturday and Sunday hourly count data from June 25 and July 16, 2011 and June 26 and July 17, 2011 for all ramps at Exit 220 and between Exits 234 and 243.
- Summer Saturday and Sunday peak period intersection turning movement counts at 9 intersections, counted on June 25 and July 16, 2011 and June 26 and July 17, 2011.
- For certain cross-street locations at Exits 192, 193, 195, and 197, daily volumes are based on counts conducted on Tuesdays and Wednesdays in April and May 2011.

2. Traffic Speed and Travel Time

A study of travel speeds was undertaken as part of the I-64 Study, in which individual vehicle travel times were measured via Bluetooth sensors over seven segments of I-64 between Milepost 239 and Milepost 264 in the eastern end of the corridor. The travel time data was collected in two separate investigations. The first captured typical weekday travel patterns and was conducted on May 17 and 18, 2011 (Tuesday and Wednesday). The second captured weekend travel patterns during the summer tourist season and was completed on August 12-14, 2011 (Friday – Sunday). The weekend study included six segments from Milepost 244 to Milepost 264.

Time measurements were recorded as vehicles with Bluetooth-enabled devices (such as cell phones), each with a unique Media Access Control (MAC) address, traveled from one sensor to the next. These travel time measurements were subsequently analyzed using the BluSTATS software, a proprietary data processing tool produced by Traffax, Inc. Using the driving distance from one sensor to another (roadway centerline as opposed to straight-line distance), the travel times would later be converted to travel speeds. Traffic speed and travel time results are provided in **Section III – Analysis of Existing Conditions**.

There were certain limitations on sensor placement:

- Sensors could only be installed where there was room for technicians to safely pull completely off the road. At two locations at the eastern end of the corridor, the median was too narrow to safely pull off the roadway. Therefore, the devices were placed in the shoulder. These sensors were still able to detect Bluetooth-enabled devices traveling in both directions of I-64.
- It was preferred to place the sensors where they could detect both directions of traffic simultaneously.
- Sensors required line-of-sight to the vehicles being surveyed. At the western end of the corridor, sensors could only be placed in areas where there were no trees in the median (primarily at emergency crossovers).

The Bluetooth sensor devices were typically mounted to a luminaire (roadway lighting pole) or sign support, where feasible. This allowed the devices to gain better line-of-sight to all vehicles, even at

locations where the median barrier or a tall truck could obscure a passenger vehicle behind it. Specific sensor locations are provided in **Table 1**.

Table 1: Travel Speed Study Sensor Locations

Milepost	Location	Side	Mounting	Notes
MP 239	Approx. ½ mile West of Exit 238	WB Shoulder	Variable Message Sign Truss Support	Sensor was installed for May 2011 Weekday Study only
MP 243	Immediately East of Exit 243	Median	Median Crossover	Sensor was installed in a different median crossover for the August 2011 Weekend Study, within the middle of the Exit 243 interchange
MP 248	Immediately East of Exit 247	Median	Median Crossover	
MP 251	Immediately East of Exit 250	EB Shoulder	Resting on Guardrail	
MP 254	West of Exit 255	Median	Resting on Median Barrier	Sensor was located about midway through the point where I-64 WB narrows from 4 to 2 travel lanes (at a location where the WB left-hand shoulder is in excess of 15 feet)
MP 257	Between Exits 256 & 258	WB Shoulder	Attached to Cantilever	
MP 259	Between Exits 258 & 261	WB Shoulder	Attached to Cantilever	
MP 264	I-64 / I-664 Split	Median	Resting on Median Barrier	Due to safety limitations, the sensor was installed just east of the ramps to/from I-664. This sensor likely did not capture data for vehicles going from I-64 to/from I-664 and the MMBT, only traffic continuing to/from I-64 and the HRBT.

Data was collected throughout the entire 24-hour day, and the studies were successful in matching several hundred matches at a time between any two adjacent sensor locations. During off-peak hours, almost all five-minute intervals had at least one successful match. During peak hours, the sensors typically recorded between 25 and 30 matches in any five-minute period, with hundreds of matches made during each hour. This capture rate was an order of magnitude higher than what is typically expected by other methods of travel time data collection (e.g., manually collecting data with a test car and using GPS devices or stopwatches to record travel time), as those other methods are typically limited to 5-10 runs during any one day's peak period. Additionally, the software was set up to automatically exclude any "outlier" data – individual data points that lie well outside the median travel time in that five-minute period, which could occur for reasons such as:

- Example 1: A driver passing by Sensor A, stopping on the side of the road for 15 minutes to change a tire, and then continuing on to pass Sensor B.
- Example 2: A driver passing by Sensor A, getting off at an intermediate interchange to buy gas, and then getting back on the highway to pass Sensor B.
- Example 3: A driver exceeding the speed limit to an extreme degree.

The Bluetooth device data collection technique avoids privacy issues, since the only data collected from drivers was the Bluetooth MAC address. The sensors cannot collect or record personal data, such as the names or phone numbers associated with individual Bluetooth-enabled devices.

B. Park and Ride Inventory

The latest inventory of Park and Ride facilities in Virginia was conducted in 2012. All Park and Ride facilities that serve the I-64 Study corridor were extracted from the VDOT Transportation and Mobility Planning Division inventory and summarized in **Table 2**. In all there are four Park and Ride facilities within the I-64 corridor, collectively totaling approximately 193 parking spaces. VDOT data indicates that these lots are collectively about 53% utilized on a typical day.

All of these Park and Ride lots are operated by VDOT. One of the lots (in Newport News) is serviced by a transit route (Hampton Roads Transit). That is also the only striped lot of the four. VDOT’s planning data does not indicate a need for expansion at any of these lots.

Table 2: Park and Ride Inventory

Locality	Exit	Location	Number of Spaces	% Utilized	Striped
New Kent County	205	US 60 median, West of VA 249	37	76%	No
James City County	231	Rochambeau Drive @ Croaker Road	64	56%	No
York County	234	E. Rochambeau Drive ¹	60	27%	No
City of Newport News	247	VA 238 & VA 143 Intersection	32	72%	Yes
Totals			193	53%	

C. Rest Area Inventory

There are two rest areas within the corridor. The “New Kent East Coast Gateway Safety Rest Area and Welcome Center” is located at I-64 East Milepost 213 in New Kent County. The building opened in 2003 and includes 170 car spaces and 76 truck/bus/RV spaces. The “New Kent Safety Rest Area West” is located at I-64 West Milepost 213 in New Kent County. The building opened in 2007 and includes 86 car spaces, 29 truck/bus/RV spaces, and 6 hybrid vehicle spaces.

III. Analysis of Existing Conditions

This section documents the evaluation of existing conditions along the I-64 study corridor by examining current traffic volumes, vehicular operations, traffic safety, and geometric conditions. The base year traffic data collection was used to establish existing 2011 conditions according to the methodologies and supporting decisions described in the following sections. Capacity and LOS traffic analyses were completed for both AM and PM peak hour conditions for the entire corridor between Exit 190 in Richmond and Exit 264 in Hampton. Additional analyses were conducted for Saturday and Sunday summer peak hour conditions for certain summer traffic-intensive interchanges serving major tourism destinations near Williamsburg and Busch Gardens.

A. Traffic Analysis Volumes

1. Selection of Peak Periods

The traffic studies for this study focused on weekday morning and afternoon peak hour periods throughout the year (i.e. typical rush hour conditions) as well as conditions during summer weekends. Starting with the existing conditions traffic data, traffic volumes representing the most critical, “peak period” traffic conditions were investigated, and the peak hours within this data was selected for use in

¹ Access to this Park & Ride requires a circuitous path through the Route 199/Mooretown Road interchange.

the traffic analysis. The following traditional peak hours—which represent the non-summer, weekday commuting peak hours—were identified for analysis throughout the corridor:

- Weekday Non-Summer AM Peak Period – 7:00 AM to 8:00 AM
- Weekday Non-Summer PM Peak Period – 4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM

In many parts of the corridor, summer Saturday or Sunday conditions can have higher volumes and worse traffic operations than weekday morning and afternoon peak periods, due to the high levels of tourist traffic destined for tourist attractions within the corridor (e.g., Busch Gardens, Colonial Williamsburg, Water Country USA) and/or tourist attractions outside the corridor (e.g., the Northern Neck region of Virginia, Virginia Beach, the Outer Banks region of North Carolina). Therefore, seasonal traffic volumes were also investigated, and the following peak hours—which represent the summer, daytime and nighttime peak hours—were identified for analysis within a certain area of influence:

- Williamsburg Area
 - Saturday Daytime Summer Peak Period – 9:00 AM to 10:00 AM
 - Sunday Daytime Summer Peak Period – 2:00 PM to 3:00 PM
- Busch Gardens Theme Park
 - Saturday Nighttime Summer Peak Period – 10:00 PM to 11:00 PM
 - Sunday Nighttime Summer Peak Period – 9:00 PM to 10:00 PM

2. Traffic Analysis Volume Development

The traffic volume data described in the previous section were assembled to create a “network” of consistent traffic volume data for use in the analysis. Considering the various data sources, data time periods, and collection methods, volume variations between interchanges and intersections were expected, and a volume balancing process was completed to bring the volumes into agreement. ADT volumes were balanced for all mainline segments and ramps. For peak hour volumes, the balanced volumes were extended to nearby intersections. Achieving balanced volumes for existing conditions entailed the following:

- The balanced peak hour volumes were defined based on the identified system-wide peak hours, as opposed to different local peak hours for individual facilities (each mainline segment, ramp, and intersection).
- The raw volumes for the system-wide peak hours did not typically balance from one individual facility to the next, and these volumes had to be adjusted higher or lower, to establish balanced volumes.

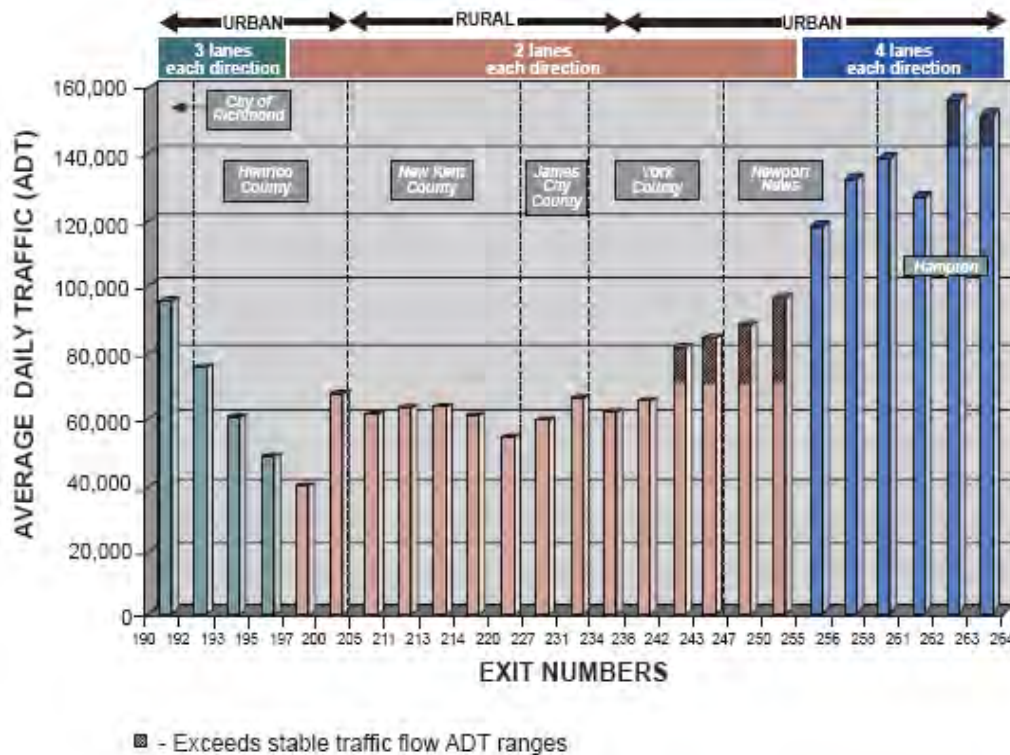
The final network of balanced traffic volumes used in the analysis of existing conditions included 50 directional freeway segments, approximately 170 ramps, and 38 intersections.

3. Non-Summer Weekday ADT Volumes

a. Non-Summer Weekday ADT Volumes for Mainline Segments and Ramps

Base year 2011 ADT data is summarized in **Figure 2** to identify volume variations within the I-64 study corridor. Segment volumes range from less than 40,000 vehicles per day (vpd) between Exit 197/Airport Drive and Exit 200/I-295 in eastern Henrico County, to more than 150,000 at the eastern end of the corridor within the City of Hampton. In the vicinity of Williamsburg near the middle of the corridor, volumes hover near 80,000 vpd. The balanced Non-Summer Weekday ADT volumes for all freeway segments and ramps are provided in **Appendix B**.

Figure 2: 2011 Base Conditions Average Daily Traffic Volumes²



b. Non-Summer Weekday Heavy Truck Volumes

Vehicle classification data from VDOT’s I-64 mainline count stations were reviewed to investigate the heavy truck component of the traffic stream (Table 3).

Table 3: Existing Mainline Heavy Truck Percentages

Segment	Eastbound I-64		Westbound I-64	
	AM peak	PM peak	AM peak	PM peak
Exits 190-200	5%	2%	2%	5%
Exits 200-227	13%	4%	5%	11%
Exits 227-250	9%	4%	5%	8%
Exits 250-264	3%	3%	4%	3%

c. Non-Summer Weekday ADT Volumes for Cross Streets

ADT volumes for cross streets at the interchanges were also identified to aid in the travel demand modeling and traffic forecasting efforts. Cross-street volumes were checked relative to ADT volumes at the nearest interchange to ensure reasonability.

4. Non-Summer Weekday Peak Hour Volumes

The balanced Non-Summer Weekday peak hour traffic volume data for all freeway segments, ramps, and cross-street intersections is provided in Appendix B.

² ADT’s shown as exceeding stable flow ADT ranges are based on general planning-level guides comparing ADT’s with number of lanes on the freeway. The quantitative capacity analysis used for this study and detailed in this memorandum are based on peak hour volumes and other detailed inputs.

5. Summer Weekend Peak Hour Volumes

a. Summer Weekend Daytime Peak Hour Volumes

I-64 sees a substantial surge in both traffic volumes and congestion during the summer months, particularly during the weekends, due both to traffic headed to/from tourist destinations within the corridor (Busch Gardens, Colonial Williamsburg, etc.) and beach destinations east and south of the corridor (Virginia Beach, Outer Banks). Therefore, this study effort included additional traffic analysis of Saturday and Sunday summer peak hour volumes near major tourism sites along the corridor. Specifically, the summer weekend study area included Exit 220 and Exits 234-243.

Balanced Summer Weekend Daytime Peak Hour volumes for the I-64 mainline freeway segments, ramps, and cross-street intersections at Exit 220 and Exits 234-243 are given in **Appendix B**. In general, summer weekend peak hour volumes often exceed the non-summer weekday AM and PM peak hour volumes.

b. Summer Weekend Nighttime Peak Hour Volumes near Busch Gardens

A review of summer weekend volumes near Busch Gardens (Exit 243) revealed that the highest volumes on many ramps occurred at night as the theme park was closing. As such, certain existing local traffic operations were analyzed for the summer weekend nighttime peak hours of 10-11 PM on Saturday and 9-10 PM on Sunday.

Balanced Summer Weekend Nighttime Peak Hour volumes for the I-64 mainline freeway segments, ramps, and cross-street intersections at Exit 243 are given in **Appendix B**.

6. Other Factors Influencing Traffic Volumes

In addition to the daily commuting and tourist needs, there are a number of other key factors that are contributing to the capacity issues within the I-64 corridor from Richmond to Hampton, including:

- Military personnel, civilian workforce and freight movements to, from and between military facilities.
- Freight traffic in and out of the Port of Virginia.
- Economic development needs associated with new and expanding facilities along the I-64 corridor and in the region.

These factors are discussed in greater detail in the *Purpose and Need Technical Memorandum*.

B. Traffic Speeds and Travel Time

Traffic speeds and travel times in the I-64 study corridor were sampled using Bluetooth detection equipment, which read the MAC address from Bluetooth-enabled devices at two points along the corridor. (The travel time sampling technique was previously described in **Section 2 – Data Collection**.) Using the roadway driving distance from one sensor to another, the travel times are converted to travel speeds, and profiles of the travel time and travel speed were generated. As a point of reference, **Table 4** gives the posted speed limits on I-64.

Figures 3 and 4 show the I-64 eastbound and westbound travel speeds, respectively. Detailed travel time study results are included in **Appendix D**.

Travel speeds generally vary substantially throughout the eastern end of the corridor. During non-summer weekdays, I-64 Eastbound generally saw the biggest drops in travel speeds in the milepost 248-251 section, approaching the point where I-64 East opens up from two to four lanes. I-64 Westbound also

Table 4: Posted Speed Limits on I-64, Exits 190 to Exit 264

Beginning Point	Ending Point	Posted Speed Limit
Exit 190	Exit 193	55 mph
Exit 193	Henrico/New Kent Line	65 mph
Henrico/New Kent Line	Exit 234	70 mph
Exit 234	Just west of Exit 255	65 mph
Just west of Exit 255	Exit 264	60 mph *

* Posted speed limit was increased from 55 mph to 60 mph between Exits 261-264 in March 2012.

has almost uniformly slow travel speeds the entire length from I-664 to past the Exit 247/Lee Hall interchange during the afternoon (2:00 – 4:00 pm) period.

Summer weekend peak period traffic speeds drop substantially greater than non-summer weekdays. During summer Saturdays, the segment between mileposts 248-251 sees average travel speeds drop to as low as 30-35 mph in the eastbound and westbound direction. Summer Saturdays are even worse in the westbound direction, with average speeds approaching 20 mph in the section between mileposts 257-254 (in other words, approaching the point where I-64 narrows from four to two westbound lanes). There is also a dramatic drop in travel speeds during Summer Friday conditions on I-64 east between mileposts 259-264, most likely due to backups from the HRBT extending all the way back to and beyond the I-64/I-664 interchange.

It is important to note that these travel speed measurements represent “typical” congestion. They do not account for the additional delays that result from non-recurring traffic congestion due to events like crashes or work zones. However, given the frequency of crashes within the corridor, non-recurring traffic congestion occurs at multiple times throughout the year.

C. 2011 Existing Capacity/LOS Analysis

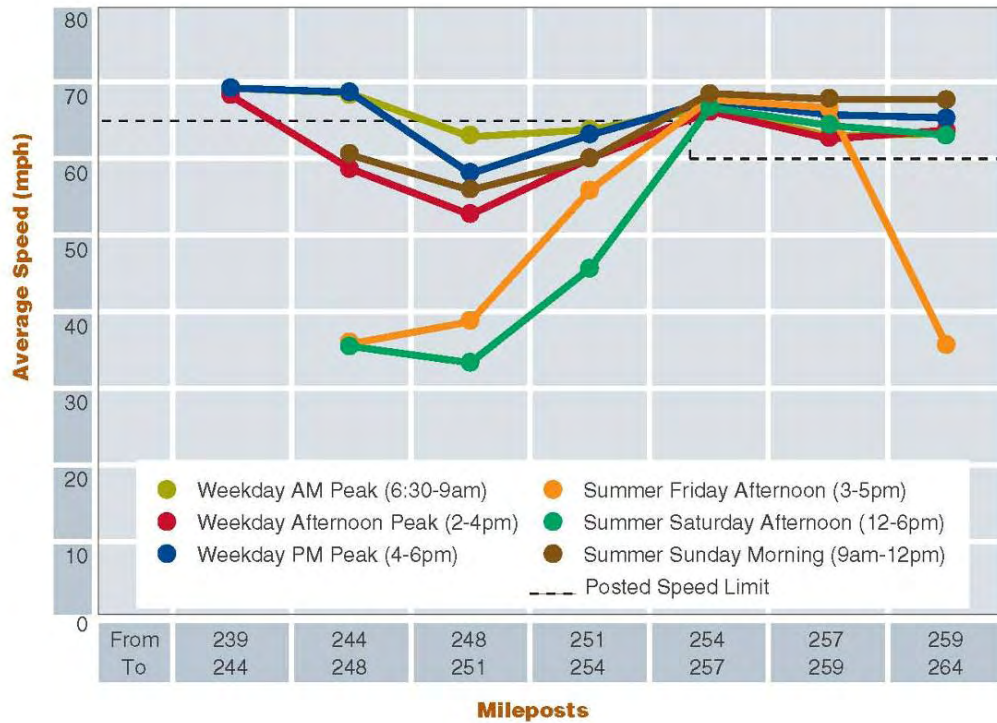
The analyses of capacity and LOS for 2011 Existing traffic conditions were conducted according to the methodologies of the *2010 Highway Capacity Manual (HCM)*, published by the federal Transportation Research Board, and implemented using Highway Capacity Software (HCS) 2010 software. The *HCM* establishes a consistent methodology for use in evaluating the quality of service provided by highway and street facilities.

Vehicular traffic “capacity” is formally defined as “the maximum number of vehicles that can pass a given point during a specified period under prevailing roadway, traffic and control conditions. Capacity establishes a threshold, beyond which traffic flow typically begins to break down. LOS is a letter grade (A-F) which represents a qualitative measure of operational conditions within a traffic stream, generally in terms of such measures as speed and travel time, freedom to maneuver and traffic interruptions.

Figure 5 provides generalized descriptions of the LOS grades. According to FHWA and VDOT, acceptable LOS grades for the I-64 corridor are LOS C or better for interstate facilities. The *HCM* establishes LOS grades according to measures of effectiveness (e.g., vehicular density, delay), which are defined according to the facility being analyzed. LOS E is used to designate operations at capacity.³

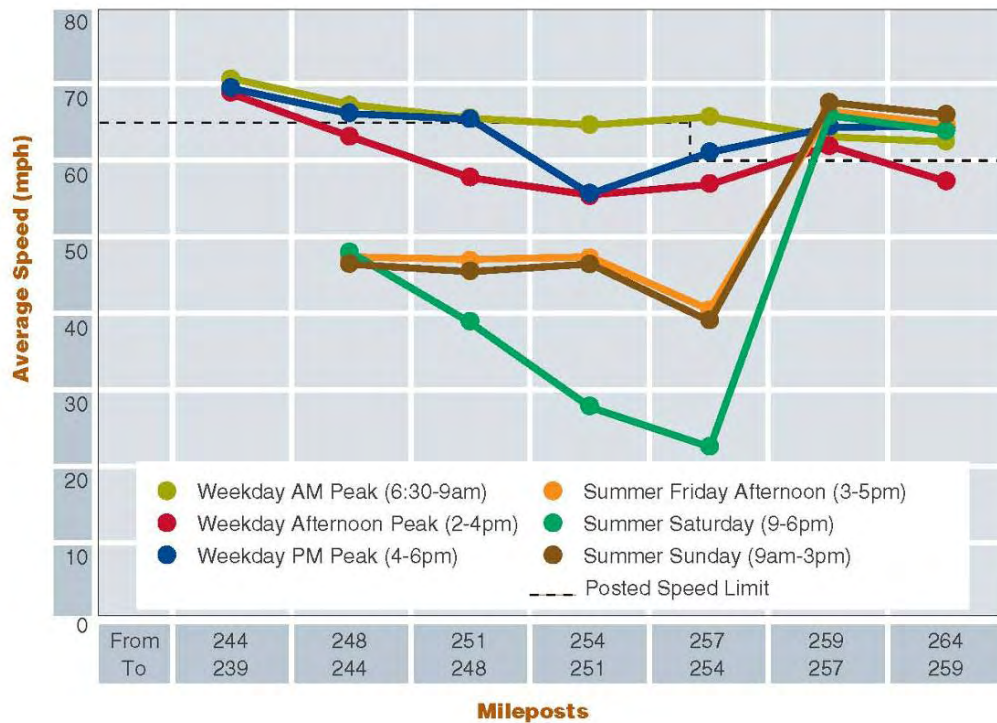
³ Transportation Research Board, National Research Council, *Highway Capacity Manual, HCM 2010*, Transportation Research Board, Washington, DC, 2010.

Figure 3: I-64 Eastbound Travel Speeds, May and August 2011



Source: McCormick Taylor, Inc., *I-64 Travel Time Study*, 2011

Figure 4: I-64 Westbound Travel Speeds, May and August 2011



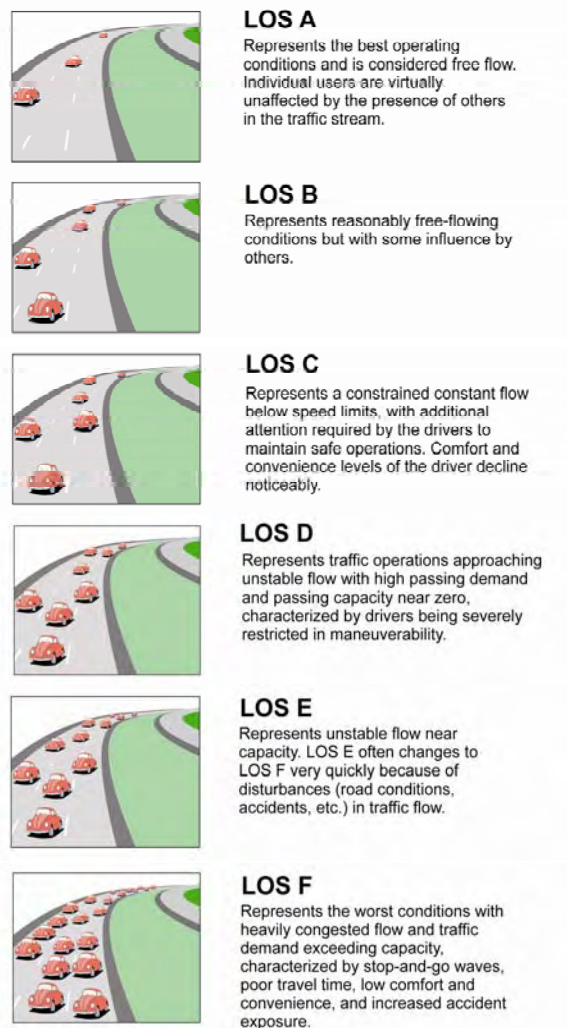
Source: McCormick Taylor, Inc., *I-64 Travel Time Study*, 2011

Operational analysis of capacity and LOS for the I-64 study corridor were conducted for the following types of facilities:

- Basic Freeway Segments.
- Ramp Merges and Diverges.
- Weaving Segments.
- Signalized Intersections.
- Unsignalized Intersections.

Analyses for each of these types of facilities depend on numerous parameters relating to the configuration of the facility, the geometric and traffic control conditions, and the characteristics of the traffic stream. Inputs for many of the parameters are based on collected data, while others are assumed for the purpose of analysis. Documentation of the Existing Conditions Capacity Analysis Methodology, including traffic analysis parameter assumptions, was detailed in a technical memo finalized on December 21, 2011 (**Appendix C**).

Figure 5: Generalized Level of Service Descriptions



1. Basic Freeway Segments

In general terms, a basic freeway segment is the part of a limited access highway that extends from one interchange to the next. Each direction of a freeway operates independently of the other; therefore, segments are defined separately for each direction—i.e., eastbound lanes are one segment; westbound lanes are a separate segment. For the analysis of I-64 freeway segments, the corridor was divided into 27 eastbound segments and 27 westbound segments. **Table 5** summarizes the freeway segment analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor. **Table 6** summarizes the freeway segment analysis of Summer Daytime Saturday and Sunday peak hours in the vicinity of Williamsburg. **Table 7** summarizes the freeway segment analysis of Summer Nighttime Saturday and Sunday Peak hours in the vicinity of Busch Gardens.

The left side of each table describes exits, number of lanes, and traffic volumes that characterize each segment. The right side gives the LOS determined by applying the HCM methodology. **Table 8** defines the LOS for basic freeway segments according to vehicular density, which is given in terms of passenger cars, per mile, per lane (pc/mi/ln).

Table 8: Level of Service Definitions for Basic Freeway Segments

Density (pc/mi/ln)	Level of Service
≤ 11	A
> 11-18	B
> 18-26	C
> 26-35	D
> 35-45	E
Demand exceeds capacity > 45	F

Source: Transportation Research Board, National Research Council, *Highway Capacity Manual, HCM 2010*, Transportation Research Board, Washington, DC, 2010.

It is important to note that traditional freeway capacity may not always be an accurate picture of the actual congestion that drivers experience, particularly when there are downstream capacity constraints. For example, I-64 West approaching I-95 in the City of Richmond (going over the Shockoe Valley Bridge) routinely experience peak hour congestion. However, these delays are primarily not due to capacity constraints on I-64 itself, but rather capacity constraints further downstream on I-95. The I-64/I-95 interchange is being also being studied as a part of the VDOT I-95/I-64 Overlap Study.

a. Freeway Segment Performance

During the non-summer Weekday AM peak hour, eight of the 50 segments operated at deficient LOS D or E. All eight deficient segments are clustered between Williamsburg (Exit 242) and Hampton Roads Center Pkwy (Exit 261), and six of the eight segments were in the eastbound direction. During the non-summer Weekday PM peak hour, 12 of the 50 segments operated at deficient LOS D or E. Eight of the 12 deficient segments were clustered between Williamsburg (Exit 242) and Hampton Roads Center Pkwy (Exit 261), with six of these eight segments in the westbound direction. With the exception of one westbound segment of LOS D during the PM peak hour, the segments from Richmond to Williamsburg operate at acceptable LOS.

Considering the directional deficiencies in opposite directions during the AM versus the PM, operational issues are likely related to commuter traffic in the eastern portion of the corridor, with traffic flows

approaching capacity on the 4-lane section between Exits 242 and 255. The most congested segments were Exits 250-255 Eastbound in the AM (LOS E) and Exits 261-258 Westbound in the PM (LOS E).

During the Summer Daytime peaks, all of the 16 segments analyzed between Exits 214 and 247 operated at deficient LOS during the Saturday peak (10 segments at LOS E), and 14 of the 16 segments operated at deficient LOS during the Sunday peak (2 segments at LOS E). Essentially, Summer Saturday peak hour conditions are worse than Summer Sunday peak hour conditions. During the Summer Nighttime peaks, only one of the four segments analyzed between Exits 242 and 247 operated at deficient LOS D (during the Sunday night peak).

b. Freeway Segments with HOV Lanes

For segments in the eastern end of the corridor, special consideration was given for evaluating freeway segments with HOV lanes. From west of Exit 255 (Jefferson Ave) to the eastern end of the corridor at Exit 264 (I-664), the left-most lane in both directions is a paint-separated HOV lane which is reserved for vehicles with two or more occupants (HOV 2+) during weekday AM and PM peak hours. A typical capacity analysis of freeway segments assumes that traffic uses all available lanes equally; however, this is not the case with segments that include HOV lanes. Generally, the general purpose lanes have substantially greater densities and lower travel speeds than the adjacent HOV lanes.

Table 9 indicates the share of the total traffic volume that typically uses the HOV lanes on I-64, based on counts conducted by VDOT in July 2010 near the Exit 258/J Clyde Morris Blvd interchange. To account for volume in the HOV lanes, these percentages were applied to estimate the amount of traffic in the HOV lanes, and the HOV volume was then reduced from the traffic using the “general-purpose” (non-HOV) lanes. The analysis of the freeway segment considered the only the volume and capacity of the general-purpose lanes. For example, if there are 5,000 vehicles per hour (vph) total on a segment of I-64 Eastbound, and 5% (250 vph) of those vehicles were in the HOV lanes, then that segment would be analyzed assuming three travel lanes and 4,750 vph in the three general purpose travel lanes.

Table 9: Percentage of Freeway Traffic using HOV Lanes

Travel Lanes	AM Peak Hour	PM Peak Hour
I-64 Eastbound	7%	5%
I-64 Westbound	4%	8%

Source: VDOT traffic count data, July 21, 2010 near Exit 258/J Clyde Morris Boulevard

The operation of the HOV lanes was investigated according to the hourly traffic volumes in the HOV lane. The ideal capacity of a single lane on a freeway is approximately 2400 passenger cars per hour, as per the 2010 HCM (note that HOV lanes, by definition, have negligible truck/bus volumes). The existing peak hour volumes in the HOV lane are approximately 200-600 vph, well below that threshold, meaning that the HOV lanes are only operating at 10-25% capacity. This is borne out by current conditions, when the HOV lanes are generally free-flowing even when there are heavy densities and/or reduced speeds in the adjacent general-purpose lanes.

Table 5: 2011 Existing Freeway Segment Level of Service – Non-Summer Weekday Peak

Segment	From Exit	To Exit	Lanes	2011 Eastbound						2011 Westbound					
				AM Peak			PM Peak			AM Peak			PM Peak		
				Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
01	190	192	3	3,101	16.0	B	5,022	26.9	D	4,874	25.9	C	3,629	18.7	C
02	192	193	3	2,264	11.9	B	3,891	19.8	C	4,012	20.5	C	2,845	14.7	B
03	193	195	3	1,684	9.2	A	3,359	17.0	B	3,137	15.9	B	2,174	11.5	B
04	195	197	3	1,165	6.7	A	2,842	14.5	B	2,624	13.4	B	1,656	9.1	A
05	197	200	2	831	7.1	A	2,132	16.2	B	1,879	14.4	B	1,188	9.7	A
06	200	205	2	1,721	13.9	B	2,981	25.0	C	2,801	23.1	C	2,182	17.7	B
07	205	211	2	1,609	13.0	B	2,319	18.2	C	1,882	14.6	B	1,968	15.8	B
08	211	rest area	2	1,736	14.0	B	2,338	18.4	C	1,894	14.7	B	2,023	16.3	B
9	rest area	214	2	1,736	14.0	B	2,338	18.4	C	1,894	14.7	B	2,023	16.3	B
10	214	220	2	1,671	13.5	B	2,260	17.7	B	1,740	13.5	B	1,988	16.0	B
11	220	227	2	1,496	12.1	B	1,817	14.0	B	1,290	10.1	A	1,780	14.2	B
12	227	231	2	1,889	15.0	B	1,938	15.0	B	1,391	10.9	A	2,101	16.7	B
13	231	234	2	2,390	19.4	C	2,160	16.8	B	1,608	12.5	B	2,521	20.6	C
14	234	238	2	2,315	18.7	C	2,002	15.5	B	1,440	11.2	B	2,481	20.2	C
15	238	242	2	2,329	18.3	C	2,166	16.6	B	1,658	13.0	B	2,526	19.9	C
16	242	243	2	3,258	27.2	D	2,789	21.7	C	2,456	19.0	C	3,246	26.9	D
17	243	247	2	3,286	27.5	D	2,797	21.8	C	2,743	21.4	C	3,559	30.7	D
18	247	250	2	3,818	34.6	D	3,053	24.2	C	2,841	22.3	C	3,638	31.7	D
19	250	255	2	4,069	36.8	E	3,891	34.1	D	3,496	29.0	D	3,893	34.1	D
20	255	256	4*	4,704 ³	24.9	C	4,570 ⁴	24.0	C	4,105 ⁵	21.2	C	4,640 ⁶	24.4	C
21	256	258	4*	5,841 ³	34.1	D	5,049 ⁴	27.3	D	4,308 ⁵	22.5	C	5,604 ⁶	31.9	D
22	258	261	4*	5,003 ³	27.0	D	4,450 ⁴	23.2	C	5,350 ⁵	29.9	D	6,692 ⁶	44.3	E
23E	261	262	5*	4,607 ³	17.6	B	4,106 ⁴	15.7	B						
23W	261	262	4*							4,661 ⁵	24.7	C	5,825 ⁶	33.9	D
24	262	263	5*	5,644 ³	21.9	C	5,147 ⁴	19.7	C	5,776 ⁵	22.6	C	7,055 ⁶	29.2	D
25E	263	264	5	5,695	17.4	B	4,653	14.3	B						
25W	263	264	5*							5,254 ⁵	20.3	C	6,818 ⁶	27.8	D

Notes:

* The number of lanes includes one HOV lane. Analysis on the non-HOV portion of these segments was conducted by reducing the number of lanes by one.

Traffic volumes in the remaining through lanes were reduced as follows, according to VDOT traffic data:

- Eastbound I-64, AM peak hour: 7%
- Eastbound I-64, PM peak hour: 5%
- Westbound I-64, AM peak hour: 4%
- Westbound I-64, PM peak hour: 8%

¹ Volume is given as "vehicles per hour" (vph). AM Peak = Weekday morning peak hour (7:00 AM to 8:00 AM). PM Peak = Weekday afternoon peak hour (4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM, whichever hourly volume was higher)

² Density is given as "vehicles per mile per lane" (pc/mi/ln).

³ Volume shown is a 7% reduction of the total directional segment volume, to account for removal of HOV lane traffic for purpose of analysis.

⁴ Volume shown is a 5% reduction of the total directional segment volume, to account for removal of HOV lane traffic for purpose of analysis.

⁵ Volume shown is a 4% reduction of the total directional segment volume, to account for removal of HOV lane traffic for purpose of analysis.

⁶ Volume shown is a 8% reduction of the total directional segment volume, to account for removal of HOV lane traffic for purpose of analysis.

Table 6: 2011 Existing Freeway Segment Level of Service – Summer Peak, Daytime near Williamsburg

Segment	From Exit	To Exit	Lanes	2011 Eastbound						2011 Westbound					
				SAT Daytime Peak			SUN Daytime Peak			SAT Daytime Peak			SUN Daytime Peak		
				Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
10	214	220	2	3,515	43.8	E	2,616	25.6	C	3,275	37.6	E	3,182	35.2	E
11	220	227	2	3,207	36.1	E	2,407	22.8	C	3,046	32.8	D	2,896	29.9	D
12	227	231	2	3,170	35.3	E	2,786	28.1	D	3,150	34.9	D	3,154	34.7	D
13	231	234	2	3,339	39.1	E	3,000	31.7	D	3,180	35.5	E	3,252	36.7	E
14	234	238	2	3,194	35.8	E	2,675	26.4	D	2,951	31.1	D	3,084	33.3	D
15	238	242	2	3,244	32.7	D	2,836	26.6	D	2,980	28.7	D	3,039	29.3	D
16	242	243	2	3,467	36.7	E	3,197	31.7	D	3,379	35.0	E	3,173	31.3	D
17	243	247	2	3,250	32.8	D	3,070	29.8	D	3,726	42.2	E	3,369	34.6	D

Notes:

¹ Volume is given as "vehicles per hour" (vph). SAT Daytime Peak = Saturday Daytime peak hour (9:00 AM to 10:00 AM). SUN Daytime Peak = Sunday Daytime peak hour (2:00 PM to 3:00 PM).

² Density is given as "vehicles per mile per lane" (pc/mi/ln).

Table 7: 2011 Existing Freeway Segment Level of Service – Summer Peak, Nighttime near Busch Gardens

Segment	From Exit	To Exit	Lanes	2011 Eastbound						2011 Westbound					
				SAT Nighttime Peak			SUN Nighttime Peak			SAT Nighttime Peak			SUN Nighttime Peak		
				Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
16	242	243	2	1,542	13.8	B	1,951	17.4	B	1,840	16.4	B	2,091	18.7	C
17	243	247	2	2,269	20.4	C	2,829	26.7	D	1,498	13.4	B	1,791	16.0	B

Notes:

¹ Volume is given as "vehicles per hour" (vph). SAT Nighttime Peak = Saturday Nighttime peak hour (10:00 PM to 11:00 PM). SUN Nighttime Peak = Sunday Nighttime peak hour (9:00 PM to 10:00 PM).

² Density is given as "vehicles per mile per lane" (pc/mi/ln).

2. Ramp Merges and Diverges

Ramp merges and diverges are the areas where traffic from on-ramps enter a freeway (merge) or traffic from the freeway accesses an off-ramp (diverge). **Table 10** summarizes the merge and diverge analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor. **Table 11** summarizes the merge and diverge analysis of Summer Daytime Saturday and Sunday peak hours in the vicinity of Williamsburg. **Table 12** summarizes the merge and diverge analysis of Summer Nighttime Saturday and Sunday Peak hours in the vicinity of Busch Gardens.

The left side of each table describes the exit number, type of ramp, and traffic volumes that characterize each ramp. The right side gives the Density and LOS determined by applying the HCM methodology.

Table 13 defines the LOS for ramp merges and diverges according to vehicular density, which is given in terms of passenger cars, per mile, per lane (pc/mi/ln).

Table 13: Level of Service Definitions for Ramp Merges and Diverges

Density (pc/mi/ln)	Level of Service
≤ 10	A
> 10-20	B
> 20-28	C
> 28-35	D
> 35	E
Demand exceeds capacity	F

Source: Transportation Research Board, National Research Council, *Highway Capacity Manual, HCM 2010*, Transportation Research Board, Washington, DC, 2010.

A procedure similar to that for the freeway capacity analysis was used when analyzing weaving and merging/diverging areas where there are HOV lanes. For short weaving sections, it was assumed that there would be minimal numbers of drivers weaving from the HOV lane across three lanes of traffic to the downstream off-ramp; in other words, most drivers would anticipate their downstream off-ramp and would have already exited the HOV lane in advance of the weaving section.

During the Non-Summer Weekday peaks, ramps at the eastern end of the corridor displayed the most operational issues. Particularly, both on and off ramps at Exit 247 and 250 operated at LOS D or E during the AM and PM peaks. More intensive operational issues were noted during the PM peak at Exits 258 and 261, with ramps in the westbound direction operating at LOS F. In the western portion of the corridor, Exit 192 was the only interchange where ramps operated at deficient LOS D. All ramps at all other interchanges west of Exit 243 operated at LOS C or better during both AM and PM peaks.

During the Summer Weekend Daytime peaks, each of the five interchanges analyzed for summer conditions had ramps that operated at LOS D or E during one or both peaks. In the eastbound direction, Saturday conditions were generally worse than Sunday conditions, and ramps at Exits 234 and 238 operated at the highest densities with LOS E during the Saturday peak. In the westbound direction, ramps at Exit 243 operated at LOS E during both the Saturday and Sunday Daytime peaks. None of the ramps analyzed operated at deficient LOS during the Weekend Nighttime peaks.

Table 10: 2011 Existing Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak

2011 Eastbound								2011 Westbound							
Exit	Ramp	AM Peak ³			PM Peak ⁴			Exit	Ramp	AM Peak ³			PM Peak ⁴		
		Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS			Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
192	OFF RAMP	1,017	19.6	B	1,451	29.5	D	192	E	1,219	28.2	D	1,005	21.7	C
	ON RAMP	180	10.7	B	319	19.1	B		F	357	22.2	C	221	16.1	B
193	A	126	13.3	B	75	21.9	C	193	D	955	20.1	C	657	14.2	B
	B	528	14.3	B	686	23.5	C		G	52	16.3	B	46	11.1	B
	C	75	6.1	A	229	14.3	B								
195	A	702	11.8	B	870	21.3	C	195	C	71	14.6	B	57	9.9	A
	B	183	6.4	A	353	15.2	B		D	588	13.4	B	645	8.9	A
									E	147	14.8	B	184	9.3	A
197	A	308	5.2	A	527	20.3	C	197	E	601	15.8	B	290	10.2	B
	D	145	6.1	A	243	16.8	B		H	64	16.5	B	67	10.3	B
200	OFF RAMP	225	0*	A	485	10.4	B	200	OFF RAMP	1,389	16.7	B	1,241	11.6	B
	ON RAMP	1,109	4.6	A	1,335	14.3	B		ON RAMP	467	5.7	A	246	0.0	A
	A	196	0*	A	412	0.0	A		F	31	2.9	A	35	1.1	A
	D/E	287	10.4	B	325	11.6	B		I - Major Diverge	970	8.8	A	826	8.1	A
205	A	249	15.2	B	760	27.0	C	205	C	574	22.4	C	172	17.6	B
	B	137	14.5	B	98	20.3	C		D	441	19.9	B	141	18.6	B
									E	95	17.3	B	98	18.8	B
211	A	53	15.2	B	72	21.6	C	211	C	115	16.9	B	145	18.8	B
	B	180	14.5	B	91	19.3	B		D	103	15.6	B	90	17.0	B
213	A	163	15.9	B	141	21.1	C	213	C	102	17.8	B	117	19.7	B
	B	163	16.2	B	141	21.0	C		D	102	16.5	B	117	18.2	B
214	A	165	17.0	B	160	22.2	C	214	C	73	14.9	B	90	18.0	B
	B	100	13.9	B	82	18.6	B		D	227	16.1	B	125	17.9	B
220	A	233	14.1	B	483	19.2	B	220	C	47	10.4	B	44	15.9	B
	B	58	14.3	B	39	16.7	B		D	497	13.0	B	252	15.9	B
227	A	108	13.4	B	106	16.0	B	227	C	213	12.3	B	426	19.8	B
	B	44	15.9	B	65	15.6	B		D	112	9.7	A	106	14.3	B
	E	457	14.4	B	163	14.3	B								
231	A	48	17.2	B	50	17.3	B	231	E	50	13.6	B	109	23.1	C
	D	450	19.0	B	223	16.6	B		H	41	10.1	B	37	16.8	B

Notes:

¹ Volume is given as "vehicles per hour"

² Density is given as "passenger cars, per mile, per lane"

³ AM Peak = Weekday morning peak hour (7:00 AM to 8:00 AM)

⁴ PM Peak = Weekday afternoon peak hour (4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM, whichever hourly volume was higher)

Table 10: 2011 Existing Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak (continued)

2011 Eastbound								2011 Westbound							
Exit	Ramp	AM Peak ³			PM Peak ⁴			Exit	Ramp	AM Peak ³			PM Peak ⁴		
		Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS			Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
234	A	574	21.9	C	594	19.0	B	234	C	27	12.6	B	101	23.3	C
	B	499	19.4	B	436	16.1	B		F	37	12.3	B	24	20.9	C
238	A	337	22.8	C	250	19.5	B	238	C	394	13.7	B	414	22.8	C
	B	352	22.3	C	414	20.3	C		D	171	14.2	B	310	23.4	C
									E	4	13.5	B	58	23.3	C
242	A	202	19.2	B	144	17.1	B	242	H	77	11.7	B	119	19.3	B
243	B	16	24.5	C	15	19.4	B	243	D	149	3.8	A	103	11.1	B
	C	159	11.6	B	153	6.9	A		E	273	26.4	C	346	34.4	D
247	A	151	33.5	D	114	28.2	D	247	B	222	19.6	B	279	26.9	C
	C	296	31.0	D	199	25.8	C		E	321	26.7	C	358	34.6	D
	D	387	31.3	D	171	24.2	C								
250	A	644	37.0	E	436	29.0	D	250	C	331	33.1	D	556	37.5	E
	E	728	34.9	D	1,349	32.2	D		G	475	21.3	C	461	28.5	D
255	OFF RAMP	668	22.2	C	705	21.8	C	255	OFF RAMP	1,396	24.3	C	1,729	27.8	C
	ON RAMP	1,658	26.5	C	1,626	25.6	C		ON RAMP	616	18.7	B	578	19.1	B
	A	502	0.9	A	502	1.3	A		C	1,239	6.0	A	1,344	9.0	A
	E	160	14.6	B	276	14.3	B		G	192	3.7	A	154	3.4	A
256	A	247	25.3	C	460	25.0	C	256	C	579	23.7	C	897	30.2	D
	E	783	28.8	D	396	23.5	C		G	132	18.9	B	233	21.5	C
258	A	1,154	31.4	D	768	27.2	C	258	C	1,187	23.4	C	1,024	**	F
	E	535	23.1	C	504	20.2	C		G	396	19.4	B	432	25.6	C
261	A	381	28.2	C	576	25.8	C	261	F	772	28.8	D	1,238	**	F
	B	849	26.5	C	425	22.0	C								
	D	804	21.4	C	638	18.5	B								
263	E	626	18.9	B	526	15.7	B	263	D	460	19.8	B	592	25.5	C

Notes:

¹ Volume is given as "vehicles per hour"

² Density is given as "passenger cars, per mile, per lane"

³ AM Peak = Weekday morning peak hour (7:00 AM to 8:00 AM)

⁴ PM Peak = Weekday afternoon peak hour (4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM, whichever hourly volume was higher)

** Volume exceeds capacity. Density is undefined. Level of service is "F"

Table 11: 2011 Existing Merge and Diverge Ramp Level of Service – Summer Peak, Daytime near Williamsburg

2011 Eastbound								2011 Westbound							
Exit	Ramp	SAT Peak ³			SUN Peak ⁴			Exit	Ramp	SAT Peak ³			SUN Peak ⁴		
		Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS			Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
220	A	380	31.4	D	251	22.4	C	220	C	33	27.6	C	110	25.9	C
	B	72	28.9	D	42	21.7	C		D	262	26.6	C	396	25.6	C
234	A	498	36.3	E	621	32.2	D	234	C	47	32.4	D	82	33.8	D
	B	353	31.7	D	296	26.1	C		F	40	31.2	D	35	31.8	D
238	A	302	36.7	E	252	30.5	D	238	C	306	31.7	D	288	32.3	D
	B	352	34.9	D	413	30.4	D		D	268	32.1	D	326	33.3	D
									E	9	31.5	D	7	32.8	D
242	A	142	32.0	D	152	27.5	C	242	H	52	26.9	C	157	27.2	C
243	B	12	28.7	D	16	26.1	C	243	D	323	19.5	B	313	16.0	B
	C	106	15.2	B	160	13.2	B		E	136	41.0	E	88	37.0	E

Notes:

¹ Volume is given as "vehicles per hour"

² Density is given as "passenger cars, per mile, per lane"

³ SAT Peak = Saturday Daytime peak hour (9:00 AM to 10:00 AM)

⁴ SUN Peak = Sunday Daytime peak hour (2:00 PM to 3:00 PM)

Table 12: 2011 Existing Merge and Diverge Ramp Level of Service – Summer Peak, Nighttime near Busch Gardens

2011 Eastbound								2011 Westbound							
Exit	Ramp	SAT Peak ³			SUN Peak ⁴			Exit	Ramp	SAT Peak ³			SUN Peak ⁴		
		Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS			Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
243	B	4	10.5	B	7	14.7	B	243	D	108	0*	A	136	0*	A
	C	812	5.2	A	987	10.6	B		E	86	16.1	B	123	20.2	C

Notes:

¹ Volume is given as "vehicles per hour"

² Density is given as "passenger cars, per mile, per lane"

³ SAT Peak = Saturday Night peak hour (10:00 PM to 11:00 PM)

⁴ SUN Peak = Sunday Night peak hour (9:00 PM to 10:00 PM)

* The calculated density for ramps with long acceleration or deceleration lanes is negative, due to the nature of the HCM 2010 density equation. Density is shown as zero in this summary.

3. Weaving Segments

Weaving segments are areas where two traffic streams moving in the same direction must cross and/or change lanes to continue to their destination. Weaving segments are formed when a merge is closely followed by a diverge, for example, where an on-ramp is followed closely by an off-ramp and the two are joined by an auxiliary lane.⁴ **Table 14** summarizes the weaving segment analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor. **Table 15** summarizes the weaving segment analysis of Summer Daytime Saturday and Sunday peak hours in the vicinity of Williamsburg. **Table 16** summarizes the weaving segment analysis of Summer Nighttime Saturday and Sunday Peak hours in the vicinity of Busch Gardens.

The left side of each table describes the various weaving areas in the I-64 study corridor, according to the exit number and direction of travel. The right side gives the density and LOS, determined by applying the HCM methodology. **Table 17** defines the LOS for weaving segments according to vehicular density, which is given in terms of passenger cars, per mile, per lane (pc/mi/ln).

Table 17: Level of Service Definitions for Weaving Segments

Density (pc/mi/ln)	Level of Service
0-10	A
> 10-20	B
> 20-28	C
> 28-35	D
> 35	E
Demand exceeds capacity	F

Source: Transportation Research Board, National Research Council, *Highway Capacity Manual, HCM 2010*, Transportation Research Board, Washington, DC, 2010.

During the Non-Summer Weekday peaks, weaving areas generally operated acceptably, except in the eastern-most parts of the corridor in Hampton during the PM peak. The westbound weave areas at Exit 258 and Exit 261 operated at LOS D. Weave areas between Exits 262 and 263 in both directions operated at LOS D (westbound) and LOS F (eastbound), and the westbound weave area between Exit 264 and 263 operated at LOS F.

During the Summer Weekend Daytime peaks, weave areas Westbound at Exit 234 and Eastbound between Exits 242 and 243 operated at LOS D. All others operated acceptably during both the Daytime and Nighttime peaks.

⁴ Transportation Research Board, National Research Council, *Highway Capacity Manual, HCM 2010*, Transportation Research Board, Washington, DC, 2010.

Table 14: 2011 Existing Weaving Area Level of Service – Non-Summer Weekday Peak

Exit	Direction	AM Peak		PM Peak	
		Density	LOS	Density	LOS
192	Eastbound	12.5	B	16.6	B
193	Westbound	13.0	B	9.3	A
197	Eastbound	5.1	A	13.9	B
	Westbound	12.1	B	8.5	A
200	Eastbound	0.2	A	0.4	A
	Westbound	5.1	A	3.8	A
231	Eastbound	11.8	B	11.4	B
	Westbound	9.8	A	15.8	B
234	Westbound	12.5	B	21.6	C
242	Eastbound	12.6	B	12.2	B
	Westbound	14.5	B	21.9	C
242 TO 243	Eastbound	21.2	C	16.9	B
243 TO 242	Westbound	14.0	B	19.0	B
250	Eastbound	23.8	C	17.7	B
	Westbound	23.7	C	25.5	C
255	Eastbound	11.1	B	10.2	B
	Westbound	3.5	A	5.0	A
256	Eastbound	26.4	C	22.8	C
	Westbound	21.1	C	25.9	C
258	Eastbound	23.2	C	20.2	C
	Westbound	20.6	C	29.2	D
261	Westbound	23.8	C	31.0	D
262 TO 263	Eastbound	21.7	C	**	F
263 TO 262	Westbound	22.1	C	27.4	D
263 TO 264 ¹	Eastbound	23.0	C	18.9	B
264 TO 263 ¹	Westbound	24.4	C	**	F

Notes:

¹ Density is given as "vehicles per mile per lane"

² AM Peak = Weekday morning peak hour (7:00 AM to 8:00 AM)

³ PM Peak = Weekday afternoon peak hour (4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM, whichever hourly volume was higher)

** Demand exceeds capacity. Density is undefined. Level of service is "F"

Table 15: 2011 Existing Weaving Area Level of Service – Summer Peak, Daytime near Williamsburg

Exit	Direction	SAT Peak		SUN Peak	
		Density	LOS	Density	LOS
234	Westbound	28.2	D	31.9	D
242	Eastbound	21.9	C	19.4	B
	Westbound	23.5	C	22.1	C
242 TO 243	Eastbound	29.1	D	25.0	C
243 TO 242	Westbound	23.3	C	21.8	C

Notes:
¹ Density is given as "vehicles per mile per lane"
² SAT Peak = Saturday Daytime peak hour (9:00 AM to 10:00 AM)
³ SUN Peak = Sunday Daytime peak hour (2:00 PM to 3:00 PM)

Table 16: 2011 Existing Weaving Area Level of Service – Summer Peak, Nighttime near Busch Gardens

Exit	Direction	SAT Peak		SUN Peak	
		Density	LOS	Density	LOS
242 TO 243	Eastbound	10.2	B	13.1	B
243 TO 242	Westbound	12.6	B	14.7	B

Notes:
¹ Density is given as "vehicles per mile per lane"
² SAT Peak = Saturday Night peak hour (10:00 PM to 11:00 PM)
³ SUN Peak = Sunday Night peak hour (9:00 PM to 10:00 PM)

4. Signalized and Unsignalized Intersections

The intersections evaluated in this study generally include locations where I-64 ramps intersect cross-streets at interchanges. A limited number of additional intersections were included where the intersections are located in such close proximity to the interchange that capacity at the intersection has the potential to affect movements entering or exiting the interstate. Note that many cross streets have traffic signals that are part of larger coordinated systems, which were not analyzed as a part of this network.

Table 18 summarizes the intersection analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor. **Table 19** summarizes the intersection analysis of Summer Daytime Saturday and Sunday peak hours in the vicinity of Williamsburg.

The left side of each table locates the various intersections according to the exit, ramp designation, and the cross-streets involved. The control type (signalized or unsignalized) is given, and the critical intersection movement is given for all unsignalized intersections. The right side of the table gives the overall intersection delay for signals or the critical movement delay for unsignalized intersections⁵, as well as the LOS determined by applying the HCM methodology. **Tables 20 and 21** define the LOS for

⁵ For unsignalized intersections, the HCM does not define delay or Level of Service for the intersection as a whole. The higher volume major street movements have no delay, which makes total intersection delay imprecise as a measure of performance. Delay and Level of Service for the minor street movements are meaningful, with the critical movement (i.e., highest delay movement) being the single-most indicative measure of effectiveness.

signalized and unsignalized intersections, respectively, according to vehicular control delay, which is given in terms of seconds per vehicle (sec/veh).

Table 20: Level of Service Definitions for Signalized Intersections

Control Delay (sec/veh)	Level of Service v/c ≤ 1.00	Level of Service v/c > 1.00
≤ 10	A	F
> 10-20	B	F
> 20-35	C	F
> 35-55	D	F
> 55-80	E	F
> 80	F	F

Source: Transportation Research Board, National Research Council, *Highway Capacity Manual, HCM 2010*, Transportation Research Board, Washington, DC, 2010.

Table 21: Level of Service Definitions for Unsignalized Intersections

Control Delay (sec/veh)	Level of Service v/c ≤ 1.00	Level of Service v/c > 1.00
0-10	A	F
> 10-15	B	F
> 15-25	C	F
> 25-35	D	F
> 35-50	E	F
> 50	F	F

Source: Transportation Research Board, National Research Council, *Highway Capacity Manual, HCM 2010*, Transportation Research Board, Washington, DC, 2010.

During the Non-Summer Weekday peaks, a LOS E or F was displayed at one of the 38 intersections during the AM peak and one intersection during the PM peak. At the unsignalized I-64 EB off-ramp at Jefferson Avenue (Exit 247) intersection, the critical movement (off-ramp approach) operates at LOS F in the AM and LOS D in the PM. At the signalized Jefferson Avenue at Brick Kiln Blvd/Wal-Mart Way intersection (Exit 255), the signal operates at a LOS D in the AM peak hour and a LOS E in the PM peak hour.

No delay-related LOS issues were noted during the Summer Weekend Daytime peaks for the intersections that were included in this analysis (at Exits 234, 238, and 243). No intersection capacity analysis was completed for the Summer Nighttime peaks.

Table 18: 2011 Existing Intersection Level of Service – Non-Summer Weekday Peak

Exit - Ramp	Intersection Control	Intersection	Critical Movement ¹	2011 AM Peak Hour ¹		2011 PM Peak Hour ²	
				Delay ³	LOS ³	Delay ³	LOS ³
190-A	Unsignalized	5th Street & I-95 NB On-ramp	SB 5th Street L	7.7	A	8.2	A
190-B	Unsignalized	3rd Street & I-95 SB Off-ramp	3rd Street L	18.7	C	11.4	B
192-A	Signal	I-64 WB Off-ramp/Magnolia Street & US 360	Intersection	45.1	D	26.3	C
192-B	Unsignalized	I-64 EB Off-ramp & US 360 ⁴	I-64 Off-ramp R ⁴	12.1	B	10.2	B
193-A	Unsignalized	I-64 EB Ramps & Nine Mile Road	I-64 Off-ramp R	10.9	B	9.8	A
193-B	Signal	Route 33 & Gordon's Lane	Intersection	15.9	B	14.0	B
193-C	Unsignalized	I-64 WB Off-ramp & Nine Mile Road	I-64 Off-ramp R	10.3	B	13.3	B
195-A	Signal	I-64 EB Ramps & Laburnum Avenue	Intersection	29.4	C	45.9	D
195-B	Signal	I-64 WB Ramps & Laburnum Avenue	Intersection	8.4	A	8.7	A
205-A	Signal	I-64 EB Ramps & New Kent Highway	Intersection	8.6	A	12.3	B
205-B	Unsignalized	I-64 WB Ramps & New Kent Highway	I-64 Off-ramp LR	10.9	B	21.3	C
211-A	Unsignalized	I-64 EB Ramps & Emmans Church Road	I-64 Off-ramp LTR	10.5	B	10.8	B
211-B	Unsignalized	I-64 WB Ramps & Emmans Church Road	I-64 Off-ramp LTR	12.3	B	12.8	B
214-A	Unsignalized	I-64 EB Ramps & Courthouse Road	I-64 Off-ramp LTR	16.8	C	11.4	B
214-B	Unsignalized	I-64 WB Ramps & Courthouse Road	I-64 Off-ramp LTR	20.2	C	13.3	B
227-A	Unsignalized	I-64 EB Ramps & Old Stage Road	I-64 Off-ramp L	11.6	B	11.2	B
227-B	Unsignalized	I-64 WB Ramps & Old Stage Road	I-64 Off-ramp L	16.6	C	18.3	C
231-A	Signal	Croaker Road & Rochambeau Drive	Intersection	41.2	D	33.8	C
231-B	Unsignalized	Croaker Road & Fenton Mill Road	WB Fenton Mill LTR	12.7	B	13.5	B
231-C	Unsignalized	I-64 WB Off-ramp & Croaker Road	I-64 Off-ramp R	8.7	A	9.4	A
231-D	Unsignalized	I-64 EB Off-ramp & Croaker Road	I-64 Off-ramp R	9.8	A	10.2	B
234-A	Unsignalized	I-64 EB Ramps & Newman Road	I-64 Off-ramp LT	21.0	C	20.7	C
234-B	Unsignalized	Newman Road & Fenton Mill Road	NB Fenton Mill LTR	11.5	B	12.9	B
234-C	Unsignalized	I-64 WB Off-ramp & Newman Road	I-64 Off-ramp R	8.6	A	9.5	A
238-A	Unsignalized	I-64 EB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	18.4	C	15.8	C
238-B	Signal	I-64 EB On-ramp, Merrimac Trail, & Rochambeau Drive	Intersection	19.6	B	17.5	B
238-C	Unsignalized	I-64 WB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	14.2	B	12.8	B
238-D	Unsignalized	I-64 EB Off-ramp (right turn) & Merrimac Trail	I-64 Off-ramp R	12.4	B	12.2	B
243-A	Signal	Busch Gardens Boulevard NB ramps & US Route 60	Intersection	8.7	A	8.9	A
243-B	Signal	Busch Gardens Boulevard SB ramps & US Route 60	Intersection	8.0	A	8.4	A
247-A	Unsignalized	I-64 EB Off-ramp & Jefferson Avenue	I-64 Off-ramp LR	67.7	F	31.4	D
247-B	Signal	Jefferson Ave & Yorktown Road	Intersection	29.0	C	40.6	D
247-C	Unsignalized	I-64 EB On-ramp & Yorktown Road	SB Yorktown L	9.2	A	9.0	A
247-D	Unsignalized	I-64 WB Off-ramp & Yorktown Road	I-64 Off-ramp L	12.2	B	12.0	B
250-A	Signal	I-64 WB Off-ramp & Jefferson Avenue	Intersection	10.9	B	18.3	B
250-B	Signal	Jefferson Avenue & Fort Eustis Boulevard	Intersection	53.9	D	43.1	D
255-A	Signal	Jefferson Avenue & Freedom Way/Clair Lane	Intersection	16.4	B	42.3	D
255-B	Signal	Jefferson Avenue & Brick Kiln Blvd/Wal-Mart Way	Intersection	49.8	D	80.0	E

Notes:

¹ AM Peak = Weekday morning peak hour (7:00 AM to 8:00 AM)

² PM Peak = Weekday afternoon peak hour (4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM, whichever hourly volume was higher)

³ Delay is given as "seconds per vehicle," per HCS 2010 analysis. Delay and LOS for signalized intersections apply to the overall intersection. Delay and LOS for unsignalized intersections are for the critical movement (major street left or minor street approach with highest delay)

⁴ Approach is controlled by a yield sign but operates as stop-controlled and was analyzed accordingly.

Table 19: 2011 Existing Intersection Level of Service – Summer Peak, Daytime near Williamsburg

Exit - Ramp	Intersection Control	Intersection	Critical Movement ¹	2011 SAT Peak Hour ¹		2011 SUN Peak Hour ²	
				Delay ³	LOS ³	Delay ³	LOS ³
234-A	Unsignalized	I-64 EB Ramps & Newman Road	I-64 Off-ramp LT	16.3	C	17.9	C
234-B	Unsignalized	Newman Road & Fenton Mill Road	NB Fenton Mill LTR	12.1	B	13.5	B
234-C	Unsignalized	I-64 WB Off-ramp & Newman Road	I-64 Off-ramp R	8.9	A	9.2	A
238-A	Unsignalized	I-64 EB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	12.5	B	12.4	B
238-B	Signal	I-64 EB On-ramp, Merrimac Trail, & Rochambeau Drive	Intersection	12.8	B	14.3	B
238-C	Unsignalized	I-64 WB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	10.8	B	10.1	B
238-D	Unsignalized	I-64 EB Off-ramp (right turn) & Merrimac Trail	I-64 Off-ramp R	11.8	B	10.9	B
243-A	Signal	Busch Gardens Boulevard NB ramps & US Route 60	Intersection	7.9	A	9.5	A
243-B	Signal	Busch Gardens Boulevard SB ramps & US Route 60	Intersection	10.6	B	9.8	A

Notes:

¹ SAT Peak = Saturday Daytime peak hour (9:00 AM to 10:00 AM)

² SUN Peak = Sunday Daytime peak hour (2:00 PM to 3:00 PM)

³ Delay is given as "seconds per vehicle," per HCS 2010 analysis. Delay and LOS for signalized intersections apply to the overall intersection. Delay and LOS for unsignalized intersections are for the critical movement (major street left or minor street approach with highest delay)

⁴ Approach is controlled by a yield sign but operates as stop-controlled and was analyzed accordingly.

D. Traffic Safety

A safety analysis of the I-64 corridor was conducted to examine crash locations along the corridor. Three years of VDOT crash data from January 2008 to December 2010 was analyzed and plotted. This data does not include minor “fender-bender” crashes that were not reported to police and are therefore not included in VDOT’s Statewide Crash Database.

The results of this analysis revealed that there were 3,802 crashes over the three year period from mile marker 191, just east of Exit 190 (I-95), to mile marker 264, east of Exit 264 (I-664). While 31% of crashes resulted in injuries, 68% of the crashes resulted only in property damage. There were 20 fatal crashes in that period, representing 0.5% of total crashes. The 20 fatal crashes were spread throughout the corridor, however a majority (15 of 20) occurred within the rural four-lane section of the corridor between I-295 (Exit 200) and Busch Gardens Boulevard (Exit 243).

The crash analysis indicated that the collision types included the following:

- 48% of the crashes were rear end.
- 30% of the crashes involved a fixed object.
- 10% of the crashes were sideswipe crashes involving vehicles traveling in the same direction.
- 3% of the crashes were angle, non-collision, and deer incidents, each with approximately 125 crashes per type.
- 3% of the crashes were considered miscellaneous.

Crash rates were calculated for the I-64 corridor and compared to the statewide average for other interstate facilities. The most recent statewide average available (2008) for interstate roads indicated a rate of 72 crashes per 100 million vehicle miles traveled. **Table 22** lists the crash rates calculated by direction for each one-mile long segment. The “Percentage Comparison to Statewide Average” is the segment crash rate divided by the statewide average (72). Rates above the statewide average are bolded in **Table 22** and shown in **Figure 6**.

Table 22: Crash Rates above the Statewide Average per Mile Segment

Segment	Locality	Crash Rate (per 100 million vehicle miles traveled)		Percentage Comparison to Statewide Average	
		Eastbound	Westbound	Eastbound	Westbound
MP 191 - 192	Richmond	85	261	1.2	3.6
MP 192 - 193	Richmond/Henrico	79	161	1.1	2.2
MP 193 - 194	Richmond/Henrico	88	67	1.2	0.9
MP 194 - 195	Henrico	43	52	0.6	0.7
MP 195 - 196	Henrico	48	51	0.7	0.7
MP 196 - 197	Henrico	51	34	0.7	0.5
MP 197 - 198	Henrico	115	85	1.6	1.2
MP 198 - 199	Henrico	47	48	0.7	0.7
MP 199 - 200	Henrico	43	29	0.6	0.4
MP 200 - 201	Henrico	52	52	0.7	0.7
MP 201 - 202	Henrico	47	27	0.7	0.4
MP 202 - 203	Henrico	64	33	0.9	0.5
MP 203 - 204	Henrico	56	46	0.8	0.6
MP 204 - 205	New Kent	33	51	0.5	0.7
MP 205 - 206	New Kent	52	113	0.7	1.6
MP 206 - 207	New Kent	30	54	0.4	0.8

Segment	Locality	Crash Rate (per 100 million vehicle miles traveled)		Percentage Comparison to Statewide Average	
		Eastbound	Westbound	Eastbound	Westbound
MP 207 - 208	New Kent	24	45	0.3	0.6
MP 208 - 209	New Kent	30	33	0.4	0.5
MP 209 - 210	New Kent	12	45	0.2	0.6
MP 210 - 211	New Kent	48	24	0.7	0.3
MP 211 - 212	New Kent	39	57	0.5	0.8
MP 212 - 213	New Kent	32	30	0.4	0.4
MP 213 - 214	New Kent	26	33	0.4	0.5
MP 214 - 215	New Kent	42	78	0.6	1.1
MP 215 - 216	New Kent	18	37	0.3	0.5
MP 216 - 217	New Kent	12	21	0.2	0.3
MP 217 - 218	New Kent	21	31	0.3	0.4
MP 218 - 219	New Kent	15	34	0.2	0.5
MP 219 - 220	New Kent	15	70	0.2	1.0
MP 220 - 221	New Kent	19	36	0.3	0.5
MP 221 - 222	New Kent	21	21	0.3	0.3
MP 222 - 223	New Kent	21	28	0.3	0.4
MP 223 - 224	New Kent	31	35	0.4	0.5
MP 224 - 225	York	7	21	0.1	0.3
MP 225 - 226	York	34	21	0.5	0.3
MP 226 - 227	York	27	24	0.4	0.3
MP 227 - 228	York	25	47	0.3	0.7
MP 228 - 229	York	28	13	0.4	0.2
MP 229 - 230	York	38	22	0.5	0.3
MP 230 - 231	York	34	22	0.5	0.3
MP 231 - 232	York	53	36	0.7	0.5
MP 232 - 233	York	39	34	0.5	0.5
MP 233 - 234	York	14	11	0.2	0.2
MP 234 - 235	York	27	48	0.4	0.7
MP 235 - 236	York	6	21	0.1	0.3
MP 236 - 237	York	35	36	0.5	0.5
MP 237 - 238	York	68	30	0.9	0.4
MP 238 - 239	York	104	65	1.4	0.9
MP 239 - 240	York	26	98	0.4	1.4
MP 240 - 241	York	14	40	0.2	0.6
MP 241 - 242	York	88	26	1.2	0.4
MP 242 - 243	York	90	105	1.3	1.5
MP 243 - 244	York	72	43	1.0	0.6
MP 244 - 245	James City	54	81	0.8	1.1
MP 245 - 246	James City	52	102	0.7	1.4
MP 246 - 247	James City	122	98	1.7	1.4
MP 247 - 248	Newport News	188	168	2.6	2.3
MP 248 - 249	Newport News	89	73	1.2	1.0
MP 249 - 250	Newport News	156	36	2.2	0.5

Segment	Locality	Crash Rate (per 100 million vehicle miles traveled)		Percentage Comparison to Statewide Average	
		Eastbound	Westbound	Eastbound	Westbound
MP 250 - 251	Newport News	317	268	4.4	3.7
MP 251 - 252	Newport News	87	175	1.2	2.4
MP 252 - 253	Newport News	55	68	0.8	0.9
MP 253 - 254	Newport News	38	103	0.5	1.4
MP 254 - 255	Newport News	36	103	0.5	1.4
MP 255 - 256	Newport News	39	198	0.5	2.8
MP 256 - 257	Newport News	42	43	0.6	0.6
MP 257 - 258	Newport News	21	63	0.3	0.9
MP 258 - 259	Newport News	71	99	1.0	1.4
MP 259 - 260	Hampton	34	43	0.5	0.6
MP 260 - 261	Hampton	46	24	0.6	0.3
MP 261 - 262	Hampton	75	63	1.0	0.9
MP 262 - 263	Hampton	153	49	2.1	0.7
MP 263 - 264	Hampton	52	98	0.7	1.4

Source: VDOT Statewide Crash Database, 2008-2010

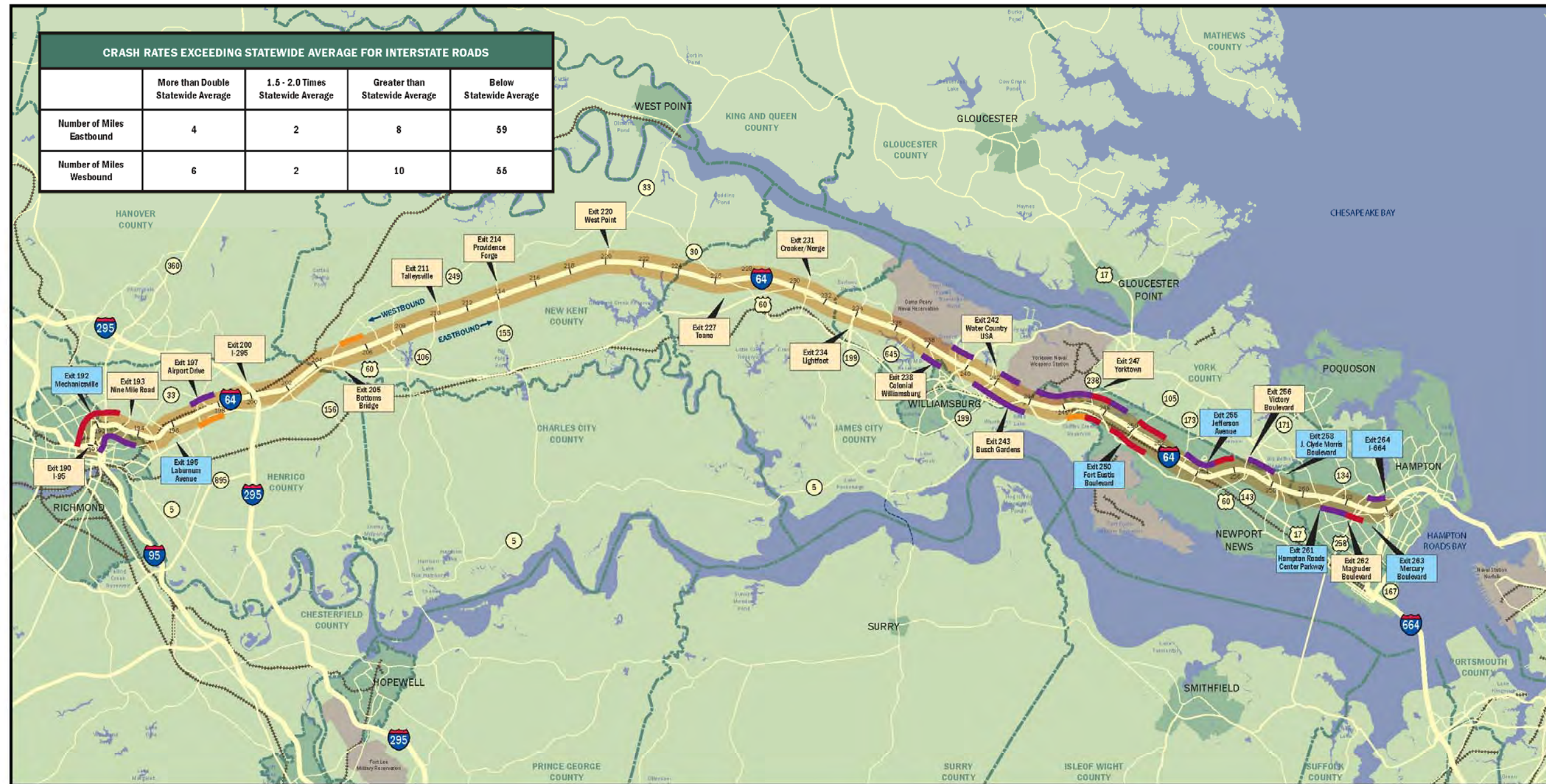
Higher crash rates predominately occurred in the areas of the corridor with deficient LOS, including the Richmond area and the section from Williamsburg east to Exit 264. Nearly 50% of the crashes along the entire corridor were rear-end crashes, with an even higher percentage of rear-ends, 50 to 85%, in the segments with deficient LOS. Changes in speed and stop and go traffic are often contributing factors to rear-end crashes.

In addition to the mainline crashes, each interchange and associated at-grade intersection was reviewed to identify where high numbers of crashes were occurring. **Table 23** notes ramps and intersections where a high number of crashes (greater than 10) occurred over the three year period from 2008 to 2010.

Similar to the I-64 mainline data, the higher crashes occurred in the congested areas of the corridor. Exits 250 and 255 had mainline crashes more than twice the statewide average and a high number of ramp/intersection crashes. Based on VDOT's Statewide Crash Database (2008-2010), the majority of ramp crashes occurred at the merge/diverge area with I-64 mainline or with the merge/diverge of the adjacent street.

Table 23: Ramps and Intersections with a High Number of Crashes (Greater than 10)

Exit	Locality	Ramp/Intersection	Number of Crashes	Comments
192	Richmond	Route 360 and I-64 WB off-ramp/Magnolia St intersection	17	
195	Henrico	Laburnum Ave and I-64 EB ramps	17	
195	Henrico	Laburnum Ave and I-64 WB ramps	13	
250	Newport News	I-64 EB to Route 105 EB off-ramp (loop ramp)	15	Majority of crashes fixed object – off road
250	Newport News	Ft. Eustis Blvd (Route 105) and Jefferson Ave (Route 143) intersection	20	High proportion of rear-end crashes
255	Newport News	I-64 WB off-ramp to Route 143 WB	24	
255	Newport News	Jefferson Ave (Route 143) and Wal-Mart Way/Brick Kiln Blvd intersection	47	
258	Newport News	On-ramp from US 17 NB to I-64 WB	11	
261	Hampton	I-64 EB off-ramp to Hampton Roads Center Pkwy WB (loop ramp)	11	
261	Hampton	I-64 WB off-ramp to Hampton Roads Center Pkwy WB (loop ramp)	17	
263	Hampton	I-64 EB off-ramp to Route 258 EB	19	
263	Hampton	I-64 WB on-ramp from Route 258 WB	32	25 crashes at the diverge point
264	Hampton	I-64 EB to I-664 SB ramp	16	
264	Hampton	I-664 NB to I-64 EB ramp	15	
264	Hampton	I-664 NB to I-64 WB ramp	13	
Source: VDOT Statewide Crash Database, 2008-2010				



LEGEND

- █ 1.0 to 1.5 times statewide average
- █ > 1.5 to 2.0 times statewide average
- █ > 2.0 times statewide average
- █ 206 | Approximate milepost location

Ramps/Intersections with > 10 crashes from 2008 - 2010

Notes:

1. Crashes data provided by VDOT from statewide database. Does not include crashes not reported to the state system.
2. Statewide average crash rate is based on VDOT analysis of crashes that occurred on all Virginia interstates in the year 2008.
3. Crash rates calculated per one-mile segment.

Figure 6
Crash Rates Above the Statewide Average per Direction 2008 - 2010 Crashes



E. Geometric Conditions Review

When I-64 was constructed in the 1960s, it was designed for considerably less traffic than it currently experiences and was based on the roadway design standards of that time. At the time, little was known about safety requirements for high-capacity and high-speed facilities. As time has passed, the data has accumulated and roadway design standards have been revised based on the knowledge gained.

For this reason, there are areas of the I-64 corridor which are deficient based on today’s standards for clear zone widths, side slope grading requirements, and shoulder widths. For example, the clear zone requirements for a road which services 5,000 vehicles per day is less than a road which services 100,000 vehicles per day, due to the nature of the traffic flow. Also, as speeds increase along the corridor, sight distance requirements grow substantially, which leads to deficiencies based on current design standards compared to design standards at the time I-64 was initially constructed in the 1960s.

The following sections further describe the identified roadway deficiencies for the I-64 mainline, the 25 existing interchange locations and the major bridge structures which are on or cross over I-64.

1. I-64 Mainline

Due to changes in design standards since the corridor was constructed, there are a few locations along the I-64 corridor which do not meet the current American Association of State Highway and Transportation Officials (AASHTO) and VDOT requirements for mainline interstate geometry. In particular, there are a few existing vertical curve deficiencies, as shown in **22**, however, there are no horizontal curves along the corridor that currently fall below the minimum radius threshold. It should be noted, however, that several crest vertical curves narrowly meet the minimum requirements for stopping sight distance (SSD) of 820 feet for a 75 mph design speed (rural interstate), or 730 feet for a 70 mph design speed (urban interstate). **Table 24** includes the tabulation of vertical geometry deficiencies throughout the corridor.

Table 24: Locations with Deficient Vertical Geometry

Mile Marker	Design Speed (mph)	Curve Length (feet)	Curve Type	Required SSD (feet)	Actual SSD (feet)	Notes
238 EB	75	700	Sag	NA	NA	-
243 EB	70	1000	Crest	730	699	-
258.5 EB	70	1400	Crest	730	720	I-64 over US 17
258.5 WB	70	1400	Crest	730	719	I-64 over US 17

Source: Data measured from VDOT GIS Mapping, 2011



Figure 7
Roadway Deficiencies



2. Interchanges

As with the mainline, due to similar changes in design standards over the past number of years, there are several interchanges which also do not meet the current AASHTO and VDOT requirements for interchange geometry. As depicted in **Figure 7**, 24 of the 25 interchanges are considered substandard according to today’s standards. **Table 25** summarizes the geometric features of the existing interchanges which do not meet the current design criteria. If left unimproved, these deficiencies combined with increased traffic volumes will lead to additional back ups and safety concerns at interchange locations.

It should be noted that required SSD for interchange ramps is dependent on several factors, including ramp design speed, vertical and horizontal curvature, and stopping conditions at the ramp terminal (i.e. full-stop vs. free-flow). The interchanges along the corridor were evaluated on a case-by-case basis, and the results for SSD deficiencies are shown in the **Table 25**.

Table 25: Interchanges with Deficient Geometry

Deficient Feature	Minimum Standard (feet)	Number of Locations with Deficiencies	Exit Number
Acceleration Length	1200	40	192, 193, 195, 197, 200, 205, 211, 214, 220, 227, 231, 234, 238, 242, 247, 250, 255, 256, 258, 261, 263
Deceleration Length	800	36	192, 193, 195, 197, 200, 205, 211, 214, 220, 227, 231, 234, 238, 242, 243, 247, 250, 256, 258, 261
Taper Length	300	15	197, 238, 247, 250, 258, 261, 263
Weave Length	1200	37	190, 192, 193, 197, 200, 231, 234, 242, 250, 255, 256, 258, 261
Ramp SSD	Varies	28	190, 193, 195, 197, 200, 205, 211, 214, 220, 227, 231, 234, 238, 242, 247, 250

Source: Data measured from VDOT GIS Mapping, 2011

3. Structures

There are 109 major bridge structures along the I-64 study corridor. Of this total, 47 are located on the I-64 mainline and 62 cross over the interstate. The oldest structures were constructed in 1964 with the newest structure constructed in 2005. In addition, 24 of these structures have been reconstructed during the timeframe of 1977 to 2006. Older bridges were constructed with the expectation that after approximately 30 years they would be in need of reconstruction (refurbishment) and that in approximately another 20 to 30 years, the structure would then need to be totally replaced.

Bridges are evaluated using a measurement called the sufficiency rating. This measurement is represented by a percentage varying from 0-100, with 100 being excellent condition. The sufficiency rating takes into account aspects of the structure such as its structural adequacy and safety, necessity of the structure to the surrounding community, and serviceability and functional obsolescence. A bridge is typically considered eligible for federal funds for reconstruction if its sufficiency rating falls below 80 and is typically eligible for funds for replacement when the sufficiency rating falls below 50.

Due to the current traffic volumes creating wear and tear on the infrastructure within the I-64 study corridor, there are a number of structures that are continuing to deteriorate. The average rating is 80.1, which indicates that a number of the structures may be at or nearing the point of needing reconstruction.

In addition, there are several bridges crossing over the interstate which do not have the required vertical clearances per AASHTO and VDOT interstate design standards which require that a minimum of 16.5 feet of vertical clearance be present for overhead structures. **Table 26** summarizes which structures do not meet the required standards and **Figure 7** indicates each structure’s approximate location.

Table 26: Existing Bridges with Deficient Vertical Clearances

Clearance	Number of Structures Over I-64	Virginia Structure Number
<16.5 feet	12	063-1031(2), 063-1034, 063-1035, 047-6026, 047-1030, 047-1031, 099-6004, 099-6002, 121-2202, 114-8000, 099-1027
Source: VDOT Bridge Inspection Reports, 2011		

IV. Analysis of Future No-Build Conditions

A. Future Traffic Conditions

The demand for travel between and within the Richmond and Hampton Roads areas is expected to continue to increase over the coming years. This increase in demand is projected to lead to an increased number of vehicles using the I-64 corridor, exacerbating the potential for delays and crashes already experienced under the current conditions. The following factors, many of which are interrelated, contribute to the future needs for improvements to the study corridor:

- Projected increases in traffic volumes.
- Continued aging of the mainline and structures along the corridor.
- Increased safety considerations resulting from increased traffic volumes.
- Access to, from and between military facilities and installations during peak hours of travel and times of emergency.
- Future port expansion increasing the demand for freight transportation.
- Local and regional plans for economic development.

Documentation of the methodologies used to model future travel demand and estimate I-64 growth rates was detailed in a technical memo finalized on November 11, 2011 (**Appendix E**). The 2040 No-Build Balanced volumes for the I-64 mainline freeway segments, ramps, and cross-street intersections are given in **Appendix F**.

As previously stated in the base conditions section, it was determined that multiple conditions exist that create numerous needs for improvements within the I-64 corridor. These identified needs will continue into the future and are projected to worsen over time. Further descriptions of each of these identified needs are presented as follows.

1. Development of Non-Summer Conditions No-Build Forecasts

2040 traffic volumes were developed using the Tidewater Super-Regional travel demand model. The Tidewater model combines models from three areas:

- The Richmond Area and Tri-Cities (Petersburg/Hopewell/Colonial Heights) Metropolitan Planning Organization (MPO) Areas.
- The Hampton Roads TPO Area.
- The region between the two MPO/TPO areas, including much of Southside Virginia and the area surrounding the I-64 corridor between Richmond and Newport News.

This Tidewater model is used to assign “end-to-end” trips along the area’s major roadways, including I-64 between Richmond and Hampton Roads. The model has a 2000 base year and 2034 horizon year, although the Richmond component of the model uses 2031 land use. The 2031 land use for the Richmond area was extrapolated to 2034 in order to have a consistent 2034 land use scenario.

The Tidewater model developed by VDOT and used for this study includes all other projects within the corridor that are on the Richmond or Hampton Roads MPO/TPO’s Constrained Long Range Plans, as well as the Rural Long Range Transportation Plans for the Richmond and Hampton Roads Planning District Commissions. Those projects form a part of the Base conditions and the effects of these projects on I-64 traffic are accounted for in all 2040 No-Build analyses. Some of the major projects included on these Long-Range Plans include the following:

- The US 460 Bypass, a proposed toll road paralleling existing US 460 between Petersburg and Chesapeake.
- The proposed Stoney Run Parkway interchange on I-64 in Henrico County between Exits 193 (Nine Mile Road) and Exit 195 (Laburnum Avenue). (This project was deleted in the 2035 Constrained Long-Range Plan recently adopted by the Richmond Area MPO in July 2012. However this project is still included in the Tidewater model being used for this project.)
- Widening of I-64 between Exit 197 and Exit 220. (This project was deleted in the 2035 Constrained Long-Range Plan recently adopted by the Richmond Area MPO in July 2012. However this project is still included in the Tidewater model being used for this project.)
- The proposed Richmond-Hampton Roads passenger rail improvements, including the new rail service from Richmond through Petersburg to Norfolk.

Projects which are not included on the Constrained Long Range Plans are not included under the No-Build analyses for this study. Some major projects not included are:

- Potential widening of the Hamptons Road Bridge-Tunnel.
- Potential Patriot’s Crossing or Third Crossing of the Hampton Roads Harbor.
- Potential I-64/Bland Blvd interchange.

While the Tidewater model horizon year is 2034, the design year for the I-64 Study is 2040. Therefore, additional steps were necessary to develop 2040 forecasts from the 2034 model output. The 2040 forecasts were developed from 2034 model output by applying simple growth rates.

Growth rates were developed by comparing link output from the base (2000) models to the future (2034) models. An annual growth rate was computed from these link comparisons, which was then be applied to the 2034 Average Daily Volumes to project to 2040. Historic traffic volume growth along the I-64 corridor was also evaluated by reviewing the official VDOT traffic volume publications for the years 1975 through 2010 (at five-year intervals). Annual growth for each five-year interval was computed for major links within the study area, as well as overall annual growth for the entire period. These historic reviews served as a reasonableness check on growth rates developed from other sources.

Approximate boundaries of urban and rural areas were identified. The urban areas were selected from I-95 to I-295 in the Richmond area, and from US 17 (Victory Boulevard) to the HRBT in the Hampton Roads area. These areas were also selected as the threshold for urban and rural growth areas.

After the three areas were selected, the growth rates projected by the Tidewater model were averaged and rounded to the nearest 0.1 percent. The model was selected as the primary source for the overall growth rates, because it is a forward-looking tool (unlike the historic growth rates), and incorporates approved land use forecasts and accepted modeling protocols. Historic growth rates should be used with caution, in

particular along extended projects such as the I-64 Peninsula Study EIS, because they are less able to factor in future development patterns, capacity constraints and diversion to other facilities, new roadway projects, and other factors that influence traffic patterns (such as tolls). However, they serve as a reasonableness check on growth rates developed from other sources.

The procedure outlined above yielded the following proposed annual growth rates for the mainline links:

- Richmond urban area: 0.7%/year
- Peninsula rural area: 1.5%/year
- Hampton Roads urban area: 1.1%/year

Upon computing the raw 2034 volumes, link volumes were post-processed using the methods described in NCHRP Report 255⁶ to obtain refined daily link volumes. Using the K-factors⁷ established for existing conditions as a starting point, peak hour volumes for future conditions were developed. In addition, manual adjustments were made to the daily volumes for consistency with volume projections from other studies in the area, most notably the I-95/I-64 Overlap Study and VDOT's statewide planning projections. These projections were also compared for consistency with 2040 Projections from the I-64 HRBT EIS at the eastern end of the study area.

Both daily forecasts as well as peak hour forecasts were balanced for the 2040 No-Build scenario. The 2040 No-Build Balanced Non-Summer Weekday volumes for the I-64 mainline freeway segments, ramps, and cross-street intersections are given in **Appendix F**.

As shown in **Figure 8**, 2040 No-Build traffic volumes on I-64 are projected to range from 55,300 ADT between Exits 197 and 200 to 199,200 ADT between Exits 262 and 263. Traffic volumes are generally highest between Exits 190 and 192 in the City of Richmond and between Exits 255 and 264 in Newport News and Hampton.

2. Development of Summer Conditions No-Build Forecast

Summer volumes were developed for those segments where summer Saturday and Sunday peak counts were conducted in the eastern portion of the corridor. Because summer daily volumes were not available for these locations, and because the Tidewater model does not forecast summer conditions, an alternate approach was taken to estimate 2040 summer volumes.

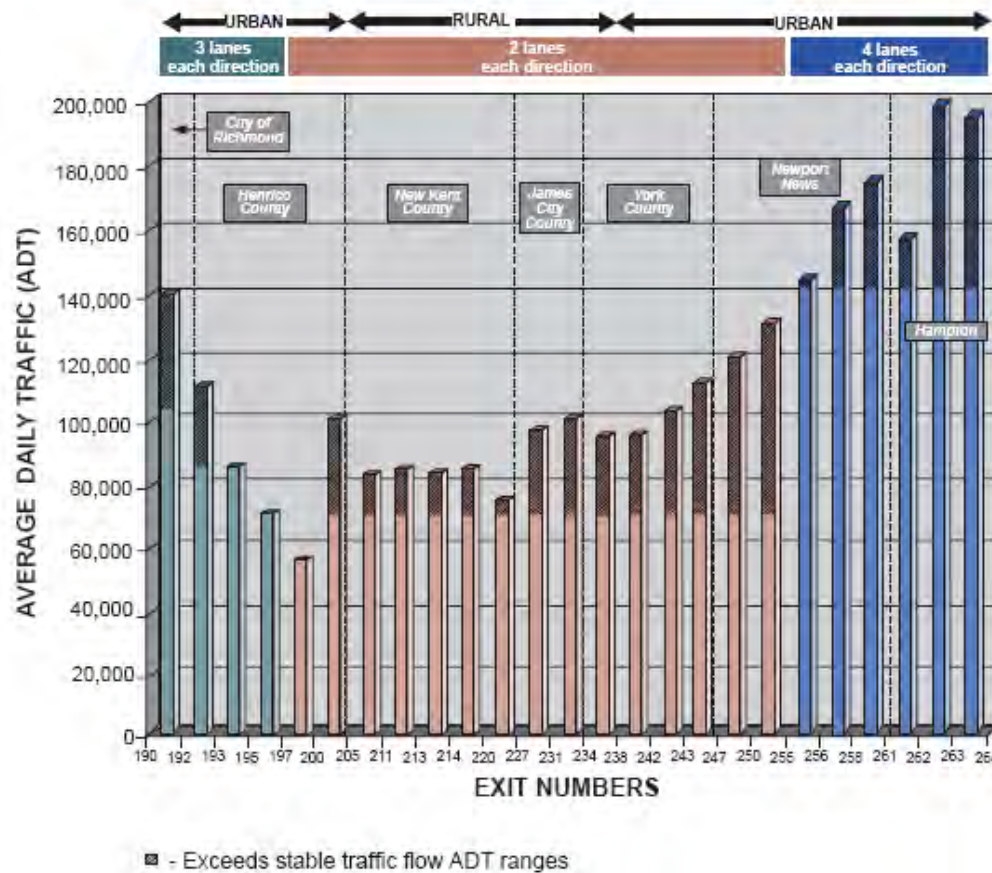
I-64 mainline traffic data available in the vicinity of the areas for which summer volumes were developed were reviewed to estimate historic Saturday and Sunday daily volume growth. These growth rates were applied to the 2011 weekend data. In addition, future summer volumes were estimated by applying the difference in 2011 peak and summer volumes to the 2040 No-Build peak data. The results from these two approaches were averaged and manually balanced as necessary to obtain final 2040 No-Build summer volumes.

The 2040 No-Build Balanced Summer Weekend Daytime and Nighttime volumes for the I-64 mainline freeway segments, ramps, and cross-street intersections at Exit 220 and Exits 234-243 are given in **Appendix F**.

⁶ National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data For Urbanized Area Project Planning And Design*

⁷ A "K-Factor" is defined as the ratio of the volume during the peak hour of the day to the volume over the course of the entire 24-hour day. So if the volume is 2,200 vehicles/hour (vph) during the PM peak hour and 25,000 vehicles/day (vpd) during the whole day, the K-Factor would be 8.8%.

Figure 8: 2040 No-Build Conditions Average Daily Traffic



B. Existing and Projected Freight Volumes

1. Summary of Findings

Railroad and freight barge services are among the most important factors that would affect truck as well as all vehicular traffic on I-64. Based on available resources, this study synthesized the potential impacts of these factors in the No-Build alternative and Build Alternative. **Table 27** defines the existing trips along the CSX Peninsula Branch and the I-64 Barge service, the estimated increase in trips due to the findings of this study, and the projected daily trips that would be removed from I-64. Findings from the study include:

- An improved passenger rail service between Richmond and Newport News would reduce passenger car traffic on I-64.
- The freight train traffic on the CSX Peninsula Branch is projected to increase by 70% between 2010 and 2040. This increase may affect the potential of improving passenger service on this line, but would have a limited impact on truck traffic on I-64.
- The Port of Virginia would potentially see an increase of cargo traffic by 400% - 450% in 2040, partially caused by the Panama Canal Expansion. Though Norfolk Southern's Heartland Corridor and CSX's National Gateway would carry a substantial amount of container traffic from the Port, considerable increases in truck traffic would still happen on I-64.
- The expanding container barge service would reduce truck traffic on I-64.
- Other factors, such as improvements on US-460, would potentially share the burden of increasing truck traffic. But their impacts are not specified unless they are designated as No-Build projects.

Table 27: Number of Daily Trains and Barge Trips in 2010 and 2040

Mode	Service	Number of Daily Trains/Barge		Number of Daily Trips Reduced on I-64 (2040)
		Existing	2040	
CSX Peninsula Branch	Freight Rail (Coal)	12 - 15	21 - 26	NA*
	Passenger Rail	4	6	1,783 cars
Freight Barge	To Richmond and Baltimore	1	4	285 trucks

* The CSX Peninsula Branch carries approximately 99% of coal, which isn't transported by truck

2. CSX Peninsula Branch Passenger and Freight Improvements

The CSX Peninsula Branch parallels I-64 and is mostly a single track corridor. The branch currently operates four (4) Amtrak passenger rail trains per day between Richmond and Newport News, 12-15 CSX freight trains between Fulton and Newport News, and mainly handles coal trains that are up to 1.5 miles in length and move far slower than Amtrak.

In the Richmond/Hampton Roads Passenger Rail Project Tier I Final EIS (adopted in August 2012), the No Action alternative would provide a total of three round-trip trains that operate on the Peninsula/CSX route. This scenario was adopted as the condition of passenger rail service along the I-64 corridor in the 2040 No Build alternative. The No Action alternative proposes only minor capacity improvements, as well as the third additional round-trip as is in the Status Quo, on the Peninsula Branch, with no costs associated with the Tier I FEIS. Passenger trains would run at 79 mph, with 72% of on-time performance.

The Tier I Final EIS projected substantial growth of ridership (2025) over the Status Quo and No Action alternatives; however, the ridership projections combined both the Peninsula and Southside corridors together as well as broke the two corridors out. As shown in **Table 28**, the Tier I Final EIS projects a growth in the Peninsula corridor when adding a third daily round-trip. The ridership model projected that the Peninsula corridor, with a 3rd daily round-trip train, increased ridership by a range of 180,200 to 202,500 per year. This equates to be approximately 1,166 daily riders (2025).

Based on the license plate survey conducted as part of the Tier I Final EIS, it would require 1,750 passengers to remove 1,000 cars from the congested highway network. The number of passenger cars reduced on the I-64 corridor would be 90,605 in 2007, 108,392 in 2010, and 650,815 in 2040, or 248, 297, and 1,783 cars per day respectively. Approximately, it means that in 2007, 0.2% of total average daily traffic across the Hampton/Newport News city limit was diverted to passenger rail. It should be noted that these numbers can be seen as the reduction of vehicle traffic in every segment of I-64 between Richmond and Hampton Roads.

Freight Rail Investing In Virginia (CSX and NS, 2005) shows that both the CSX and NS carry export coal to/from Hampton and Norfolk Region. According to FAF3, in 2007, 99.9% of export coal was shipped to the region by rail. This proportion would not be changed in 2040, whereas the total tonnage of export coal increases from 36.9 million tons to 62.7 million tons. The analysis assumes both CSX and NS would improve their freight service along the two corridors (CSX Peninsula and NS “N” Line), and thus keeping the Class I railroad market share unchanged in 2040. Most of CSX Peninsula trains carry export coal. It means CSX’s freight trains on the Peninsula Branch would increase by 70% between 2007 and 2040, from 12-15 trains per day to 21-26 trains per day. **Figure 9** displays the CSX export coal route from the Hampton Roads area, while **Figure 10** displays the NS export coal route from the Hampton Roads area⁸.

⁸ *Freight Rail Investing In Virginia*, Pete Shudtz and Dave Brown, CSX and NS, 2005

Table 28: Estimated Range of Probable Passenger Rail Ridership (2025)

	Status Quo 79 mph	No Action 79 mph	Preferred Alternative
			90 mph
Peninsula/CSXT high	262,300	464,800	223,400
Peninsula/CSXT low	245,500	425,700	212,500
Southside/NS high	0	0	886,700
Southside/NS low	0	0	727,100
Total High	262,300	464,800	1,110,100
Total Low	245,500	425,700	939,600
Difference from 79 mph Status Quo Alternative			
High		202,500	847,800
Low		180,200	694,100
Difference from 79 mph No Action Alternative			
High			645,300
Low			513,900

Source: Tier 1 Final EIS Richmond/Hampton Roads Passenger Rail Project, Chapter 3 Affected Environment and Environmental Consequences.

As the figures show, these Class I railroads transport coal across Virginia from the heart of coal producing regions.

However, because export coal would not be carried by trucks in the future, this market would be exclusively shipped by rail, thus not providing a reduction in truck traffic on the I-64 corridor. No diversion between rail and truck is expected, which means rail improvements on the Peninsula Branch would have little impact on the I-64 truck traffic.

3. Norfolk Southern “N” Line Improvements

The Norfolk Southern “N” Line parallels US-460 and is mostly a double track corridor. The branch currently carries approximately 50 daily freight trains operating between Petersburg and Newport News.

Freight rail service along the NS “N” Line is a heavily utilized corridor. In order to add passenger rail service, Norfolk Southern and the Virginia Department of Rail and Public Transportation have agreed upon a Multi-Year Funding Agreement for infrastructure improvements relating to a proposed passenger rail service between Norfolk and Petersburg, VA.

Due to the planned passenger rail service between Norfolk, Petersburg, and Richmond, the route will be an additional passenger rail service for Amtrak in Virginia. The improvements include upgrading signaling, track extensions and connections, passenger train turning and servicing facilities, and a track and platform near Norfolk's Harbor Park for the passenger train. In addition, a new connection between Norfolk Southern and CSXT tracks near Petersburg will be constructed. Once the improvements are completed, the passenger rail service will provide one round trip per day operating at speeds up to 79 mph.

As the analysis shows, the NS “N” Line would not have a direct correlation with truck traffic along I-64. With the introduction of passenger rail service to an existing heavily utilized freight rail service, the capacity along the NS “N” Line would not have much expansion capability.

Figure 9: CSX Export Coal Route from Hampton Roads Area

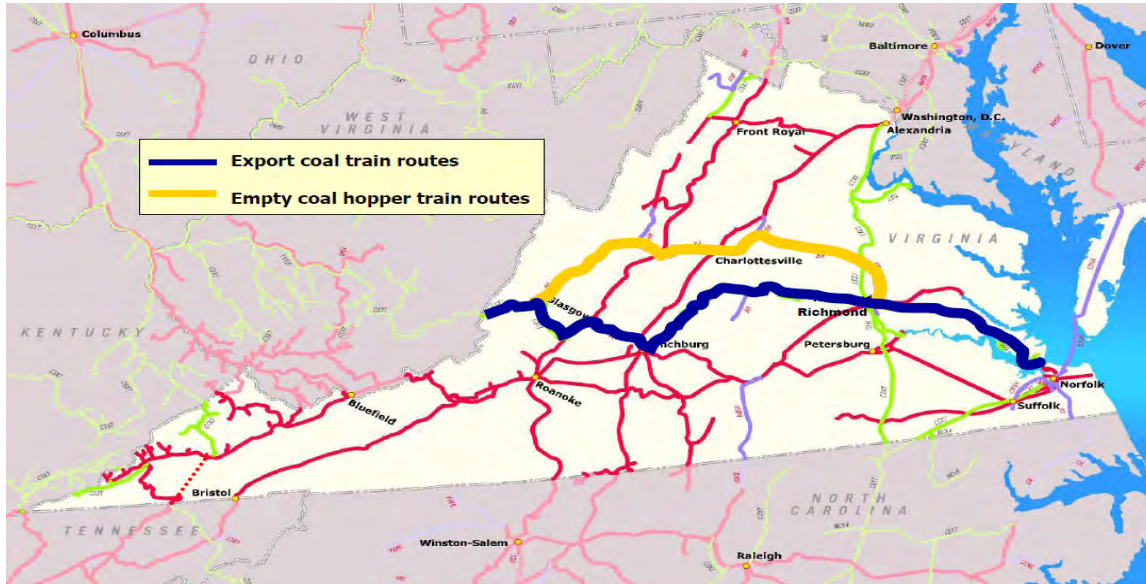
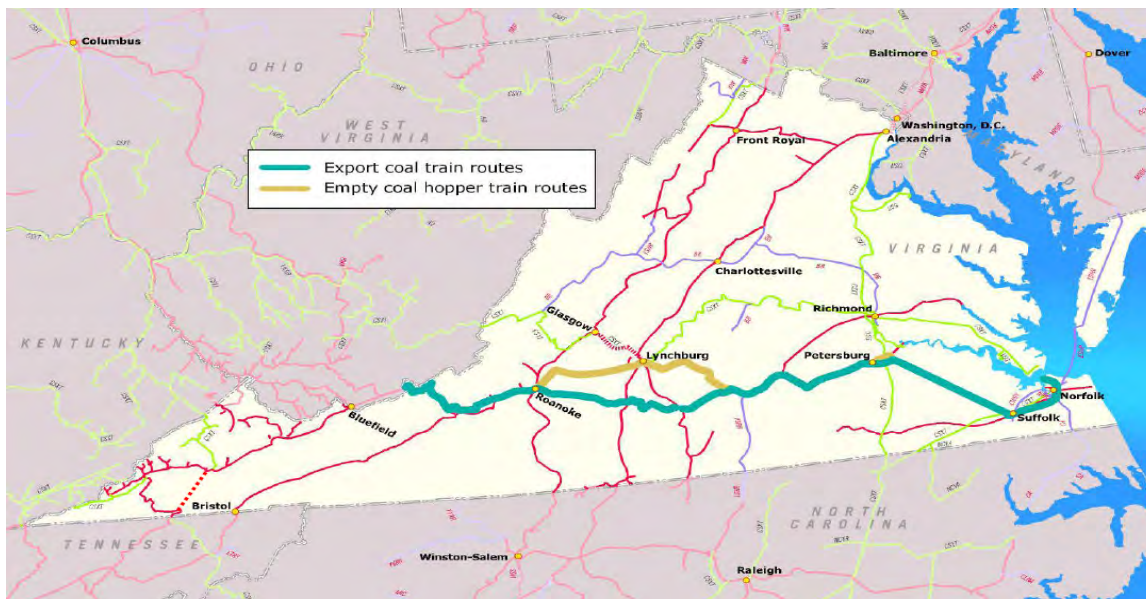


Figure 10: Norfolk Southern Export Coal Route from Hampton Roads Area



4. Port of Virginia Improvements

The major ports facilities in Virginia are owned and operated by the Virginia Port Authority (VPA), an agency of the Commonwealth of Virginia. VPA owns four general cargo terminals: Norfolk International Terminals, Portsmouth Marine Terminal, Newport News Marine Terminal, and the Virginia Inland Port in Front Royal. According to the VPA, the Port of Virginia (Port) is one of the largest ports on the east coast. The Port is the third busiest container port on the east coast, and the eighth largest in the U.S. VPA is served by more than 75 steamship lines with sailings to over 250 ports in 100 overseas locations, and is within a one-day drive of over 2/3 of the U.S. population.

Containers make up approximately 97% to 98.5% of general cargo tonnage at Port of Virginia and represent the trend of traffic at the Port. In the Virginia Port Authority 2040 Master Plan, a 5.2% of average growth of US containerized trade is cited (provided by Global Insight 2007 Cargo Forecast). It is expected that Virginia will be ahead of the national forecast, due to the factors such as the opening of the Heartland Corridor. In 2011, 30% of the Port of Virginia cargo was moved via rail, 66% by truck, and 4% by barge.

a. Barge Service

The barge traffic from the Port is mainly to the Port of Baltimore. Based on the VPA 2040 Master Plan, the VPA worked with private interests to launch a new barge service in December 2008 between Norfolk and Richmond. When fully operational, the 64 Express barge service was expected to remove 58,000 trucks from Virginia's roads. It means approximately there are 160 less trucks on the roads every day.

Based on the Port Authority figures⁹, in 2011, 4% of cargo was moved by barges, which are approximately 43,200 TEU¹⁰ and equivalent to 28,800 trucks per year or 79 trucks per day (1.5 TEU/truck). If the barge service continues to grow in line with the total demand, in 2040, more than 191,000 TEU would be moved by barges, which is equivalent to 343 trucks per day.

A VPA presentation on port-related truck traffic shows that, among the two competitive routes, 83% of port trucks choose I-64 while 17% use US 460. The study assumes that the trucks carrying commodities diverted by barge would use the same proportions, and the barge service would reduce 66 trucks on I-64 and 13 trucks on US-460 on a daily basis in 2011. In 2040, approximately 285 trucks would be eliminated on I-64, and 58 trucks on US 460. Respectively, the frequency of barge service would be increased from one trip per weekday to four per weekday.

b. Rail Improvements

In 2010 Norfolk Southern opened the Heartland Corridor, providing a faster double stack rail route to serve the Midwest. CSX is working to increase the speed and capacity of its north-south rail routes that are served from Virginia through their National Gateway project.

The A.P. Moller-Maersk (APM) Terminal in Portsmouth and the Norfolk International Terminal (NIT) in Norfolk transport the majority of container shipments. CSX ships mostly coal and bulk materials, with very limited containers and box cars for double stacking. This is due to the limited container capability at Newport News Marine Terminal.

NIT's Rail Yard Expansion project includes the construction of new railroad track. Phase I will add approximately 12,000 feet of new track and will increase the rail capacity by 50%. The estimated

⁹ <http://blog.portofvirginia.com/my-blog/2010/08/64-express-barge-service-marks-100th-sailing.html>

¹⁰ Twenty-Foot Equivalent Units (TEUs) is a unit of measurement used to describe freight tonnage. One TEU generally equals the capacity of one standard 20-foot container that is used throughout the freight industry to facilitate intermodal shipping of containers on cargo ships, freight trains, and trucks.

completion date of phase I was August 2008 with an estimated total project cost of \$16.5 million. Phase 2 will add an additional 12,000 feet of track and will be complete by summer 2010.

VPA's Marketing Department has been working in coordination with Norfolk Southern to market and establish a daily intermodal service linking the Port of Virginia to Harrisburg, PA, where a major intermodal center is located. This service is close to becoming operational as pricing is now being put in the Norfolk Southern contracts with the various shipping lines. Once established, this service will allow the Port of Virginia to expand its geographic market reach into central Pennsylvania, which today is primarily served by truck to/from the ports of NY/NJ and Baltimore.

The Craney Island Terminal will open in 2025 and is intended to be built out by 2040, operating at a maximum 5,000 TEU's. Commonwealth Rail provides service from APM, NIT and the future Craney Island Terminal and transfers to either CSX or NS, depending on the final destination.

In 2014, the Panama Canal is expected to open the new "third set of locks" which will enable the world's largest container ships more direct access from Asia to the U.S. East Coast. The Port of Virginia will become a first port of call and a major international hub with rail service east-west on Norfolk Southern and north-south on CSX. Containerized cargo demand was forecasted to increase by more than 400% by 2040.

With all these developments, it is expected that railroad improvements would enable NS and CSX to divert more intermodal traffic through the Heartland Corridor and the National Gateway, and thus mitigate the increase of truck traffic on the region's roads.

A large portion of truck traffic to/from the port and heading northwest would still use I-64. The VPA truck study projected 645 port trucks per day on I-64 west of Williamsburg in 2030. Based on this information and the VPA growth rate, this study estimates that, in 2040, there would be 1,071 port trucks on I-64, 222 trucks on US 460, and 1,097 trucks on US 58 on a daily basis. Unless the railroads could divert more trucks to rail, the truck traffic would substantially affect the LOS on these roads.

C. 2040 No-Build Capacity/LOS Analysis

The analyses of capacity and LOS for 2040 No-Build traffic conditions were conducted according to the methodologies of the HCM, as implemented using the HCS 2010 companion software. As stated previously, acceptable LOS grades for the I-64 corridor are LOS C or better for interstate facilities.

Operational analysis of capacity and LOS for the I-64 Study corridor were conducted for the following types of facilities:

- Basic Freeway Segments.
- Ramp Merges and Diverges.
- Weaving Segments.
- Signalized Intersections.
- Unsignalized Intersections.

A detailed technical memo outlining the selection of input parameters (**Appendix C**) was finalized on December 21, 2011.

1. Basic Freeway Segments

In general terms, a basic freeway segment is the part of a limited access highway that extends from one interchange to the next. Each direction of a freeway operates independently of the other; therefore, segments are defined separately for each direction—i.e., eastbound lanes are one segment; westbound

lanes are a separate segment. For the analysis of I-64 freeway segments, the corridor was divided into 27 eastbound segments and 27 westbound segments. **Table 8** defines the LOS for basic freeway segments according to vehicular density, which is defined in terms of passenger cars, per mile, per lane (pc/mi/ln). **Table 29** summarizes the freeway segment analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor. **Table 30** summarizes the freeway segment analysis of Summer Daytime Saturday and Sunday peak hours in the vicinity of Williamsburg. **Table 31** summarizes the freeway segment analysis of Summer Nighttime Saturday and Sunday Peak hours in the vicinity of Busch Gardens.

The left side of each table describes exits, number of lanes, and traffic volumes that characterize each segment. The right side gives the LOS determined by applying the HCM methodology.

Compared to the existing levels of service, traffic operating conditions decline along the mainline during the 2040 design peak hour. During the Non-Summer Weekday AM peak hour, 24 of the 50 segments are expected to operate at a deficient LOS. In Eastbound direction, all 12 deficient segments are grouped between Toano (Exit 227) and Mercury Boulevard (Exit 263). Three of these segments are expected to exceed capacity and operate at a LOS F and are between Exit 247 and Exit 258. In the Westbound direction there are also deficient segments between Exit 190 and 193 as well as between Exit 200 and 205.

During the Non-Summer Weekday PM peak hour there are more intensive operational issues. Of the 50 segments analyzed, 35 are expected to operate at a deficient LOS. In the Eastbound direction, the three segments between Exit 190 and Exit 192, Exit 200 and 205, and Exit 250 and 255 exceed capacity and operate at a LOS F. In the Westbound direction, the most congested section is between Exit 243 and Exit 262 which predominantly operates at a LOS F and exceeds capacity.

Taking into account the direction deficiencies in opposite directions during the AM versus the PM peak hours, operational issues are likely due to commuter traffic. This problem is seen in the existing condition and only exacerbated by the increase in volume from 2011 to 2040. The most congested segments are between Exits 190-192 and Exits 200-205 Westbound in the AM and then returning Eastbound in the PM. This occurrence can be observed in the opposite direction between Exits 243-262 Eastbound in the AM and Westbound in the PM.

During the Summer Daytime peaks near Williamsburg, all of the 14 segments analyzed between Exits 214 and 247 operated at a LOS F during the Saturday peak. During the Sunday Daytime peak, all 14 segments analyzed operated at a deficient LOS, with 11 segments operating at a LOS F. During the Summer Nighttime peaks, 2 of the segments analyzed between Exits 242 and 247 operate at a deficient LOS. The segment between Exit 243 and Exit 247 Eastbound operates at a LOS D during the Saturday and a LOS E during the Sunday Peak.

Table 29: 2040 No-Build Freeway Segment Level of Service – Non-Summer Weekday Peak

Segment	From Exit	To Exit	Lanes	2040 No-Build Eastbound						2040 No-Build Westbound					
				AM Peak			PM Peak			AM Peak			PM Peak		
				Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
01	190	192	3	4,425	23.3	C	7,445	57.4	F	6,920	47.3	F	4,935	26.8	D
02	192	193	3	3,170	16.3	B	5,860	34.0	D	5,765	33.1	D	3,875	20.0	C
03	193	195	3	2,455	12.6	B	5,185	28.1	D	4,725	24.8	C	3,080	15.8	B
04	195	197	3	1,930	9.9	A	4,620	24.2	C	4,185	21.5	C	2,480	12.7	B
05	197	200	2	1,175	9.1	A	3,090	24.3	C	2,850	22.0	C	1,745	13.4	B
06	200	205	2	2,805	23.0	C	4,615	48.5	F	4,315	41.6	E	3,290	27.8	D
07	205	211	2	2,355	24.4	C	3,170	60.8	D	2,655	50.6	C	2,720	30.6	C
08	211	rest area	2	2,490	19.5	C	3,180	27.3	D	2,670	21.6	C	2,805	23.1	C
9	rest area	214	2	2,490	20.9	C	3,180	27.5	D	2,670	21.7	C	2,805	24.1	C
10	214	220	2	2,565	20.9	C	3,205	27.5	D	2,600	21.7	C	2,955	24.1	C
11	220	227	2	2,305	21.7	C	2,530	27.8	C	1,915	21.0	B	2,635	25.9	C
12	227	231	2	3,305	19.0	D	3,175	20.2	D	2,390	14.9	C	3,565	22.2	D
13	231	234	2	3,800	30.3	E	3,340	27.4	D	2,485	19.0	C	3,995	34.3	E
14	234	238	2	3,620	39.2	E	3,075	29.6	D	2,245	19.9	B	3,955	43.3	E
15	238	242	2	3,635	35.6	D	3,410	26.1	D	2,635	17.7	C	4,000	42.3	E
16	242	243	2	4,055	31.9	E	3,535	28.0	D	3,070	20.5	C	4,110	37.3	E
17	243	247	2	4,165	38.7	E	3,605	29.5	D	3,660	24.5	D	4,665	39.3	F
18	247	250	2	5,040	40.8	F	4,105	30.4	E	3,970	31.3	E	4,970	52.4	F
19	250	255	2	5,405	67.1	F	5,170	37.8	F	4,835	35.9	F	5,345	63.0	F
20	255	256	4*	5,599 ³	78.1	D	5,429 ⁴	66.2	D	5,189 ⁵	54.8	D	5,870 ⁶	74.7	D
21	256	258	4*	7,329 ³	31.8	F	6,270 ⁴	30.3	E	5,443 ⁵	28.6	D	7,144 ⁶	34.4	F
22	258	261	4*	6,231 ³	55.6	E	5,505 ⁴	38.8	D	6,624 ⁵	30.7	E	8,492 ⁶	51.9	F
23E	261	262	5*	5,538 ³	38.3	C	4,793 ⁴	31.0	C		43.8			96.3	
23W	261	262	4*		21.4			18.3		5,582 ⁵		D	7,153 ⁶		F
24	262	263	5*	7,003 ³		D	6,223 ⁴		C	7,166 ⁵	31.9	D	8,662 ⁶	52.1	E
25E	263	264	5	6,533	28.9	C	5,249	24.6	B		30.1			41.6	
25W	263	264	5*		19.9			16.0		6,600 ⁵		D	8,487 ⁶		E

Notes:

* The number of lanes includes one HOV lane. Analysis on the non-HOV portion of these segments was conducted by reducing the number of lanes by one.

Traffic volumes in the remaining through lanes were reduced as follows, according to VDOT traffic data.

- Eastbound I-64, AM peak hour: 7%
- Eastbound I-64, PM peak hour: 5%
- Westbound I-64, AM peak hour: 4%
- Westbound I-64, PM peak hour: 8%

¹ Volume is given as "vehicles per hour" (vph). AM Peak = Weekday morning peak hour (7:00 AM to 8:00 AM). PM Peak = Weekday afternoon peak hour (4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM, whichever hourly volume was higher)

² Density is given as "vehicles per mile per lane" (pc/mi/ln).

³ Volume shown is a 7% reduction of the total directional segment volume, to account for removal of HOV lane traffic for purpose of analysis.

⁴ Volume shown is a 5% reduction of the total directional segment volume, to account for removal of HOV lane traffic for purpose of analysis.

⁵ Volume shown is a 4% reduction of the total directional segment volume, to account for removal of HOV lane traffic for purpose of analysis.

⁶ Volume shown is a 8% reduction of the total directional segment volume, to account for removal of HOV lane traffic for purpose of analysis.

Table 30: 2040 No-Build Freeway Segment Level of Service – Summer Peak, Daytime near Williamsburg

Segment	From Exit	To Exit	Lanes	2040 No-Build Eastbound						2040 No-Build Westbound					
				SAT Daytime Peak			SUN Daytime Peak			SAT Daytime Peak			SUN Daytime Peak		
				Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
10	214	220	2	4,670		F	3,435		E	4,365		F	4,240		E
11	220	227	2	4,260		F	3,155		D	3,970		F	3,795		F
12	227	231	2	n/a		n/a	n/a		n/a	n/a		n/a	n/a		n/a
13	231	234	2	4,455		F	4,130		F	4,105		F	4,145		F
14	234	238	2	4,255		F	3,705		F	3,795		F	3,915		F
15	238	242	2	4,290		F	3,890		F	3,910		F	3,950		F
16	242	243	2	4,305		F	4,050		F	4,205		F	3,915		F
17	243	247	2	4,085		F	3,945		F	4,780		F	4,305		F

Notes:

¹ Volume is given as "vehicles per hour" (vph). SAT Daytime Peak = Saturday Daytime peak hour (9:00 AM to 10:00 AM). SUN Daytime Peak = Sunday Daytime peak hour (2:00 PM to 3:00 PM).

² Density is given as "vehicles per mile per lane" (pc/mi/ln).

³ n/a = Data not available.

Table 31: 2040 No-Build Freeway Segment Level of Service – Summer Peak, Nighttime near Busch Gardens

Segment	From Exit	To Exit	Lanes	2040 No-Build Eastbound						2040 No-Build Westbound					
				SAT Nighttime Peak			SUN Nighttime Peak			SAT Nighttime Peak			SUN Nighttime Peak		
				Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
16	242	243	2	2,230		C	2,600		C	2,615		C	2,820		D
17	243	247	2	3,130		D	3,635		E	2,355		C	2,600		C

Notes:

¹ Volume is given as "vehicles per hour" (vph). SAT Nighttime Peak = Saturday Nighttime peak hour (10:00 PM to 11:00 PM). SUN Nighttime Peak = Sunday Nighttime peak hour (9:00 PM to 10:00 PM).

² Density is given as "vehicles per mile per lane" (pc/mi/ln).

2. Ramp Merges and Diverges

Ramp merges and diverges are the areas where traffic from on-ramps enter a freeway (merge) or traffic from the freeway accesses an off-ramp (diverge). **Table 13** defines the LOS for ramp merges and diverges according to vehicular density, which is defined in terms of passenger cars, per mile, per lane (pc/mi/ln). **Table 32** summarizes the merge and diverge analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor. **Table 33** summarizes the merge and diverge analysis of Summer Daytime Saturday and Sunday peak hours in the vicinity of Williamsburg. **Table 34** summarizes the merge and diverge analysis of Summer Nighttime Saturday and Sunday Peak hours in the vicinity of Busch Gardens.

The left side of each table describes the exit number, type of ramp, and traffic volumes that characterize each ramp. The right side gives the Density and LOS determined by applying the HCM methodology.

During the Non-Summer Weekday peaks, there are operational issues throughout the whole corridor at merge and diverge segments. The far ends of the corridor, both in the City of Richmond and near the ports, displayed the most operational issues.

During the Weekday AM peak hour, in the eastbound direction operational issues at merge and diverge ramps start at Exit 227 and extend east to Exit 261. There is a cluster of 6 ramps expected to operate at a LOS F between Exits 247 and 258. In the westbound direction there are 3 merge and diverge ramps at Exits 192, 200 and 205 that exceed capacity on the western end of the corridor. There are 3 additional on and off ramps that are expected to exceed capacity on the eastern end at Exits 250, 258 and 261.

During the Weekday PM peak hour, in the eastbound direction there are deficient ramps the entire length of the study corridor with a concentration of segments operating at a LOS F at the far eastern and western ends. Of the 52 merge and diverge ramps analyzed, 29 of them operate at a deficient LOS, 5 of which are a LOS F. There are both on and off ramps that exceed capacity at Exits 192, 197, 200, 205 and 250. In the westbound direction major operational issues start at Exit 227 and extend east to the end of the I-64 study corridor. Between exits 243 and 263 there are 11 ramps that are expected to exceed capacity and operate at a LOS F. This is the highest concentration of ramps expected to exceed capacity.

During the Summer Weekend Daytime peaks, all of the ramps analyzed at each of the five interchanges are expected to operate at a deficient LOS. During the Saturday peak 18 of the 19 ramps analyzed are expected to exceed capacity and operate at a LOS F. The only ramp not to exceed capacity is the Exit 220 westbound off-ramp which operates at a LOS E. During the Sunday Peak, 14 of the 19 ramps analyzed are expected to operate at a LOS F. The only Ramp that operates at an acceptable LOS is the westbound off ramp at Exit 243. During the Summer Nighttime peaks, only one of the four ramps analyzed at Exit 243 is expected to operate at a deficient LOS. The westbound off ramp at Exit 243 operates at a LOS D during the Sunday Peak.

Table 32: 2040 No-Build Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak

2040 No-Build Eastbound								2040 No-Build Westbound							
Exit	Ramp	AM Peak			PM Peak			Exit	Ramp	AM Peak			PM Peak		
		Volume	Density	LOS	Volume	Density	LOS			Volume	Density	LOS	Volume	Density	LOS
192	OFF RAMP	1,485	27.3	C	1,995	42.9	F	192	E	1,675	28.7	F	1,385	29.3	D
	ON RAMP	230	15.5	B	410	29.3	D		F	520	30.4	D	325	21.8	C
193	A	155	18.5	B	90	31.1	D	193	D	1,145	28.9	D	790	19.3	B
	B	680	19.6	B	885	32.6	D		G	75	24.3	C	65	16.3	B
	C	120	10.0	B	285	22.5	C								
195	A	905	17.4	B	1,200	31.2	D	195	C	105	24.5	C	85	16.2	B
	B	275	10.6	B	475	24.4	C		D	720	22.1	C	790	14.1	B
							E		180	23.0	C	230	14.3	B	
197	A	580	12.3	B	995	36.6	F	197	E	900	24.4	C	435	14.9	B
	D	185	9.0	A	305	24.7	C		H	150	25.4	C	140	15.5	B
200	OFF RAMP	285	2.1	A	655	19.3	B	200	OFF RAMP	2,155	32.0	F	1,935	22.2	C
	ON RAMP	1,910	13.9	B	2,180	27.7	F		ON RAMP	690	14.0	B	390	4.7	A
	A	240	0*	A	510	1.5	A		F	125	4.7	A	85	2.3	A
	D/E	705	17.5	B	705	18.6	B		I - Major Diverge	1,420	13.7	B	1,935	12.3	B
205	A	660	26.5	C	1,595	43.3	F	205	C	1,085	35.4	F	360	26.4	C
	B	210	21.5	C	150	28.0	C		D	680	28.4	D	215	25.7	C
							E		150	25.1	C	150	26.5	C	
211	A	145	23.0	C	135	30.1	D	211	C	175	24.7	C	225	26.9	C
	B	280	21.6	C	145	26.9	C		D	160	22.6	C	140	24.0	B
213	A	250	23.7	C	220	29.5	D	213	C	155	25.6	C	180	27.8	C
	B	250	23.3	C	220	28.5	D		D	155	23.5	C	180	25.5	C
214	A	270	24.9	C	260	30.6	D	214	C	275	23.5	C	340	28.0	C
	B	345	22.1	C	285	27.0	C		D	345	23.1	C	190	25.1	C
220	A	350	23.4	C	735	28.6	D	220	C	70	16.7	B	65	24.7	C
	B	90	22.0	C	60	23.1	C		D	755	20.7	C	385	24.8	C
227	A	150	21.9	C	150	23.1	C	227	C	635	22.3	C	1,080	34.6	D
	B	275	29.1	D	100	24.0	C		D	160	15.3	B	150	22.2	C
	E	875	25.2	C	385	22.2	C								
231	A	365	31.7	D	275	29.6	D	231	E	65	22.4	C	140	38.1	E
	D	935	31.6	D	550	27.0	C		H	220	19.0	B	200	30.2	D

Notes:
¹ Volume is given as "vehicles per hour"

Table 32: 2040 No-Build Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak (continued)

2040 No-Build Eastbound								2040 No-Build Westbound									
Exit	Ramp	AM Peak			PM Peak			Exit	Ramp	AM Peak			PM Peak				
		Volume	Density	LOS	Volume	Density	LOS			Volume	Density	LOS	Volume	Density	LOS		
234	A	885	36.3	E	915	30.8	D	234	C	40	20.6	C	155	38.3	E		
	B	705	31.4		D	650			25.7	C	F	55	20.2	C	35	34.5	D
238	A	725	35.8	E	530	30.2	D	238	C	800	23.5	C	835	37.8	E		
	B	740	34.2	D	865	31.3	D		D	390	21.3	C	700	36.5	E		
									E	20	20.8	C	90	36.9	E		
242	A	655	31.5	D	460	28.6	D	242	H	405	19.8	B	585	31.7	D		
243	B	105	30.7		D	100		24.8	C	243	D	465	10.9	B	320	19.7	B
	C	480	19.0	B	460	13.5	B	E	420		34.9	D	535	44.8	F		
247	A	300	41.8	E	150	35.7	E	247	B	320	27.3	C	400	36.3	F		
	C	535	39.2		F	360			33.5	D	E	630	37.2	E	705	47.2	F
	D	640	41.7		F	290			33.0	D							
250	A	805	48.5	F	545	38.7	E	250	C	495	45.5	F	830	51.2	F		
	E	910	46.3		F	1,690			42.8	F	G	680	30.6	D	665	39.8	F
255	OFF RAMP	1,175	29.2	D	1,235	28.8	D	255	OFF RAMP	1,665	29.6	D	2,070	33.7	F		
	ON RAMP	1,790	31.5		D	1,780			30.4	D	ON RAMP	1,095	26.7	C	1,035	29.1	D
	A	905	5.6	A	905	6.2	A		C	1,450	7.2	A	1,575	10.9	B		
	E	205	15.7	B	355	15.6	B		G	310	7.7	A	295	27.4	C		
256	A	300	29.3	D	565	29.0	D	256	C	740	29.1	D	1,145	41.0	F		
	E	1,280	37.7		F	715			30.5	D	G	210	23.9	C	295	27.4	C
258	A	1,500	42.3	F	985	32.6	D	258	C	1,365	29.4	F	1,265	47.2	F		
	E	695	29.5		D	660			25.8	C	G	520	25.2	C	570	33.5	F
261	A	550	34.1	D	835	31.0	D	261	F	1,160	36.2	F	1,875	47.8	F		
	B	1,300	32.0		D	780			26.5	C							
	D	1,105	26.4		C	865			22.3	C							
263	E	845	22.1	C	720	18.4	B	263	D	625	26.3	C	800	39.8	F		

Notes:

¹ Volume is given as "vehicles per hour"

** Volume exceeds capacity. Density is undefined. Level of service is "F"

Table 33: 2040 No-Build Merge and Diverge Ramp Level of Service – Summer Peak, Daytime near Williamsburg

2040 No-Build Eastbound								2040 No-Build Westbound							
Exit	Ramp	SAT Peak ²			SUN Peak ³			Exit	Ramp	SAT Peak ²			SUN Peak ³		
		Volume ¹	Density	LOS	Volume ¹	Density	LOS			Volume ¹	Density	LOS	Volume ¹	Density	LOS
220	A	515	42.8	F	345	30.4	D	220	C	50	36.7	E	140	34.8	D
	B	345	38.4	F	65	28.3	D		D	445	36.3	F	585	34.9	F
234	A	760	49.2	F	865	45.2	F	234	C	65	42.2	F	100	43.4	F
	B	530	42.4	F	440	36.8	F		F	60	40.9	F	50	41.1	F
238	A	555	48.6	F	485	42.4	F	238	C	570	42.6	F	535	42.8	F
	B	620	45.8	F	670	41.3	F		D	430	40.7	F	485	41.8	F
									E	25	40.4	F	15	41.5	F
242	A	400	43.3	F	400	38.8	F	242	H	230	35.8	F	345	36.0	F
243	B	60	36.3	F	65	34.0	D	243	D	550	29.7	F	530	21.3	C
	C	290	23.2	F	345	21.6	F		E	240	52.3	F	175	47.0	F

Notes:

¹ Volume is given as "vehicles per hour"

² SAT Peak = Saturday Daytime peak hour (9:00 AM to 10:00 AM)

³ SUN Peak = Sunday Daytime peak hour (2:00 PM to 3:00 PM)

Table 34: 2040 No-Build Merge and Diverge Ramp Level of Service – Summer Peak, Nighttime near Busch Gardens

2040 No-Build Eastbound								2040 No-Build Westbound							
Exit	Ramp	SAT Peak ²			SUN Peak ³			Exit	Ramp	SAT Peak ²			SUN Peak ³		
		Volume ¹	Density	LOS	Volume ¹	Density	LOS			Volume ¹	Density	LOS	Volume ¹	Density	LOS
243	B	50	16.9	B	50	20.7	C	243	D	240	4.0	A	265	6.3	A
	C	1,130	13.4	B	1280	18.3	B		E	200	26.3	C	235	28.9	D

Notes:

¹ Volume is given as "vehicles per hour"

² SAT Peak = Saturday Night peak hour (10:00 PM to 11:00 PM)

³ SUN Peak = Sunday Night peak hour (9:00 PM to 10:00 PM)

* The calculated density for ramps with long acceleration or deceleration lanes is negative, due to the nature of the HCM 2010 density equation. Density is shown as zero in this summary.

3. Weaving Segments

Weaving segments are areas where two traffic streams moving in the same direction must cross and/or change lanes to continue to their destination. Weaving segments are formed when a merge is closely followed by a diverge, for example, where an on-ramp is followed closely by an off-ramp and the two are joined by an auxiliary lane.¹¹ **Table 17** defines the LOS for weaving segments according to vehicular density, which is defined in terms of passenger cars, per mile, per lane (pc/mi/ln). **Table 35** summarizes the weaving segment analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor. **Table 36** summarizes the weaving segment analysis of Summer Daytime Saturday and Sunday peak hours in the vicinity of Williamsburg. **Table 37** summarizes the weaving segment analysis of Summer Nighttime Saturday and Sunday Peak hours in the vicinity of Busch Gardens.

The left side of each table describes the various weaving areas in the I-64 study corridor, according to the exit number and direction of travel. The right side gives the density and LOS, determined by applying the HCM methodology.

During the Non-Summer Weekday peaks, weaving areas in the I-64 corridor operate acceptably on the western-most end of the corridor between Exits 192 and 200. In the AM peak hour, 10 of the 26 weaving segments analyzed operate at a deficient LOS between Exits 242 and 263. Four segments between Exits 262 to 263 exceed capacity and operate at a LOS F. In the PM peak hour, 11 of the 26 segments analyzed operate at a deficient LOS. Three segments between Exits 262 and 263 operate at LOS F.

During Summer Saturday peak, the Exit 234 westbound weave is the most congested. During the Saturday peak it operates at a LOS E and during the Sunday peak at a LOS F. During the Saturday peak all weaves between Exits 242 and 234 operate at a deficient LOS D. During the Sunday peak, the Exit 242 westbound weave and both weaves between Exits 242 and 243 operate at a LOS D. The only weave to operate at an acceptable LOS is the Exit 242 eastbound weave during the Sunday peak.

¹¹ Transportation Research Board, National Research Council, *Highway Capacity Manual, HCM 2010*, Transportation Research Board, Washington, DC, 2010.

Table 35: 2040 No-Build Weaving Area Level of Service – Non-Summer Weekday Peak

Exit	Direction	AM Peak ¹		PM Peak ²	
		Density ³	LOS	Density ³	LOS
192	Eastbound	15.9	B	21.6	B
193	Westbound	20.2	C	11.5	B
197	Eastbound	8.4	A	19.7	B
	Westbound	20.3	C	10.7	B
200	Eastbound	0.3	A	0.6	A
	Westbound	8.0	A	5.7	A
231	Eastbound	20.0	B	18.5	B
	Westbound	18.7	B	31.4	D
234	Westbound	20.4	C	37.4	E
242	Eastbound	19.7	B	20.1	C
	Westbound	22.3	C	35.0	E
242 TO 243	Eastbound	28.4	D	23.0	C
243 TO 242	Westbound	18.8	B	25.9	C
250	Eastbound	34.9	C	25.9	C
	Westbound	35.5	E	37.4	E
255	Eastbound	12.6	B	11.8	B
	Westbound	6.3	A	8.4	A
256	Eastbound	33.9	D	28.8	D
	Westbound	28.2	D	35.6	E
258	Eastbound	30.7	D	26.4	C
	Westbound	27.4	C	40.1	E
261	Westbound	31.0	D	42.4	E
262 TO 263	Eastbound	**	F	**	F
263 TO 262	Westbound	**	F	**	F
263 TO 264 ¹	Eastbound	**	F	20.1	C
264 TO 263 ¹	Westbound	**	F	**	F

Notes:

¹ AM Peak = Weekday morning peak hour (7:00 AM to 8:00 AM).

² PM Peak = Weekday afternoon peak hour (4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM, whichever hourly volume was higher).

³ Density is given as "passenger cars per mile per lane" (pc/mi/ln).

** Demand exceeds capacity. Density is undefined. Level of service is "F"

Table 36: 2040 No-Build Weaving Area Level of Service – Summer Peak, Daytime near Williamsburg

Exit	Direction	SAT Peak ¹		SUN Peak ²	
		Density ³	LOS	Density ³	LOS
234	Westbound	40.2	E	**	F
242	Eastbound	30.0	D	26.6	C
	Westbound	33.4	D	30.8	D
242 TO 243	Eastbound	33.5	D	30.7	D
243 TO 242	Westbound	30.6	D	28.2	D

Notes:
¹ SAT Peak = Saturday Daytime peak hour (9:00 AM to 10:00 AM).
² SUN Peak = Sunday Daytime peak hour (2:00 PM to 3:00 PM).
³ Density is given as "passenger cars per mile per lane" (pc/mi/ln).
 ** Demand exceeds capacity. Density is undefined. Level of service is "F".

Table 37: 2040 No-Build Weaving Area Level of Service – Summer Peak, Nighttime near Busch Gardens

Exit	Direction	SAT Peak ¹		SUN Peak ²	
		Density ³	LOS	Density ³	LOS
242 TO 243	Eastbound	n/a	n/a	n/a	n/a
243 TO 242	Westbound	n/a	n/a	n/a	n/a

Notes:
¹ SAT Peak = Saturday Daytime peak hour (9:00 AM to 10:00 AM).
² SUN Peak = Sunday Daytime peak hour (2:00 PM to 3:00 PM).
³ Density is given as "passenger cars per mile per lane" (pc/mi/ln).
 n/a = Data not available.

4. Signalized and Unsignalized Intersections

The intersections evaluated in this study generally include locations where I-64 ramps intersect cross-streets at interchanges. **Tables 20 and 21** define the LOS for signalized and unsignalized intersections, respectively, according to vehicular control delay, which is defined in terms of seconds per vehicle (sec/veh). **Table 38** summarizes the intersection analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor. **Table 39** summarizes the intersection analysis of Summer Daytime Saturday and Sunday peak hours in the vicinity of Williamsburg.

The left side of each table locates the various intersections according to the exit, ramp designation, and the cross-streets involved. The control type (signalized or unsignalized) is given, and the critical intersection movement is given for all unsignalized intersections. The right side of the table gives the overall intersection delay for signals or the critical movement delay for unsignalized intersections, as well as the LOS determined by applying the HCM methodology.

For signalized intersections, **Tables 38 and 39** also show the capacity analysis with optimized traffic signal timings. VDOT and local jurisdictions typically periodically update their traffic signal timings on a regular basis, and so thus these signals would be expected to operate with the “best” timings possible given their no-build configurations in future no-build conditions.

During the Non-Summer Weekday peaks, many of the intersections throughout the entire corridor are projected to operate at LOS E or F, including 14 of the 38 intersections during the AM peak. Five of the deficient intersections are signalized, four of which are projected to operate at a LOS F even when the signals are optimized. There are 13 deficient unsignalized intersections during the AM Peak, of which 8 are projected to operate at a LOS F.

During the PM peak, 16 of the 38 intersections analyzed are projected to operate at LOS E or F. Eight of the deficient intersections are signalized, 7 of which operate at a LOS F. When signal optimization is applied to these intersections, 5 intersections continue to operate at a LOS E or F, 4 of which operate at a LOS F. There are 8 LOS E or F unsignalized intersections during the PM peak hour.

During the Summer Daytime peaks, all signalized intersections analyzed between Exits 234 and 243 are expected to operate at an acceptable LOS. During the Saturday peak hour, the unsignalized intersections of the I-64 Eastbound Ramps and Newman Road and the intersection of Newman Road and Fenton Road at Exit 234 operate at a LOS E. The unsignalized intersection of I-64 Eastbound off-ramp and Merrimac Trail operates at a LOS D. During the Sunday peak hour, the unsignalized intersection of Newman Road and Fenton Mill Road at Exit 234 operates at a LOS E.

Table 38: 2040 No-Build Intersection Level of Service – Non-Summer Weekday Peak

Exit – Ramp	Intersection Control	Intersection	Critical Movement ¹	2040 No-Build				2040 No-Build - Optimized Signal Timing			
				AM Peak		PM Peak		AM Peak		PM Peak	
				Delay ³	LOS ³	Delay ³	LOS ³	Delay ³	LOS ³	Delay ³	LOS ³
190-A	Unsignalized	5 th Street & I-95 NB On-ramp	SB 5 th Street L	7.8	A	8.5	A				
190-B	Unsignalized	3 rd Street & I-95 SB Off-ramp	3 rd Street L	35.5	E	12.4	B				
192-A	Signal	I-64 WB Off-ramp/Magnolia Street & US 360	Intersection	130.0	F	41.9	D	42.5	D	25.6	C
192-B	Unsignalized	I-64 EB Off-ramp & US 360 ⁴	I-64 Off-ramp R ⁴	13.9	B	10.7	B				
193-A	Unsignalized	I-64 EB Ramps & Nine Mile Road	I-64 Off-ramp R	11.9	B	10.2	B				
193-B	Signal	Route 33 & Gordon's Lane	Intersection	17.6	B	18.3	B	14.4	B	18.0	B
193-C	Unsignalized	I-64 WB Off-ramp & Nine Mile Road	I-64 Off-ramp R	12.8	B	15.9	C				
195-A	Signal	I-64 EB Ramps & Laburnum Avenue	Intersection	52.3	D	243.8	F	26.6	C	76.3	E
195-B	Signal	I-64 WB Ramps & Laburnum Avenue	Intersection	8.5	A	9.1	A				
205-A	Signal	I-64 EB Ramps & New Kent Highway	Intersection	10.3	B	21.8	C	8.9	A	13.4	B
205-B	Unsignalized	I-64 WB Ramps & New Kent Highway	I-64 Off-ramp LR	13.4	B	170.6	F				
211-A	Unsignalized	I-64 EB Ramps & Emmans Church Road	I-64 Off-ramp LTR	14.1	B	14.0	B				
211-B	Unsignalized	I-64 WB Ramps & Emmans Church Road	I-64 Off-ramp LTR	18.3	C	21.0	C				
214-A	Unsignalized	I-64 EB Ramps & Courthouse Road	I-64 Off-ramp LTR	218.4	F	23.8	C				
214-B	Unsignalized	I-64 WB Ramps & Courthouse Road	I-64 Off-ramp LTR	395.8	F	76.2	F				
227-A	Unsignalized	I-64 EB Ramps & Old Stage Road	I-64 Off-ramp L	13.8	B	13.2	B				
227-B	Unsignalized	I-64 WB Ramps & Old Stage Road	I-64 Off-ramp L	243.6	F	129.5	F				
231-A	Signal	Croaker Road & Rochambeau Drive	Intersection	374.3	F	294.6	F	154.8	F	81.7	F
231-B	Unsignalized	Croaker Road & Fenton Mill Road	WB Fenton Mill LTR	27.0	D	28.7	D				
231-C	Unsignalized	I-64 WB Off-ramp & Croaker Road	I-64 Off-ramp R	9.8	A	10.6	B				
231-D	Unsignalized	I-64 EB Off-ramp & Croaker Road	I-64 Off-ramp R	20.3	C	21.1	C				
234-A	Unsignalized	I-64 EB Ramps & Newman Road	I-64 Off-ramp LT	**	F	53.4	F				
234-B	Unsignalized	Newman Road & Fenton Mill Road	NB Fenton Mill LTR	14.2	B	19.7	C				
234-C	Unsignalized	I-64 WB Off-ramp & Newman Road	I-64 Off-ramp R	9.0	A	11.0	B				
238-A	Unsignalized	I-64 EB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	313.7	F	47.4	E				
238-B	Signal	I-64 EB On-ramp, Merrimac Trail, & Rochambeau Drive	Intersection	140.6	F	203.6	F	78.0	E	45.5	D
238-C	Unsignalized	I-64 WB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	150.2	F	65.5	F				
238-D	Unsignalized	I-64 EB Off-ramp (right turn) & Merrimac Trail	I-64 Off-ramp R	93.4	F	57.4	F				
243-A	Signal	Busch Gardens Boulevard NB ramps & US Route 60	Intersection	10.4	B	11.7	B	6.6	A	8.9	A
243-B	Signal	Busch Gardens Boulevard SB ramps & US Route 60	Intersection	13.0	B	10.8	B	10.3	B	7.1	A
247-A	Unsignalized	I-64 EB Off-ramp & Jefferson Avenue	I-64 Off-ramp LR	1300.0	F	970.5	F				
247-B	Signal	Jefferson Ave & Yorktown Road	Intersection	58.1	E	308.8	F	56.2	E	87.7	F
247-C	Unsignalized	I-64 EB On-ramp & Yorktown Road	SB Yorktown L	14.0	B	11.7	B				
247-D	Unsignalized	I-64 WB Off-ramp & Yorktown Road	I-64 Off-ramp L	19.5	C	19.6	C				
250-A	Signal	I-64 WB Off-ramp & Jefferson Avenue	Intersection	14.6	B	69.2	E	17.2	B	31.7	C
250-B	Signal	Jefferson Avenue & Fort Eustis Boulevard	Intersection	436.9	F	281.0	F	34.1	C	27.9	C
255-A	Signal	Jefferson Avenue & Freedom Way/Clair Lane	Intersection	19.5	B	246.5	F	24.8	C	233.8	F
255-B	Signal	Jefferson Avenue & Brick Kiln Blvd/Wal-Mart Way	Intersection	163.3	F	472.0	F	55.9	E	313.9	F

Notes:

³ Delay is given as "seconds per vehicle" (sec/veh). For signalized intersections, the delay and LOS apply to the overall intersection. For unsignalized intersections, the delay and LOS apply to the single critical movement (major street left or minor street approach) with highest delay.

⁴ Approach is controlled by a yield sign but operates as stop-controlled and was analyzed accordingly.

** Delay exceeds range of model.

Table 39: 2040 No-Build Intersection Level of Service – Summer Peak, Daytime near Williamsburg

Exit - Ramp	Intersection Control	Intersection	Critical Movement ¹	2040 No-Build			
				SAT Daytime Peak ¹		SUN Daytime Peak ²	
				Delay ³	LOS ³	Delay ³	LOS ³
234-A	Unsignalized	I-64 EB Ramps & Newman Road	I-64 Off-ramp LT	48.0	E	28.3	D
234-B	Unsignalized	Newman Road & Fenton Mill Road	NB Fenton Mill LTR	37.9		35.9	E
234-C	Unsignalized	I-64 WB Off-ramp & Newman Road	I-64 Off-ramp R	9.2	A	9.5	A
238-A	Unsignalized	I-64 EB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	23.1	C	22.4	C
238-B	Signal	I-64 EB On-ramp, Merrimac Trail, & Rochambeau Drive	Intersection	19.0	B	21.0	C
238-C	Unsignalized	I-64 WB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	19.6	C	13.8	B
238-D	Unsignalized	I-64 EB Off-ramp (right turn) & Merrimac Trail	I-64 Off-ramp R	27.5	D	18.7	C
243-A	Signal	Busch Gardens Boulevard NB ramps & US Route 60	Intersection	9.3	A	11.0	B
243-B	Signal	Busch Gardens Boulevard SB ramps & US Route 60	Intersection	13.6	B	13.9	B

Notes:

¹ SAT Peak = Saturday Daytime peak hour (9:00 AM to 10:00 AM).

² SUN Peak = Sunday Daytime peak hour (2:00 PM to 3:00 PM).

³ Delay is given as "seconds per vehicle" (sec/veh). For signalized intersections, the delay and LOS apply to the overall intersection. For unsignalized intersections, the delay and LOS apply to the single critical movement (major street left or minor street approach) with highest delay.

D. 2040 Future No-Build Capacity

For the purpose of this EIS, acceptable LOS grades are LOS C or better for interstate facilities and LOS D or better for cross-street facilities. Figure 10 shows that there are a greater number of mainline segments, ramps, weaving areas, and intersections within the corridor that are projected to operate below those acceptable LOS thresholds during the weekday morning and evening peak hour periods, as compared to base conditions. **Table 40** summarizes the corridor components that are experiencing a LOS D or worse during all peak periods.

As previously noted, there are numerous future development and growth factors included in the Tidewater traffic model that will result in continued future growth within the I-64 corridor and within the region. This growth will result in increased traffic volumes that are anticipated to cause future capacity issues and projected increased congestion throughout the I-64 corridor.

Table 40: Corridor Facilities Projected to Operate at Deficient LOS, 2040 No-Build Conditions

Facility	Deficiency	Deficient Portion of Facility	
I-64 Mainline (LOS D/E/F)	67 of 75 miles Eastbound direction	89%	83% (average)
	58 of 75 miles Westbound direction	77%	
Interchanges (LOS D/E/F)	24 of 25 interchanges	96%	
Cross Street Intersections (LOS E/F) ¹²	13 of 38 intersections	34%	

Also described in the Analysis of Existing Conditions section, there are a number of other key factors contributing to the capacity issues within the I-64 Study corridor which are expected to be maintained and/or increase in future conditions, including: military personnel, civilian workforce and freight movements to/from/between military facilities; a wide variety of freight traffic in and out of the Port of Virginia; and economic development needs associated with new and expanding facilities along the I-64 corridor and in the region. Specifically, freight traffic is expected to increase within the region by 50%¹³ mainly as a result from the Port of Virginia expansions and improvements discussed in the Intermodal Study. Furthermore, future development of residential, commercial, and industrial facilities is expected to continue to increase in future years according to the data in the Tidewater traffic model. Overall, each of these components is anticipated to add to the existing capacity issues and will thus result in continued and additional unacceptable LOS for the I-64 mainline and the interchanges.

¹² The analysis of future no-build conditions includes optimization of existing signal phasing or timing. It is the standing operating purpose of VDOT and of localities that maintain their own signals to periodically optimize their traffic signal operations. However, any improvements beyond that, such as signaling existing stop-controlled intersections or installing additional turn lanes, are not included as a part of the No-Build analysis.

¹³ Hampton Roads Transportation Planning Organization, *Traffic Impact of an Inland Port in Hampton Roads*, September 2011

V. Analysis of Future Build Conditions

A. Transportation Systems Management (TSM) / Travel Demand Management (TDM) Strategies

TSM/TDM strategies would involve only minor work to the existing I-64 corridor. TSM strategies improve traffic flow, improve signalization, implement managed lanes, improve intersections, and implement traveler information programs. TDM encourages new driving habits through staggered commuting hours, telecommuting, car and vanpooling, ridesharing, and the creation of park and ride facilities. Possible TSM/TDM opportunities for the I-64 corridor include:

- Optimizing traffic signal timings, and pursuing strategies to better coordinate traffic signals such as adaptive signal control
- Encouraging commuters to carpool/vanpool to work by expanding park and ride lots, using educational campaigns to promote carpooling, and working with major regional employers (e.g. the Navy in Hampton Roads area and state government in the Richmond area) to promote staggered work hours and/or telecommuting
- Making minor geometric improvements to improve safety and capacity, such as correcting existing geometric deficiencies and providing weaving lanes between closely-spaced interchanges where none exist
- Encouraging transit as an alternative to driving, by enhancing existing transit options within the corridor, particular in the urban areas at either end of the corridor
- Preserving and improving pedestrian/bicyclist accommodations for roads crossing over or under I-64

As described in the *Alternatives Development Technical Memorandum*, the TSM/TDM strategies are not expected to have any meaningful impact to either the volumes or the capacity of mainline I-64. Therefore, they have been eliminated from further study as an individual stand-alone alternative. However, TSM/TDM improvements can be pursued independently or as part of one of the build alternatives to provide for additional low-cost options for improving the transportation conditions within the I-64 study area.

B. Alternatives 1A/1B – Additional General Purpose Lanes

Alternatives 1A/1B involve constructing additional general purpose travel lanes along the I-64 mainline. The number of lanes proposed to be added to I-64 mainline along with typical sections showing the lane configurations are shown in **Figure 11** for Alternative 1A and in **Figure 12** for Alternative 1B.

Although there are numerous possible combinations for adding these lanes, Alternative 1A involves widening exclusively to the outside, while Alternative 1B involves widening into the median to the greatest extent practicable. Further discussion of the differences between Alternative 1A and 1B, including the anticipated footprints of those Alternatives, can be found in the *Alternatives Development Technical Memorandum*. However, for the purposes of the development of travel demand forecasts and capacity analysis, these two alternatives are identical.

The starting point for the development of Alternatives 1A/1B volumes was the 2040 No-Build capacity analysis. Alternatives 1A/1B intend to provide additional roadway capacity to mitigate the inadequate levels of service projected in the No-Build scenario by providing one or more additional general purpose lanes in each direction along the entire length of I-64 between I-95 and I-664. **Table 41** compares the 2040 projected ADT volumes for the I-64 mainline links for the No-Build, 1A/1B, 2A/2B, and 3 Alternatives.

Table 41: Comparison of ADTs

Segment	From Exit	To Exit	2011 (Existing)	2040 No-Build	2040 Alternative 1A/1B	2040 Alternative 2A/2B	2040 Alternative 3
01	190	192	95,400	140,800	164,100	160,000	149,500
02	192	193	74,900	111,400	129,300	125,000	116,000
03	193	194	59,400	89,200	103,300	98,900	90,700
03A	194	195	59,400	91,900	106,200	101,600	93,000
04	195	197	47,300	73,500	78,600	74,200	66,700
05	197	200	38,500	55,300	70,400	67,700	61,900
06	200	205	66,500	102,200	113,200	106,600	97,700
07	205	211	60,800	84,300	102,500	96,200	85,800
08	211	rest area	62,000	85,700	107,000	100,400	90,400
9	rest area	214	62,000	85,700	107,000	100,400	90,400
10	214	220	60,200	86,900	104,600	97,200	87,000
11	220	227	53,000	76,100	81,700	75,000	68,300
12	227	231	58,200	95,400	98,600	85,000	80,300
13	231	234	64,900	99,900	102,500	88,000	82,600
14	234	238	61,300	94,800	107,900	102,000	96,600
15	238	242	64,000	99,500	107,200	100,500	96,700
16	242	243	81,700	103,100	111,500	106,800	102,100
17	243	247	83,300	111,300	119,500	113,300	108,600
18	247	250	87,600	121,200	132,400	127,000	122,400
19	250	255	95,200	131,200	142,800	138,700	130,800
20	255	256	117,400	145,100	155,600	149,500	143,500
21	256	258	131,800	167,100	175,500	167,100	162,900
22	258	261	138,200	174,600	194,100	188,000	182,900
23	261	262	126,000	156,900	167,100	154,900	149,300
24	262	263	155,800	199,200	212,100	198,600	193,600
25	263	264	151,800	195,800	208,300	195,000	184,200

As a starting point, one additional lane in each direction was coded in the Tidewater model used to develop the No-Build forecasts. Link volumes were obtained using the same procedures used to develop the 2040 No-Build forecast. Link output was post-processed using the methods described in the NCHRP 255 report to estimate daily traffic volumes for each link.

Daily ramp volumes were estimated by factoring the difference between the projected No-Build and Alternatives 1A/1B daily link volumes on the adjacent freeway links; side street daily volumes were similarly estimated by factoring the difference between the No-Build and Build forecasts to the total ramp volumes to and from the side streets. Daily volumes were manually adjusted for balance between intersections.

Peak volumes were estimated by applying the K-factors used in the No-Build forecast to the post-processed 2040 Build Alternatives 1A/1B daily volumes. Peak volumes were manually adjusted for balance. The 2040 Alternatives 1A/1B balanced volumes for the I-64 mainline freeway segments, ramps, and cross-street intersections are given in **Appendix G**.

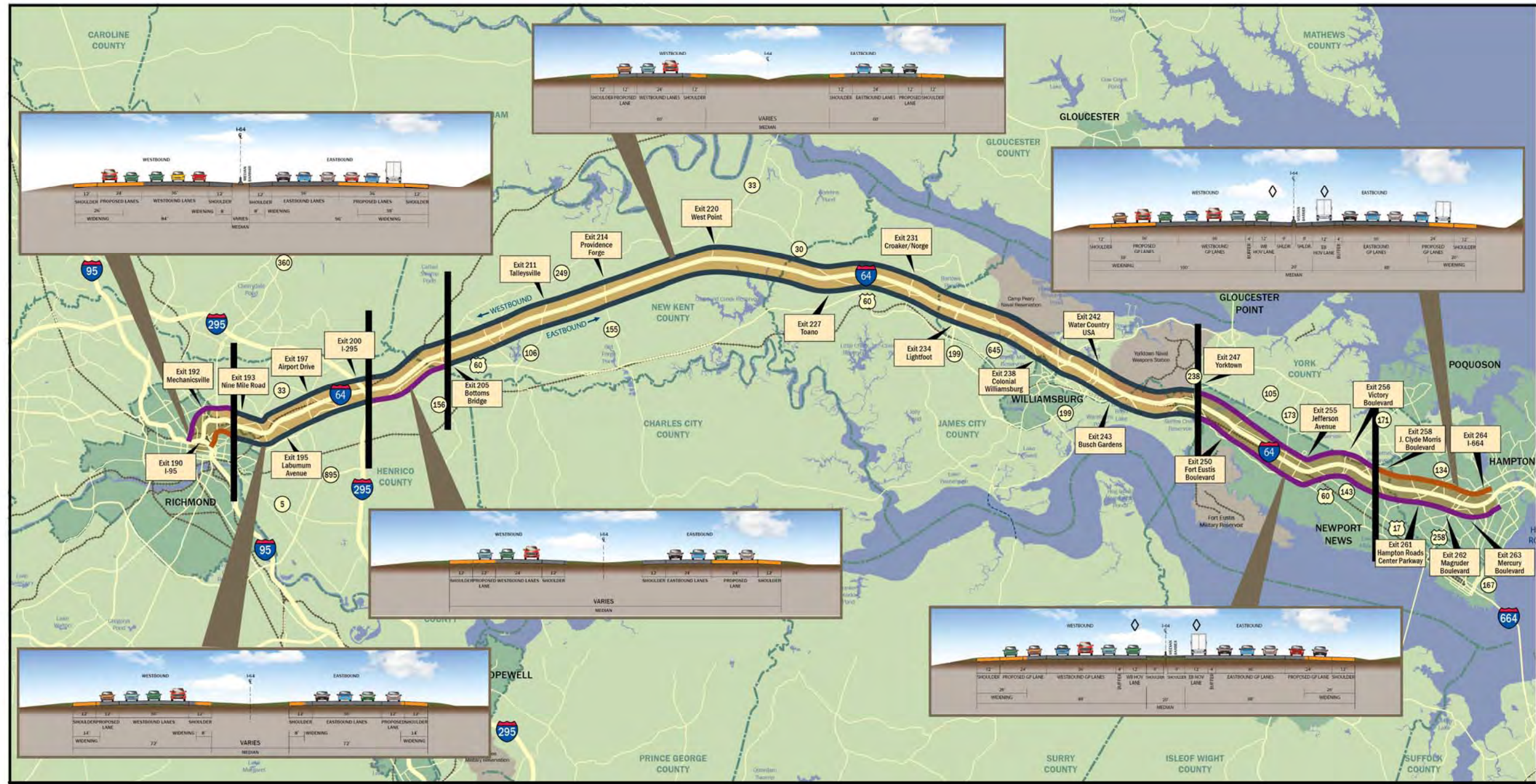
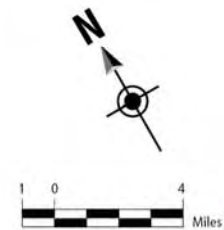


Figure 11
Proposed Number of Additional Lanes for
Build Alternatives 1A and 2A



- LEGEND**
- = One Additional Lane
 - = Two Additional Lanes
 - = Three Additional Lanes



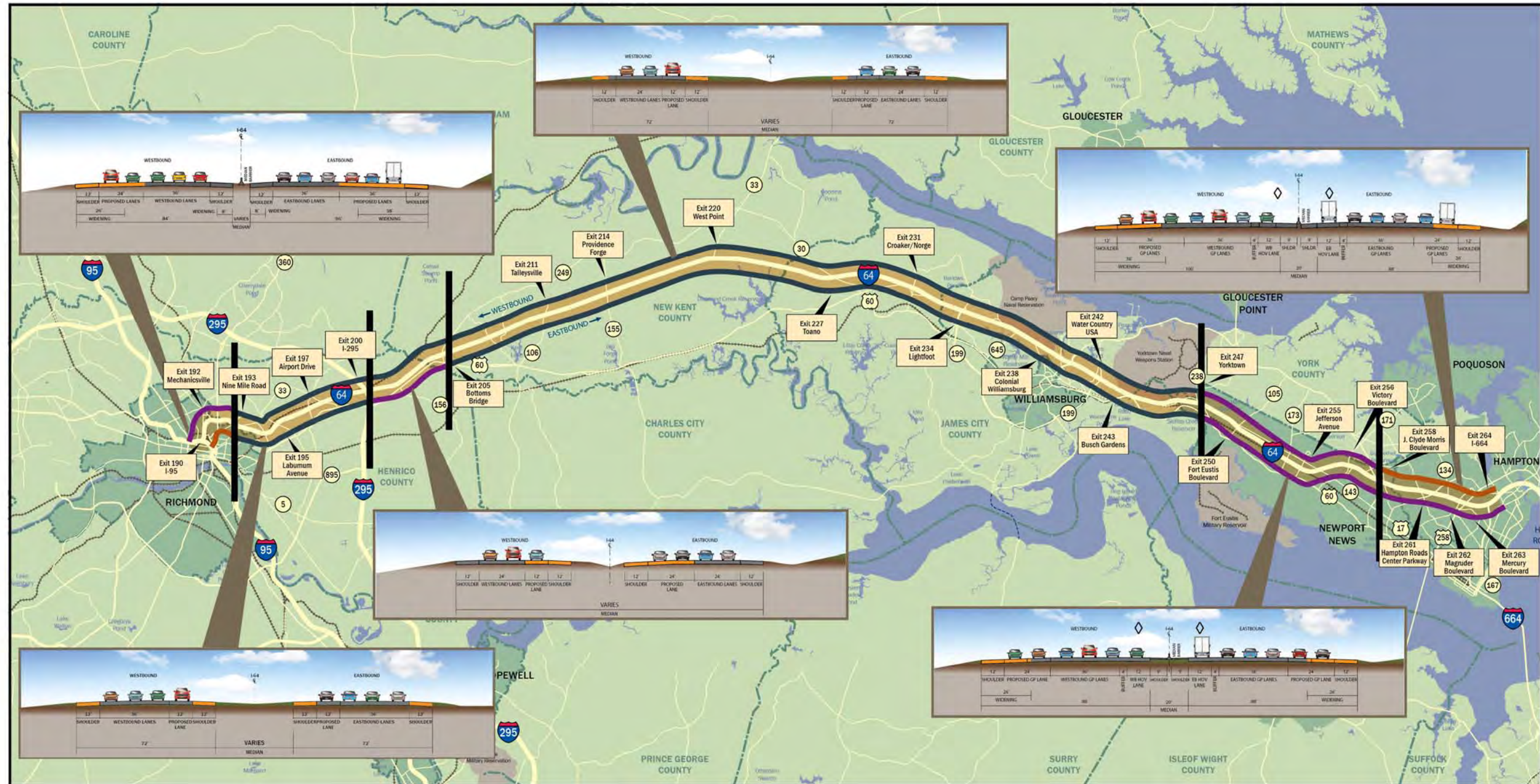
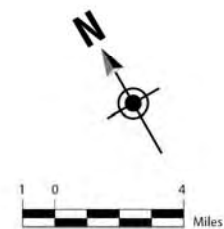


Figure 12
Proposed Number of Additional Lanes for
Build Alternatives 1B and 2B



LEGEND

- █ = One Additional Lane
- █ = Two Additional Lanes
- █ = Three Additional Lanes

* Not all sections of the I-64 corridor have sufficient median area to accommodate the addition of any lanes. In these areas, the facility is proposed to be widened to the outside in order to accommodate the managed lanes in between the eastbound and westbound general purpose travel lanes.



The initial development of the Alternatives 1A/1B volumes using the Tidewater travel demand model evaluated addition of one lane of capacity in each direction. However, adding additional capacity to I-64 attracts additional traffic to that road. Initial capacity analysis of Alternatives 1A/1B with one additional lane of capacity showed that some freeway segments would operate below a LOS C. As a result, Alternatives 1A/1B were modified to provide additional widening at those locations in order to achieve a LOS C on all segments of the I-64 Study corridor, as shown in **Figure 11 and 12**.

Comparison of the Alternatives 1A/1B volumes with the No-Build volumes shows that provision of additional mainline capacity attracts higher volumes of traffic, with both daily and peak hour volumes generally higher than the 2040 No-Build volumes. Compared to the No-Build scenario, Alternatives 1A/1B daily volumes are substantially higher in the Richmond area (as much as 27 percent), with smaller changes on the eastern end of the study area (between 6 and 14 percent east of Exit 234). Peak hour volumes show similar trends.

C. Alternative 2A/2B Volumes – Full Tolling

The difference between these alternatives and Alternatives 1A/1B are that the Full Toll Lanes Alternatives include tolling of the entire facility. However, as of the time of this study, there is no Federal or State agreement in place that would allow for the tolling of this existing interstate facility. Therefore, based on the legislation governing tolling, these alternatives may or may not be possible in the future. Because tolling could be a future option, these alternatives were considered in the range of possible alternatives evaluated.

For the purposes of this study, it was assumed that if the facility is tolled, the tolling will be for all vehicles, in both directions, and for the entire length of the corridor from I-95 in Richmond to I-664 in Hampton. It was also assumed that for maximum collection purposes, that there will be toll collection stations, using overhead gantries and all-electronic tolling (i.e. all tolls will be collected at highway speeds), for every interchange-to-interchange segment of I-64. However, it is expected that if Alternative 2A or 2B is identified as the Preferred Alternative, subsequent studies will refine the specifics of the tolling and develop the financial projections for tolling operations. Those financial studies may determine that it makes more sense to toll only a portion of the I-64 corridor or to only place gantries within certain segments.

Development of traffic forecasts for this alternative assumed that the same distance-based toll would be charged to all users of I-64. Due to limitations of the Tidewater Model it was only possible to assume that all vehicles (including trucks and HOV vehicles) are charged the same toll rate. Furthermore, diversion effects that might be more pronounced during off-peak periods when there is less congestion in urban areas, could not be modeled explicitly because the Tidewater Model is a daily (24-hour) model.

A range of toll rates was modeled, with toll rates based on per-mile rates at comparable toll facilities on the east coast of the United States. Toll rates for comparable facilities are shown in **Table 42**.

Excluding the high outliers in **Table 42**, the average per-mile rate, based on the bold entries, is \$0.15/mile. Toll sensitivity modeling runs with rates of \$0.075/mile, \$0.15/mile and \$0.225/mile were performed to test the sensitivity of the Tidewater to toll rates. Based on these results, the Tidewater appeared to provide a sufficiently robust basis for developing planning-level estimates of daily traffic diversions using basic toll strategies such as distance-based or point tolls.

For the final model run, a toll rate of \$0.15/mile was assumed, which is in line with current toll rates on the facilities examined.

Table 42: Toll Rates on Comparable Facilities

Facility	Length of Full Trip (miles)	Toll	Rate/Mile
Dulles Toll Road	16.2	\$ 1.50	\$ 0.093
Dulles Greenway (peak)	12.5	\$ 4.80	\$ 0.383
Dulles Toll Road and Greenway	28.7	\$ 6.30	\$ 0.220
ICC (peak)	14.1	\$ 4.00	\$ 0.285
Delaware Route 1 (weekdays)	51	\$ 2.00	\$ 0.039
Delaware and Maryland I-95 (northbound)	59.2	\$ 10	\$ 0.169
New Jersey Turnpike	113	\$ 13.85	\$ 0.123
Delaware and Maryland I-95 (two-way)	118.4	\$ 14.00	\$ 0.118

The model output from the \$0.15/mile toll rate runs was compared to the Alternatives 1A/1B model runs, and daily volumes were adjusted proportionally to obtain Alternatives 2A/2B volumes. The resulting daily volumes were manually adjusted for balance between interchanges. The existing K-factors were used as a starting point to obtain peak hour volumes, which were also manually adjusted for balance.

The 2040 Alternatives 2A/2B projected ADT volumes for the I-64 mainline links are provided in **Table 40**. The 2040 Alternatives 2A/2B balanced volumes for the I-64 mainline freeway segments, ramps, and cross-street intersections are given in **Appendix I**.

Comparison of the Alternatives 1A/1B and 2A/2B volumes shows that under Alternative 2A/2B, daily volumes on I-64 are between 2 and 14 percent lower, with the most substantial differences occurring in the mid-section of the study (between Exits 227 and 238). Peak hour volumes show a similar trend.

The largest reductions in traffic volumes on I-64 are projected to occur on the “eastern” section of I-64 (east of Exit 214), while network congestion and lack of parallel alternate routes limit opportunity for diversion in Richmond area. Some of the traffic on I-64 is seen diverting to US 60; the raw model assignment indicates increases in link volumes along US 60 from 4 percent between Laburnum Avenue and Airport Drive in the Richmond area to 6.5 percent south of Williamsburg.

Other free parallel alternate routes such as VA Route 5 and US 17 are not projected to see major diversion of traffic from I-64. The substantial additional time these routes add to long-distance trips between Richmond and Hampton Roads limit their attractiveness as a primary alternate route. The model runs for Alternatives 2A/2B showed a negligible impact on US 460. The raw assignment showed very little change in daily volumes, which is in line with previous studies and in line with expectations. A select link analysis along I-64 showed approximately 10 percent of all trips originating and ending in Richmond and Hampton Roads (and beyond). This indicates that I-64 and US 460 compete for a limited number of true long-distance trips. The considerable additional distance that US 460 adds to a trip between Richmond and Hampton roads further limits the attractiveness of US 460 as a viable parallel route.

D. Alternative 3 Volumes – Managed Lanes

This alternative involves the addition of managed lanes located in the median and/or in between the eastbound and westbound general purpose travel lanes. These managed lanes were examined for the entire length of the I-64 study area from I-95 in Richmond to I-664 in Hampton. As previously described, not all sections of the I-64 corridor have sufficient median area to accommodate the addition of any lanes.

In these areas, the facility is proposed to be widened to the outside in order to accommodate the managed lanes in between the eastbound and westbound general purpose travel lanes.

Managed lanes can refer to many different strategies, including:

- High-Occupancy Vehicle (HOV) lanes - lanes that are open only to vehicles with multiple occupants. Typically HOV lanes allow buses but exclude trucks. Variables include:
 - Breadth of HOV lanes (i.e. where do they start and end).
 - Number of HOV lanes.
 - Occupancy restrictions (2+ or 3+).
 - Time of day/day of week restrictions, if any.
 - Locations of access points to and from the HOV lanes, at intermediate locations as well as the end points.
 - Separation between the HOV lanes and the general purpose lanes (barrier, painted buffer area, double white line).
- High Occupancy/Toll (HOT) lanes - very similar to HOV lanes except that single-occupant vehicles can also drive in the HOT lanes if they pay a fee. Variables include:
 - Breadth of HOT lanes (i.e. where do they start and end).
 - Number of HOT lanes.
 - Occupancy restrictions (2+ or 3+) Toll rate (variable or fixed) for single-occupant vehicles.
 - Locations of access points to and from the HOT lanes, at intermediate locations as well as the end points.
 - Separation between the HOT lanes and the general purpose lanes (barrier, painted buffer area, double white line).
- Express Toll Lanes (ETL) - very similar to HOT lanes except there are no discounts for multiple-occupancy vehicles. Variables include:
 - Breadth of ETL lanes (i.e. where do they start and end).
 - Number of ETL lanes.
 - Toll rate (variable or fixed).
 - Locations of access points to and from the ETL lanes, at intermediate locations as well as the end points.
 - Separation between the ETL lanes and the general purpose lanes (barrier, painted buffer area, double white line).
- Express Bus Lanes (EBL) – lanes for the exclusive use of public transit buses. These could potentially include bus transit stations within the highway right-of-way (ROW). Variables include:
 - Breadth of EBL lanes (i.e. where do they start and end).
 - Locations of access points to and from the EBL lanes, at intermediate locations as well as the end points.
 - Location of express bus transit stations, if any separation between the EBL lanes and the general purpose lanes (barrier, painted buffer area, double white line).

For any of the managed lanes that involve toll collection (HOT or ETL lanes), traditional toll plazas were not considered. All toll collection would be done by overhead gantries with all-electronic tolling used to collect all tolls at highway speeds.

The EIS study will also not identify what type of managed lanes will be constructed. The purpose of this study is not to establish the ultimate management scheme (including toll rates), but rather to explore ways in which overall demand can be managed to achieve acceptable levels of service. Moreover, if Alternative

3 is identified as the Preferred Alternative, subsequent studies will refine the specifics of the managed lanes throughout the I-64 corridor.

Managed lanes are most effective when the LOS in adjacent general purpose lanes is sufficiently poor, so as to provide an incentive for a driver to use the managed lane. An initial HCS analysis was performed on the Alternative 1 peak hour volumes to determine whether general purpose and managed lane traffic could be distributed to maintain a sufficiently low LOS in the general purpose lanes (D or worse) and sufficiently high LOS in the managed lanes (B or better). Based on this initial analysis, a lane configuration of two reversible managed lanes between I-95 and Exit 214, one managed lane between Exit 214 and Exit 243, and two managed lanes between Exit 243 and I-664 was tested, as shown in **Figure 13**.

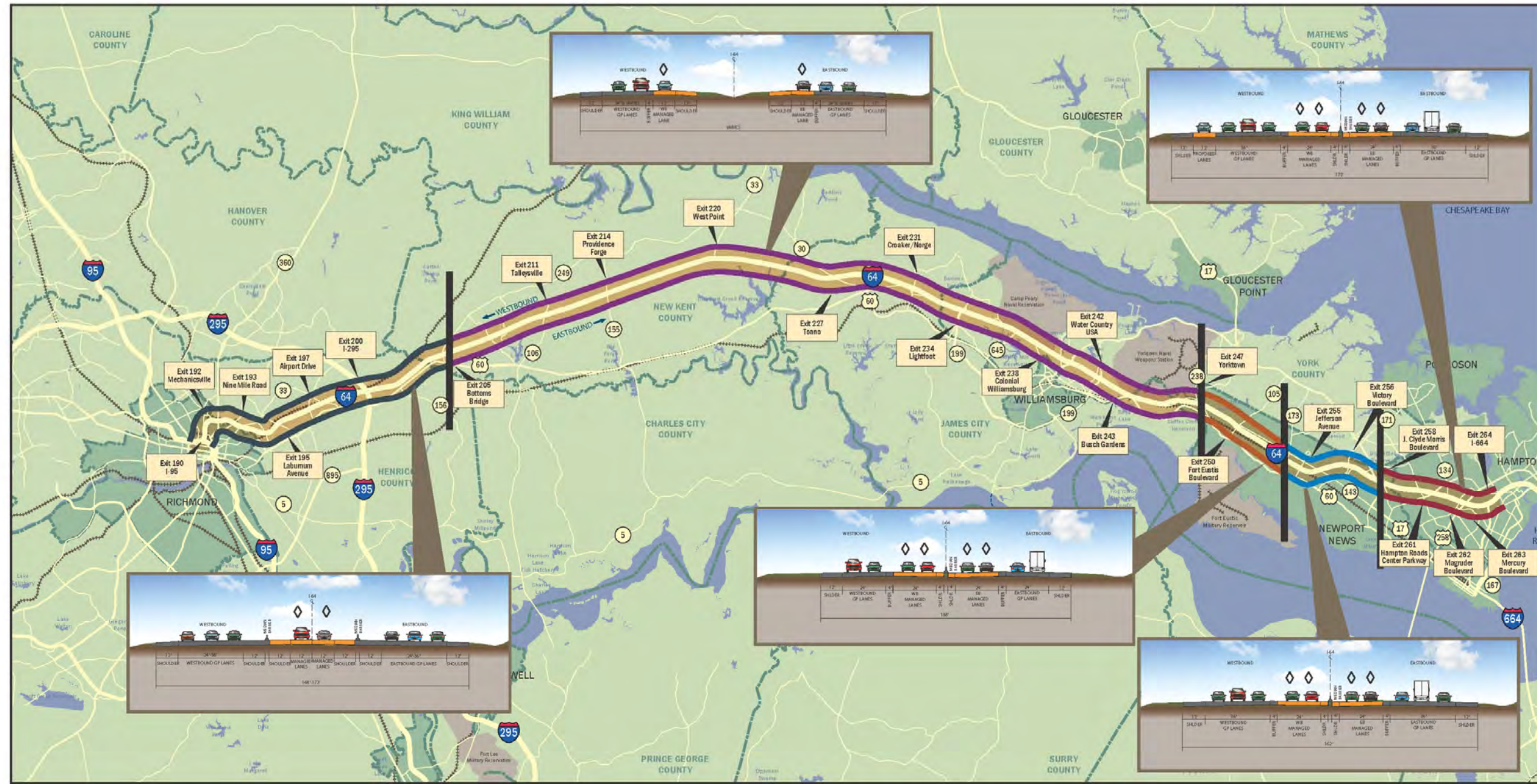
After consultation with the VDOT Transportation & Mobility Planning Division, the managed lanes were coded in the Tidewater Super-Regional Model with the following assumptions and model modifications:

- Value of Time (VOT):
 - 37 cents/minute in Richmond area.
 - 20 cents/minute in Hampton Roads.
- Managed Lane toll rate: 22.5 cents/mile.
- Managed Lane coding: Free-flow speeds increased 2-4 mph for managed lanes compared to general purpose lanes to initially attract traffic in the free flow condition.

No direct managed lane access at interchanges was assumed.

The model output for the Alternative 3 run was compared to the Alternatives 1A/1B model runs, and daily volumes were adjusted proportionally to obtain final Alternative 3 volumes. The resulting daily volumes were manually adjusted for balance between interchanges. The 2040 Alternative 3 projected ADT volumes for the I-64 mainline links are provided in **Table 40**. The existing k-factors were used as a starting point to obtain peak hour volumes, which were also manually adjusted for balance. The proportions of peak hour traffic in the general purpose/managed lanes obtained from the initial HCS analysis were maintained to establish general purpose and managed lane peak hour volumes. The 2040 Alternative 3 balanced volumes for the I-64 mainline freeway segments, ramps, and cross-street intersections are given in **Appendix K**.

A review of the resulting peak hour volumes indicated that reversible lanes between I-95 and Exit 214 could be feasible due to the strong directionality of inbound and outbound peak hour volumes to and from the Richmond area during the AM and PM peak hours, respectively.



LEGEND

- █ = Two Reversible Managed Lanes in the Median
- █ = One Managed Lanes in Each Direction in the Median
- █ = Two Managed Lanes in Each Direction in the Median
- █ = Two Managed Lanes in Each Direction in the Median
- █ = Two Managed Lanes in Each Direction in the Median Plus One Additional Westbound Lane

* If Alternative 3 is selected, subsequent studies will define the specific type of managed lanes, lane needs and locations, access to and from the managed lanes, along with end points and transition zones for the managed lanes along with the needed general purpose lanes.

** Not all sections of the I-64 corridor have sufficient median area to accommodate the addition of any lanes. In these areas, the facility is proposed to be widened to the outside in order to accommodate the managed lanes in between the eastbound and westbound general purpose travel lanes.

Figure 13
Proposed Number of Additional Lanes for Build Alternative 3



E. Freeway Capacity Analysis

In general terms, a basic freeway segment is the part of a limited access highway that extends from one interchange to the next. Each direction of a freeway operates independently of the other; therefore, segments are defined separately for each direction—i.e., eastbound lanes are one segment; westbound lanes are a separate segment. For the analysis of I-64 freeway segments, the corridor was divided into 27 eastbound segments and 27 westbound segments. **Table 8** defines the LOS for basic freeway segments according to vehicular density, which is defined in terms of passenger cars, per mile, per lane (pc/mi/ln).

1. Alternatives 1A/1B

Table 43 summarizes the freeway segment analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

In the ultimate configuration for Alternative 1, all but one segment is projected to operate at LOS C or B. It should be noted that the one remaining segment (eastbound I-64 between Exits 195 and 197) operating at LOS D is within 1 percent of the LOS C/D threshold.

2. Alternatives 2A/2B

Table 44 summarizes the freeway segment analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

The generally lower peak hour traffic volumes under Alternative 2A/2B, compared to Alternatives 1A/1B, result in levels of service which are generally better, particularly along westbound I-64 during the PM peak. Under the ultimate build configuration for Alternative 2A/2B, all segments are projected to operate at LOS C or better.

3. Alternative 3

Levels of service for the general purpose and managed lanes are provided separately, in **Tables 45 and 46** respectively.

The freeway capacity analysis for Alternative 3 analyzed each general purpose and managed lane segment individually. The analyses assume that there are access points between the general purpose and managed lanes within each segment.

Compared to Alternative 2, fewer segments are performing at LOS C or better; however, this was expected given the LOS guidelines that were followed (i.e., the LOS in a general purpose lane should be sufficiently low to encourage use of the managed lane). Two general purpose segments are projected to operate at LOS F.

All managed lane segments operate at LOS B or better.

Table 43: 2040 Build Alternatives 1A/1B Freeway Segment Level of Service – Non-Summer Weekday Peak

Segment	From Exit	To Exit	Lanes	2040 Build Eastbound				2040 Build Westbound			
				AM Peak Volume (vph)	AM Peak LOS	PM Peak Volume (vph)	PM Peak LOS	AM Peak Volume (vph)	AM Peak LOS	PM Peak Volume (vph)	PM Peak LOS
01	190	192	6 EB, 5 WB	5155	C	8675	N/A**	8065	C	5750	B
02	192	193	10	3680	C	6800	C	6690	C	4500	B
03	193	195	8	2960	B	6175	C	5580	C	3610	B
04	195	197	6	2065	A	4940	D	4475	C	2650	B
05	197	200	6	1490	A	3925	C	3620	C	2215	B
06	200	205	4 EB, 3 WB	3105	B	5110	C	4780	C	3645	C
07	205	211	6	2705	B	3640	B	3050	B	3125	B
08	211	rest area	6	3110	B	3970	C	3335	B	3500	B
9	rest area	214	6	3110	B	3970	C	3335	B	3500	B
10	214	220	6	3060	B	3820	C	3100	B	3525	B
11	220	227	6	2455	B	2695	B	2040	A	2810	B
12	227	231	6	3415	C	3280	B	2470	B	3685	C
13	231	234	6	3900	C	3425	B	2550	B	4100	C
14	234	238	6	4120	C	3500	C	2555	B	4500	C
15	238	242	6	3985	C	3675	B	2840	B	4310	C
16	242	243	6	4395	C	3770	C	3300	B	4420	C
17	243	247	6	4435	C	3800	C	3790	C	4835	C
18	247	250	8	5505	C	4485	B	4335	C	5430	C
19	250	255	8	5885	C	5625	C	5260	C	5820	C
20	255	256	8+2*	6455	C	6130	C	5795	C	6840	C
21	256	258	10+2*	8325	C	6970	C	5990	B	8200	C
22	258	261	5+1 EB, 6+1 WB*	7450	C	6440	C	7670	C	10260	C
23E	261	262	4+1 EB*	6485	C	5490	C				
23W	261	262	5+1 WB*					6360	C	8465	C
24	262	263	5+1 EB, 6+1 WB*	8020	C	6975	C	7950	C	10025	C
25E	263	264	5+1 EB*	7480	C	5885	B				
25W	263	264	6+1 WB*					7320	B	9825	C

* For these segments, the number of lanes includes one HOV lane. For purpose of analysis, we assumed, based on data provided by VDOT, the following percentages of through traffic used the HOV lane:

- Eastbound I-64 during AM peak hour: 7%
- Eastbound I-64 during PM peak hour: 5%
- Westbound I-64 during AM peak hour: 4%
- Westbound I-64 during PM peak hour: 8%

We then conducted analyses of the non-HOV portion of these segments by reducing the number of lanes by one and reducing the segment volume by the stated HOV-lane usage.

Table 44: 2040 Build Alternative 2A/2B Freeway Segment Level of Service – Non-Summer Weekday Peak

Segment	From Exit	To Exit	Lanes	2040 Build Eastbound				2040 Build Westbound			
				AM Peak Volume (vph)	AM Peak LOS	PM Peak Volume (vph)	PM Peak LOS	AM Peak Volume (vph)	AM Peak LOS	PM Peak Volume (vph)	PM Peak LOS
01	190	192	6 EB, 5 WB	4925	C	8385	N/A**	7910	C	5485	B
02	192	193	10	3475	B	6385	C	6500	C	4205	B
03	193	195	8	2755	B	5750	C	5390	C	3315	B
04	195	197	6	1870	A	4625	C	4285	C	2355	B
05	197	200	6	1310	A	3635	C	3550	B	2020	A
06	200	205	4 EB, 3 WB	2865	B	4715	C	4600	C	3305	B
07	205	211	6	2470	B	3315	B	2860	B	2775	B
08	211	rest area	6	2805	B	3500	B	3120	B	3130	B
9	rest area	214	6	2805		3500		3120		3130	
10	214	220	6	2675	B	3275	B	2905	B	3160	B
11	220	227	6	2095	B	2195	B	1880	A	2465	B
12	227	231	6	2930	B	2685	B	2150	B	3225	B
13	231	234	6	3350	B	2800	B	2225	B	3610	C
14	234	238	6	3795	C	3180	B	2495	B	4235	C
15	238	242	6	3715	C	3395	B	2710	B	4050	C
16	242	243	6	4360	C	3630	B	3195	B	4180	C
17	243	247	6	4380	C	3645	B	3590	B	4460	C
18	247	250	8	5650	C	4385	B	4165	C	5095	C
19	250	255	8	6025	C	5450	C	5250	C	5640	C
20	255	256	8+2*	6500	C	5865	C	5725	C	6685	C
21	256	258	10+2*	8220	C	6630	C	5875	B	8030	C
22	258	261	5+1 EB, 6+1 WB*	7415	C	6275	C	7770	C	10255	C
23E	261	262	4+1 EB*	6315	C	5245	C				
23W	261	262	5+1 WB*					6190	C	8060	C
24	262	263	5+1 EB, 6+1 WB*	7800	C	6745	C	7730	C	9565	C
25E	263	264	5+1 EB*	7280	C	5685	B				
25W	263	264	6+1 WB*					7120	B	9370	C

* For these segments, the number of lanes includes one HOV lane. For purpose of analysis, we assumed, based on data provided by VDOT, the following percentages of through traffic used the HOV lane:

- Eastbound I-64 during AM peak hour: 7%
- Eastbound I-64 during PM peak hour: 5%
- Westbound I-64 during AM peak hour: 4%
- Westbound I-64 during PM peak hour: 8%

We then conducted analyses of the non-HOV portion of these segments by reducing the number of lanes by one and reducing the segment volume by the stated HOV-lane usage.

Table 45: 2040 Build Alternative 3 Freeway Segment Level of Service – Non-Summer Weekday Peak – General Purpose Lanes

Segment	From Exit	To Exit	Lanes	2040 Build Eastbound				2040 Build Westbound			
				AM Peak Volume (vph)	AM Peak LOS	PM Peak Volume (vph)	PM Peak LOS	AM Peak Volume (vph)	AM Peak LOS	PM Peak Volume (vph)	PM Peak LOS
01	190	192	4	4720	C	6350	C	5965	C	5315	C
02	192	193	3	3365	B	5760	D	5495	D	4100	C
03	193	195	3	2635	B	5130	D	4500	C	3230	B
04	195	197	3	1870	A	4080	C	3510	B	2255	B
05	197	200	2	1375	A	2965	C	3000	C	2020	B
06	200	205	2	2845	C	3925	D	3885	D	3195	D
07	205	211	2	2360	C	2870	C	2430	C	2655	C
08	211	rest area	2	2535	C	3065	C	2710	C	2880	C
9	rest area	214	2	2535	C	3065	C	2710	C	2880	C
10	214	220	2	2400	C	2850	C	2515	C	2880	C
11	220	227	2	1945	B	2045	B	1720	B	2305	C
12	227	231	2	2680	C	2555	C	1995	B	2885	C
13	231	234	2	3095	D	2635	C	2045	B	3005	C
14	234	238	2	3500	D	2995	C	2255	B	3945	E
15	238	242	2	3485	D	3245	D	2470	C	3900	E
16	242	243	2	4075	E	3550	D	2910	C	3850	D
17	243	247	2	4090	E	3555	D	3295	D	4105	E
18	247	250	2	4430	F	4350	E	3650	D	4165	E
19	250	255	2	4405	E	4180	E	3995	E	4250	E
20	255	256	3	6075	E	5735	D	5280	D	6345	E
21	256	258	3	6590	E	6555	E	5460	D	6365	E
22	258	261	3	6305	E	6085	E	6360	E	8080	F
23E	261	262	4	5990	C	5085	C				
23W	261	262	3					5585	D	5905	D
24	262	263	4	6390	C	6505	D	5985	C	7555	D
25E	263	264	4	6165	C	5295	C				
25W	263	264	5					6165	C	7380	C

Note: General purpose lanes and managed lanes were analyzed as separate facilities, with the assumption that weaving between GPL and ML occurs before and after interchanges. The HCM 2010 freeway capacity analysis procedures were then applied separately to the general purpose lanes and the managed lanes. For single-lane managed lane facilities, the volume was compared against the typical maximum capacity of a single lane of 2400 passenger cars per hour.

Table 46: 2040 Build Alternative 3 Freeway Segment Level of Service – Non-Summer Weekday Peak – Managed Lanes

Segment	From Exit	To Exit	Lanes	2040 Build Eastbound				2040 Build Westbound			
				AM Peak Volume (vph)	AM Peak LOS	PM Peak Volume (vph)	PM Peak LOS	AM Peak Volume (vph)	AM Peak LOS	PM Peak Volume (vph)	PM Peak LOS
01	190	192	2	0	-	1585	B	1490	B	0	-
02	192	193	2	0	-	305	A	610	A	0	-
03	193	195	2	0	-	270	A	500	A	0	-
04	195	197	2	0	-	215	A	390	A	0	-
05	197	200	2	0	-	525	A	335	A	0	-
06	200	205	2	0	-	435	A	430	A	0	-
07	205	211	2	0	-	150	A	130	A	0	-
08	211	rest area	1	135	A	160	A	145	A	150	A
09	rest area	214	1	135	A	160	A	145	A	150	A
10	214	220	1	125	A	150	A	130	A	150	A
11	220	227	1	100	A	110	A	90	A	120	A
12	227	231	1	140	A	135	A	105	A	320	A
13	231	234	1	165	A	140	A	110	A	530	A
14	234	238	1	185	A	160	A	120	A	210	A
15	238	242	1	185	A	170	A	130	A	205	A
16	242	243	1	215	A	185	A	155	A	430	A
17	243	247	1	215	A	185	A	175	A	455	A
18	247	250	2	1105	A	230	A	405	A	1040	A
19	250	255	2	1470	B	1395	A	1000	A	1415	A
20	255	256	2	320	A	300	A	280	A	335	A
21	256	258	2	1645	B	345	A	285	A	1590	B
22	258	261	2	1115	A	320	A	1120	A	2020	B
23	261	262	2	295	A	270	A	295	A	1970	B
24	262	263	2	1595	B	340	A	1495	B	1890	B
25	263	264	2	1415	A	280	A	685	A	1845	B

Note: General purpose lanes and managed lanes were analyzed as separate facilities, with the assumption that weaving between GPL and ML occurs before and after interchanges. The HCM 2010 freeway capacity analysis procedures were then applied separately to the general purpose lanes and the managed lanes. For single-lane managed lane facilities, the volume was compared against the typical maximum capacity of a single lane of 2400 passenger cars per hour.

F. Ramp Merges and Diverges Capacity Analysis

Ramp merges and diverges are the areas where traffic from on-ramps enter a freeway (merge) or traffic from the freeway accesses an off-ramp (diverge). **Table 13** defines the LOS for ramp merges and diverges according to vehicular density, which is defined in terms of passenger cars, per mile, per lane (pc/mi/ln).

1. Alternatives 1A/1B

Table 47 summarizes the Alternative 1 merge and diverge analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

The left side of each table describes the exit number, type of ramp, and traffic volumes that characterize each ramp. The right side gives the Density and LOS determined by applying the HCM methodology.

Compared to No-Build conditions during the Non-Summer Weekday peaks, some operational issues remain under Alternative 1. The far ends of the corridor, both in the City of Richmond and near the ports, displayed the most operational issues.

During the Weekday AM peak hour, in the eastbound direction operational issues at merge and diverge ramps are concentrated at Exits 247, 250 and 261 (although LOS F is not projected to occur). In the westbound direction there are isolated merges and diverges operating at LOS D or E; only one diverge at Exit 200 is projected to operate at LOS F. In the combined directions, 15 locations operate at LOS D or E, and one ramp operates at LOS F.

During the Weekday PM peak hour, in the eastbound direction the most substantial operational issues are east of Exit 205, with LOS F remaining at two ramps. Isolated ramps (four locations) operating at LOS D are found at Exits 250, 258 and 261. In the westbound direction, deficient operating conditions are concentrated on the western end of the study area, with typically one merge or diverge operating at LOS D or E at each exit between Exits 238 and 263. One diverge at Exit 200 is projected to operate at LOS F. In the combined directions, 12 locations operate at LOS D or E, and seven operate at LOS F.

2. Alternatives 2A/2B

Table 48 summarizes the Alternative 2 merge and diverge analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

Compared to Alternative 1 conditions during the Non-Summer Weekday peaks, operations are slightly better under Alternative 2. Generally, the eastern end of the corridor (east of Exit 247) displayed the most operational issues.

During the Weekday AM peak hour in the eastbound direction, operational issues at merge and diverge ramps are concentrated at Exits 247, 250 and 261 (although LOS F is not projected to occur). In the westbound direction, there are isolated merges and diverges operating at LOS D or E; only one diverge at Exit 200 (I-295) is projected to operate at LOS F. In the combined directions, 15 locations operate at LOS D or E, and one ramp operates at LOS F.

During the Weekday PM peak hour in the eastbound direction, the most substantial operational issues are east of Exit 205, with LOS F remaining at one ramp. Isolated ramps (five locations) operating at LOS D are found at Exits 193, 195, 205, 250, and 261. In the westbound direction, deficient operating conditions are concentrated on the eastern end of the study area as well, with typically one merge or diverge operating at LOS D or E at each exit between Exits 243 and 261. One diverge at Exit 200 is projected to

operate at LOS F. In the combined directions, nine locations operate at LOS D or E, and five operate at LOS F.

3. Alternative 3

Table 49 summarizes the Alternative 3 merge and diverge analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

For the Alternative 3 ramp analyses, it was assumed that all traffic wanting to exit from the managed lane entered the general purpose lane in advance of the diverge area. Similarly, traffic entering at merge areas will enter the general purpose lanes first and will enter the managed lane downstream. Volumes in the general purpose lanes include the managed lane traffic to/from the ramp being analyzed. Without a detailed analysis of origin/destination patterns and more information about the configuration of access points between the managed and general purpose lanes, more detailed analysis is not possible.

Compared to Alternatives 1 and 2, ramp merges and diverges generally perform worse under Alternative 3, with more merge and diverge areas operating at LOS D, E or F. This is likely a consequence of relaxing the LOS standard for general purpose lanes.

During the Weekday AM peak hour, in the eastbound direction operational issues at merge and diverge ramps are concentrated at Exits 247, 250, 256 and 261. In the westbound direction there are isolated merges and diverges operating at LOS D or E, with four ramp junctions projected to operate at LOS F. In the combined directions, 21 locations operate at LOS D or E, and one ramp operates at nine LOS F.

During the Weekday PM peak hour, in the eastbound direction the most substantial operational issues are at Exits 190 and 250, with LOS F remaining at these interchanges. In the westbound direction, deficient operating conditions are concentrated on the eastern end of the study area as well, with typically one merge or diverge operating at LOS D or E at each interchange between Exits 243 and 261. Two ramps at Exits 258 and 261 are projected to operate at LOS F. In the combined directions, 35 locations operate at LOS D or E, and four operate at LOS F.

Table 47: 2040 Alternatives 1A/1B Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak

2040 Alternatives 1A/1B Eastbound								2040 Alternatives 1A/1B Westbound							
Exit	Ramp	AM Peak			PM Peak			Exit	Ramp	AM Peak			PM Peak		
		Volume	Density	LOS	Volume	Density	LOS			Volume	Density	LOS	Volume	Density	LOS
192	OFF RAMP	1745	28.1	D	2390	45.0	F	192	E	1980	16.1	E	1625	27.2	C
	ON RAMP	270	12.3	B	475	31.1	F		F	605	27.5	C	375	17.9	B
193	A	185	14.3	B	140	26.2	C	193	D	1450	26.8	C	905	17.4	B
	B	750	17.4	B	925	30.6	D		G	210	19.7	B	60	11.6	B
	C	100	10.3	B	270	15.2	B								
195	A	1265	17.7	B	1760	32.8	D	195	C	535	21.1	C	385	14.0	B
	B	370	8.6	A	525	18.7	B		D	820	16.5	B	890	14.4	B
									E	250	17.1	B	315	10.3	B
197	A	625	9.1	A	1070	24.5	C	197	E	1020	20.5	C	470	12.1	B
	D	360	7.3	A	785	21.1	C		H	205	21.6	C	215	14.1	B
200	OFF RAMP	515	2.2	A	1260	17.0	B	200	OFF RAMP	2365	25.0	F	2085	18.9	F
	ON RAMP	2130	12.8	B	2445	22.2	C		ON RAMP	1205	11.3	B	655	2.9	A
	A	430	0*	A	1040	6.5	A		F	175	5.6	A	155	2.8	A
	D/E	800	14.6	B	825	15.4	B		I - Major Diverge	1560	9.9	B	1290	8.2	B
205	A	925	20.8	C	1835	32.4	F	205	C	980	26.7	C	295	19.0	B
	B	565	16.6	B	365	20.5	C		D	1065	23.9	C	525	20.2	C
									E	315	19.6	B	300	20.5	C
211	A	85	17.7	B	120	22.4	C	211	C	460	21.0	C	525	22.6	C
	B	490	17.8	B	450	21.7	C		D	175	16.0	B	150	16.9	B
213	A	315	20.0	B	270	23.8	C	213	C	195	21.3	C	225	22.9	C
	B	315	18.6	B	270	22.3	C		D	195	18.3	B	225	19.9	B
214	A	460	21.4	C	490	25.3	C	214	C	330	18.9	B	410	22.0	C
	B	410	16.9	B	340	20.3	C		D	565	19.1	B	385	20.0	B
220	A	705	19.4	B	1365	24.5	C	220	C	295	12.4	B	75	17.2	B
	B	100	14.5	B	240	15.7	B		D	1355	18.9	B	790	20.0	B
227	A	185	15.7	B	150	15.5	B	227	C	595	16.7	B	1080	25.0	C
	B	250	18.5	B	365	17.3	B		D	165	9.8	A	205	14.4	B
	E	895	18.1	B	370	14.7	B								
231	A	270	21.4	C	280	20.2	C	231	E	65	15.1	B	140	24.3	C
	D	765	21.1	C	480	17.4	B		H	230	11.9	B	260	18.9	B

Notes:

¹ Volume is given as "vehicles per hour"

² AM Peak = Weekday morning peak hour (7:00 AM to 8:00 AM)

³ PM Peak = Weekday afternoon peak hour (4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM, whichever hourly volume was higher)

Table 47: 2040 Alternatives 1A/1B Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak (continued)

2040 Alternatives 1A/1B Eastbound								2040 Alternatives 1A/1B Westbound							
Exit	Ramp	AM Peak			PM Peak			Exit	Ramp	AM Peak			PM Peak		
		Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS			Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
234	A	795	24.7	C	790	21.6	C	234	C	105	15.9	B	390	27.4	C
	B	1015	24.6	C	865	20.2	C		F	65	12.1	B	35	20.6	C
238	A	965	27.8	C	730	23.9	C	238	C	855	18.3	B	900	26.5	C
	B	830	25.7	C	905	23.6	C		D	495	16.3	B	945	28.2	D
									E	75	14.6	B	145	25.8	C
242	A	660	22.8	C	470	20.4	C	242	H	460	13.7	B	615	21.5	C
243	B	210	20.7	C	215	17.0	B	243	D	605	0*	A	415	4.3	A
	C	440	6.7	A	395	2.9	A		E	380	25.9	C	485	31.7	D
247	A	275	29.6	D	125	25.7	C	247	B	310	17.2	B	210	22.7	C
	C	645	28.1	D	505	24.0	C		E	855	27.8	C	805	32.8	D
	D	700	29.5	D	305	21.4	C								
250	A	800	33.7	D	545	28.2	D	250	C	545	31.6	D	935	35.1	E
	E	950	32.2	D	1770	32.7	D		G	760	21.4	C	720	26.5	C
255	OFF RAMP	1335	27.2	C	1385	26.8	C	255	OFF RAMP	1705	28.0	D	2145	33.6	F
	ON RAMP	1905	26.4	C	1890	25.6	C		ON RAMP	1170	22.0	C	1125	22.4	C
	A	1040	6.2	A	1025	6.4	A		C	1485	6.8	A	1610	9.7	A
	E	220	10.9	B	380	11.3	B		G	345	5.5	A	300	5.1	A
256	A	395	23.7	C	675	24.4	C	256	C	760	24.3	C	1240	34.4	D
	E	1465	31.0	D	855	24.2	C		G	350	18.6	B	470	21.6	C
258	A	1500	36.2	E	1055	29.1	D	258	C	1755	30.0	D	1645	38.0	F
	E	885	24.7	C	900	22.0	C		G	545	19.2	B	600	25.5	C
261	A	750	30.8	D	1145	29.3	D	261	F	1420	32.0	D	2255	43.0	F
	B	1545	31.1	D	775	22.0	C								
	D	1330	22.5	C	970	18.0	B								
263	E	900	22.8	C	765	19.6	B	263	D	660	21.5	C	850	29.4	D

Notes:

¹ Volume is given as "vehicles per hour"

² Density is given as "passenger cars, per mile, per lane"

** Volume exceeds capacity. Density is undefined. Level of service is "F"

Table 48: 2040 Alternative 2A/2B Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak

2040 Alternative 2A/2B Eastbound								2040 Alternative 2A/2B Westbound							
Exit	Ramp	AM Peak			PM Peak			Exit	Ramp	AM Peak			PM Peak		
		Volume	Density	LOS	Volume	Density	LOS			Volume	Density	LOS	Volume	Density	LOS
192	OFF RAMP	1720	27.0	C	2475	44.3	F	192	E	2005	35.7	E	1650	26.4	C
	ON RAMP	270	11.6	B	475	21.9	C		F	595	26.7	C	370	16.7	B
193	A	185	13.4	B	140	24.6	C	193	D	1440	26.1	C	895	16.3	B
	B	740	16.5	B	915	28.9	D		G	210	19.0	B	60	10.4	B
	C	95	9.4	A	255	16.8	B								
195	A	1250	16.8	B	1640	30.5	D	195	C	535	20.4	C	385	13.1	B
	B	365	7.9	A	515	17.6	B		D	820	15.9	B	890	13.0	B
									E	250	16.3	B	315	9.1	A
197	A	615	8.0	A	1055	23.1	C	197	E	1000	19.8	B	460	11.1	B
	D	355	6.9	A	775	19.6	B		H	240	21.3	C	250	13.0	B
200	OFF RAMP	555	1.2	A	1340	15.8	B	200	OFF RAMP	2540	24.9	F	2130	17.4	F
	ON RAMP	2105	11.5	B	2420	20.2	C		ON RAMP	1490	11.8	B	845	2.5	A
	A	425	0.5	A	1020	6.9	A		F	255	7.3	A	200	4.0	A
	D/E	795	14.4	B	815	15.2	B		I - Major Diverge	1740	11.0	B	1340	8.5	B
205	A	900	19.3	B	1720	30.3	D	205	C	980	25.7	C	295	17.1	B
	B	505	15.0	B	320	18.5	B		D	1065	22.9	C	525	18.3	B
									E	305	18.5	B	290	18.4	B
211	A	105	16.3	B	150	20.7	C	211	C	470	19.9	B	535	20.6	C
	B	440	15.9	B	335	18.7	B		D	210	15.0	B	180	15.0	B
213	A	305	18.1	B	265	21.1	C	213	C	190	20.1	C	220	20.7	C
	B	305	16.8	B	265	19.8	B		D	190	17.1	B	220	17.8	B
214	A	530	19.7	B	555	22.9	C	214	C	325	17.8	B	400	19.9	B
	B	400	14.7	B	330	17.2	B		D	540	17.8	B	370	17.8	B
220	A	680	17.1	B	1320	21.5	C	220	C	295	11.4	B	75	15.1	B
	B	100	12.4	B	240	13.0	B		D	1320	17.7	B	770	17.8	B
227	A	185	13.4	B	150	13.4	B	227	C	430	14.3	B	955	22.2	C
	B	250	15.7	B	365	14.0	B		D	160	8.9	A	195	12.5	B
	E	770	15.0	B	275	11.1	B								
231	A	255	18.6	B	265	16.7	B	231	E	60	13.1	B	130	21.7	C
	D	710	18.1	B	455	14.0	B		H	220	10.0	B	255	16.4	B

Notes:

¹ Volume is given as "vehicles per hour"

² AM Peak = Weekday morning peak hour (7:00 AM to 8:00 AM)

³ PM Peak = Weekday afternoon peak hour (4:00 PM to 5:00 PM or 5:00 PM to 6:00 PM, whichever hourly volume was higher)

Table 48: 2040 Alternative 2A/2B Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak (continued)

2040 Alternative 2A/2B Eastbound								2040 Alternative 2A/2B Westbound							
Exit	Ramp	AM Peak			PM Peak			Exit	Ramp	AM Peak			PM Peak		
		Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS			Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
234	A	560	21.2	C	550	17.5	B	234	C	160	15.6	B	450	26.2	C
	B	1005	22.8	C	930	18.6	B		F	65	10.3	B	35	18.2	B
238	A	910	26.1	C	690	22.1	C	238	C	790	17.3	B	825	25.0	C
	B	830	24.2	C	905	22.1	C		D	495	15.9	B	945	27.2	C
									E	80	14.3	B	65	24.1	C
242	A	505	21.1	C	360	18.7	B	242	H	390	12.9	B	505	20.0	C
243	B	205	20.7	C	145	16.2	B	243	D	650	*	A	450	2.9	A
	C	395	6.3	A	350	2.1	A		E	280	24.6	C	355	29.6	D
247	A	255	29.3	D	110	24.9	C	247	B	280	16.0	B	170	20.6	C
	C	835	29.5	D	570	23.8	C		E	855	26.9	C	805	31.4	D
	D	690	30.2	D	280	21.9	C								
250	A	730	34.2	D	500	27.6	C	250	C	545	31.6	D	935	34.4	D
	E	885	32.7	D	1650	31.5	D		G	695	20.4	C	655	24.8	C
255	OFF RAMP	1370	27.9	C	1415	26.3	C	255	OFF RAMP	1585	27.1	C	2110	32.9	F
	ON RAMP	1845	26.2	C	1830	24.5	C		ON RAMP	1110	21.2	C	1065	21.6	C
	A	1080	6.5	A	1065	6.7	A		C	1370	5.8	A	1590	9.4	A
	E	215	10.6	B	370	11.0	B		G	340	5.2	A	295	4.8	A
256	A	375	23.8	C	640	23.3	C	256	C	740	23.7	C	1310	34.1	D
	E	1420	30.5	D	835	23.1	C		G	390	18.6	B	540	21.5	C
258	A	1450	35.5	E	920	27.1	C	258	C	1815	30.7	D	1650	38.1	F
	E	860	24.5	C	875	21.3	C		G	530	18.8	B	585	24.9	C
261	A	875	31.4	D	1180	28.9	D	261	F	1615	33.3	D	2570	44.6	F
	B	1685	31.2	D	925	22.0	C								
	D	1460	22.6	C	1075	17.7	B								
263	E	875	22.8	C	745	19.0	B	263	D	645	20.7	C	825	27.7	C

Notes:
¹ Volume is given as "vehicles per hour"
² Density is given as "passenger cars, per mile, per lane"
 ** Volume exceeds capacity. Density is undefined. Level of service is "F"

Table 49: 2040 Alternative 3 Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak

2040 Alternative 3 Eastbound								2040 Alternative 3 Westbound							
Exit	Ramp	AM Peak			PM Peak			Exit	Ramp	AM Peak			PM Peak		
		Volume	Density	LOS	Volume	Density	LOS			Volume	Density	LOS	Volume	Density	LOS
192	OFF RAMP	1615	29.0	D	2325	36.9	F	192	E	1885	39.0	F	1550	31.3	D
	ON RAMP	260	16.5	B	455	22.4	C		F	535	29.3	D	335	22.6	C
193	A	185	19.6	B	140	30.9	D	193	D	1420	29.1	D	880	20.3	C
	B	720	20.6	C	890	32.0	D		G	205	23.1	C	55	16.7	B
	C	85	10.3	B	230	21.4	C								
195	A	1090	18.3	B	1540	31.2	D	195	C	485	24.5	C	345	17.2	B
	B	325	10.4	B	435	21.3	C		D	820	19.5	B	890	13.3	B
							E		205	19.7	B	260	12.9	B	
197	A	520	11.7	B	890	31.7	D	197	E	850	21.2	C	390	13.2	B
	D	290	10.6	B	670	26.0	C		H	215	26.7	C	220	17.8	B
200	OFF RAMP	460	4.0	A	1345	18.1	B	200	OFF RAMP	2325	27.9	F	1935	21.3	C
	ON RAMP	1925	14.2	B	2215	21.2	C		ON RAMP	1345	14.0	B	760	6.7	A
	A	345	-0.1	A	1055	7.9	A		F	235	10.2	B	175	5.3	A
	D/E	730	17.6	B	745	18.9	B		I - Major Diverge	1600	0.1	A	1220	-3.5	A
205	A	880	26.9	C	1585	36.4	E	205	C	965	34.7	F	270	26.2	C
	B	395	21.4	C	245	22.7	C		D	1065	28.5	D	525	26.1	C
							E		275	22.8	C	255	25.1	C	
211	A	70	23.1	C	100	27.1	C	211	C	440	25.1	C	500	26.8	C
	B	380	23.3	C	305	25.9	C		D	150	20.6	C	125	21.3	C
213	A	270	24.2	C	235	28.4	D	213	C	170	26.0	C	195	28.5	D
	B	270	23.7	C	235	27.5	C		D	170	23.9	C	195	26.2	C
214	A	480	25.3	C	505	29.5	D	214	C	275	22.7	C	340	27.2	C
	B	335	20.4	C	280	23.8	C		D	480	23.4	C	340	25.7	C
220	A	565	21.7	C	1075	25.1	C	220	C	275	14.7	B	60	21.3	C
	B	85	18.3	B	230	18.3	B		D	1110	20.2	C	665	24.2	C
227	A	170	18.1	B	130	18.2	B	227	C	430	18.4	B	955	27.7	C
	B	250	23.6	C	365	21.3	C		D	140	13.4	B	175	17.3	B
	E	695	20.1	C	300	17.3	B								
231	A	240	25.3	C	250	23.4	C	231	E	55	18.0	B	120	28.0	D
	D	720	25.5	C	410	20.7	C		H	205	15.4	B	240	21.9	C

Notes:
¹ Volume is given as "vehicles per hour"

Table 49: 2040 Alternative 3 Merge and Diverge Ramp Level of Service – Non-Summer Weekday Peak (continued)

2040 Alternative 3 Eastbound								2040 Alternative 3 Westbound							
Exit	Ramp	AM Peak			PM Peak			Exit	Ramp	AM Peak ³			PM Peak ⁴		
		Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS			Volume ¹	Density ²	LOS	Volume ¹	Density ²	LOS
234	A	505	29.1	D	490	23.8	C	234	C	155	20.7	C	425	38.2	E
	B	930	30.4	D	865	25.0	C		F	55	16.3	B	30	28.3	D
238	A	845	34.6	D	640	29.4	D	238	C	800	21.9	C	940	36.8	E
	B	830	32.8	D	905	29.8	D		D	495	20.7	C	845	35.9	E
									E	80	20.9	C	145	36.7	E
242	A	515	30.1	D	365	27.1	C	242	H	395	18.2	B	515	29.0	D
243	B	205	31.7	D	145	25.7	C	243	D	660	8.8	A	455	16.2	B
	C	395	18.4	B	350	13.1	B		E	280	31.5	D	355	39.6	E
247	A	255	41.1	E	110	35.2	E	247	B	280	22.3	C	170	26.6	C
	C	845	41.4	F	670	35.8	E		E	865	34.2	D	815	39.6	E
	D	640	44.1	F	280	35.4	E								
250	A	740	42.7	F	505	41.0	E	250	C	545	37.7	E	935	40.8	E
	E	865	40.8	F	1570	44.3	F		G	705	23.0	C	660	29.7	D
255	OFF RAMP	1265	26.3	C	1310	25.4	C	255	OFF RAMP	1590	29.5	D	2000	34.6	D
	ON RAMP	1785	27.4	C	1770	25.9	C		ON RAMP	1025	25.9	C	985	28.9	D
	A	1005	6.4	A	990	6.8	A		C	1385	6.5	A	1505	10.2	B
	E	205	15.7	B	355	15.5	B		G	310	7.1	A	270	6.7	A
256	A	365	31.2	D	620	30.2	D	256	C	740	28.9	D	1210	33.2	D
	E	1420	40.1	F	835	32.0	D		G	385	24.7	C	530	17.6	B
258	A	1460	34.3	D	1030	33.8	D	258	C	1770	28.4	D	1660	41.8	F
	E	860	27.5	C	875	28.9	D		G	530	21.2	C	585	27.4	C
261	A	885	36.6	E	1195	34.2	D	261	F	1630	40.1	F	2595	47.4	F
	B	1685	31.4	D	925	27.5	C								
	D	1455	25.6	C	1070	23.8	C								
263	E	860	21.0	C	930	19.3	B	263	D	630	24.4	C	810	28.2	D

Notes:

¹ Volume is given as "vehicles per hour"

² Density is given as "passenger cars, per mile, per lane"

** Volume exceeds capacity. Density is undefined. Level of service is "F"

G. Weaving Segments Capacity Analysis

Weaving segments are areas where two traffic streams moving in the same direction must cross and/or change lanes to continue to their destination. Weaving segments are formed when a merge is closely followed by a diverge, for example, where an on-ramp is followed closely by an off-ramp and the two are joined by an auxiliary lane. **Table 17** defines the LOS for weaving segments according to vehicular density, which is defined in terms of passenger cars, per mile, per lane (pc/mi/ln).

1. Alternatives 1A/1B

Table 50 summarizes the Alternative 1 weaving segment analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

The left side of each table describes the various weaving areas in the I-64 study corridor, according to the exit number and direction of travel. The right side gives the density and LOS, determined by applying the HCM methodology.

Under Alternative 1, during the Non-Summer Weekday peaks, weaving areas in the I-64 corridor generally operate acceptably on the western-most end of the corridor between Exits 192 and 242. In the AM peak hour, 8 of the 26 weaving segments analyzed operate at a deficient LOS between Exits 250 and 263. Three segments between Exits 262 to 263 exceed capacity and operate at a LOS F. In the PM peak hour, 10 of the 26 segments analyzed operate at a deficient LOS. Three segments between Exits 262 and 263 operate at LOS F, as well as the weaving segment along eastbound I-64 at Exit 192.

This weaving analysis is based on existing interchange configuration, however it is anticipated that these interchanges will ultimately be designed with collector-distributor roads where necessary and feasible to separate the weaving movements from the mainline, resulting in improved weaving LOS, as well as, increased safety.

2. Alternative 2A/2B

Table 51 summarizes the Alternative 2 weaving segment analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

Under Alternative 2, during the Non-Summer Weekday peaks, weaving areas in the I-64 corridor generally operate acceptably on the western-most end of the corridor between Exits 192 and 200. In the AM peak hour, 8 of the 26 weaving segments analyzed operate at a deficient LOS between Exits 250 and 263. Three segments between Exits 262 to 263 exceed capacity and operate at a LOS F. In the PM peak hour, 8 of the 26 segments analyzed operate at a deficient LOS. Three segments between Exits 262 and 263 operate at LOS F, as well as the weaving segment along eastbound I-64 at Exit 192.

This weaving analysis is based on existing interchange configuration, however it is anticipated that these interchanges will ultimately be designed with collector-distributor roads where necessary and feasible to separate the weaving movements from the mainline, resulting in improved weaving level of service as well as increased safety.

3. Alternative 3

Table 52 summarizes the Alternative 3 weaving segment analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

The weaving analyses assumed that entering/exiting managed lane traffic entered the weaving section upstream of the interchange and will leave downstream. Due to the short length of the weaving sections,

it is unlikely that there will be any access points between the general purpose and managed lanes within the weaving section.

Under Alternative 3, during the Non-Summer Weekday peaks, weaving areas in the I-64 corridor generally operate acceptably on the western-most end of the corridor between Exits 192 and 200. In the AM peak hour, 10 of the 26 weaving segments analyzed operate at a deficient LOS between Exits 250 and 263. Three segments between Exits 262 to 263 exceed capacity and operate at a LOS F. In the PM peak hour, 12 of the 26 segments analyzed operate at a deficient LOS. Three segments between Exits 262 and 263 operate at LOS F, as well as the weaving segment along eastbound I-64 at Exit 192.

This weaving analysis is based on existing interchange configuration, however it is anticipated that these interchanges will ultimately be designed with collector-distributor roads where necessary and feasible to separate the weaving movements from the mainline, resulting in improved weaving level of service as well as increased safety.

Table 50: 2040 Alternatives 1A/1B Weave Level of Service – Non-Summer Weekday Peak

Exit	Direction	AM Peak		PM Peak	
		Density ³	LOS	Density ³	LOS
192	Eastbound	19.3	B	**	F
193	Westbound	18.1	B	12.4	B
197	Eastbound	7.4	A	20.7	C
	Westbound	18.4	B	11.7	B
200	Eastbound	0.5	A	1.0	A
	Westbound	8.9	A	5.4	A
231	Eastbound	15.5	B	13.9	B
	Westbound	14.2	B	22.5	C
234	Westbound	15.5	B	28.4	D
242	Eastbound	16.3	B	16.2	B
	Westbound	16.3	B	27.2	C
242 TO 243	Eastbound	24.4	C	18.6	B
243 TO 242	Westbound	16.4	B	21.1	C
250	Eastbound	29.0	D	21.5	C
	Westbound	28.9	D	29.9	D
255	Eastbound	10.2	B	9.6	A
	Westbound	5.1	A	6.8	A
256	Eastbound	29.0	D	24.6	C
	Westbound	24.1	C	29.9	D
258	Eastbound	28.2	D	23.6	C
	Westbound	22.9	C	36.3	E
261	Westbound	28.1	D	38.9	E
262 TO 263	Eastbound	**	F	**	F
263 TO 262	Westbound	**	F	**	F
263 TO 264 ¹	Eastbound	26.5	C	29.7	D
264 TO 263 ¹	Westbound	**	F	**	F

Notes:
³ Density is given as "passenger cars per mile per lane" (pc/mi/ln).
 ** Demand exceeds capacity. Density is undefined. Level of service is "F"

Table 51: 2040 Alternative 2A/2B Weave Level of Service – Non-Summer Weekday Peak

Exit	Direction	AM Peak		PM Peak	
		Density ³	LOS	Density ³	LOS
192	Eastbound	19.0	B	**	F
193	Westbound	17.5	B	11.4	B
197	Eastbound	6.6	A	19.0	B
	Westbound	18.0	B	10.7	B
200	Eastbound	0.6	A	1.4	A
	Westbound	10.0	A	6.0	A
231	Eastbound	13.1	B	11.1	B
	Westbound	12.4	B	19.5	B
234	Westbound	13.5	B	24.0	C
242	Eastbound	15.3	B	14.8	B
	Westbound	15.4	B	24.1	C
242 TO 243	Eastbound	24.0	C	17.8	B
243 TO 242	Westbound	16.1	B	20.0	B
250	Eastbound	29.9	D	21.0	C
	Westbound	28.5	D	28.3	D
255	Eastbound	9.9	A	9.2	A
	Westbound	4.7	A	6.4	A
256	Eastbound	29.3	D	23.6	C
	Westbound	23.5	C	28.6	D
258	Eastbound	28.1	D	22.7	C
	Westbound	25.7	C	37.4	E
261	Westbound	27.7	C	36.5	E
262 TO 263	Eastbound	**	F	**	F
263 TO 262	Westbound	**	F	**	F
263 TO 264 ¹	Eastbound	35.3	E	20.1	C
264 TO 263 ¹	Westbound	58.0	E	**	F

Notes:
³ Density is given as "passenger cars per mile per lane" (pc/mi/ln).
 ** Demand exceeds capacity. Density is undefined. Level of service is "F"

Table 52: 2040 Alternative 3 Weave Level of Service – Non-Summer Weekday Peak

Exit	Direction	AM Peak		PM Peak	
		Density ³	LOS	Density ³	LOS
192	Eastbound	17.8	B	**	F
193	Westbound	18.2	B	14.0	B
197	Eastbound	8.8	A	22.3	C
	Westbound	20.2	C	13.7	B
200	Eastbound	0.7	A	1.7	A
	Westbound	11.8	B	7.2	A
231	Eastbound	16.2	B	14.3	B
	Westbound	15.3	B	21.6	C
234	Westbound	16.1	B	29.7	D
242	Eastbound	19.4	B	19.3	B
	Westbound	19.2	B	31.8	D
242 TO 243	Eastbound	21.6	C	23.8	C
243 TO 242	Westbound	19.4	B	25.4	C
250	Eastbound	31.4	D	28.7	D
	Westbound	28.1	D	27.5	C
255	Eastbound	12.5	B	11.6	B
	Westbound	5.8	A	7.8	A
256	Eastbound	37.2	E	30.8	D
	Westbound	28.4	D	29.7	D
258	Eastbound	28.9	D	29.5	D
	Westbound	25.6	C	37.1	E
261	Westbound	33.3	D	36.6	E
262 TO 263	Eastbound	**	F	**	F
263 TO 262	Westbound	34.6	D	**	F
263 TO 264 ¹	Eastbound	**	F	25.6	C
264 TO 263 ¹	Westbound	37.7	E	**	F

Notes:
³ Density is given as "passenger cars per mile per lane" (pc/mi/ln).
 ** Demand exceeds capacity. Density is undefined. Level of service is "F"

H. Signalized and Unsignalized Intersections Capacity Analysis

Similar to the No-Build scenario, intersections at the ramp terminals and selected cross-street intersections were analyzed using the HCM methodologies. **Tables 20 and 21** define the LOS for signalized and unsignalized intersections, respectively, according to vehicular control delay, which is defined in terms of seconds per vehicle (sec/veh).

1. Alternatives 1A/1B

Table 53 summarizes the Alternative 1 intersection analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

The left side of each table locates the various intersections according to the exit, ramp designation, and the cross-streets involved. The control type (signalized or unsignalized) is given (signals listed in **bold font**), and the critical intersection movement is given for all unsignalized intersections. The right side of the table gives the overall intersection delay for signals or the critical movement delay for unsignalized intersections, as well as the LOS determined by applying the HCM methodology.

During the Non-Summer Weekday peaks, many of the intersections throughout the entire corridor are projected to operate at a LOS E or F, including 20 of the 38 intersections during the AM peak. Seven of these intersections are signalized, all of which operated at a LOS F. When signal optimization was applied to these intersections, six continued to operate at a LOS E or F, with the intersections of Croaker Road and Rochambeau Drive at Exit 231 and Merrimac Trail and Rochambeau Drive at Exit 238 continuing to operate at a LOS F. There remain 13 LOS E or F unsignalized intersections during the AM Peak, 8 of which operate at a LOS F.

During the PM peak, 22 of the 38 intersections analyzed operate at a LOS E or F. Ten of these intersections are signalized, seven of which operate at a LOS F. When signal optimization is applied to these intersections, seven intersections continue to operate at a LOS E or F, five of which operate at a LOS F. There are 12 LOS E or F unsignalized intersections during the PM peak hour.

2. Alternatives 2A/2B

Table 54 summarizes the Alternative 2 intersection analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

During the Non-Summer Weekday peaks, LOS E or F continues to be projected at a number of the intersections throughout the entire corridor, including 20 of the 38 intersections during the AM peak. Seven of these intersections are signalized, all of which operated at a LOS F. When signal optimization was applied to these intersections, six continued to operate at a LOS E or F, but only two intersection (Croaker Road and Rochambeau Drive at Exit 231 and Merrimac Trail and Rochambeau Drive at Exit 238) continue to operate at a LOS F. There remain 13 LOS E or F unsignalized intersections during the AM Peak, 8 of which operate at a LOS F.

During the PM peak, 22 of the 38 intersections analyzed operate at a LOS E or F. Ten of these intersections are signalized, seven of which operate at a LOS F. When signal optimization is applied to these intersections, seven intersections continue to operate at a LOS E or F, four of which operate at a LOS F. There are 12 LOS E or F unsignalized intersections during the PM peak hour.

3. Alternative 3

Table 55 summarizes the Alternative 3 intersection analysis of Weekday Non-Summer AM and PM peak hours for the entire corridor.

During the Non-Summer Weekday peaks, LOS E or F continues to be projected at a number of the intersections throughout the entire corridor, with 19 of the 38 intersections during the AM peak. Seven of the LOS E or F intersections are signalized, six of which operated at a LOS F. When signal optimization was applied to these intersections, all but one signalized intersections (Jefferson Avenue & Fort Eustis Boulevard at Exit 250-B) continued to operate at a LOS E or F, but only one intersection (Croaker Road and Rochambeau Drive at Exit 231) continue to operate at a LOS F. There remain 13 LOS E or F unsignalized intersections during the AM Peak, 8 of which operate at a LOS F.

During the PM peak, 22 of the 38 intersections analyzed operate at a LOS E or F. Nine of these intersections are signalized, eight of which operate at a LOS F. When signal optimization is applied to these intersections, eight intersections continue to operate at a LOS E or F, five of which operate at a LOS F. There are 12 LOS E or F unsignalized intersections during the PM peak hour.

Table 53: 2040 Alternatives 1A/1B Intersection Level of Service – Non-Summer Weekday Peak

Exit – Ramp	Intersection Control	Intersection	Critical Movement ¹	2040 Alternatives 1A/1B				2040 Alternatives 1A/1B - Optimized Signal Timing			
				AM Peak		PM Peak		AM Peak		PM Peak	
				Delay ³	LOS ³	Delay ³	LOS ³	Delay ³	LOS ³	Delay ³	LOS ³
190-A	Unsignalized	5 th Street & I-95 NB On-ramp	SB 5 th Street L	7.8	A	8.1	A				
190-B	Unsignalized	3 rd Street & I-95 SB Off-ramp	3 rd Street L	55.5	F	13.1	B				
192-A	Signal	I-64 WB Off-ramp/Magnolia Street & US 360	Intersection	87.7	F	50.4	D	40.3	D	27.0	C
192-B	Unsignalized	I-64 EB Off-ramp & US 360 ⁴	I-64 Off-ramp R ⁴	14.3	B	10.6	B				
193-A	Unsignalized	I-64 EB Ramps & Nine Mile Road	I-64 Off-ramp R	12.5	B	10.8	B				
193-B	Signal	Route 33 & Gordon's Lane	Intersection	19.3	B	18.3	B	18.5	B	18.8	B
193-C	Unsignalized	I-64 WB Off-ramp & Nine Mile Road	I-64 Off-ramp R	15.0	B	17.7	C				
195-A	Signal	I-64 EB Ramps & Laburnum Avenue	Intersection	145.9	F	354.5	F	69.8	E	101.1	F
195-B	Signal	I-64 WB Ramps & Laburnum Avenue	Intersection	9.4	A	11.7	B				
205-A	Signal	I-64 EB Ramps & New Kent Highway	Intersection	14.3	B	72.8	E	12.1	B	17.0	B
205-B	Unsignalized	I-64 WB Ramps & New Kent Highway	I-64 Off-ramp LR	34.6	D	973.9	F				
211-A	Unsignalized	I-64 EB Ramps & Emmans Church Road	I-64 Off-ramp LTR	17.9	C	23.0	C				
211-B	Unsignalized	I-64 WB Ramps & Emmans Church Road	I-64 Off-ramp LTR	84.8	F	136.0	F				
214-A	Unsignalized	I-64 EB Ramps & Courthouse Road	I-64 Off-ramp LTR	738.9	F	102.0	F				
214-B	Unsignalized	I-64 WB Ramps & Courthouse Road	I-64 Off-ramp LTR	1549.0	F	429.6	F				
227-A	Unsignalized	I-64 EB Ramps & Old Stage Road	I-64 Off-ramp L	16.4	C	15.3	C				
227-B	Unsignalized	I-64 WB Ramps & Old Stage Road	I-64 Off-ramp L	182.3	F	428.7	F				
231-A	Signal	Croaker Road & Rochambeau Drive	Intersection	234.5	F	290.0	F	111.7	F	80.7	F
231-B	Unsignalized	Croaker Road & Fenton Mill Road	WB Fenton Mill LTR	33.6	D	41.0	E				
231-C	Unsignalized	I-64 WB Off-ramp & Croaker Road	I-64 Off-ramp R	10.1	B	11.2	B				
231-D	Unsignalized	I-64 EB Off-ramp & Croaker Road	I-64 Off-ramp R	17.2	C	21.3	C				
234-A	Unsignalized	I-64 EB Ramps & Newman Road	I-64 Off-ramp LT	*	F	96.0	F				
234-B	Unsignalized	Newman Road & Fenton Mill Road	NB Fenton Mill LTR	7.7	A	17.8	C				
234-C	Unsignalized	I-64 WB Off-ramp & Newman Road	I-64 Off-ramp R	9.9	A	17.8	C				
238-A	Unsignalized	I-64 EB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	509.2	F	966.0	F				
238-B	Signal	I-64 EB On-ramp, Merrimac Trail, & Rochambeau Drive	Intersection	357.6	F	158.9	F	89.3	F	52.4	D
238-C	Unsignalized	I-64 WB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	166.5	F	111.7	F				
238-D	Unsignalized	I-64 EB Off-ramp (right turn) & Merrimac Trail	I-64 Off-ramp R	325.6	F	266.4	F				
243-A	Signal	Busch Gardens Boulevard NB ramps & US Route 60	Intersection	6.0	A	9.9	A				
243-B	Signal	Busch Gardens Boulevard SB ramps & US Route 60	Intersection	8.7	A	9.2	A				
247-A	Unsignalized	I-64 EB Off-ramp & Jefferson Avenue	I-64 Off-ramp LR	1095.0	F	226.5	F				
247-B	Signal	Jefferson Ave & Yorktown Road	Intersection	122.9	F	358.0	F	67.9	E	94.8	F
247-C	Unsignalized	I-64 EB On-ramp & Yorktown Road	SB Yorktown L	16.0	C	11.7	B				
247-D	Unsignalized	I-64 WB Off-ramp & Yorktown Road	I-64 Off-ramp L	31.0	D	31.4	D				
250-A	Signal	I-64 WB Off-ramp & Jefferson Avenue	Intersection	21.5	C	103.6	F	21.7	C	35.8	D
250-B	Signal	Jefferson Avenue & Fort Eustis Boulevard	Intersection	436.1	F	282.7	F	34.0	C	28.1	C
255-A	Signal	Jefferson Avenue & Freedom Way/Clair Lane	Intersection	19.6	B	266.7	F			219.0	F
255-B	Signal	Jefferson Avenue & Brick Kiln Blvd/Wal-Mart Way	Intersection	180.7	F	481.9	F	55.1	E	295.7	F

Notes:

³ Delay is given as "seconds per vehicle" (sec/veh). For signalized intersections, the delay and LOS apply to the overall intersection. For unsignalized intersections, the delay and LOS apply to the single critical movement (major street left or minor street approach) with highest delay.

⁴ Approach is controlled by a yield sign but operates as stop-controlled and was analyzed accordingly.

** Delay exceeds range of model.

Table 54: 2040 Alternative 2A/2B Intersection Level of Service – Non-Summer Weekday Peak

Exit – Ramp	Intersection Control	Intersection	Critical Movement ¹	2040 Alternative 2A/2B				2040 Alternative 2A/2B - Optimized Signal Timing			
				AM Peak		PM Peak		AM Peak		PM Peak	
				Delay ³	LOS ³	Delay ³	LOS ³	Delay ³	LOS ³	Delay ³	LOS ³
190-A	Unsignalized	5 th Street & I-95 NB On-ramp	SB 5 th Street L	7.8	A	8.1	A				
190-B	Unsignalized	3 rd Street & I-95 SB Off-ramp	3 rd Street L	53.5	F	13.1	B				
192-A	Signal	I-64 WB Off-ramp/Magnolia Street & US 360	Intersection	175.4	F	48.9	D	50.4	D	26.8	C
192-B	Unsignalized	I-64 EB Off-ramp & US 360 ⁴	I-64 Off-ramp R ⁴	14.3	B	10.6	B				
193-A	Unsignalized	I-64 EB Ramps & Nine Mile Road	I-64 Off-ramp R	12.5	B	10.6	B				
193-B	Signal	Route 33 & Gordon's Lane	Intersection	19.5	B	18.4	B	18.7	B	18.7	B
193-C	Unsignalized	I-64 WB Off-ramp & Nine Mile Road	I-64 Off-ramp R	17.3	C	17.2	C				
195-A	Signal	I-64 EB Ramps & Laburnum Avenue	Intersection	113.2	F	280.9	F	62.6	E	84.8	F
195-B	Signal	I-64 WB Ramps & Laburnum Avenue	Intersection	8.8	A	11.7	B				
205-A	Signal	I-64 EB Ramps & New Kent Highway	Intersection	14.4	B	43.6	D	12.5	B	16.9	B
205-B	Unsignalized	I-64 WB Ramps & New Kent Highway	I-64 Off-ramp LR	30.5	D	808.5	F				
211-A	Unsignalized	I-64 EB Ramps & Emmans Church Road	I-64 Off-ramp LTR	20.3	C	23.8	C				
211-B	Unsignalized	I-64 WB Ramps & Emmans Church Road	I-64 Off-ramp LTR	92.0	F	146.5	F				
214-A	Unsignalized	I-64 EB Ramps & Courthouse Road	I-64 Off-ramp LTR	975.5	F	169.8	F				
214-B	Unsignalized	I-64 WB Ramps & Courthouse Road	I-64 Off-ramp LTR	1768.0	F	432.1	F				
227-A	Unsignalized	I-64 EB Ramps & Old Stage Road	I-64 Off-ramp L	15.3	C	15.0	B				
227-B	Unsignalized	I-64 WB Ramps & Old Stage Road	I-64 Off-ramp L	70.4	F	362.2	F				
231-A	Signal	Croaker Road & Rochambeau Drive	Intersection	227.7	F	249.4	F	110.1	F	77.9	E
231-B	Unsignalized	Croaker Road & Fenton Mill Road	WB Fenton Mill LTR	38.6	E	44.4	E				
231-C	Unsignalized	I-64 WB Off-ramp & Croaker Road	I-64 Off-ramp R	10.4	B	11.4	B				
231-D	Unsignalized	I-64 EB Off-ramp & Croaker Road	I-64 Off-ramp R	16.4	C	19.5	C				
234-A	Unsignalized	I-64 EB Ramps & Newman Road	I-64 Off-ramp LT	*	F	96.0	F				
234-B	Unsignalized	Newman Road & Fenton Mill Road	NB Fenton Mill LTR	13.8	B	17.8	C				
234-C	Unsignalized	I-64 WB Off-ramp & Newman Road	I-64 Off-ramp R	10.3	B	16.6	C				
238-A	Unsignalized	I-64 EB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	386.8	F	793.4	F				
238-B	Signal	I-64 EB On-ramp, Merrimac Trail, & Rochambeau Drive	Intersection	251.8	F	93.7	F	89.7	F	46.7	D
238-C	Unsignalized	I-64 WB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	124.3	F	49.2	E				
238-D	Unsignalized	I-64 EB Off-ramp (right turn) & Merrimac Trail	I-64 Off-ramp R	244.7	F	119.3	F				
243-A	Signal	Busch Gardens Boulevard NB ramps & US Route 60	Intersection	5.8	A	9.9	A				
243-B	Signal	Busch Gardens Boulevard SB ramps & US Route 60	Intersection	8.7	A	9.2	A				
247-A	Unsignalized	I-64 EB Off-ramp & Jefferson Avenue	I-64 Off-ramp LR	977.2	F	170.2	F				
247-B	Signal	Jefferson Ave & Yorktown Road	Intersection	122.9	F	358.0	F	64.7	E	94.8	F
247-C	Unsignalized	I-64 EB On-ramp & Yorktown Road	SB Yorktown L	15.6	C	11.3	B				
247-D	Unsignalized	I-64 WB Off-ramp & Yorktown Road	I-64 Off-ramp L	33.2	D	31.4	D				
250-A	Signal	I-64 WB Off-ramp & Jefferson Avenue	Intersection	21.5	C	103.6	F	21.7	C	35.8	D
250-B	Signal	Jefferson Avenue & Fort Eustis Boulevard	Intersection	436.1	F	282.7	F	34.0	C	28.1	C
255-A	Signal	Jefferson Avenue & Freedom Way/Clair Lane	Intersection	20.0	C	282.6	F			244.3	F
255-B	Signal	Jefferson Avenue & Brick Kiln Blvd/Wal-Mart Way	Intersection	182.0	F	490.5	F	55.0	D	318.7	F

Notes:

³ Delay is given as "seconds per vehicle" (sec/veh). For signalized intersections, the delay and LOS apply to the overall intersection. For unsignalized intersections, the delay and LOS apply to the single critical movement (major street left or minor street approach) with highest delay.

⁴ Approach is controlled by a yield sign but operates as stop-controlled and was analyzed accordingly.

** Delay exceeds range of model.

Table 55: 2040 Alternative 3 Intersection Level of Service – Non-Summer Weekday Peak

Exit – Ramp	Intersection Control	Intersection	Critical Movement ¹	2040 Alternative 3				2040 Alternative 3 - Optimized Signal Timing			
				AM Peak		PM Peak		AM Peak		PM Peak	
				Delay ³	LOS ³	Delay ³	LOS ³	Delay ³	LOS ³	Delay ³	LOS ³
190-A	Unsignalized	5 th Street & I-95 NB On-ramp	SB 5 th Street L	7.8	A	8.1	A				
190-B	Unsignalized	3 rd Street & I-95 SB Off-ramp	3 rd Street L	44.7	E	12.8	B				
192-A	Signal	I-64 WB Off-ramp/Magnolia Street & US 360	Intersection	145.5	F	43.0	D	67.3	E	39.5	D
192-B	Unsignalized	I-64 EB Off-ramp & US 360 ⁴	I-64 Off-ramp R ⁴	13.9	B	10.6	B				
193-A	Unsignalized	I-64 EB Ramps & Nine Mile Road	I-64 Off-ramp R	12.5	B	10.8	B				
193-B	Signal	Route 33 & Gordon's Lane	Intersection	19.5	B	18.4	B	17.5	B	15.7	B
193-C	Unsignalized	I-64 WB Off-ramp & Nine Mile Road	I-64 Off-ramp R	17.0	C	17.0	C				
195-A	Signal	I-64 EB Ramps & Laburnum Avenue	Intersection	49.4	D	215.0	F	40.6	D	206.2	F
195-B	Signal	I-64 WB Ramps & Laburnum Avenue	Intersection	8.2	A	9.6	A				
205-A	Signal	I-64 EB Ramps & New Kent Highway	Intersection	14.5	B	24.7	C	14.3	B	17.4	B
205-B	Unsignalized	I-64 WB Ramps & New Kent Highway	I-64 Off-ramp LR	12.0	B	220.8	F				
211-A	Unsignalized	I-64 EB Ramps & Emmans Church Road	I-64 Off-ramp LTR	16.5	C	19.7	C				
211-B	Unsignalized	I-64 WB Ramps & Emmans Church Road	I-64 Off-ramp LTR	63.5	F	102.4	F				
214-A	Unsignalized	I-64 EB Ramps & Courthouse Road	I-64 Off-ramp LTR	818.8	F	124.1	F				
214-B	Unsignalized	I-64 WB Ramps & Courthouse Road	I-64 Off-ramp LTR	1362.0	F	287.5	F				
227-A	Unsignalized	I-64 EB Ramps & Old Stage Road	I-64 Off-ramp L	15.3	C	14.9	B				
227-B	Unsignalized	I-64 WB Ramps & Old Stage Road	I-64 Off-ramp L	51.9	F	279.7	F				
231-A	Signal	Croaker Road & Rochambeau Drive	Intersection	227.7	F	197.8	F	94.9	F	89.6	F
231-B	Unsignalized	Croaker Road & Fenton Mill Road	WB Fenton Mill LTR	47.5	E	48.9	E				
231-C	Unsignalized	I-64 WB Off-ramp & Croaker Road	I-64 Off-ramp R	10.8	B	11.6	B				
231-D	Unsignalized	I-64 EB Off-ramp & Croaker Road	I-64 Off-ramp R	15.5	C	17.5	C				
234-A	Unsignalized	I-64 EB Ramps & Newman Road	I-64 Off-ramp LT	*	F	*	F				
234-B	Unsignalized	Newman Road & Fenton Mill Road	NB Fenton Mill LTR	15.4	C	26.4	D				
234-C	Unsignalized	I-64 WB Off-ramp & Newman Road	I-64 Off-ramp R	9.5	A	16.5	C				
238-A	Unsignalized	I-64 EB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	402.0	F	1054.0	F				
238-B	Signal	I-64 EB On-ramp, Merrimac Trail, & Rochambeau Drive	Intersection	209.6	F	125.8	F	62.9	E	47.0	D
238-C	Unsignalized	I-64 WB Off-ramp (left turn) & Merrimac Trail	I-64 Off-ramp L	130.4	F	90.5	F				
238-D	Unsignalized	I-64 EB Off-ramp (right turn) & Merrimac Trail	I-64 Off-ramp R	195.6	F	118.9	F				
243-A	Signal	Busch Gardens Boulevard NB ramps & US Route 60	Intersection	5.8	A	9.9	A				
243-B	Signal	Busch Gardens Boulevard SB ramps & US Route 60	Intersection	8.7	A	9.2	A				
247-A	Unsignalized	I-64 EB Off-ramp & Jefferson Avenue	I-64 Off-ramp LR	977.2	F	170.2	F				
247-B	Signal	Jefferson Ave & Yorktown Road	Intersection	122.9	F	358.0	F	72.1	E	173.9	F
247-C	Unsignalized	I-64 EB On-ramp & Yorktown Road	SB Yorktown L	16.0	C	11.7	B				
247-D	Unsignalized	I-64 WB Off-ramp & Yorktown Road	I-64 Off-ramp L	33.2	D	33.5	D				
250-A	Signal	I-64 WB Off-ramp & Jefferson Avenue	Intersection	21.5	C	103.6	F	21.7	C	35.8	D
250-B	Signal	Jefferson Avenue & Fort Eustis Boulevard	Intersection	447.8	F	280.5	F	34.0	C	28.1	C
255-A	Signal	Jefferson Avenue & Freedom Way/Clair Lane	Intersection	19.7	B	275.6	F			244.3	F
255-B	Signal	Jefferson Avenue & Brick Kiln Blvd/Wal-Mart Way	Intersection	160.3	F	483.0	F	55.0	D	318.7	F

Notes:
³ Delay is given as "seconds per vehicle" (sec/veh). For signalized intersections, the delay and LOS apply to the overall intersection. For unsignalized intersections, the delay and LOS apply to the single critical movement (major street left or minor street approach) with highest delay.
⁴ Approach is controlled by a yield sign but operates as stop-controlled and was analyzed accordingly.
 ** Delay exceeds range of model.

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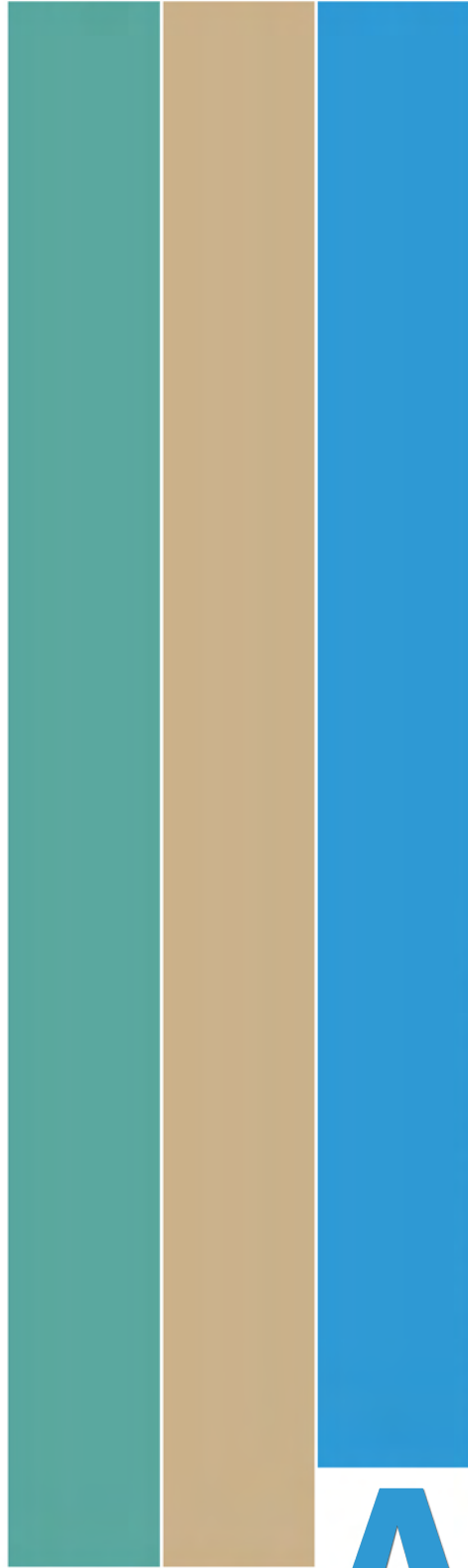
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INTERSTATE 64 PENINSULA STUDY



Base Year Traffic Volume Data

APPENDIX A

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19001

I-64 WB on ramp fm 5th St

Start Time	Mon 02-May-11	Tue 03-May-11	Wed 04-May-11	Thu 05-May-11	Fri 06-May-11	Average Day	Sat 07-May-11	Sun 08-May-11	Week Average
12:00 AM	*	*	19	16	*	18	*	*	18
01:00	*	*	8	12	*	10	*	*	10
02:00	*	*	9	10	*	10	*	*	10
03:00	*	*	7	9	*	8	*	*	8
04:00	*	*	10	10	*	10	*	*	10
05:00	*	*	13	15	*	14	*	*	14
06:00	*	*	34	36	*	35	*	*	35
07:00	*	*	70	46	*	58	*	*	58
08:00	*	*	104	59	*	82	*	*	82
09:00	*	*	99	67	*	83	*	*	83
10:00	*	*	82	82	*	82	*	*	82
11:00	*	*	92	112	*	102	*	*	102
12:00 PM	*	129	110	108	*	116	*	*	116
01:00	*	107	112	*	*	110	*	*	110
02:00	*	135	147	*	*	141	*	*	141
03:00	*	138	143	*	*	140	*	*	140
04:00	*	152	193	*	*	172	*	*	172
05:00	*	147	170	*	*	158	*	*	158
06:00	*	67	97	*	*	82	*	*	82
07:00	*	68	85	*	*	76	*	*	76
08:00	*	59	55	*	*	57	*	*	57
09:00	*	65	59	*	*	62	*	*	62
10:00	*	131	40	*	*	86	*	*	86
11:00	*	24	24	*	*	24	*	*	24
Day Total	0	1222	1782	582	0	1736	0	0	1736
% Avg. WkDay	0.0%	70.4%	102.6%	33.5%	0.0%				
% Avg. Week	0.0%	70.4%	102.6%	33.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	11:00		11:00			11:00
Vol.			104	112		102			102
PM Peak		16:00	16:00	12:00		16:00			16:00
Vol.		152	193	108		172			172
Grand Total	0	1222	1782	582	0	1736	0	0	1736
ADT		ADT 1,782		AADT 1,782					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19002-15

I-64 EB off ramp to 3rd St
WB 3rd St

Start Time	02-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB off	WB 3rd	EB off	WB 3rd	EB off	WB 3rd	EB off	WB 3rd	EB off	WB 3rd	EB off	WB 3rd	EB off	WB 3rd	EB off	WB 3rd
12:00 AM	*	*	*	*	22	17	20	9	*	*	*	*	*	*	21	13
01:00	*	*	*	*	21	11	19	7	*	*	*	*	*	*	20	9
02:00	*	*	*	*	9	6	7	4	*	*	*	*	*	*	8	5
03:00	*	*	*	*	12	9	6	7	*	*	*	*	*	*	9	8
04:00	*	*	*	*	21	4	30	2	*	*	*	*	*	*	26	3
05:00	*	*	*	*	115	25	105	24	*	*	*	*	*	*	110	24
06:00	*	*	*	*	581	59	537	71	*	*	*	*	*	*	559	65
07:00	*	*	*	*	1113	92	1056	168	*	*	*	*	*	*	1084	130
08:00	*	*	*	*	1193	95	1272	132	*	*	*	*	*	*	1232	114
09:00	*	*	*	*	626	94	594	101	*	*	*	*	*	*	610	98
10:00	*	*	*	*	387	91	375	87	*	*	*	*	*	*	381	89
11:00	*	*	*	*	301	76	322	89	*	*	*	*	*	*	312	82
12:00 PM	*	*	*	*	365	86	362	91	*	*	*	*	*	*	364	88
01:00	*	*	340	100	346	101	*	*	*	*	*	*	*	*	343	100
02:00	*	*	294	114	323	97	*	*	*	*	*	*	*	*	308	106
03:00	*	*	293	125	268	123	*	*	*	*	*	*	*	*	280	124
04:00	*	*	285	154	235	136	*	*	*	*	*	*	*	*	260	145
05:00	*	*	246	143	264	142	*	*	*	*	*	*	*	*	255	142
06:00	*	*	283	140	204	97	*	*	*	*	*	*	*	*	244	118
07:00	*	*	144	56	122	81	*	*	*	*	*	*	*	*	133	68
08:00	*	*	83	40	100	46	*	*	*	*	*	*	*	*	92	43
09:00	*	*	37	54	41	42	*	*	*	*	*	*	*	*	39	48
10:00	*	*	46	45	48	37	*	*	*	*	*	*	*	*	47	41
11:00	*	*	51	25	35	17	*	*	*	*	*	*	*	*	43	21
Lane	0	0	2102	996	6752	1584	4705	792	0	0	0	0	0	0	6780	1684
Day	0	0	3098	3098	8336	8336	5497	5497	0	0	0	0	0	0	8464	8464
AM Peak					08:00	08:00	08:00	07:00							08:00	07:00
Vol.					1193	95	1272	168							1232	130
PM Peak			13:00	16:00	12:00	17:00	12:00	12:00							12:00	16:00
Vol.			340	154	365	142	362	91							364	145

Comb. Total	0	3098	8336	5497	0	0	0	8464
ADT	ADT 8,336	AADT 8,336						

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19003-04

I-64 WB to I-95 SB
I-64 WB off ramp to 5th St

Start Time	02-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB to SB	WB off	WB to S	WB off	WB to S	WB off	WB to S	WB off	WB to S	WB off	WB to S	WB off	WB to S	WB off	WB to S	WB off
12:00 AM	*	*	*	*	219	63	219	73	*	*	*	*	*	*	219	68
01:00	*	*	*	*	114	28	104	19	*	*	*	*	*	*	109	24
02:00	*	*	*	*	111	21	86	32	*	*	*	*	*	*	98	26
03:00	*	*	*	*	123	20	114	16	*	*	*	*	*	*	118	18
04:00	*	*	*	*	174	30	175	36	*	*	*	*	*	*	174	33
05:00	*	*	*	*	471	157	514	156	*	*	*	*	*	*	492	156
06:00	*	*	*	*	1187	518	1285	610	*	*	*	*	*	*	1236	564
07:00	*	*	*	*	1500	1027	1177	1149	*	*	*	*	*	*	1338	1088
08:00	*	*	*	*	1351	1060	1426	1198	*	*	*	*	*	*	1388	1129
09:00	*	*	*	*	964	626	1112	707	*	*	*	*	*	*	1038	666
10:00	*	*	*	*	788	409	938	436	*	*	*	*	*	*	863	422
11:00	*	*	864	430	898	386	927	422	*	*	*	*	*	*	896	413
12:00 PM	*	*	954	491	936	460	944	534	*	*	*	*	*	*	945	495
01:00	*	*	1052	498	984	499	*	*	*	*	*	*	*	*	1018	498
02:00	*	*	1177	469	1154	438	*	*	*	*	*	*	*	*	1166	454
03:00	*	*	1270	667	1293	502	*	*	*	*	*	*	*	*	1282	584
04:00	*	*	1480	913	1421	767	*	*	*	*	*	*	*	*	1450	840
05:00	*	*	1274	760	1441	800	*	*	*	*	*	*	*	*	1358	780
06:00	*	*	1157	697	1060	480	*	*	*	*	*	*	*	*	1108	588
07:00	*	*	811	241	768	282	*	*	*	*	*	*	*	*	790	262
08:00	*	*	696	207	604	204	*	*	*	*	*	*	*	*	650	206
09:00	*	*	606	202	585	170	*	*	*	*	*	*	*	*	596	186
10:00	*	*	500	143	556	148	*	*	*	*	*	*	*	*	528	146
11:00	*	*	402	119	377	107	*	*	*	*	*	*	*	*	390	113
Lane	0	0	12243	5837	19079	9202	9021	5388	0	0	0	0	0	0	19250	9759
Day	0		18080		28281		14409		0		0		0		29009	
AM Peak			11:00	11:00	07:00	08:00	08:00	08:00							08:00	08:00
Vol.			864	430	1500	1060	1426	1198							1388	1129
PM Peak			16:00	16:00	17:00	17:00	12:00	12:00							16:00	16:00
Vol.			1480	913	1441	800	944	534							1450	840

Comb. Total	0	18080	28281	14409	0	0	0	29009
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ADT	ADT 28,281	AADT 28,281
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19005-06

I-64 WB on ramp fm 7th St
I-64 EB on ramp fm 7th St

Start Time	02-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB on	EB on	NB on	EB on	NB on	EB on	NB on	EB on	NB on	EB on	NB on	EB on	NB on	EB on	NB on	EB on
12:00 AM	*	*	*	*	40	28	36	29	*	*	*	*	*	*	38	28
01:00	*	*	*	*	25	22	23	29	*	*	*	*	*	*	24	26
02:00	*	*	*	*	23	13	7	11	*	*	*	*	*	*	15	12
03:00	*	*	*	*	6	6	10	9	*	*	*	*	*	*	8	8
04:00	*	*	*	*	8	10	6	12	*	*	*	*	*	*	7	11
05:00	*	*	*	*	12	28	14	30	*	*	*	*	*	*	13	29
06:00	*	*	*	*	34	66	31	54	*	*	*	*	*	*	32	60
07:00	*	*	*	*	100	152	38	144	*	*	*	*	*	*	69	148
08:00	*	*	*	*	79	153	65	149	*	*	*	*	*	*	72	151
09:00	*	*	*	*	87	141	84	126	*	*	*	*	*	*	86	134
10:00	*	*	*	*	161	141	159	139	*	*	*	*	*	*	160	140
11:00	*	*	*	*	213	210	206	243	*	*	*	*	*	*	210	226
12:00 PM	*	*	239	234	246	225	279	293	*	*	*	*	*	*	255	251
01:00	*	*	238	212	218	258	*	*	*	*	*	*	*	*	228	235
02:00	*	*	266	263	249	276	*	*	*	*	*	*	*	*	258	270
03:00	*	*	320	435	368	407	*	*	*	*	*	*	*	*	344	421
04:00	*	*	391	843	464	811	*	*	*	*	*	*	*	*	428	827
05:00	*	*	243	896	423	926	*	*	*	*	*	*	*	*	333	911
06:00	*	*	250	412	329	329	*	*	*	*	*	*	*	*	290	370
07:00	*	*	275	232	261	214	*	*	*	*	*	*	*	*	268	223
08:00	*	*	128	148	141	149	*	*	*	*	*	*	*	*	134	148
09:00	*	*	83	104	62	127	*	*	*	*	*	*	*	*	72	116
10:00	*	*	105	111	39	75	*	*	*	*	*	*	*	*	72	93
11:00	*	*	95	106	59	73	*	*	*	*	*	*	*	*	77	90
Lane	0	0	2633	3996	3647	4840	958	1268	0	0	0	0	0	0	3493	4928
Day	0		6629		8487		2226		0		0		0		8421	
AM Peak					11:00	11:00	11:00	11:00							11:00	11:00
Vol.					213	210	206	243							210	226
PM Peak			16:00	17:00	16:00	17:00	12:00	12:00							16:00	17:00
Vol.			391	896	464	926	279	293							428	911

Comb. Total 0 6629 8487 2226 0 0 0 8421

ADT ADT 8,487 AADT 8,487

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19007-13

I-95 NB off ramp to 7th St
I-95 NB to I-64 EB

Start Time	02-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB off	NB to E	NB off	NB to E	NB off	NB to E	NB off	NB to E	NB off	NB to E	NB off	NB to E	NB off	NB to E	NB off	NB to E
12:00 AM	*	*	*	*	14	226	9	211	*	*	*	*	*	*	12	218
01:00	*	*	*	*	13	121	10	128	*	*	*	*	*	*	12	124
02:00	*	*	*	*	7	101	2	124	*	*	*	*	*	*	4	112
03:00	*	*	*	*	11	149	6	177	*	*	*	*	*	*	8	163
04:00	*	*	*	*	14	231	5	258	*	*	*	*	*	*	10	244
05:00	*	*	*	*	19	476	40	560	*	*	*	*	*	*	30	518
06:00	*	*	*	*	44	445	142	1031	*	*	*	*	*	*	93	738
07:00	*	*	*	*	61	708	310	835	*	*	*	*	*	*	186	772
08:00	*	*	*	*	139	1105	224	1341	*	*	*	*	*	*	182	1223
09:00	*	*	*	*	112	1005	98	1061	*	*	*	*	*	*	105	1033
10:00	*	*	*	*	65	913	88	1020	*	*	*	*	*	*	76	966
11:00	*	*	*	*	58	935	92	1081	*	*	*	*	*	*	75	1008
12:00 PM	*	*	83	1052	75	1033	87	1093	*	*	*	*	*	*	82	1059
01:00	*	*	77	1096	54	1066	92	1198	*	*	*	*	*	*	74	1120
02:00	*	*	91	1230	85	1217	*	*	*	*	*	*	*	*	88	1224
03:00	*	*	115	1595	96	1520	*	*	*	*	*	*	*	*	106	1558
04:00	*	*	107	1752	87	1786	*	*	*	*	*	*	*	*	97	1769
05:00	*	*	145	1506	69	1680	*	*	*	*	*	*	*	*	107	1593
06:00	*	*	130	1219	66	1196	*	*	*	*	*	*	*	*	98	1208
07:00	*	*	46	801	47	831	*	*	*	*	*	*	*	*	46	816
08:00	*	*	45	693	30	654	*	*	*	*	*	*	*	*	38	674
09:00	*	*	53	653	34	627	*	*	*	*	*	*	*	*	44	640
10:00	*	*	35	471	35	467	*	*	*	*	*	*	*	*	35	469
11:00	*	*	35	399	29	377	*	*	*	*	*	*	*	*	32	388
Lane	0	0	962	12467	1264	18869	1205	10118	0	0	0	0	0	0	1640	19637
Day	0		13429		20133		11323		0		0		0		21277	
AM Peak					08:00	08:00	07:00	08:00							07:00	08:00
Vol.					139	1105	310	1341							186	1223
PM Peak			17:00	16:00	15:00	16:00	13:00	13:00							17:00	16:00
Vol.			145	1752	96	1786	92	1198							107	1769

Comb. Total	0	13429	20133	11323	0	0	0	21277
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ADT	ADT 20,133	AADT 20,133
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19201

I-64 WB off ramp to Mechanicsville Rd

Start Time	Mon 04-Apr-11	Tue 05-Apr-11	Wed 06-Apr-11	Thu 07-Apr-11	Fri 08-Apr-11	Average Day	Sat 09-Apr-11	Sun 10-Apr-11	Week Average
12:00 AM	*	52	42	46	*	47	*	*	47
01:00	*	26	10	19	*	18	*	*	18
02:00	*	20	19	20	*	20	*	*	20
03:00	*	19	14	19	*	17	*	*	17
04:00	*	25	27	28	*	27	*	*	27
05:00	*	46	36	60	*	47	*	*	47
06:00	*	127	146	125	*	133	*	*	133
07:00	*	269	375	319	*	321	*	*	321
08:00	*	268	513	273	*	351	*	*	351
09:00	*	207	174	170	*	184	*	*	184
10:00	*	194	190	*	*	192	*	*	192
11:00	*	174	187	*	*	180	*	*	180
12:00 PM	*	179	210	*	*	194	*	*	194
01:00	*	230	213	*	*	222	*	*	222
02:00	*	229	242	*	*	236	*	*	236
03:00	*	260	236	*	*	248	*	*	248
04:00	*	234	252	*	*	243	*	*	243
05:00	*	231	237	*	*	234	*	*	234
06:00	*	223	210	*	*	216	*	*	216
07:00	*	165	192	*	*	178	*	*	178
08:00	*	154	177	*	*	166	*	*	166
09:00	*	106	142	*	*	124	*	*	124
10:00	*	64	87	*	*	76	*	*	76
11:00	*	73	73	*	*	73	*	*	73
Day Total	0	3575	4004	1079	0	3747	0	0	3747
% Avg. WkDay	0.0%	95.4%	106.9%	28.8%	0.0%				
% Avg. Week	0.0%	95.4%	106.9%	28.8%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	08:00	07:00		08:00			08:00
Vol.		269	513	319		351			351
PM Peak		15:00	16:00			15:00			15:00
Vol.		260	252			248			248
Grand Total	0	3575	4004	1079	0	3747	0	0	3747

ADT

ADT 3,790

AADT 3,790

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19202-03

I-64 WB on ramp fm SB Rt 360
I-64 WB on ramp fm NB Rt 360

Start Time	04-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB fm SB	WB fm N	WB fm S	WB fm N	WB fm S	WB fm N	WB fm S	WB fm N	WB fm S	WB fm N	WB fm S	WB fm N	WB fm S	WB fm N	WB fm S	WB fm N
12:00 AM	*	*	84	39	84	36	87	37	*	*	*	*	*	*	85	37
01:00	*	*	55	19	57	10	43	13	*	*	*	*	*	*	52	14
02:00	*	*	55	13	48	9	58	6	*	*	*	*	*	*	54	9
03:00	*	*	62	17	62	6	68	19	*	*	*	*	*	*	64	14
04:00	*	*	108	15	107	22	111	21	*	*	*	*	*	*	109	19
05:00	*	*	339	36	338	31	347	39	*	*	*	*	*	*	341	35
06:00	*	*	903	80	942	82	941	87	*	*	*	*	*	*	929	83
07:00	*	*	1172	97	1072	91	1151	102	*	*	*	*	*	*	1132	97
08:00	*	*	1106	87	998	70	1149	90	*	*	*	*	*	*	1084	82
09:00	*	*	769	107	789	111	777	100	*	*	*	*	*	*	778	106
10:00	*	*	649	101	695	120	*	*	*	*	*	*	*	*	672	110
11:00	*	*	628	111	642	107	*	*	*	*	*	*	*	*	635	109
12:00 PM	*	*	662	113	720	133	*	*	*	*	*	*	*	*	691	123
01:00	*	*	705	108	702	139	*	*	*	*	*	*	*	*	704	124
02:00	*	*	744	173	759	189	*	*	*	*	*	*	*	*	752	181
03:00	*	*	744	189	773	164	*	*	*	*	*	*	*	*	758	176
04:00	*	*	754	163	716	131	*	*	*	*	*	*	*	*	735	147
05:00	*	*	711	153	706	140	*	*	*	*	*	*	*	*	708	146
06:00	*	*	632	140	692	121	*	*	*	*	*	*	*	*	662	130
07:00	*	*	480	114	555	101	*	*	*	*	*	*	*	*	518	108
08:00	*	*	407	94	414	106	*	*	*	*	*	*	*	*	410	100
09:00	*	*	331	69	390	87	*	*	*	*	*	*	*	*	360	78
10:00	*	*	285	53	309	49	*	*	*	*	*	*	*	*	297	51
11:00	*	*	203	39	188	47	*	*	*	*	*	*	*	*	196	43
Lane	0	0	12588	2130	12758	2102	4732	514	0	0	0	0	0	0	12726	2122
Day	0		14718		14860		5246		0		0		0		14848	
AM Peak			07:00	11:00	07:00	10:00	07:00	07:00							07:00	10:00
Vol.			1172	111	1072	120	1151	102							1132	110
PM Peak			16:00	15:00	15:00	14:00									15:00	14:00
Vol.			754	189	773	189									758	181

Comb. Total	0	14718	14860	5246	0	0	0	14848
ADT	ADT 14,789	AADT 14,789						

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19204-05

I-64 EB on ramp fm SB Rt 360
I-64 EB off ramp to SB Rt 360

Start Time	04-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	28	54	21	25	25	29	*	*	*	*	*	*	25	36
01:00	*	*	27	19	21	15	19	20	*	*	*	*	*	*	22	18
02:00	*	*	17	19	10	17	5	12	*	*	*	*	*	*	11	16
03:00	*	*	15	10	11	8	13	10	*	*	*	*	*	*	13	9
04:00	*	*	19	18	23	10	28	10	*	*	*	*	*	*	23	13
05:00	*	*	36	16	33	19	46	22	*	*	*	*	*	*	38	19
06:00	*	*	77	62	84	61	87	55	*	*	*	*	*	*	83	59
07:00	*	*	119	128	139	146	103	126	*	*	*	*	*	*	120	133
08:00	*	*	136	111	131	140	144	142	*	*	*	*	*	*	137	131
09:00	*	*	120	105	133	80	107	94	*	*	*	*	*	*	120	93
10:00	*	*	123	120	156	87	*	*	*	*	*	*	*	*	140	104
11:00	*	*	115	109	123	84	*	*	*	*	*	*	*	*	119	96
12:00 PM	*	*	118	114	144	116	*	*	*	*	*	*	*	*	131	115
01:00	*	*	137	137	146	100	*	*	*	*	*	*	*	*	142	118
02:00	*	*	155	144	174	137	*	*	*	*	*	*	*	*	164	140
03:00	*	*	154	170	182	152	*	*	*	*	*	*	*	*	168	161
04:00	*	*	171	137	197	117	*	*	*	*	*	*	*	*	184	127
05:00	*	*	162	133	189	121	*	*	*	*	*	*	*	*	176	127
06:00	*	*	152	135	162	131	*	*	*	*	*	*	*	*	157	133
07:00	*	*	118	109	138	114	*	*	*	*	*	*	*	*	128	112
08:00	*	*	91	88	117	93	*	*	*	*	*	*	*	*	104	90
09:00	*	*	78	105	101	100	*	*	*	*	*	*	*	*	90	102
10:00	*	*	57	72	66	63	*	*	*	*	*	*	*	*	62	68
11:00	*	*	43	53	45	72	*	*	*	*	*	*	*	*	44	62
Lane	0	0	2268	2168	2546	2008	577	520	0	0	0	0	0	0	2401	2082
Day	0		4436		4554		1097		0		0		0		4483	
AM Peak			08:00	07:00	10:00	07:00	08:00	08:00							10:00	07:00
Vol.			136	128	156	146	144	142							140	133
PM Peak			16:00	15:00	16:00	15:00									16:00	15:00
Vol.			171	170	197	152									184	161

Comb. Total	0	4436	4554	1097	0	0	0	4483
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ADT	ADT 4,495	AADT 4,495
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19206-07

I-64 EB on ramp fm NB Rt 360
I-64 EB off ramp to NB Rt 360

Start Time	04-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	20	132	9	148	13	165	*	*	*	*	*	*	14	148
01:00	*	*	11	69	7	68	9	89	*	*	*	*	*	*	9	75
02:00	*	*	5	70	6	74	5	79	*	*	*	*	*	*	5	74
03:00	*	*	5	50	5	58	2	62	*	*	*	*	*	*	4	57
04:00	*	*	4	67	7	71	6	65	*	*	*	*	*	*	6	68
05:00	*	*	16	140	21	171	13	159	*	*	*	*	*	*	17	157
06:00	*	*	27	373	25	389	30	379	*	*	*	*	*	*	27	380
07:00	*	*	39	784	49	759	55	761	*	*	*	*	*	*	48	768
08:00	*	*	36	526	42	630	38	583	*	*	*	*	*	*	39	580
09:00	*	*	42	512	50	521	51	528	*	*	*	*	*	*	48	520
10:00	*	*	36	538	43	549	*	*	*	*	*	*	*	*	40	544
11:00	*	*	60	553	48	582	*	*	*	*	*	*	*	*	54	568
12:00 PM	*	*	61	689	61	623	*	*	*	*	*	*	*	*	61	656
01:00	*	*	71	668	65	712	*	*	*	*	*	*	*	*	68	690
02:00	*	*	76	744	77	747	*	*	*	*	*	*	*	*	76	746
03:00	*	*	82	1008	70	980	*	*	*	*	*	*	*	*	76	994
04:00	*	*	91	1424	93	1270	*	*	*	*	*	*	*	*	92	1347
05:00	*	*	105	1467	98	1460	*	*	*	*	*	*	*	*	102	1464
06:00	*	*	55	859	60	885	*	*	*	*	*	*	*	*	58	872
07:00	*	*	69	593	55	656	*	*	*	*	*	*	*	*	62	624
08:00	*	*	51	482	60	556	*	*	*	*	*	*	*	*	56	519
09:00	*	*	35	432	39	448	*	*	*	*	*	*	*	*	37	440
10:00	*	*	31	311	25	321	*	*	*	*	*	*	*	*	28	316
11:00	*	*	18	237	26	249	*	*	*	*	*	*	*	*	22	243
Lane	0	0	1046	12728	1041	12927	222	2870	0	0	0	0	0	0	1049	12850
Day	0		13774		13968		3092		0		0		0		13899	
AM Peak			11:00	07:00	09:00	07:00	07:00	07:00							11:00	07:00
Vol.			60	784	50	759	55	761							54	768
PM Peak			17:00	17:00	17:00	17:00									17:00	17:00
Vol.			105	1467	98	1460									102	1464

Comb. Total	0	13774	13968	3092	0	0	0	13899
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ADT	ADT 13,871	AADT 13,871
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19208 #20

Rt 360/Mechanicsville Rd
N of WB on ramp fm NB Rt 360

Start Time	04-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	204	119	213	91	231	120	*	*	*	*	*	*	216	110
01:00	*	*	105	74	110	71	125	52	*	*	*	*	*	*	113	66
02:00	*	*	109	57	95	50	110	31	*	*	*	*	*	*	105	46
03:00	*	*	60	38	70	23	73	44	*	*	*	*	*	*	68	35
04:00	*	*	89	52	98	54	87	58	*	*	*	*	*	*	91	55
05:00	*	*	189	90	218	90	212	108	*	*	*	*	*	*	206	96
06:00	*	*	487	337	485	354	477	343	*	*	*	*	*	*	483	345
07:00	*	*	1011	865	1039	923	990	941	*	*	*	*	*	*	1013	910
08:00	*	*	790	845	922	1107	832	829	*	*	*	*	*	*	848	927
09:00	*	*	809	483	782	476	777	440	*	*	*	*	*	*	789	466
10:00	*	*	822	460	811	478	*	*	*	*	*	*	*	*	816	469
11:00	*	*	864	444	920	498	*	*	*	*	*	*	*	*	892	471
12:00 PM	*	*	1030	503	1069	560	*	*	*	*	*	*	*	*	1050	532
01:00	*	*	1049	556	1075	645	*	*	*	*	*	*	*	*	1062	600
02:00	*	*	1108	581	1140	654	*	*	*	*	*	*	*	*	1124	618
03:00	*	*	1467	635	1449	672	*	*	*	*	*	*	*	*	1458	654
04:00	*	*	1991	706	1932	703	*	*	*	*	*	*	*	*	1962	704
05:00	*	*	2048	709	2184	751	*	*	*	*	*	*	*	*	2116	730
06:00	*	*	1290	668	1344	695	*	*	*	*	*	*	*	*	1317	682
07:00	*	*	937	491	978	561	*	*	*	*	*	*	*	*	958	526
08:00	*	*	804	429	879	459	*	*	*	*	*	*	*	*	842	444
09:00	*	*	649	338	699	396	*	*	*	*	*	*	*	*	674	367
10:00	*	*	459	251	494	283	*	*	*	*	*	*	*	*	476	267
11:00	*	*	347	162	376	177	*	*	*	*	*	*	*	*	362	170
Lane	0	0	18718	9893	19382	10771	3914	2966	0	0	0	0	0	0	19041	10290
Day	0	0	28611	28611	30153	30153	6880	6880	0	0	0	0	0	0	29331	29331
AM Peak			07:00	07:00	07:00	08:00	07:00	07:00							07:00	08:00
Vol.			1011	865	1039	1107	990	941							1013	927
PM Peak			17:00	17:00	17:00	17:00									17:00	17:00
Vol.			2048	709	2184	751									2116	730

Comb. Total	0	28611	30153	6880	0	0	0	29331
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ADT	ADT 29,382	AADT 29,382
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19303-01

I-64 WB on ramp fm SB 9 Mile Rd
I-64 WB off ramp to SB 9 Mile Rd

Start Time	04-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	75	8	63	8	74	13	*	*	*	*	*	*	71	10
01:00	*	*	41	4	35	8	33	10	*	*	*	*	*	*	36	7
02:00	*	*	40	5	32	3	22	7	*	*	*	*	*	*	31	5
03:00	*	*	42	4	39	4	40	5	*	*	*	*	*	*	40	4
04:00	*	*	78	9	80	7	77	5	*	*	*	*	*	*	78	7
05:00	*	*	214	6	235	4	249	5	*	*	*	*	*	*	233	5
06:00	*	*	582	37	619	56	621	48	*	*	*	*	*	*	607	47
07:00	*	*	896	80	911	100	925	85	*	*	*	*	*	*	911	88
08:00	*	*	744	76	696	192	709	94	*	*	*	*	*	*	716	121
09:00	*	*	521	48	566	43	*	*	*	*	*	*	*	*	544	46
10:00	*	*	483	56	431	46	*	*	*	*	*	*	*	*	457	51
11:00	*	*	417	53	475	54	*	*	*	*	*	*	*	*	446	54
12:00 PM	*	*	477	37	464	54	*	*	*	*	*	*	*	*	470	46
01:00	*	*	526	45	508	58	*	*	*	*	*	*	*	*	517	52
02:00	*	*	568	48	594	54	*	*	*	*	*	*	*	*	581	51
03:00	*	*	575	69	606	67	*	*	*	*	*	*	*	*	590	68
04:00	*	*	630	65	586	70	*	*	*	*	*	*	*	*	608	68
05:00	*	*	507	91	544	75	*	*	*	*	*	*	*	*	526	83
06:00	*	*	485	62	491	82	*	*	*	*	*	*	*	*	488	72
07:00	*	*	362	62	411	59	*	*	*	*	*	*	*	*	386	60
08:00	*	*	326	38	358	43	*	*	*	*	*	*	*	*	342	40
09:00	*	*	226	35	264	28	*	*	*	*	*	*	*	*	245	32
10:00	*	*	216	30	214	19	*	*	*	*	*	*	*	*	215	24
11:00	*	*	118	18	146	14	*	*	*	*	*	*	*	*	132	16
Lane	0	0	9149	986	9368	1148	2750	272	0	0	0	0	0	0	9270	1057
Day	0		10135		10516		3022		0		0		0		10327	
AM Peak			07:00	07:00	07:00	08:00	07:00	08:00							07:00	08:00
Vol.			896	80	911	192	925	94							911	121
PM Peak			16:00	17:00	15:00	18:00									16:00	17:00
Vol.			630	91	606	82									608	83

Comb. Total	0	10135	10516	3022	0	0	0	10327
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ADT	ADT 10,326	AADT 10,326
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19302-05

I64 WB on ramp fm NB 9 Mile Rd
I64 WB off ramp to NB 9 Mile Rd

Start Time	04-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	17	4	13	3	14	8	*	*	*	*	*	*	15	5
01:00	*	*	14	2	11	3	14	2	*	*	*	*	*	*	13	2
02:00	*	*	10	4	6	2	8	8	*	*	*	*	*	*	8	5
03:00	*	*	11	3	5	0	9	2	*	*	*	*	*	*	8	2
04:00	*	*	8	0	8	3	5	1	*	*	*	*	*	*	7	1
05:00	*	*	20	5	14	6	20	6	*	*	*	*	*	*	18	6
06:00	*	*	36	31	41	40	31	38	*	*	*	*	*	*	36	36
07:00	*	*	66	39	64	55	63	45	*	*	*	*	*	*	64	46
08:00	*	*	63	47	70	58	62	61	*	*	*	*	*	*	65	55
09:00	*	*	64	39	65	19	*	*	*	*	*	*	*	*	64	29
10:00	*	*	58	26	68	27	*	*	*	*	*	*	*	*	63	26
11:00	*	*	60	33	99	32	*	*	*	*	*	*	*	80	32	32
12:00 PM	*	*	88	41	92	34	*	*	*	*	*	*	*	*	90	38
01:00	*	*	82	38	83	39	*	*	*	*	*	*	*	*	82	38
02:00	*	*	94	36	101	42	*	*	*	*	*	*	*	*	98	39
03:00	*	*	108	42	108	40	*	*	*	*	*	*	*	108	41	41
04:00	*	*	96	23	112	53	*	*	*	*	*	*	*	*	104	38
05:00	*	*	96	34	79	40	*	*	*	*	*	*	*	*	88	37
06:00	*	*	61	42	77	36	*	*	*	*	*	*	*	*	69	39
07:00	*	*	80	22	67	25	*	*	*	*	*	*	*	*	74	24
08:00	*	*	94	28	76	25	*	*	*	*	*	*	*	*	85	26
09:00	*	*	53	26	56	20	*	*	*	*	*	*	*	*	54	23
10:00	*	*	31	12	42	16	*	*	*	*	*	*	*	*	36	14
11:00	*	*	20	11	19	15	*	*	*	*	*	*	*	*	20	13
Lane	0	0	1330	588	1376	633	226	171	0	0	0	0	0	0	1349	615
Day	0		1918		2009		397		0		0		0		1964	
AM Peak			07:00	08:00	11:00	08:00	07:00	08:00							11:00	08:00
Vol.			66	47	99	58	63	61							80	55
PM Peak			15:00	15:00	16:00	16:00									15:00	15:00
Vol.			108	42	112	53									108	41

Comb. Total	0	1918	2009	397	0	0	0	1964
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ADT	ADT 1,964	AADT 1,964
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19304

I-64 EB off ramp to SB 9 Mile Rd

Start Time	Mon 04-Apr-11	Tue 05-Apr-11	Wed 06-Apr-11	Thu 07-Apr-11	Fri 08-Apr-11	Average Day	Sat 09-Apr-11	Sun 10-Apr-11	Week Average
12:00 AM	*	14	25	21	*	20	*	*	20
01:00	*	16	15	8	*	13	*	*	13
02:00	*	7	6	9	*	7	*	*	7
03:00	*	14	8	4	*	9	*	*	9
04:00	*	2	4	9	*	5	*	*	5
05:00	*	10	8	15	*	11	*	*	11
06:00	*	45	40	54	*	46	*	*	46
07:00	*	104	121	90	*	105	*	*	105
08:00	*	112	92	123	*	109	*	*	109
09:00	*	89	97	*	*	93	*	*	93
10:00	*	86	90	*	*	88	*	*	88
11:00	*	91	93	*	*	92	*	*	92
12:00 PM	*	94	79	*	*	86	*	*	86
01:00	*	95	89	*	*	92	*	*	92
02:00	*	103	95	*	*	99	*	*	99
03:00	*	97	98	*	*	98	*	*	98
04:00	*	87	79	*	*	83	*	*	83
05:00	*	120	82	*	*	101	*	*	101
06:00	*	128	117	*	*	122	*	*	122
07:00	*	83	87	*	*	85	*	*	85
08:00	*	74	70	*	*	72	*	*	72
09:00	*	58	63	*	*	60	*	*	60
10:00	*	43	45	*	*	44	*	*	44
11:00	*	24	34	*	*	29	*	*	29
Day Total	0	1596	1537	333	0	1569	0	0	1569
% Avg. WkDay	0.0%	101.7%	98.0%	21.2%	0.0%				
% Avg. Week	0.0%	101.7%	98.0%	21.2%	0.0%	100.0%	0.0%	0.0%	
AM Peak		08:00	07:00	08:00		08:00			08:00
Vol.		112	121	123		109			109
PM Peak		18:00	18:00			18:00			18:00
Vol.		128	117			122			122
Grand Total	0	1596	1537	333	0	1569	0	0	1569
ADT		ADT 1,566		AADT 1,566					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19306-07

I-64 EB on ramp fm NB 9 Mile Rd
I-64 EB off ramp fm NB 9 Mile Rd

Start Time	04-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	21	117	12	110	15	116	*	*	*	*	*	*	16	114
01:00	*	*	13	56	10	49	5	58	*	*	*	*	*	*	9	54
02:00	*	*	11	51	6	45	10	31	*	*	*	*	*	*	9	42
03:00	*	*	8	32	4	36	9	27	*	*	*	*	*	*	7	32
04:00	*	*	9	32	13	37	8	29	*	*	*	*	*	*	10	33
05:00	*	*	22	99	24	83	21	95	*	*	*	*	*	*	22	92
06:00	*	*	50	292	53	291	60	277	*	*	*	*	*	*	54	287
07:00	*	*	70	441	78	447	90	517	*	*	*	*	*	*	79	468
08:00	*	*	84	330	91	382	80	362	*	*	*	*	*	*	85	358
09:00	*	*	61	344	70	289	*	*	*	*	*	*	*	*	66	316
10:00	*	*	73	352	70	335	*	*	*	*	*	*	*	*	72	344
11:00	*	*	94	338	92	326	*	*	*	*	*	*	*	*	93	332
12:00 PM	*	*	91	436	93	397	*	*	*	*	*	*	*	*	92	416
01:00	*	*	106	458	103	375	*	*	*	*	*	*	*	*	104	416
02:00	*	*	114	490	110	464	*	*	*	*	*	*	*	*	112	477
03:00	*	*	140	653	161	544	*	*	*	*	*	*	*	*	150	598
04:00	*	*	196	698	212	713	*	*	*	*	*	*	*	*	204	706
05:00	*	*	142	734	181	748	*	*	*	*	*	*	*	*	162	741
06:00	*	*	116	583	113	556	*	*	*	*	*	*	*	*	114	570
07:00	*	*	85	455	89	492	*	*	*	*	*	*	*	*	87	474
08:00	*	*	80	426	83	388	*	*	*	*	*	*	*	*	82	407
09:00	*	*	60	346	62	364	*	*	*	*	*	*	*	*	61	355
10:00	*	*	42	236	42	218	*	*	*	*	*	*	*	*	42	227
11:00	*	*	27	168	35	203	*	*	*	*	*	*	*	*	31	186
Lane	0	0	1715	8167	1807	7892	298	1512	0	0	0	0	0	0	1763	8045
Day	0		9882		9699		1810		0		0		0		9808	
AM Peak			11:00	07:00	11:00	07:00	07:00	07:00							11:00	07:00
Vol.			94	441	92	447	90	517							93	468
PM Peak			16:00	17:00	16:00	17:00									16:00	17:00
Vol.			196	734	212	748									204	741

Comb. Total	0	9882	9699	1810	0	0	0	9808
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ADT	ADT 9,790	AADT 9,790
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19308

9 Mile Rd
b/t EB off to SB and EB off to NB

Start Time	04-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	62	42	45	36	45	37	*	*	*	*	*	*	51	38
01:00	*	*	35	22	25	23	31	20	*	*	*	*	*	*	30	22
02:00	*	*	23	29	16	11	24	18	*	*	*	*	*	*	21	19
03:00	*	*	24	15	12	22	11	17	*	*	*	*	*	*	16	18
04:00	*	*	17	26	19	29	11	22	*	*	*	*	*	*	16	26
05:00	*	*	31	48	33	38	36	47	*	*	*	*	*	*	33	44
06:00	*	*	105	165	104	175	110	182	*	*	*	*	*	*	106	174
07:00	*	*	159	345	165	365	163	372	*	*	*	*	*	*	162	361
08:00	*	*	180	371	217	554	194	425	*	*	*	*	*	*	197	450
09:00	*	*	223	234	226	239	*	*	*	*	*	*	*	*	224	236
10:00	*	*	222	232	241	239	*	*	*	*	*	*	*	*	232	236
11:00	*	*	265	254	319	259	*	*	*	*	*	*	*	*	292	256
12:00 PM	*	*	320	255	305	302	*	*	*	*	*	*	*	*	312	278
01:00	*	*	309	265	314	285	*	*	*	*	*	*	*	*	312	275
02:00	*	*	330	341	349	339	*	*	*	*	*	*	*	*	340	340
03:00	*	*	388	353	423	366	*	*	*	*	*	*	*	*	406	360
04:00	*	*	451	402	534	418	*	*	*	*	*	*	*	*	492	410
05:00	*	*	519	426	516	409	*	*	*	*	*	*	*	*	518	418
06:00	*	*	325	326	382	365	*	*	*	*	*	*	*	*	354	346
07:00	*	*	303	275	303	310	*	*	*	*	*	*	*	*	303	292
08:00	*	*	281	198	306	222	*	*	*	*	*	*	*	*	294	210
09:00	*	*	197	163	217	148	*	*	*	*	*	*	*	*	207	156
10:00	*	*	102	112	119	117	*	*	*	*	*	*	*	*	110	114
11:00	*	*	76	55	73	74	*	*	*	*	*	*	*	*	74	64
Lane	0	0	4947	4954	5263	5345	625	1140	0	0	0	0	0	0	5102	5143
Day	0	0	9901	9901	10608	10608	1765	1765	0	0	0	0	0	0	10245	10245
AM Peak			11:00	08:00	11:00	08:00	08:00	08:00							11:00	08:00
Vol.			265	371	319	554	194	425							292	450
PM Peak			17:00	17:00	16:00	16:00									17:00	17:00
Vol.			519	426	534	418									518	418

Comb. Total	0	9901	10608	1765	0	0	0	10245
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ADT	ADT 10,254	AADT 10,254
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19501-02 #11

I-64 WB on ramp fm NB Laburnum
I-64 WB off ramp to Laburnum

Start Time	02-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	*	*	77	17	92	11	*	*	*	*	*	*	84	14
01:00	*	*	*	*	53	9	76	9	*	*	*	*	*	*	64	9
02:00	*	*	*	*	46	7	57	10	*	*	*	*	*	*	52	8
03:00	*	*	*	*	61	7	52	3	*	*	*	*	*	*	56	5
04:00	*	*	*	*	89	14	89	10	*	*	*	*	*	*	89	12
05:00	*	*	*	*	160	32	189	27	*	*	*	*	*	*	174	30
06:00	*	*	*	*	362	116	432	105	*	*	*	*	*	*	397	110
07:00	*	*	*	*	561	154	574	209	*	*	*	*	*	*	568	182
08:00	*	*	*	*	471	171	444	166	*	*	*	*	*	*	458	168
09:00	*	*	*	*	378	152	408	151	*	*	*	*	*	*	393	152
10:00	*	*	*	*	422	137	480	133	*	*	*	*	*	*	451	135
11:00	*	*	*	*	458	156	462	195	*	*	*	*	*	*	460	176
12:00 PM	*	*	*	*	503	162	572	135	*	*	*	*	*	*	538	148
01:00	*	*	*	*	571	164	607	153	*	*	*	*	*	*	589	158
02:00	*	*	587	165	594	139	*	*	*	*	*	*	*	*	590	152
03:00	*	*	589	183	629	167	*	*	*	*	*	*	*	*	609	175
04:00	*	*	592	221	575	209	*	*	*	*	*	*	*	*	584	215
05:00	*	*	611	272	568	187	*	*	*	*	*	*	*	*	590	230
06:00	*	*	493	184	469	171	*	*	*	*	*	*	*	*	481	178
07:00	*	*	352	95	374	123	*	*	*	*	*	*	*	*	363	109
08:00	*	*	358	92	336	94	*	*	*	*	*	*	*	*	347	93
09:00	*	*	292	61	248	71	*	*	*	*	*	*	*	*	270	66
10:00	*	*	192	35	220	56	*	*	*	*	*	*	*	*	206	46
11:00	*	*	159	33	151	44	*	*	*	*	*	*	*	*	155	38
Lane	0	0	4225	1341	8376	2559	4534	1317	0	0	0	0	0	0	8568	2609
Day	0	0	5566		10935		5851		0	0	0	0	0	0	11177	
AM Peak					07:00	08:00	07:00	07:00							07:00	07:00
Vol.					561	171	574	209							568	182
PM Peak			17:00	17:00	15:00	16:00	13:00	13:00							15:00	17:00
Vol.			611	272	629	209	607	153							609	230

Comb. Total	0	5566	10935	5851	0	0	0	11177
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ADT	ADT 10,935	AADT 10,935
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19503

I-64 WB on ramp fm SB Laburnum

Start Time	Mon 02-May-11	Tue 03-May-11	Wed 04-May-11	Thu 05-May-11	Fri 06-May-11	Average Day	Sat 07-May-11	Sun 08-May-11	Week Average
12:00 AM	*	*	6	2	*	4	*	*	4
01:00	*	*	1	2	*	2	*	*	2
02:00	*	*	4	2	*	3	*	*	3
03:00	*	*	0	3	*	2	*	*	2
04:00	*	*	5	7	*	6	*	*	6
05:00	*	*	14	12	*	13	*	*	13
06:00	*	*	23	26	*	24	*	*	24
07:00	*	*	68	73	*	70	*	*	70
08:00	*	*	50	48	*	49	*	*	49
09:00	*	*	33	26	*	30	*	*	30
10:00	*	*	22	32	*	27	*	*	27
11:00	*	*	22	29	*	26	*	*	26
12:00 PM	*	*	36	28	*	32	*	*	32
01:00	*	*	31	26	*	28	*	*	28
02:00	*	50	44	*	*	47	*	*	47
03:00	*	40	44	*	*	42	*	*	42
04:00	*	37	42	*	*	40	*	*	40
05:00	*	50	51	*	*	50	*	*	50
06:00	*	32	33	*	*	32	*	*	32
07:00	*	31	13	*	*	22	*	*	22
08:00	*	17	16	*	*	16	*	*	16
09:00	*	13	10	*	*	12	*	*	12
10:00	*	13	18	*	*	16	*	*	16
11:00	*	6	6	*	*	6	*	*	6
Day Total	0	289	592	316	0	599	0	0	599
% Avg. WkDay	0.0%	48.2%	98.8%	52.8%	0.0%				
% Avg. Week	0.0%	48.2%	98.8%	52.8%	0.0%	100.0%	0.0%	0.0%	
AM Peak			07:00	07:00		07:00			07:00
Vol.			68	73		70			70
PM Peak		14:00	17:00	12:00		17:00			17:00
Vol.		50	51	28		50			50
Grand Total	0	289	592	316	0	599	0	0	599

ADT

ADT 592

AADT 592

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19505 #16

I-64 EB off ramp to Laburnum

Start Time	Mon 02-May-11	Tue 03-May-11	Wed 04-May-11	Thu 05-May-11	Fri 06-May-11	Average Day	Sat 07-May-11	Sun 08-May-11	Week Average
12:00 AM	*	*	100	106	*	103	*	*	103
01:00	*	*	56	72	*	64	*	*	64
02:00	*	*	46	75	*	60	*	*	60
03:00	*	*	72	80	*	76	*	*	76
04:00	*	*	82	104	*	93	*	*	93
05:00	*	*	186	245	*	216	*	*	216
06:00	*	*	345	429	*	387	*	*	387
07:00	*	*	554	537	*	546	*	*	546
08:00	*	*	551	623	*	587	*	*	587
09:00	*	*	506	536	*	521	*	*	521
10:00	*	*	480	545	*	512	*	*	512
11:00	*	*	579	667	*	623	*	*	623
12:00 PM	*	*	627	744	*	686	*	*	686
01:00	*	*	652	751	*	702	*	*	702
02:00	*	610	676	*	*	643	*	*	643
03:00	*	758	798	*	*	778	*	*	778
04:00	*	1010	903	*	*	956	*	*	956
05:00	*	871	948	*	*	910	*	*	910
06:00	*	685	683	*	*	684	*	*	684
07:00	*	504	513	*	*	508	*	*	508
08:00	*	416	405	*	*	410	*	*	410
09:00	*	330	332	*	*	331	*	*	331
10:00	*	236	245	*	*	240	*	*	240
11:00	*	201	161	*	*	181	*	*	181
Day Total	0	5621	10500	5514	0	10817	0	0	10817
% Avg. WkDay	0.0%	52.0%	97.1%	51.0%	0.0%				
% Avg. Week	0.0%	52.0%	97.1%	51.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.			11:00 579	11:00 667		11:00 623			11:00 623
PM Peak Vol.		16:00 1010	17:00 948	13:00 751		16:00 956			16:00 956
Grand Total	0	5621	10500	5514	0	10817	0	0	10817

ADT

ADT 10,500

AADT 10,500

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19507 #7

I-64 EB on ramp fm Laburnum

Start Time	Mon 02-May-11	Tue 03-May-11	Wed 04-May-11	Thu 05-May-11	Fri 06-May-11	Average Day	Sat 07-May-11	Sun 08-May-11	Week Average
12:00 AM	*	*	21	17	*	19	*	*	19
01:00	*	*	18	13	*	16	*	*	16
02:00	*	*	7	10	*	8	*	*	8
03:00	*	*	12	5	*	8	*	*	8
04:00	*	*	20	22	*	21	*	*	21
05:00	*	*	57	61	*	59	*	*	59
06:00	*	*	105	125	*	115	*	*	115
07:00	*	*	146	177	*	162	*	*	162
08:00	*	*	191	152	*	172	*	*	172
09:00	*	*	124	160	*	142	*	*	142
10:00	*	*	145	184	*	164	*	*	164
11:00	*	*	170	174	*	172	*	*	172
12:00 PM	*	*	195	237	*	216	*	*	216
01:00	*	*	278	258	*	268	*	*	268
02:00	*	257	201	*	*	229	*	*	229
03:00	*	234	271	*	*	252	*	*	252
04:00	*	370	321	*	*	346	*	*	346
05:00	*	391	326	*	*	358	*	*	358
06:00	*	272	286	*	*	279	*	*	279
07:00	*	192	212	*	*	202	*	*	202
08:00	*	167	173	*	*	170	*	*	170
09:00	*	131	114	*	*	122	*	*	122
10:00	*	66	77	*	*	72	*	*	72
11:00	*	49	38	*	*	44	*	*	44
Day Total	0	2129	3508	1595	0	3616	0	0	3616
% Avg. WkDay	0.0%	58.9%	97.0%	44.1%	0.0%				
% Avg. Week	0.0%	58.9%	97.0%	44.1%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.			08:00 191	10:00 184		08:00 172			08:00 172
PM Peak Vol.		17:00 391	17:00 326	13:00 258		17:00 358			17:00 358
Grand Total	0	2129	3508	1595	0	3616	0	0	3616
ADT		ADT 3,508		AADT 3,508					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19509 #9

Laburnum Ave
N of I-64 exit 195

Start Time	02-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	86	79	120	85	*	*	*	*	*	*	103	82
01:00	*	*	*	*	58	48	61	48	*	*	*	*	*	*	60	48
02:00	*	*	*	*	39	34	49	39	*	*	*	*	*	*	44	36
03:00	*	*	*	*	38	54	44	56	*	*	*	*	*	*	41	55
04:00	*	*	*	*	55	84	43	78	*	*	*	*	*	*	49	81
05:00	*	*	*	*	92	157	86	172	*	*	*	*	*	*	89	164
06:00	*	*	*	*	288	355	329	377	*	*	*	*	*	*	308	366
07:00	*	*	*	*	681	604	731	668	*	*	*	*	*	*	706	636
08:00	*	*	*	*	627	610	641	616	*	*	*	*	*	*	634	613
09:00	*	*	*	*	461	526	551	579	*	*	*	*	*	*	506	552
10:00	*	*	*	*	567	542	613	631	*	*	*	*	*	*	590	586
11:00	*	*	*	*	582	598	634	688	*	*	*	*	*	*	608	643
12:00 PM	*	*	*	*	688	734	805	829	*	*	*	*	*	*	746	782
01:00	*	*	*	*	772	705	857	768	*	*	*	*	*	*	814	736
02:00	*	*	911	755	825	851	*	*	*	*	*	*	*	*	868	803
03:00	*	*	1005	845	969	900	*	*	*	*	*	*	*	*	987	872
04:00	*	*	1042	947	1045	939	*	*	*	*	*	*	*	*	1044	943
05:00	*	*	1167	1012	1071	960	*	*	*	*	*	*	*	*	1119	986
06:00	*	*	915	882	832	816	*	*	*	*	*	*	*	*	874	849
07:00	*	*	745	679	683	671	*	*	*	*	*	*	*	*	714	675
08:00	*	*	677	516	592	513	*	*	*	*	*	*	*	*	634	514
09:00	*	*	387	443	412	424	*	*	*	*	*	*	*	*	400	434
10:00	*	*	307	287	306	266	*	*	*	*	*	*	*	*	306	276
11:00	*	*	223	159	241	171	*	*	*	*	*	*	*	*	232	165
Lane	0	0	7379	6525	12010	11641	5564	5634	0	0	0	0	0	0	12476	11897
Day	0	0	13904	13904	23651	23651	11198	11198	0	0	0	0	0	0	24373	24373
AM Peak					07:00	08:00	07:00	11:00							07:00	11:00
Vol.					681	610	731	688							706	643
PM Peak			17:00	17:00	17:00	17:00	13:00	12:00							17:00	17:00
Vol.			1167	1012	1071	960	857	829							1119	986

Comb. Total	0	13904	23651	11198	0	0	0	24373
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ADT	ADT 23,651	AADT 23,651
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INTERMODAL ENGINEERING

I-64 EIS counts
Exit 197 - Airport Drive

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19701-02

I-64 WB on ramp fm NB Airport Dr
I-64 WB off ramp to NB Airport Dr

Start Time	16-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	*	*	230	4	250	2	*	*	*	*	*	*	240	3
01:00	*	*	*	*	47	3	89	3	*	*	*	*	*	*	68	3
02:00	*	*	*	*	16	4	23	1	*	*	*	*	*	*	20	2
03:00	*	*	*	*	25	4	24	5	*	*	*	*	*	*	24	4
04:00	*	*	*	*	54	7	70	10	*	*	*	*	*	*	62	8
05:00	*	*	*	*	172	27	163	24	*	*	*	*	*	*	168	26
06:00	*	*	*	*	308	39	292	43	*	*	*	*	*	*	300	41
07:00	*	*	*	*	381	65	404	76	*	*	*	*	*	*	392	70
08:00	*	*	*	*	323	59	302	58	*	*	*	*	*	*	312	58
09:00	*	*	*	*	303	53	319	34	*	*	*	*	*	*	311	44
10:00	*	*	*	*	310	33	306	47	*	*	*	*	*	*	308	40
11:00	*	*	*	*	325	45	361	41	*	*	*	*	*	*	343	43
12:00 PM	*	*	*	*	372	44	417	42	*	*	*	*	*	*	394	43
01:00	*	*	*	*	295	38	358	50	*	*	*	*	*	*	326	44
02:00	*	*	325	55	388	43	429	57	*	*	*	*	*	*	381	52
03:00	*	*	369	47	329	54	408	59	*	*	*	*	*	*	369	53
04:00	*	*	341	53	421	59	468	64	*	*	*	*	*	*	410	59
05:00	*	*	394	49	405	66	450	56	*	*	*	*	*	*	416	57
06:00	*	*	283	40	285	44	371	37	*	*	*	*	*	*	313	40
07:00	*	*	264	30	286	30	353	24	*	*	*	*	*	*	301	28
08:00	*	*	212	18	204	11	249	20	*	*	*	*	*	*	222	16
09:00	*	*	175	13	232	19	290	23	*	*	*	*	*	*	232	18
10:00	*	*	176	14	128	13	173	24	*	*	*	*	*	*	159	17
11:00	*	*	191	6	285	17	281	13	*	*	*	*	*	*	252	12
Lane	0	0	2730	325	6124	781	6850	813	0	0	0	0	0	0	6323	781
Day	0	0	3055	3055	6905	6905	7663	7663	0	0	0	0	0	0	7104	7104
AM Peak					07:00	07:00	07:00	07:00							07:00	07:00
Vol.					381	65	404	76							392	70
PM Peak			17:00	14:00	16:00	17:00	16:00	16:00							17:00	16:00
Vol.			394	55	421	66	468	64							416	59

Comb. Total	0	3055	6905	7663	0	0	0	7104
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ADT	ADT 7,284	AADT 7,284
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INTERMODAL ENGINEERING

I-64 EIS counts
Exit 197 - Airport Drive

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19703-04

I-64 WB on ramp fm SB Airport
I-64 WB off ramp to SB Airport

Start Time	16-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	*	*	32	23	34	26	*	*	*	*	*	*	33	24
01:00	*	*	*	*	17	14	18	18	*	*	*	*	*	*	18	16
02:00	*	*	*	*	41	10	26	11	*	*	*	*	*	*	34	10
03:00	*	*	*	*	28	25	28	32	*	*	*	*	*	*	28	28
04:00	*	*	*	*	31	70	35	65	*	*	*	*	*	*	33	68
05:00	*	*	*	*	111	85	135	116	*	*	*	*	*	*	123	100
06:00	*	*	*	*	377	156	420	149	*	*	*	*	*	*	398	152
07:00	*	*	*	*	590	183	566	208	*	*	*	*	*	*	578	196
08:00	*	*	*	*	391	179	423	193	*	*	*	*	*	*	407	186
09:00	*	*	*	*	254	154	221	131	*	*	*	*	*	*	238	142
10:00	*	*	*	*	187	131	178	120	*	*	*	*	*	*	182	126
11:00	*	*	*	*	164	146	185	148	*	*	*	*	*	*	174	147
12:00 PM	*	*	*	*	179	133	172	139	*	*	*	*	*	*	176	136
01:00	*	*	*	*	196	133	220	141	*	*	*	*	*	*	208	137
02:00	*	*	251	125	239	165	258	143	*	*	*	*	*	*	249	144
03:00	*	*	229	139	231	151	229	177	*	*	*	*	*	*	230	156
04:00	*	*	302	129	294	166	302	169	*	*	*	*	*	*	299	155
05:00	*	*	262	153	274	167	262	162	*	*	*	*	*	*	266	161
06:00	*	*	245	106	211	116	258	144	*	*	*	*	*	*	238	122
07:00	*	*	143	67	167	68	165	73	*	*	*	*	*	*	158	69
08:00	*	*	101	55	126	69	176	58	*	*	*	*	*	*	134	61
09:00	*	*	95	42	93	49	116	79	*	*	*	*	*	*	101	57
10:00	*	*	90	63	94	60	109	60	*	*	*	*	*	*	98	61
11:00	*	*	33	24	52	29	*	*	*	*	*	*	*	*	42	26
Lane	0	0	1751	903	4379	2482	4536	2562	0	0	0	0	0	0	4445	2480
Day	0		2654		6861		7098		0		0		0		6925	
AM Peak					07:00	07:00	07:00	07:00							07:00	07:00
Vol.					590	183	566	208							578	196
PM Peak			16:00	17:00	16:00	17:00	16:00	15:00							16:00	17:00
Vol.			302	153	294	167	302	177							299	161

Comb. Total	0	2654	6861	7098	0	0	0	6925
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ADT	ADT 6,994	AADT 6,994
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INTERMODAL ENGINEERING

I-64 EIS counts
Exit 197 - Airport Drive

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19705-06

I-64 EB on ramp fm SB Airport Dr
I-64 EB off ramp to SB Airport Dr

Start Time	16-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	*	*	7	66	5	65	*	*	*	*	*	*	6	66
01:00	*	*	*	*	1	23	4	28	*	*	*	*	*	*	2	26
02:00	*	*	*	*	4	26	5	28	*	*	*	*	*	*	4	27
03:00	*	*	*	*	3	51	1	56	*	*	*	*	*	*	2	54
04:00	*	*	*	*	8	173	8	179	*	*	*	*	*	*	8	176
05:00	*	*	*	*	12	332	20	326	*	*	*	*	*	*	16	329
06:00	*	*	*	*	38	268	40	256	*	*	*	*	*	*	39	262
07:00	*	*	*	*	57	313	47	332	*	*	*	*	*	*	52	322
08:00	*	*	*	*	27	299	37	329	*	*	*	*	*	*	32	314
09:00	*	*	*	*	42	309	20	327	*	*	*	*	*	*	31	318
10:00	*	*	*	*	29	274	26	339	*	*	*	*	*	*	28	306
11:00	*	*	*	*	35	346	36	399	*	*	*	*	*	*	36	372
12:00 PM	*	*	*	*	32	328	33	385	*	*	*	*	*	*	32	356
01:00	*	*	*	*	30	328	31	414	*	*	*	*	*	*	30	371
02:00	*	*	40	347	31	435	46	491	*	*	*	*	*	*	39	424
03:00	*	*	41	395	39	421	48	500	*	*	*	*	*	*	43	439
04:00	*	*	53	506	62	513	66	637	*	*	*	*	*	60	552	
05:00	*	*	57	445	54	456	67	534	*	*	*	*	*	*	59	478
06:00	*	*	40	278	40	293	36	368	*	*	*	*	*	*	39	313
07:00	*	*	16	237	17	217	28	259	*	*	*	*	*	*	20	238
08:00	*	*	21	146	15	168	20	195	*	*	*	*	*	*	19	170
09:00	*	*	13	171	13	144	16	168	*	*	*	*	*	*	14	161
10:00	*	*	13	128	5	142	6	166	*	*	*	*	*	*	8	145
11:00	*	*	6	123	5	157	14	170	*	*	*	*	*	*	8	150
Lane	0	0	300	2776	606	6082	660	6951	0	0	0	0	0	0	627	6369
Day	0		3076		6688		7611		0		0		0		6996	
AM Peak					07:00	11:00	07:00	11:00							07:00	11:00
Vol.					57	346	47	399							52	372
PM Peak			17:00	16:00	16:00	16:00	17:00	16:00							16:00	16:00
Vol.			57	506	62	513	67	637							60	552

Comb. Total	0	3076	6688	7611	0	0	0	6996
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ADT	ADT 7,150	AADT 7,150
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INTERMODAL ENGINEERING

I-64 EIS counts
Exit 197 - Airport Rd

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19707

I-64 EB on ramp fm NB Airport Rd

Start Time	Mon 16-May-11	Tue 17-May-11	Wed 18-May-11	Thu 19-May-11	Fri 20-May-11	Average Day	Sat 21-May-11	Sun 22-May-11	Week Average
12:00 AM	*	*	42	0	*	21	*	*	21
01:00	*	*	30	0	*	15	*	*	15
02:00	*	*	15	0	*	8	*	*	8
03:00	*	*	30	0	*	15	*	*	15
04:00	*	*	48	0	*	24	*	*	24
05:00	*	*	82	0	*	41	*	*	41
06:00	*	*	143	0	*	72	*	*	72
07:00	*	*	143	0	*	72	*	*	72
08:00	*	*	145	0	*	72	*	*	72
09:00	*	*	143	0	*	72	*	*	72
10:00	*	*	116	0	*	58	*	*	58
11:00	*	*	177	0	*	88	*	*	88
12:00 PM	*	*	170	0	*	85	*	*	85
01:00	*	*	153	0	*	76	*	*	76
02:00	*	162	155	0	*	106	*	*	106
03:00	*	203	208	0	*	137	*	*	137
04:00	*	249	250	0	*	166	*	*	166
05:00	*	241	0	0	*	80	*	*	80
06:00	*	145	0	0	*	48	*	*	48
07:00	*	120	0	0	*	40	*	*	40
08:00	*	88	0	0	*	29	*	*	29
09:00	*	69	0	0	*	23	*	*	23
10:00	*	67	0	0	*	22	*	*	22
11:00	*	70	0	0	*	23	*	*	23
Day Total	0	1414	2050	0	0	1393	0	0	1393
% Avg. WkDay	0.0%	101.5%	147.2%	0.0%	0.0%				
% Avg. Week	0.0%	101.5%	147.2%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak			11:00			11:00			11:00
Vol.			177			88			88
PM Peak		16:00	16:00			16:00			16:00
Vol.		249	250			166			166
Grand Total	0	1414	2050	0	0	1393	0	0	1393
ADT		ADT 4,780				AADT 4,780			

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 197 - Airport Rd

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19708

I-64 EB off ramp to NB Airport Rd

Start Time	Mon 16-May-11	Tue 17-May-11	Wed 18-May-11	Thu 19-May-11	Fri 20-May-11	Average Day	Sat 21-May-11	Sun 22-May-11	Week Average
12:00 AM	*	*	57	53	*	55	*	*	55
01:00	*	*	22	39	*	30	*	*	30
02:00	*	*	25	19	*	22	*	*	22
03:00	*	*	22	24	*	23	*	*	23
04:00	*	*	15	22	*	18	*	*	18
05:00	*	*	83	77	*	80	*	*	80
06:00	*	*	123	142	*	132	*	*	132
07:00	*	*	232	225	*	228	*	*	228
08:00	*	*	166	180	*	173	*	*	173
09:00	*	*	133	127	*	130	*	*	130
10:00	*	*	173	147	*	160	*	*	160
11:00	*	*	180	172	*	176	*	*	176
12:00 PM	*	*	180	189	*	184	*	*	184
01:00	*	*	192	194	*	193	*	*	193
02:00	*	216	234	207	*	219	*	*	219
03:00	*	313	352	345	*	337	*	*	337
04:00	*	412	413	402	*	409	*	*	409
05:00	*	447	473	478	*	466	*	*	466
06:00	*	284	273	318	*	292	*	*	292
07:00	*	193	199	177	*	190	*	*	190
08:00	*	194	190	201	*	195	*	*	195
09:00	*	151	153	173	*	159	*	*	159
10:00	*	104	130	131	*	122	*	*	122
11:00	*	73	104	95	*	91	*	*	91
Day Total	0	2387	4124	4137	0	4084	0	0	4084
% Avg. WkDay	0.0%	58.4%	101.0%	101.3%	0.0%				
% Avg. Week	0.0%	58.4%	101.0%	101.3%	0.0%	100.0%	0.0%	0.0%	
AM Peak			07:00	07:00		07:00			07:00
Vol.			232	225		228			228
PM Peak		17:00	17:00	17:00		17:00			17:00
Vol.		447	473	478		466			466
Grand Total	0	2387	4124	4137	0	4084	0	0	4084
ADT		ADT 4,130		ADT 4,130					

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 197 - Airport Rd

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #19709

Airport Rd
N of EB on/off ramp fm/to NB/SB Airport

Start Time	30-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	195	109	339	113	*	*	*	*	*	*	267	111
01:00	*	*	*	*	213	57	122	73	*	*	*	*	*	*	168	65
02:00	*	*	*	*	56	54	69	63	*	*	*	*	*	*	62	58
03:00	*	*	*	*	73	94	71	89	*	*	*	*	*	*	72	92
04:00	*	*	*	*	113	195	136	192	*	*	*	*	*	*	124	194
05:00	*	*	*	*	301	373	335	387	*	*	*	*	*	*	318	380
06:00	*	*	*	*	524	650	558	637	*	*	*	*	*	*	541	644
07:00	*	*	*	*	770	849	796	864	*	*	*	*	*	*	783	856
08:00	*	*	*	*	701	858	677	826	*	*	*	*	*	*	689	842
09:00	*	*	*	*	677	646	648	614	*	*	*	*	*	*	662	630
10:00	*	*	*	*	650	609	643	559	*	*	*	*	*	*	646	584
11:00	*	*	*	*	691	629	680	665	*	*	*	*	*	*	686	647
12:00 PM	*	*	854	624	846	633	776	628	*	*	*	*	*	*	825	628
01:00	*	*	769	659	708	664	742	668	*	*	*	*	*	*	740	664
02:00	*	*	825	720	816	734	940	726	*	*	*	*	*	*	860	727
03:00	*	*	1013	707	952	710	930	748	*	*	*	*	*	*	965	722
04:00	*	*	1097	808	1020	753	1044	873	*	*	*	*	*	*	1054	811
05:00	*	*	1145	717	1009	815	1072	891	*	*	*	*	*	*	1075	808
06:00	*	*	700	565	738	654	921	703	*	*	*	*	*	*	786	641
07:00	*	*	700	460	675	455	788	535	*	*	*	*	*	*	721	483
08:00	*	*	498	317	509	414	566	374	*	*	*	*	*	*	524	368
09:00	*	*	440	284	486	319	553	320	*	*	*	*	*	*	493	308
10:00	*	*	316	229	334	261	478	261	*	*	*	*	*	*	376	250
11:00	*	*	371	178	331	168	434	222	*	*	*	*	*	*	379	189
Lane	0	0	8728	6268	13388	11703	14318	12031	0	0	0	0	0	0	13816	11702
Day	0		14996		25091		26349		0		0		0		25518	
AM Peak					07:00	08:00	07:00	07:00							07:00	07:00
Vol.					770	858	796	864							783	856
PM Peak			17:00	16:00	16:00	17:00	17:00	17:00							17:00	16:00
Vol.			1145	808	1020	815	1072	891							1075	811

Comb. Total	0	14996	25091	26349	0	0	0	25518
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ADT	ADT 25,720	AADT 25,720
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INTERMODAL ENGINEERING

I-64 EIS counts
Exit 200 - I-295

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #20001

I-64 WB on ramp fm NB I-295

Start Time	Mon 16-May-11	Tue 17-May-11	Wed 18-May-11	Thu 19-May-11	Fri 20-May-11	Average Day	Sat 21-May-11	Sun 22-May-11	Week Average
12:00 AM	*	*	29	28	*	28	*	*	28
01:00	*	*	16	35	*	26	*	*	26
02:00	*	*	28	16	*	22	*	*	22
03:00	*	*	13	22	*	18	*	*	18
04:00	*	*	53	43	*	48	*	*	48
05:00	*	*	93	111	*	102	*	*	102
06:00	*	*	291	275	*	283	*	*	283
07:00	*	*	429	449	*	439	*	*	439
08:00	*	*	294	304	*	299	*	*	299
09:00	*	*	173	194	*	184	*	*	184
10:00	*	*	138	171	*	154	*	*	154
11:00	*	*	149	169	*	159	*	*	159
12:00 PM	*	*	152	*	*	152	*	*	152
01:00	*	151	142	*	*	146	*	*	146
02:00	*	137	185	*	*	161	*	*	161
03:00	*	220	211	*	*	216	*	*	216
04:00	*	192	195	*	*	194	*	*	194
05:00	*	219	214	*	*	216	*	*	216
06:00	*	145	141	*	*	143	*	*	143
07:00	*	84	85	*	*	84	*	*	84
08:00	*	55	72	*	*	64	*	*	64
09:00	*	61	51	*	*	56	*	*	56
10:00	*	43	40	*	*	42	*	*	42
11:00	*	76	78	*	*	77	*	*	77
Day Total	0	1383	3272	1817	0	3313	0	0	3313
% Avg. WkDay	0.0%	41.7%	98.8%	54.8%	0.0%				
% Avg. Week	0.0%	41.7%	98.8%	54.8%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.			07:00 429	07:00 449		07:00 439			07:00 439
PM Peak Vol.		15:00 220	17:00 214			15:00 216			15:00 216
Grand Total	0	1383	3272	1817	0	3313	0	0	3313

ADT

ADT 3,272

AADT 3,272

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 200 - I-295

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #20002

I-64 WB off ramp to SB I-295

Start Time	Mon 16-May-11	Tue 17-May-11	Wed 18-May-11	Thu 19-May-11	Fri 20-May-11	Average Day	Sat 21-May-11	Sun 22-May-11	Week Average
12:00 AM	*	*	33	31	*	32	*	*	32
01:00	*	*	19	13	*	16	*	*	16
02:00	*	*	22	34	*	28	*	*	28
03:00	*	*	32	*	*	32	*	*	32
04:00	*	*	49	*	*	49	*	*	49
05:00	*	*	118	*	*	118	*	*	118
06:00	*	*	333	*	*	333	*	*	333
07:00	*	*	427	*	*	427	*	*	427
08:00	*	*	309	*	*	309	*	*	309
09:00	*	*	268	*	*	268	*	*	268
10:00	*	*	230	*	*	230	*	*	230
11:00	*	*	256	*	*	256	*	*	256
12:00 PM	*	*	235	*	*	235	*	*	235
01:00	*	227	335	*	*	281	*	*	281
02:00	*	275	253	*	*	264	*	*	264
03:00	*	257	316	*	*	286	*	*	286
04:00	*	331	378	*	*	354	*	*	354
05:00	*	362	409	*	*	386	*	*	386
06:00	*	255	233	*	*	244	*	*	244
07:00	*	139	150	*	*	144	*	*	144
08:00	*	130	150	*	*	140	*	*	140
09:00	*	96	122	*	*	109	*	*	109
10:00	*	89	86	*	*	88	*	*	88
11:00	*	66	62	*	*	64	*	*	64
Day Total	0	2227	4825	78	0	4693	0	0	4693
% Avg. WkDay	0.0%	47.5%	102.8%	1.7%	0.0%				
% Avg. Week	0.0%	47.5%	102.8%	1.7%	0.0%	100.0%	0.0%	0.0%	
AM Peak			07:00	02:00		07:00			07:00
Vol.			427	34		427			427
PM Peak		17:00	17:00			17:00			17:00
Vol.		362	409			386			386
Grand Total	0	2227	4825	78	0	4693	0	0	4693
ADT		ADT 4,825				AADT 4,825			

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 200 - I-295

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #20003-06

I-64 EB on ramp fm SB I-295
I-64 EB off ramp to SB I-295

Start Time	16-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	*	*	4	39	1	50	*	*	*	*	*	*	2	44
01:00	*	*	*	*	0	17	1	23	*	*	*	*	*	*	0	20
02:00	*	*	*	*	3	14	0	22	*	*	*	*	*	*	2	18
03:00	*	*	*	*	1	18	2	17	*	*	*	*	*	*	2	18
04:00	*	*	*	*	2	38	2	35	*	*	*	*	*	*	2	36
05:00	*	*	*	*	11	77	2	72	*	*	*	*	*	*	6	74
06:00	*	*	*	*	5	151	9	179	*	*	*	*	*	*	7	165
07:00	*	*	*	*	4	199	6	236	*	*	*	*	*	*	5	218
08:00	*	*	*	*	8	149	8	163	*	*	*	*	*	*	8	156
09:00	*	*	*	*	7	138	15	174	*	*	*	*	*	*	11	156
10:00	*	*	*	*	9	112	12	128	*	*	*	*	*	*	10	120
11:00	*	*	*	*	9	166	3	166	*	*	*	*	*	*	6	166
12:00 PM	*	*	*	*	12	159	12	162	*	*	*	*	*	*	12	160
01:00	*	*	9	156	15	147	12	159	*	*	*	*	*	*	12	154
02:00	*	*	8	235	15	267	11	233	*	*	*	*	*	*	11	245
03:00	*	*	14	231	19	268	18	261	*	*	*	*	*	*	17	253
04:00	*	*	17	348	10	357	12	334	*	*	*	*	*	*	13	346
05:00	*	*	8	371	3	401	8	387	*	*	*	*	*	*	6	386
06:00	*	*	15	187	6	206	15	209	*	*	*	*	*	*	12	201
07:00	*	*	4	132	2	120	7	133	*	*	*	*	*	*	4	128
08:00	*	*	1	115	4	115	8	93	*	*	*	*	*	*	4	108
09:00	*	*	5	114	5	109	*	*	*	*	*	*	*	*	5	112
10:00	*	*	7	95	1	86	*	*	*	*	*	*	*	*	4	90
11:00	*	*	5	61	1	57	*	*	*	*	*	*	*	*	3	59
Lane	0	0	93	2045	156	3410	164	3236	0	0	0	0	0	0	164	3433
Day	0		2138		3566		3400		0		0		0		3597	
AM Peak					05:00	07:00	09:00	07:00							09:00	07:00
Vol.					11	199	15	236							11	218
PM Peak			16:00	17:00	15:00	17:00	15:00	17:00							15:00	17:00
Vol.			17	371	19	401	18	387							17	386

Comb. Total	0	2138	3566	3400	0	0	0	3597
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ADT	ADT 3,566	AADT 3,566
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INTERMODAL ENGINEERING

I-64 EIS counts
Exit 200 - I-295

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #20004

I-64 EB off ramp to NB I-295

Start Time	Mon 16-May-11	Tue 17-May-11	Wed 18-May-11	Thu 19-May-11	Fri 20-May-11	Average Day	Sat 21-May-11	Sun 22-May-11	Week Average
12:00 AM	*	*	6	11	*	8	*	*	8
01:00	*	*	7	7	*	7	*	*	7
02:00	*	*	7	7	*	7	*	*	7
03:00	*	*	16	6	*	11	*	*	11
04:00	*	*	8	7	*	8	*	*	8
05:00	*	*	10	10	*	10	*	*	10
06:00	*	*	22	26	*	24	*	*	24
07:00	*	*	29	37	*	33	*	*	33
08:00	*	*	39	34	*	36	*	*	36
09:00	*	*	47	27	*	37	*	*	37
10:00	*	*	49	35	*	42	*	*	42
11:00	*	*	36	45	*	40	*	*	40
12:00 PM	*	*	51	43	*	47	*	*	47
01:00	*	34	32	45	*	37	*	*	37
02:00	*	45	49	43	*	46	*	*	46
03:00	*	53	62	67	*	61	*	*	61
04:00	*	69	59	55	*	61	*	*	61
05:00	*	72	71	94	*	79	*	*	79
06:00	*	41	39	44	*	41	*	*	41
07:00	*	25	33	23	*	27	*	*	27
08:00	*	14	14	30	*	19	*	*	19
09:00	*	11	18	22	*	17	*	*	17
10:00	*	10	14	12	*	12	*	*	12
11:00	*	15	15	24	*	18	*	*	18
Day Total	0	389	733	754	0	728	0	0	728
% Avg. WkDay	0.0%	53.4%	100.7%	103.6%	0.0%				
% Avg. Week	0.0%	53.4%	100.7%	103.6%	0.0%	100.0%	0.0%	0.0%	
AM Peak			10:00	11:00		10:00			10:00
Vol.			49	45		42			42
PM Peak		17:00	17:00	17:00		17:00			17:00
Vol.		72	71	94		79			79
Grand Total	0	389	733	754	0	728	0	0	728

ADT

ADT 744

AADT 744

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 200 - I-295

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #20005

I-64 WB on ramp fm SB I-295

Start Time	Mon 16-May-11	Tue 17-May-11	Wed 18-May-11	Thu 19-May-11	Fri 20-May-11	Average Day	Sat 21-May-11	Sun 22-May-11	Week Average
12:00 AM	*	*	3	5	*	4	*	*	4
01:00	*	*	3	2	*	2	*	*	2
02:00	*	*	8	2	*	5	*	*	5
03:00	*	*	0	1	*	0	*	*	0
04:00	*	*	0	4	*	2	*	*	2
05:00	*	*	7	12	*	10	*	*	10
06:00	*	*	33	24	*	28	*	*	28
07:00	*	*	30	29	*	30	*	*	30
08:00	*	*	42	39	*	40	*	*	40
09:00	*	*	33	23	*	28	*	*	28
10:00	*	*	20	17	*	18	*	*	18
11:00	*	*	18	29	*	24	*	*	24
12:00 PM	*	*	15	29	*	22	*	*	22
01:00	*	37	22	17	*	25	*	*	25
02:00	*	36	20	33	*	30	*	*	30
03:00	*	27	17	35	*	26	*	*	26
04:00	*	20	28	34	*	27	*	*	27
05:00	*	24	36	46	*	35	*	*	35
06:00	*	21	18	15	*	18	*	*	18
07:00	*	7	13	15	*	12	*	*	12
08:00	*	10	11	13	*	11	*	*	11
09:00	*	12	13	25	*	17	*	*	17
10:00	*	13	14	16	*	14	*	*	14
11:00	*	8	7	6	*	7	*	*	7
Day Total	0	215	411	471	0	435	0	0	435
% Avg. WkDay	0.0%	49.4%	94.5%	108.3%	0.0%				
% Avg. Week	0.0%	49.4%	94.5%	108.3%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			42	39		40			40
PM Peak		13:00	17:00	17:00		17:00			17:00
Vol.		37	36	46		35			35
Grand Total	0	215	411	471	0	435	0	0	435

ADT

ADT 441

AADT 441

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23401-02

I-64 WB on ramp fm SB Rt 199
I-64 WB off ramp to SB Rt 199

Start Time	09-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	1	15	1	17	2	14	*	*	*	*	*	*	1	15
01:00	*	*	0	14	0	12	0	11	*	*	*	*	*	*	0	12
02:00	*	*	3	8	5	6	3	16	*	*	*	*	*	*	4	10
03:00	*	*	1	14	4	9	3	8	*	*	*	*	*	*	3	10
04:00	*	*	3	18	4	20	1	21	*	*	*	*	*	*	3	20
05:00	*	*	5	48	5	48	5	48	*	*	*	*	*	*	5	48
06:00	*	*	27	239	25	232	25	213	*	*	*	*	*	*	26	228
07:00	*	*	27	318	37	313	33	322	*	*	*	*	*	*	32	318
08:00	*	*	28	326	30	358	34	350	*	*	*	*	*	*	31	345
09:00	*	*	17	267	23	281	29	289	*	*	*	*	*	*	23	279
10:00	*	*	12	308	19	258	14	308	*	*	*	*	*	*	15	291
11:00	*	*	21	330	14	281	11	305	*	*	*	*	*	*	15	305
12:00 PM	*	*	17	313	24	301	26	320	*	*	*	*	*	*	22	311
01:00	*	*	21	257	15	308	25	314	*	*	*	*	*	*	20	293
02:00	*	*	21	305	30	352	*	*	*	*	*	*	*	*	26	328
03:00	*	*	37	406	23	368	*	*	*	*	*	*	*	*	30	387
04:00	*	*	17	474	18	435	*	*	*	*	*	*	*	*	18	454
05:00	*	*	23	472	24	476	*	*	*	*	*	*	*	*	24	474
06:00	*	*	19	299	16	297	*	*	*	*	*	*	*	*	18	298
07:00	*	*	15	158	19	193	*	*	*	*	*	*	*	*	17	176
08:00	*	*	12	111	5	128	*	*	*	*	*	*	*	*	8	120
09:00	*	*	7	96	13	100	*	*	*	*	*	*	*	*	10	98
10:00	*	*	5	76	5	53	*	*	*	*	*	*	*	*	5	64
11:00	*	*	1	41	7	43	*	*	*	*	*	*	*	*	4	42
Lane	0	0	340	4913	366	4889	211	2539	0	0	0	0	0	0	360	4926
Day	0	0	5253		5255		2750		0	0	0	0	0	0	5286	
AM Peak			08:00	11:00	07:00	08:00	08:00	08:00							07:00	08:00
Vol.			28	330	37	358	34	350							32	345
PM Peak			15:00	16:00	14:00	17:00	12:00	12:00							15:00	17:00
Vol.			37	474	30	476	26	320							30	474

Comb. Total	0	5253	5255	2750	0	0	0	5286
ADT	ADT 5,254	AADT 5,254						

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23403-04

I-64 WB on ramp fm NB Rt 199
I-64 WB off ramp to NB Rt 199

Start Time	09-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	36	2	25	6	35	7	*	*	*	*	*	*	32	5
01:00	*	*	26	3	22	1	17	3	*	*	*	*	*	*	22	2
02:00	*	*	16	0	14	2	11	3	*	*	*	*	*	*	14	2
03:00	*	*	20	0	23	1	24	1	*	*	*	*	*	*	22	1
04:00	*	*	40	1	36	0	46	0	*	*	*	*	*	*	41	0
05:00	*	*	105	6	89	6	99	5	*	*	*	*	*	*	98	6
06:00	*	*	264	11	274	14	268	14	*	*	*	*	*	*	269	13
07:00	*	*	411	33	415	27	408	26	*	*	*	*	*	*	411	29
08:00	*	*	366	23	381	32	407	37	*	*	*	*	*	*	385	31
09:00	*	*	339	28	306	30	387	24	*	*	*	*	*	*	344	27
10:00	*	*	301	29	305	42	341	24	*	*	*	*	*	*	316	32
11:00	*	*	315	29	359	39	383	28	*	*	*	*	*	*	352	32
12:00 PM	*	*	384	35	377	52	430	40	*	*	*	*	*	*	397	42
01:00	*	*	380	27	407	40	472	34	*	*	*	*	*	*	420	34
02:00	*	*	445	36	388	49	*	*	*	*	*	*	*	*	416	42
03:00	*	*	518	67	560	70	*	*	*	*	*	*	*	*	539	68
04:00	*	*	566	84	568	99	*	*	*	*	*	*	*	*	567	92
05:00	*	*	569	94	612	69	*	*	*	*	*	*	*	*	590	82
06:00	*	*	400	59	401	71	*	*	*	*	*	*	*	*	400	65
07:00	*	*	295	44	311	47	*	*	*	*	*	*	*	*	303	46
08:00	*	*	282	28	327	37	*	*	*	*	*	*	*	*	304	32
09:00	*	*	231	27	205	24	*	*	*	*	*	*	*	*	218	26
10:00	*	*	90	16	119	11	*	*	*	*	*	*	*	*	104	14
11:00	*	*	71	13	72	16	*	*	*	*	*	*	*	*	72	14
Lane	0	0	6470	695	6596	785	3328	246	0	0	0	0	0	0	6636	737
Day	0	0	7165		7381		3574		0	0	0	0	0	0	7373	
AM Peak			07:00	07:00	07:00	10:00	07:00	08:00							07:00	10:00
Vol.			411	33	415	42	408	37							411	32
PM Peak			17:00	17:00	17:00	16:00	13:00	12:00							17:00	16:00
Vol.			569	94	612	99	472	40							590	92

Comb. Total	0	7165	7381	3574	0	0	0	7373
ADT	ADT 2,273	AADT 7,273						

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23406

I-64 EB on ramp

Start Time	Mon 09-May-11	Tue 10-May-11	Wed 11-May-11	Thu 12-May-11	Fri 13-May-11	Average Day	Sat 14-May-11	Sun 15-May-11	Week Average
12:00 AM	*	21	33	27	*	27	*	*	27
01:00	*	18	16	18	*	17	*	*	17
02:00	*	15	5	13	*	11	*	*	11
03:00	*	15	15	12	*	14	*	*	14
04:00	*	44	39	41	*	41	*	*	41
05:00	*	145	141	138	*	141	*	*	141
06:00	*	378	347	342	*	356	*	*	356
07:00	*	503	517	469	*	496	*	*	496
08:00	*	386	369	338	*	364	*	*	364
09:00	*	271	294	335	*	300	*	*	300
10:00	*	300	295	286	*	294	*	*	294
11:00	*	295	297	308	*	300	*	*	300
12:00 PM	*	286	319	298	*	301	*	*	301
01:00	*	316	302	316	*	311	*	*	311
02:00	*	369	348	*	*	358	*	*	358
03:00	*	362	397	*	*	380	*	*	380
04:00	*	390	376	*	*	383	*	*	383
05:00	*	375	425	*	*	400	*	*	400
06:00	*	293	290	*	*	292	*	*	292
07:00	*	220	183	*	*	202	*	*	202
08:00	*	165	167	*	*	166	*	*	166
09:00	*	124	131	*	*	128	*	*	128
10:00	*	79	75	*	*	77	*	*	77
11:00	*	49	41	*	*	45	*	*	45
Day Total	0	5419	5422	2941	0	5404	0	0	5404
% Avg. WkDay	0.0%	100.3%	100.3%	54.4%	0.0%				
% Avg. Week	0.0%	100.3%	100.3%	54.4%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	07:00		07:00			07:00
Vol.		503	517	469		496			496
PM Peak		16:00	17:00	13:00		17:00			17:00
Vol.		390	425	316		400			400
Grand Total	0	5419	5422	2941	0	5404	0	0	5404

ADT

ADT 5,420

AADT 5,420

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23407

I-64 EB off ramp

Start Time	Mon 09-May-11	Tue 10-May-11	Wed 11-May-11	Thu 12-May-11	Fri 13-May-11	Average Day	Sat 14-May-11	Sun 15-May-11	Week Average
12:00 AM	*	37	39	32	*	36	*	*	36
01:00	*	18	36	24	*	26	*	*	26
02:00	*	17	12	22	*	17	*	*	17
03:00	*	20	12	20	*	17	*	*	17
04:00	*	37	29	35	*	34	*	*	34
05:00	*	64	81	82	*	76	*	*	76
06:00	*	353	324	313	*	330	*	*	330
07:00	*	571	555	538	*	555	*	*	555
08:00	*	600	592	611	*	601	*	*	601
09:00	*	439	472	527	*	479	*	*	479
10:00	*	422	398	449	*	423	*	*	423
11:00	*	402	441	490	*	444	*	*	444
12:00 PM	*	395	429	454	*	426	*	*	426
01:00	*	413	384	433	*	410	*	*	410
02:00	*	396	426	*	*	411	*	*	411
03:00	*	502	476	*	*	489	*	*	489
04:00	*	506	584	*	*	545	*	*	545
05:00	*	626	610	*	*	618	*	*	618
06:00	*	465	504	*	*	484	*	*	484
07:00	*	257	281	*	*	269	*	*	269
08:00	*	224	199	*	*	212	*	*	212
09:00	*	144	174	*	*	159	*	*	159
10:00	*	137	114	*	*	126	*	*	126
11:00	*	66	71	*	*	68	*	*	68
Day Total	0	7111	7243	4030	0	7255	0	0	7255
% Avg. WkDay	0.0%	98.0%	99.8%	55.5%	0.0%				
% Avg. Week	0.0%	98.0%	99.8%	55.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak		08:00	08:00	08:00		08:00			08:00
Vol.		600	592	611		601			601
PM Peak		17:00	17:00	12:00		17:00			17:00
Vol.		626	610	454		618			618
Grand Total	0	7111	7243	4030	0	7255	0	0	7255

ADT

ADT 7,177

AADT 7,177

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23409

Rt 199 NB, S of EB on/off ramps
Rt 199 SB, S of EB on/off ramps

Start Time	09-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	46	19	33	26	42	21	*	*	*	*	*	*	40	22
01:00	*	*	35	17	38	18	22	14	*	*	*	*	*	*	32	16
02:00	*	*	19	11	17	11	13	17	*	*	*	*	*	*	16	13
03:00	*	*	19	14	27	11	25	11	*	*	*	*	*	*	24	12
04:00	*	*	43	21	37	28	47	27	*	*	*	*	*	*	42	25
05:00	*	*	112	75	99	73	105	71	*	*	*	*	*	*	105	73
06:00	*	*	281	336	291	318	290	296	*	*	*	*	*	*	287	317
07:00	*	*	485	490	464	481	462	462	*	*	*	*	*	*	470	478
08:00	*	*	424	514	472	564	475	502	*	*	*	*	*	*	457	527
09:00	*	*	439	413	420	431	466	455	*	*	*	*	*	*	442	433
10:00	*	*	399	411	410	399	449	435	*	*	*	*	*	*	419	415
11:00	*	*	436	444	471	393	496	429	*	*	*	*	*	*	468	422
12:00 PM	*	*	509	440	507	449	566	472	*	*	*	*	*	*	527	454
01:00	*	*	509	393	520	448	623	421	*	*	*	*	*	*	551	421
02:00	*	*	581	434	532	466	*	*	*	*	*	*	*	*	556	450
03:00	*	*	707	523	727	480	*	*	*	*	*	*	*	*	717	502
04:00	*	*	762	579	750	551	*	*	*	*	*	*	*	*	756	565
05:00	*	*	772	594	856	605	*	*	*	*	*	*	*	814	600	
06:00	*	*	601	403	582	439	*	*	*	*	*	*	*	*	592	421
07:00	*	*	447	246	464	283	*	*	*	*	*	*	*	*	456	264
08:00	*	*	390	214	461	193	*	*	*	*	*	*	*	*	426	204
09:00	*	*	334	141	294	149	*	*	*	*	*	*	*	*	314	145
10:00	*	*	125	102	159	74	*	*	*	*	*	*	*	*	142	88
11:00	*	*	92	54	94	60	*	*	*	*	*	*	*	*	93	57
Lane	0	0	8567	6888	8725	6950	4081	3633	0	0	0	0	0	0	8746	6924
Day	0		15455		15675		7714		0		0	0	0		15670	
AM Peak			07:00	08:00	08:00	08:00	11:00	08:00							07:00	08:00
Vol.			485	514	472	564	496	502							470	527
PM Peak			17:00	17:00	17:00	17:00	13:00	12:00							17:00	17:00
Vol.			772	594	856	605	623	472							814	600

Comb. Total	0	15455	15675	7714	0	0	0	15670
ADT	ADT 15,565	AADT 15,565						

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23801

I-64 WB off ramp to Rt 143 NB
I-64 WB off ramp to Rt 143 SB

Start Time	09-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB off NB	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S
12:00 AM	*	*	1	29	0	35	1	25	*	*	*	*	*	*	1	30
01:00	*	*	2	9	1	21	1	20	*	*	*	*	*	*	1	17
02:00	*	*	0	10	0	12	0	15	*	*	*	*	*	*	0	12
03:00	*	*	1	11	1	10	1	11	*	*	*	*	*	*	1	11
04:00	*	*	3	16	2	16	2	12	*	*	*	*	*	*	2	15
05:00	*	*	27	42	23	43	24	42	*	*	*	*	*	*	25	42
06:00	*	*	25	220	28	244	33	217	*	*	*	*	*	*	29	227
07:00	*	*	30	332	30	358	28	327	*	*	*	*	*	*	29	339
08:00	*	*	8	320	7	337	14	334	*	*	*	*	*	*	10	330
09:00	*	*	11	221	12	229	7	271	*	*	*	*	*	*	10	240
10:00	*	*	8	258	16	271	9	203	*	*	*	*	*	*	11	244
11:00	*	*	9	226	15	273	12	292	*	*	*	*	*	*	12	264
12:00 PM	*	*	4	233	13	265	8	269	*	*	*	*	*	*	8	256
01:00	*	*	7	235	7	248	*	*	*	*	*	*	*	*	7	242
02:00	*	*	9	276	10	270	*	*	*	*	*	*	*	*	10	273
03:00	*	*	6	322	6	326	*	*	*	*	*	*	*	*	6	324
04:00	*	*	5	390	6	391	*	*	*	*	*	*	*	*	6	390
05:00	*	*	4	378	3	401	*	*	*	*	*	*	*	*	4	390
06:00	*	*	2	268	3	276	*	*	*	*	*	*	*	*	2	272
07:00	*	*	2	162	3	213	*	*	*	*	*	*	*	*	2	188
08:00	*	*	2	142	2	127	*	*	*	*	*	*	*	*	2	134
09:00	*	*	7	114	6	124	*	*	*	*	*	*	*	*	6	119
10:00	*	*	2	112	0	106	*	*	*	*	*	*	*	*	1	109
11:00	*	*	0	35	2	64	*	*	*	*	*	*	*	*	1	50
Lane	0	0	175	4361	196	4660	140	2038	0	0	0	0	0	0	186	4518
Day	0	0	4536	4856	4856	2178	2178	2178	0	0	0	0	0	0	4704	4704
AM Peak			07:00	07:00	07:00	07:00	06:00	08:00							06:00	07:00
Vol.			30	332	30	358	33	334							29	339
PM Peak			14:00	16:00	12:00	17:00	12:00	12:00							14:00	16:00
Vol.			9	390	13	401	8	269							10	390

Comb. Total	0	4536	4856	2178	0	0	0	4704
ADT	ADT 4,696	AADT 4,696						

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23802

I-64 WB on ramp fm NB Rt 143

Start Time	Mon 09-May-11	Tue 10-May-11	Wed 11-May-11	Thu 12-May-11	Fri 13-May-11	Average Day	Sat 14-May-11	Sun 15-May-11	Week Average
12:00 AM	*	14	19	16	*	16	*	*	16
01:00	*	7	10	9	*	9	*	*	9
02:00	*	9	6	7	*	7	*	*	7
03:00	*	7	7	8	*	7	*	*	7
04:00	*	11	17	19	*	16	*	*	16
05:00	*	51	44	47	*	47	*	*	47
06:00	*	115	109	120	*	115	*	*	115
07:00	*	159	174	176	*	170	*	*	170
08:00	*	149	170	195	*	171	*	*	171
09:00	*	139	161	159	*	153	*	*	153
10:00	*	119	140	168	*	142	*	*	142
11:00	*	146	118	176	*	147	*	*	147
12:00 PM	*	141	148	150	*	146	*	*	146
01:00	*	135	184	200	*	173	*	*	173
02:00	*	202	191	234	*	209	*	*	209
03:00	*	249	245	232	*	242	*	*	242
04:00	*	267	254	297	*	273	*	*	273
05:00	*	286	318	303	*	302	*	*	302
06:00	*	172	184	*	*	178	*	*	178
07:00	*	101	131	*	*	116	*	*	116
08:00	*	100	118	*	*	109	*	*	109
09:00	*	77	99	*	*	88	*	*	88
10:00	*	52	61	*	*	56	*	*	56
11:00	*	29	26	*	*	28	*	*	28
Day Total	0	2737	2934	2516	0	2920	0	0	2920
% Avg. WkDay	0.0%	93.7%	100.5%	86.2%	0.0%				
% Avg. Week	0.0%	93.7%	100.5%	86.2%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	08:00		08:00			08:00
Vol.		159	174	195		171			171
PM Peak		17:00	17:00	17:00		17:00			17:00
Vol.		286	318	303		302			302
Grand Total	0	2737	2934	2516	0	2920	0	0	2920

ADT

ADT 2,836

AADT 2,836

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23803

I-64 WB on ramp fm SB Rt 143

Start Time	Mon 09-May-11	Tue 10-May-11	Wed 11-May-11	Thu 12-May-11	Fri 13-May-11	Average Day	Sat 14-May-11	Sun 15-May-11	Week Average	
12:00 AM	*	0	0	1	*	0	*	*	0	
01:00	*	0	0	0	*	0	*	*	0	
02:00	*	0	1	0	*	0	*	*	0	
03:00	*	0	0	1	*	0	*	*	0	
04:00	*	1	0	1	*	1	*	*	1	
05:00	*	2	3	1	*	2	*	*	2	
06:00	*	4	2	5	*	4	*	*	4	
07:00	*	9	4	6	*	6	*	*	6	
08:00	*	7	9	8	*	8	*	*	8	
09:00	*	8	5	7	*	7	*	*	7	
10:00	*	9	10	22	*	14	*	*	14	
11:00	*	15	10	10	*	12	*	*	12	
12:00 PM	*	27	9	17	*	18	*	*	18	
01:00	*	14	10	17	*	14	*	*	14	
02:00	*	23	31	*	*	27	*	*	27	
03:00	*	64	45	*	*	54	*	*	54	
04:00	*	68	59	*	*	64	*	*	64	
05:00	*	26	22	*	*	24	*	*	24	
06:00	*	12	11	*	*	12	*	*	12	
07:00	*	6	11	*	*	8	*	*	8	
08:00	*	4	1	*	*	2	*	*	2	
09:00	*	0	6	*	*	3	*	*	3	
10:00	*	2	7	*	*	4	*	*	4	
11:00	*	1	0	*	*	0	*	*	0	
Day Total	0	302	256	96	0	284	0	0	284	
% Avg. WkDay	0.0%	106.3%	90.1%	33.8%	0.0%					
% Avg. Week	0.0%	106.3%	90.1%	33.8%	0.0%	100.0%	0.0%	0.0%		
AM Peak		11:00	10:00	10:00		10:00			10:00	
Vol.		15	10	22		14			14	
PM Peak		16:00	16:00	12:00		16:00			16:00	
Vol.		68	59	17		64			64	
Grand Total		0	302	256	96	0	284	0	0	284

ADT

ADT 279

AADT 279

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23805

I-64 EB off ramp to Rt 143

Start Time	Mon 09-May-11	Tue 10-May-11	Wed 11-May-11	Thu 12-May-11	Fri 13-May-11	Average Day	Sat 14-May-11	Sun 15-May-11	Week Average
12:00 AM	*	27	19	23	*	23	*	*	23
01:00	*	6	10	13	*	10	*	*	10
02:00	*	7	7	14	*	9	*	*	9
03:00	*	8	8	11	*	9	*	*	9
04:00	*	17	18	14	*	16	*	*	16
05:00	*	89	90	81	*	87	*	*	87
06:00	*	196	190	206	*	197	*	*	197
07:00	*	313	341	362	*	339	*	*	339
08:00	*	305	288	329	*	307	*	*	307
09:00	*	194	212	213	*	206	*	*	206
10:00	*	184	182	190	*	185	*	*	185
11:00	*	184	190	209	*	194	*	*	194
12:00 PM	*	192	188	221	*	200	*	*	200
01:00	*	165	150	*	*	158	*	*	158
02:00	*	163	193	*	*	178	*	*	178
03:00	*	216	241	*	*	228	*	*	228
04:00	*	215	228	*	*	222	*	*	222
05:00	*	229	264	*	*	246	*	*	246
06:00	*	178	201	*	*	190	*	*	190
07:00	*	116	162	*	*	139	*	*	139
08:00	*	98	127	*	*	112	*	*	112
09:00	*	92	90	*	*	91	*	*	91
10:00	*	68	56	*	*	62	*	*	62
11:00	*	35	42	*	*	38	*	*	38
Day Total	0	3297	3497	1886	0	3446	0	0	3446
% Avg. WkDay	0.0%	95.7%	101.5%	54.7%	0.0%				
% Avg. Week	0.0%	95.7%	101.5%	54.7%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	07:00		07:00			07:00
Vol.		313	341	362		339			339
PM Peak		17:00	17:00	12:00		17:00			17:00
Vol.		229	264	221		246			246
Grand Total	0	3297	3497	1886	0	3446	0	0	3446

ADT

ADT 3,397

AADT 3,397

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23807

I-64 EB on ramp

Start Time	Mon 09-May-11	Tue 10-May-11	Wed 11-May-11	Thu 12-May-11	Fri 13-May-11	Average Day	Sat 14-May-11	Sun 15-May-11	Week Average
12:00 AM	*	42	38	52	*	44	*	*	44
01:00	*	11	24	25	*	20	*	*	20
02:00	*	12	8	17	*	12	*	*	12
03:00	*	13	14	22	*	16	*	*	16
04:00	*	22	34	34	*	30	*	*	30
05:00	*	92	77	98	*	89	*	*	89
06:00	*	215	242	214	*	224	*	*	224
07:00	*	357	348	346	*	350	*	*	350
08:00	*	246	302	220	*	256	*	*	256
09:00	*	202	210	208	*	207	*	*	207
10:00	*	208	245	214	*	222	*	*	222
11:00	*	231	221	264	*	239	*	*	239
12:00 PM	*	222	281	274	*	259	*	*	259
01:00	*	307	291	333	*	310	*	*	310
02:00	*	384	378	*	*	381	*	*	381
03:00	*	408	452	*	*	430	*	*	430
04:00	*	389	393	*	*	391	*	*	391
05:00	*	394	382	*	*	388	*	*	388
06:00	*	322	267	*	*	294	*	*	294
07:00	*	195	210	*	*	202	*	*	202
08:00	*	180	174	*	*	177	*	*	177
09:00	*	205	215	*	*	210	*	*	210
10:00	*	110	125	*	*	118	*	*	118
11:00	*	115	94	*	*	104	*	*	104
Day Total	0	4882	5025	2321	0	4973	0	0	4973
% Avg. WkDay	0.0%	98.2%	101.0%	46.7%	0.0%				
% Avg. Week	0.0%	98.2%	101.0%	46.7%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	07:00		07:00			07:00
Vol.		357	348	346		350			350
PM Peak		15:00	15:00	13:00		15:00			15:00
Vol.		408	452	333		430			430
Grand Total	0	4882	5025	2321	0	4973	0	0	4973
ADT		ADT 4,954				AADT 4,954			

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23809

Rt 143 NB at EB off ramp b/t NB and SB
Rt 143 SB at EB off ramp b/t NB and SB

Start Time	09-May-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	17	33	20	38	18	27	*	*	*	*	*	*	18	33
01:00	*	*	9	12	11	23	10	22	*	*	*	*	*	*	10	19
02:00	*	*	9	11	7	12	8	16	*	*	*	*	*	*	8	13
03:00	*	*	9	13	9	10	10	11	*	*	*	*	*	*	9	11
04:00	*	*	16	17	20	17	20	12	*	*	*	*	*	*	19	15
05:00	*	*	85	41	77	39	83	38	*	*	*	*	*	*	82	39
06:00	*	*	181	233	158	266	186	229	*	*	*	*	*	*	175	243
07:00	*	*	254	374	271	402	261	374	*	*	*	*	*	262	383	
08:00	*	*	176	387	200	380	237	359	*	*	*	*	*	*	204	375
09:00	*	*	162	254	176	268	172	306	*	*	*	*	*	*	170	276
10:00	*	*	135	298	160	309	177	253	*	*	*	*	*	*	157	287
11:00	*	*	173	271	157	342	197	355	*	*	*	*	*	*	176	323
12:00 PM	*	*	186	278	196	307	205	338	*	*	*	*	*	*	196	308
01:00	*	*	156	268	230	286	*	*	*	*	*	*	*	*	193	277
02:00	*	*	217	389	217	360	*	*	*	*	*	*	*	*	217	374
03:00	*	*	290	432	273	440	*	*	*	*	*	*	*	*	282	436
04:00	*	*	274	516	273	519	*	*	*	*	*	*	*	274	518	
05:00	*	*	304	470	335	493	*	*	*	*	*	*	*	320	482	
06:00	*	*	204	332	218	330	*	*	*	*	*	*	*	*	211	331
07:00	*	*	151	204	156	250	*	*	*	*	*	*	*	*	154	227
08:00	*	*	132	162	138	150	*	*	*	*	*	*	*	*	135	156
09:00	*	*	97	120	112	135	*	*	*	*	*	*	*	*	104	128
10:00	*	*	59	123	70	124	*	*	*	*	*	*	*	*	64	124
11:00	*	*	31	41	28	66	*	*	*	*	*	*	*	*	30	54
Lane	0	0	3327	5279	3512	5566	1584	2340	0	0	0	0	0	0	3470	5432
Day	0		8606		9078		3924		0		0		0		8902	
AM Peak			07:00	08:00	07:00	07:00	07:00	07:00							07:00	07:00
Vol.			254	387	271	402	261	374							262	383
PM Peak			17:00	16:00	17:00	16:00	12:00	12:00							17:00	16:00
Vol.			304	516	335	519	205	338							320	518

Comb. Total	0	8606	9078	3924	0	0	0	8902
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ADT	ADT 8,842	AADT 8,842						
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24201-02

I-64 WB on ramp fm EB Rt 199
I-64 WB off ramp to EB Rt 199

Start Time	25-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	15	15	15	5	8	9	*	*	*	*	*	*	13	10
01:00	*	*	5	13	4	12	6	14	*	*	*	*	*	*	5	13
02:00	*	*	6	7	2	12	2	11	*	*	*	*	*	*	3	10
03:00	*	*	3	11	6	12	9	13	*	*	*	*	*	*	6	12
04:00	*	*	4	14	6	12	7	23	*	*	*	*	*	*	6	16
05:00	*	*	16	76	15	67	20	68	*	*	*	*	*	*	17	70
06:00	*	*	70	299	52	286	61	294	*	*	*	*	*	*	61	293
07:00	*	*	74	206	68	199	88	193	*	*	*	*	*	*	77	199
08:00	*	*	77	168	77	191	77	148	*	*	*	*	*	*	77	169
09:00	*	*	83	123	100	112	60	103	*	*	*	*	*	*	81	113
10:00	*	*	80	102	90	98	*	*	*	*	*	*	*	*	85	100
11:00	*	*	87	123	124	139	*	*	*	*	*	*	*	*	106	131
12:00 PM	*	*	93	150	96	124	*	*	*	*	*	*	*	*	94	137
01:00	112	123	115	110	101	131	*	*	*	*	*	*	*	*	109	121
02:00	113	99	169	108	113	126	*	*	*	*	*	*	*	*	132	111
03:00	143	131	142	118	143	142	*	*	*	*	*	*	*	*	143	130
04:00	157	151	159	136	157	141	*	*	*	*	*	*	*	*	158	143
05:00	128	123	148	131	163	135	*	*	*	*	*	*	*	*	146	130
06:00	85	87	75	81	95	99	*	*	*	*	*	*	*	*	85	89
07:00	60	66	52	64	48	52	*	*	*	*	*	*	*	*	53	61
08:00	36	48	49	45	42	47	*	*	*	*	*	*	*	*	42	47
09:00	31	25	31	25	31	37	*	*	*	*	*	*	*	*	31	29
10:00	18	31	35	28	11	25	*	*	*	*	*	*	*	*	21	28
11:00	29	27	25	16	24	16	*	*	*	*	*	*	*	*	26	20
Lane	912	911	1613	2169	1583	2220	338	876	0	0	0	0	0	0	1577	2182
Day	1823		3782		3803		1214		0		0		0		3759	
AM Peak			11:00	06:00	11:00	06:00	07:00	06:00							11:00	06:00
Vol.			87	299	124	286	88	294							106	293
PM Peak	16:00	16:00	14:00	12:00	17:00	15:00									16:00	16:00
Vol.	157	151	169	150	163	142									158	143

Comb. Total	1823	3782	3803	1214	0	0	0	3759
ADT	ADT 2,856		AADT 2,856					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24203-04

I-64 WB on ramp fm WB Rt 199
I-64 WB off ramp to WB Rt 199

Start Time	25-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	2	48	3	73	2	53	*	*	*	*	*	*	2	58
01:00	*	*	7	21	7	26	8	40	*	*	*	*	*	*	7	29
02:00	*	*	4	16	8	23	5	22	*	*	*	*	*	*	6	20
03:00	*	*	11	16	6	30	13	36	*	*	*	*	*	*	10	27
04:00	*	*	2	50	6	39	9	42	*	*	*	*	*	*	6	44
05:00	*	*	31	125	25	122	23	119	*	*	*	*	*	*	26	122
06:00	*	*	65	409	65	393	63	386	*	*	*	*	*	*	64	396
07:00	*	*	73	765	78	729	50	775	*	*	*	*	*	*	67	756
08:00	*	*	61	804	48	897	52	832	*	*	*	*	*	*	54	844
09:00	*	*	72	596	62	617	*	*	*	*	*	*	*	*	67	606
10:00	*	*	72	455	68	503	*	*	*	*	*	*	*	*	70	479
11:00	*	*	47	474	82	494	*	*	*	*	*	*	*	*	64	484
12:00 PM	*	*	79	466	70	466	*	*	*	*	*	*	*	*	74	466
01:00	*	*	77	446	87	453	*	*	*	*	*	*	*	*	82	450
02:00	*	*	90	541	118	532	*	*	*	*	*	*	*	*	104	536
03:00	*	*	115	628	132	555	*	*	*	*	*	*	*	*	124	592
04:00	*	*	126	814	107	684	*	*	*	*	*	*	*	*	116	749
05:00	*	*	131	878	122	834	*	*	*	*	*	*	*	*	126	856
06:00	*	*	64	581	69	700	*	*	*	*	*	*	*	*	66	640
07:00	*	*	44	355	59	349	*	*	*	*	*	*	*	*	52	352
08:00	*	*	44	287	35	253	*	*	*	*	*	*	*	*	40	270
09:00	*	*	14	239	23	254	*	*	*	*	*	*	*	*	18	246
10:00	*	*	8	171	17	184	*	*	*	*	*	*	*	*	12	178
11:00	*	*	6	87	4	89	*	*	*	*	*	*	*	*	5	88
Lane	0	0	1245	9272	1301	9299	225	2305	0	0	0	0	0	0	1262	9288
Day	0	0	10517		10600		2530		0	0	0	0	0	0	10550	
AM Peak			07:00	08:00	11:00	08:00	06:00	08:00							10:00	08:00
Vol.			73	804	82	897	63	832							70	844
PM Peak			17:00	17:00	15:00	17:00									17:00	17:00
Vol.			131	878	132	834									126	856

Comb. Total	0	10517	10600	2530	0	0	0	10550
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ADT	ADT 10,558	AADT 10,558
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24205-06

I-64 EB on ramp fm WB Rt 199
I-64 EB off ramp to WB Rt 199

Start Time	25-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	10	24	11	15	9	22	*	*	*	*	*	*	10	20
01:00	*	*	4	11	5	18	4	20	*	*	*	*	*	*	4	16
02:00	*	*	7	7	4	11	12	10	*	*	*	*	*	*	8	9
03:00	*	*	9	4	9	3	9	8	*	*	*	*	*	*	9	5
04:00	*	*	9	11	12	14	11	11	*	*	*	*	*	*	11	12
05:00	*	*	34	34	28	28	31	33	*	*	*	*	*	*	31	32
06:00	*	*	48	87	56	104	63	99	*	*	*	*	*	*	56	97
07:00	*	*	66	186	87	204	59	204	*	*	*	*	*	*	71	198
08:00	*	*	78	279	86	187	77	187	*	*	*	*	*	*	80	218
09:00	*	*	66	163	98	171	*	*	*	*	*	*	*	*	82	167
10:00	*	*	81	102	85	130	*	*	*	*	*	*	*	*	83	116
11:00	*	*	88	104	113	138	*	*	*	*	*	*	*	*	100	121
12:00 PM	*	*	91	104	93	100	*	*	*	*	*	*	*	*	92	102
01:00	*	*	69	99	95	95	*	*	*	*	*	*	*	*	82	97
02:00	*	*	149	109	134	135	*	*	*	*	*	*	*	*	142	122
03:00	*	*	261	129	257	143	*	*	*	*	*	*	*	*	259	136
04:00	*	*	166	115	145	134	*	*	*	*	*	*	*	*	156	124
05:00	*	*	131	121	116	152	*	*	*	*	*	*	*	*	124	136
06:00	*	*	62	86	70	110	*	*	*	*	*	*	*	*	66	98
07:00	*	*	66	61	73	90	*	*	*	*	*	*	*	*	70	76
08:00	*	*	35	49	43	79	*	*	*	*	*	*	*	*	39	64
09:00	*	*	33	44	43	54	*	*	*	*	*	*	*	*	38	49
10:00	*	*	22	48	27	39	*	*	*	*	*	*	*	*	24	44
11:00	*	*	13	17	17	41	*	*	*	*	*	*	*	*	15	29
Lane	0	0	1598	1994	1707	2195	275	594	0	0	0	0	0	0	1652	2088
Day	0		3592		3902		869		0		0		0		3740	
AM Peak			11:00	08:00	11:00	07:00	08:00	07:00							11:00	08:00
Vol.			88	279	113	204	77	204							100	218
PM Peak			15:00	15:00	15:00	17:00									15:00	15:00
Vol.			261	129	257	152									259	136

Comb. Total	0	3592	3902	869	0	0	0	3740
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ADT	ADT 3,747	AADT 3,747
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24207-08

I-64 EB on ramp fm EB Rt 199
I-64 EB off ramp to EB Rt 199

Start Time	25-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	60	2	52	9	73	5	*	*	*	*	*	*	62	5
01:00	*	*	26	2	30	3	39	1	*	*	*	*	*	*	32	2
02:00	*	*	16	6	20	6	21	3	*	*	*	*	*	*	19	5
03:00	*	*	31	5	29	9	38	5	*	*	*	*	*	*	33	6
04:00	*	*	77	5	81	3	67	8	*	*	*	*	*	*	75	5
05:00	*	*	376	18	368	25	353	26	*	*	*	*	*	*	366	23
06:00	*	*	863	90	831	85	844	84	*	*	*	*	*	*	846	86
07:00	*	*	1141	98	1132	102	1180	91	*	*	*	*	*	*	1151	97
08:00	*	*	731	77	788	64	771	60	*	*	*	*	*	*	763	67
09:00	*	*	556	69	590	76	*	*	*	*	*	*	*	*	573	72
10:00	*	*	532	56	553	74	*	*	*	*	*	*	*	*	542	65
11:00	*	*	458	64	575	72	*	*	*	*	*	*	*	*	516	68
12:00 PM	*	*	546	74	590	77	*	*	*	*	*	*	*	*	568	76
01:00	*	*	562	59	606	78	*	*	*	*	*	*	*	*	584	68
02:00	*	*	650	75	618	87	*	*	*	*	*	*	*	*	634	81
03:00	*	*	651	96	625	99	*	*	*	*	*	*	*	*	638	98
04:00	*	*	641	103	631	115	*	*	*	*	*	*	*	*	636	109
05:00	*	*	716	107	612	97	*	*	*	*	*	*	*	*	664	102
06:00	*	*	436	73	536	53	*	*	*	*	*	*	*	*	486	63
07:00	*	*	347	46	362	51	*	*	*	*	*	*	*	*	354	48
08:00	*	*	306	45	312	34	*	*	*	*	*	*	*	*	309	40
09:00	*	*	269	28	272	16	*	*	*	*	*	*	*	*	270	22
10:00	*	*	153	10	189	10	*	*	*	*	*	*	*	*	171	10
11:00	*	*	134	16	149	24	*	*	*	*	*	*	*	*	142	20
Lane	0	0	10278	1224	10551	1269	3386	283	0	0	0	0	0	0	10434	1238
Day	0	0	11502	11502	11820	11820	3669	3669	0	0	0	0	0	0	11672	11672
AM Peak			07:00	07:00	07:00	07:00	07:00	07:00							07:00	07:00
Vol.			1141	98	1132	102	1180	91							1151	97
PM Peak			17:00	17:00	16:00	16:00									17:00	16:00
Vol.			716	107	631	115									664	109

Comb. Total	0	11502	11820	3669	0	0	0	11672
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ADT	ADT 11,661	AADT 11,661
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24301-05

I-64 EB off ramp to WB Rt 143
I-64 WB off ramp to WB Rt 143

Start Time	25-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off
12:00 AM	*	*	0	29	0	29	3	24	*	*	*	*	*	*	1	27
01:00	*	*	0	16	0	13	0	20	*	*	*	*	*	*	0	16
02:00	*	*	2	11	3	10	2	9	*	*	*	*	*	*	2	10
03:00	*	*	0	10	1	10	3	12	*	*	*	*	*	*	1	11
04:00	*	*	0	25	0	22	0	21	*	*	*	*	*	*	0	23
05:00	*	*	1	46	1	44	0	55	*	*	*	*	*	*	1	48
06:00	*	*	6	150	10	144	9	150	*	*	*	*	*	*	8	148
07:00	*	*	11	254	16	269	10	284	*	*	*	*	*	*	12	269
08:00	*	*	25	260	14	252	5	235	*	*	*	*	*	*	15	249
09:00	*	*	122	186	4	175	*	*	*	*	*	*	*	*	63	180
10:00	*	*	7	133	5	177	*	*	*	*	*	*	*	*	6	155
11:00	*	*	3	178	8	195	*	*	*	*	*	*	*	*	6	186
12:00 PM	*	*	12	166	6	161	*	*	*	*	*	*	*	*	9	164
01:00	*	*	7	149	12	190	*	*	*	*	*	*	*	*	10	170
02:00	*	*	13	214	17	226	*	*	*	*	*	*	*	*	15	220
03:00	*	*	19	273	32	264	*	*	*	*	*	*	*	*	26	268
04:00	*	*	9	329	16	250	*	*	*	*	*	*	*	*	12	290
05:00	*	*	7	382	16	338	*	*	*	*	*	*	*	*	12	360
06:00	*	*	5	231	7	293	*	*	*	*	*	*	*	*	6	262
07:00	*	*	4	147	14	153	*	*	*	*	*	*	*	*	9	150
08:00	*	*	6	146	1	133	*	*	*	*	*	*	*	*	4	140
09:00	*	*	1	102	3	96	*	*	*	*	*	*	*	*	2	99
10:00	*	*	5	82	3	85	*	*	*	*	*	*	*	*	4	84
11:00	*	*	2	41	4	37	*	*	*	*	*	*	*	*	3	39
Lane	0	0	267	3560	193	3566	32	810	0	0	0	0	0	0	227	3568
Day	0		3827		3759		842		0		0		0		3795	
AM Peak			09:00	08:00	07:00	07:00	07:00	07:00							09:00	07:00
Vol.			122	260	16	269	10	284							63	269
PM Peak			15:00	17:00	15:00	17:00									15:00	17:00
Vol.			19	382	32	338									26	360

Comb. Total	0	3827	3759	842	0	0	0	3795
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ADT	ADT 3,793	AADT 3,793
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24302-03

I-64 WB on ramp to Busch Gardens
I-64 WB off ramp fm Busch Gardens

Start Time	25-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	21	3	22	6	32	6	*	*	*	*	*	*	25	5
01:00	*	*	21	4	16	4	27	4	*	*	*	*	*	*	21	4
02:00	*	*	24	7	36	2	39	0	*	*	*	*	*	*	33	3
03:00	*	*	16	5	22	3	31	5	*	*	*	*	*	*	23	4
04:00	*	*	29	12	29	10	18	11	*	*	*	*	*	*	25	11
05:00	*	*	43	29	44	28	57	38	*	*	*	*	*	*	48	32
06:00	*	*	124	107	112	123	128	125	*	*	*	*	*	*	121	118
07:00	*	*	116	142	137	147	133	167	*	*	*	*	*	*	129	152
08:00	*	*	131	172	117	172	133	196	*	*	*	*	*	*	127	180
09:00	*	*	119	110	100	110	*	*	*	*	*	*	*	*	110	110
10:00	*	*	96	80	113	80	*	*	*	*	*	*	*	*	104	80
11:00	*	*	97	78	125	88	*	*	*	*	*	*	*	*	111	83
12:00 PM	*	*	111	75	131	85	*	*	*	*	*	*	*	*	121	80
01:00	*	*	95	53	124	73	*	*	*	*	*	*	*	*	110	63
02:00	*	*	121	78	117	123	*	*	*	*	*	*	*	*	119	100
03:00	*	*	146	116	180	87	*	*	*	*	*	*	*	*	163	102
04:00	*	*	132	99	139	101	*	*	*	*	*	*	*	*	136	100
05:00	*	*	133	89	126	88	*	*	*	*	*	*	*	*	130	88
06:00	*	*	96	72	109	92	*	*	*	*	*	*	*	*	102	82
07:00	*	*	78	38	88	45	*	*	*	*	*	*	*	*	83	42
08:00	*	*	48	39	51	29	*	*	*	*	*	*	*	*	50	34
09:00	*	*	39	26	69	30	*	*	*	*	*	*	*	*	54	28
10:00	*	*	38	49	57	62	*	*	*	*	*	*	*	*	48	56
11:00	*	*	39	24	44	19	*	*	*	*	*	*	*	*	42	22
Lane	0	0	1913	1507	2108	1607	598	552	0	0	0	0	0	0	2035	1579
Day	0	0	3420		3715		1150		0	0	0	0	0	0	3614	
AM Peak			08:00	08:00	07:00	08:00	07:00	08:00							07:00	08:00
Vol.			131	172	137	172	133	196							129	180
PM Peak			15:00	15:00	15:00	14:00									15:00	15:00
Vol.			146	116	180	123									163	102

Comb. Total	0	3420	3715	1150	0	0	0	3614
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ADT	ADT 3,568	AADT 3,568
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24304

I-64 EB off ramp to Busch Gardens

Start Time	Mon 25-Apr-11	Tue 26-Apr-11	Wed 27-Apr-11	Thu 28-Apr-11	Fri 29-Apr-11	Average Day	Sat 30-Apr-11	Sun 01-May-11	Week Average
12:00 AM	*	15	22	23	*	20	*	*	20
01:00	*	8	5	10	*	8	*	*	8
02:00	*	5	10	12	*	9	*	*	9
03:00	*	4	6	8	*	6	*	*	6
04:00	*	2	11	14	*	9	*	*	9
05:00	*	46	52	44	*	47	*	*	47
06:00	*	62	71	61	*	65	*	*	65
07:00	*	111	116	121	*	116	*	*	116
08:00	*	123	103	98	*	108	*	*	108
09:00	*	133	87	94	*	105	*	*	105
10:00	*	88	75	82	*	82	*	*	82
11:00	*	65	81	67	*	71	*	*	71
12:00 PM	*	78	77	82	*	79	*	*	79
01:00	*	66	79	104	*	83	*	*	83
02:00	*	111	111	110	*	111	*	*	111
03:00	*	158	146	126	*	143	*	*	143
04:00	*	109	137	149	*	132	*	*	132
05:00	*	143	124	124	*	130	*	*	130
06:00	*	91	97	87	*	92	*	*	92
07:00	*	71	74	49	*	65	*	*	65
08:00	*	65	70	46	*	60	*	*	60
09:00	*	57	67	51	*	58	*	*	58
10:00	*	45	54	37	*	45	*	*	45
11:00	*	18	35	31	*	28	*	*	28
Day Total	0	1674	1710	1630	0	1672	0	0	1672
% Avg. WkDay	0.0%	100.1%	102.3%	97.5%	0.0%				
% Avg. Week	0.0%	100.1%	102.3%	97.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak		09:00	07:00	07:00		07:00			07:00
Vol.		133	116	121		116			116
PM Peak		15:00	15:00	16:00		15:00			15:00
Vol.		158	146	149		143			143
Grand Total	0	1674	1710	1630	0	1672	0	0	1672
ADT		ADT 1,671		AADT 1,671					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24306

I-64 EB on ramp fm Busch Gardens

Start Time	Mon 25-Apr-11	Tue 26-Apr-11	Wed 27-Apr-11	Thu 28-Apr-11	Fri 29-Apr-11	Average Day	Sat 30-Apr-11	Sun 01-May-11	Week Average
12:00 AM	*	18	13	14	*	15	*	*	15
01:00	*	3	5	5	*	4	*	*	4
02:00	*	3	4	11	*	6	*	*	6
03:00	*	7	2	4	*	4	*	*	4
04:00	*	5	9	7	*	7	*	*	7
05:00	*	32	25	38	*	32	*	*	32
06:00	*	76	80	77	*	78	*	*	78
07:00	*	148	157	157	*	154	*	*	154
08:00	*	87	82	98	*	89	*	*	89
09:00	*	85	93	*	*	89	*	*	89
10:00	*	68	106	*	*	87	*	*	87
11:00	*	86	98	*	*	92	*	*	92
12:00 PM	*	102	72	*	*	87	*	*	87
01:00	*	96	74	*	*	85	*	*	85
02:00	*	108	122	*	*	115	*	*	115
03:00	*	165	211	*	*	188	*	*	188
04:00	*	166	145	*	*	156	*	*	156
05:00	*	156	113	*	*	134	*	*	134
06:00	*	64	68	*	*	66	*	*	66
07:00	*	64	66	*	*	65	*	*	65
08:00	*	29	38	*	*	34	*	*	34
09:00	*	35	41	*	*	38	*	*	38
10:00	*	30	32	*	*	31	*	*	31
11:00	*	56	67	*	*	62	*	*	62
Day Total	0	1689	1723	411	0	1718	0	0	1718
% Avg. WkDay	0.0%	98.3%	100.3%	23.9%	0.0%				
% Avg. Week	0.0%	98.3%	100.3%	23.9%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	07:00		07:00			07:00
Vol.		148	157	157		154			154
PM Peak		16:00	15:00			15:00			15:00
Vol.		166	211			188			188
Grand Total	0	1689	1723	411	0	1718	0	0	1718
ADT		ADT 1,706		AADT 1,706					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24307-08

I-64 EB and WB off ramps to US Rt 60
US Rt 60 to Busch Gardens

Start Time	25-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in
12:00 AM	*	*	18	1	29	1	27	1	*	*	*	*	*	*	25	1
01:00	*	*	11	0	11	0	12	0	*	*	*	*	*	*	11	0
02:00	*	*	12	0	11	0	14	1	*	*	*	*	*	*	12	0
03:00	*	*	10	0	10	0	13	0	*	*	*	*	*	*	11	0
04:00	*	*	12	0	22	0	27	0	*	*	*	*	*	*	20	0
05:00	*	*	76	0	79	0	80	0	*	*	*	*	*	*	78	0
06:00	*	*	169	0	187	0	186	0	*	*	*	*	*	*	181	0
07:00	*	*	255	0	272	0	301	0	*	*	*	*	*	*	276	0
08:00	*	*	288	0	283	8	305	0	*	*	*	*	*	*	292	3
09:00	*	*	232	6	189	2	*	*	*	*	*	*	*	*	210	4
10:00	*	*	155	6	155	5	*	*	*	*	*	*	*	*	155	6
11:00	*	*	143	3	158	6	*	*	*	*	*	*	*	*	150	4
12:00 PM	*	*	157	4	150	10	*	*	*	*	*	*	*	*	154	7
01:00	*	*	124	4	153	3	*	*	*	*	*	*	*	*	138	4
02:00	*	*	200	10	224	4	*	*	*	*	*	*	*	*	212	7
03:00	*	*	267	5	223	9	*	*	*	*	*	*	*	*	245	7
04:00	*	*	204	3	230	1	*	*	*	*	*	*	*	*	217	2
05:00	*	*	235	1	219	4	*	*	*	*	*	*	*	*	227	2
06:00	*	*	158	3	188	0	*	*	*	*	*	*	*	*	173	2
07:00	*	*	107	1	121	0	*	*	*	*	*	*	*	*	114	0
08:00	*	*	108	0	100	0	*	*	*	*	*	*	*	*	104	0
09:00	*	*	79	0	96	0	*	*	*	*	*	*	*	*	88	0
10:00	*	*	98	5	115	0	*	*	*	*	*	*	*	*	106	2
11:00	*	*	45	0	57	0	*	*	*	*	*	*	*	*	51	0
Lane	0	0	3163	52	3282	53	965	2	0	0	0	0	0	0	3250	51
Day	0	0	3215	52	3335	53	967	2	0	0	0	0	0	0	3301	51
AM Peak			08:00	09:00	08:00	08:00	08:00	00:00							08:00	10:00
Vol.			288	6	283	8	305	1							292	6
PM Peak			15:00	14:00	16:00	12:00									15:00	12:00
Vol.			267	10	230	10									245	7

Comb. Total	0	3215	3335	967	0	0	0	3301
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ADT	ADT 3,275	AADT 3,275
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24309-10

I-64 EB and WB on ramp fm US Rt 60
Busch Gardens to US Rt 60

Start Time	25-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out
12:00 AM	*	*	36	1	34	1	45	2	*	*	*	*	*	*	38	1
01:00	*	*	28	0	23	0	36	0	*	*	*	*	*	*	29	0
02:00	*	*	26	0	46	0	54	0	*	*	*	*	*	*	42	0
03:00	*	*	22	0	19	0	32	0	*	*	*	*	*	*	24	0
04:00	*	*	36	0	41	0	33	0	*	*	*	*	*	*	37	0
05:00	*	*	76	0	76	0	94	0	*	*	*	*	*	*	82	0
06:00	*	*	202	0	191	0	206	0	*	*	*	*	*	*	200	0
07:00	*	*	271	0	302	1	290	0	*	*	*	*	*	*	288	0
08:00	*	*	218	2	195	4	237	6	*	*	*	*	*	*	217	4
09:00	*	*	195	5	193	4	*	*	*	*	*	*	*	*	194	4
10:00	*	*	152	7	216	6	*	*	*	*	*	*	*	*	184	6
11:00	*	*	180	7	209	10	*	*	*	*	*	*	*	*	194	8
12:00 PM	*	*	214	5	191	5	*	*	*	*	*	*	*	*	202	5
01:00	*	*	189	3	202	3	*	*	*	*	*	*	*	*	196	3
02:00	*	*	223	10	233	7	*	*	*	*	*	*	*	*	228	8
03:00	*	*	315	2	386	14	*	*	*	*	*	*	*	*	350	8
04:00	*	*	298	5	281	12	*	*	*	*	*	*	*	*	290	8
05:00	*	*	293	0	238	3	*	*	*	*	*	*	*	*	266	2
06:00	*	*	162	2	179	1	*	*	*	*	*	*	*	*	170	2
07:00	*	*	131	1	161	0	*	*	*	*	*	*	*	*	146	0
08:00	*	*	77	0	87	1	*	*	*	*	*	*	*	*	82	0
09:00	*	*	77	0	115	0	*	*	*	*	*	*	*	*	96	0
10:00	*	*	76	0	85	0	*	*	*	*	*	*	*	*	80	0
11:00	*	*	86	0	109	0	*	*	*	*	*	*	*	*	98	0
Lane	0	0	3583	50	3812	72	1027	8	0	0	0	0	0	0	3733	59
Day	0		3633		3884		1035		0		0		0		3792	
AM Peak			07:00	10:00	07:00	11:00	07:00	08:00							07:00	11:00
Vol.			271	7	302	10	290	6							288	8
PM Peak			15:00	14:00	15:00	15:00									15:00	14:00
Vol.			315	10	386	14									350	8

Comb. Total	0	3633	3884	1035	0	0	0	3792
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ADT	ADT 3,758	AADT 3,758
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24701

I-64 WB off ramp to Yorktown

Start Time	Mon 25-Apr-11	Tue 26-Apr-11	Wed 27-Apr-11	Thu 28-Apr-11	Fri 29-Apr-11	Average Day	Sat 30-Apr-11	Sun 01-May-11	Week Average
12:00 AM	*	38	43	44	*	42	*	*	42
01:00	*	24	35	13	*	24	*	*	24
02:00	*	13	12	21	*	15	*	*	15
03:00	*	20	15	9	*	15	*	*	15
04:00	*	20	26	18	*	21	*	*	21
05:00	*	95	102	103	*	100	*	*	100
06:00	*	314	302	285	*	300	*	*	300
07:00	*	349	316	280	*	315	*	*	315
08:00	*	206	200	209	*	205	*	*	205
09:00	*	140	162	170	*	157	*	*	157
10:00	*	147	159	*	*	153	*	*	153
11:00	*	174	181	*	*	178	*	*	178
12:00 PM	*	153	214	*	*	184	*	*	184
01:00	*	186	190	*	*	188	*	*	188
02:00	*	216	222	*	*	219	*	*	219
03:00	*	325	353	*	*	339	*	*	339
04:00	*	495	350	*	*	422	*	*	422
05:00	*	424	332	*	*	378	*	*	378
06:00	*	228	245	*	*	236	*	*	236
07:00	*	120	115	*	*	118	*	*	118
08:00	*	126	128	*	*	127	*	*	127
09:00	*	107	102	*	*	104	*	*	104
10:00	*	78	62	*	*	70	*	*	70
11:00	*	47	57	*	*	52	*	*	52
Day Total	0	4045	3923	1152	0	3962	0	0	3962
% Avg. WkDay	0.0%	102.1%	99.0%	29.1%	0.0%				
% Avg. Week	0.0%	102.1%	99.0%	29.1%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	06:00		07:00			07:00
Vol.		349	316	285		315			315
PM Peak		16:00	15:00			16:00			16:00
Vol.		495	353			422			422
Grand Total	0	4045	3923	1152	0	3962	0	0	3962
ADT		ADT 3,984		AADT 3,984					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24703

I-64 WB on ramp fm WB Jefferson

Start Time	Mon 25-Apr-11	Tue 26-Apr-11	Wed 27-Apr-11	Thu 28-Apr-11	Fri 29-Apr-11	Average Day	Sat 30-Apr-11	Sun 01-May-11	Week Average
12:00 AM	*	12	14	17	*	14	*	*	14
01:00	*	24	16	17	*	19	*	*	19
02:00	*	12	22	12	*	15	*	*	15
03:00	*	21	19	18	*	19	*	*	19
04:00	*	24	33	28	*	28	*	*	28
05:00	*	65	71	59	*	65	*	*	65
06:00	*	196	187	184	*	189	*	*	189
07:00	*	250	225	225	*	233	*	*	233
08:00	*	211	211	200	*	207	*	*	207
09:00	*	163	144	*	*	154	*	*	154
10:00	*	151	147	*	*	149	*	*	149
11:00	*	155	173	*	*	164	*	*	164
12:00 PM	*	129	161	*	*	145	*	*	145
01:00	*	155	170	*	*	162	*	*	162
02:00	*	154	183	*	*	168	*	*	168
03:00	*	206	201	*	*	204	*	*	204
04:00	*	256	286	*	*	271	*	*	271
05:00	*	258	258	*	*	258	*	*	258
06:00	*	139	147	*	*	143	*	*	143
07:00	*	77	73	*	*	75	*	*	75
08:00	*	35	43	*	*	39	*	*	39
09:00	*	55	43	*	*	49	*	*	49
10:00	*	42	54	*	*	48	*	*	48
11:00	*	27	28	*	*	28	*	*	28
Day Total	0	2817	2909	760	0	2846	0	0	2846
% Avg. WkDay	0.0%	99.0%	102.2%	26.7%	0.0%				
% Avg. Week	0.0%	99.0%	102.2%	26.7%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	07:00		07:00			07:00
Vol.		250	225	225		233			233
PM Peak		17:00	16:00			16:00			16:00
Vol.		258	286			271			271
Grand Total	0	2817	2909	760	0	2846	0	0	2846
ADT		ADT 2,863		AADT 2,863					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24705

I-64 EB off ramp to Merrimac Trail

Start Time	Mon 25-Apr-11	Tue 26-Apr-11	Wed 27-Apr-11	Thu 28-Apr-11	Fri 29-Apr-11	Average Day	Sat 30-Apr-11	Sun 01-May-11	Week Average
12:00 AM	*	29	21	20	*	23	*	*	23
01:00	*	18	7	12	*	12	*	*	12
02:00	*	13	14	13	*	13	*	*	13
03:00	*	11	9	8	*	9	*	*	9
04:00	*	5	11	6	*	7	*	*	7
05:00	*	47	46	50	*	48	*	*	48
06:00	*	119	127	123	*	123	*	*	123
07:00	*	151	153	143	*	149	*	*	149
08:00	*	177	81	96	*	118	*	*	118
09:00	*	163	67	*	*	115	*	*	115
10:00	*	92	95	*	*	94	*	*	94
11:00	*	90	84	*	*	87	*	*	87
12:00 PM	*	108	102	*	*	105	*	*	105
01:00	*	107	107	*	*	107	*	*	107
02:00	*	132	128	*	*	130	*	*	130
03:00	*	138	128	*	*	133	*	*	133
04:00	*	127	120	*	*	124	*	*	124
05:00	*	119	107	*	*	113	*	*	113
06:00	*	83	72	*	*	78	*	*	78
07:00	*	61	67	*	*	64	*	*	64
08:00	*	49	46	*	*	48	*	*	48
09:00	*	62	55	*	*	58	*	*	58
10:00	*	34	43	*	*	38	*	*	38
11:00	*	34	48	*	*	41	*	*	41
Day Total	0	1969	1738	471	0	1837	0	0	1837
% Avg. WkDay	0.0%	107.2%	94.6%	25.6%	0.0%				
% Avg. Week	0.0%	107.2%	94.6%	25.6%	0.0%	100.0%	0.0%	0.0%	
AM Peak		08:00	07:00	07:00		07:00			07:00
Vol.		177	153	143		149			149
PM Peak		15:00	14:00			15:00			15:00
Vol.		138	128			133			133
Grand Total	0	1969	1738	471	0	1837	0	0	1837
ADT		ADT 1,854		AADT 1,854					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24706

I-64 EB on ramp fm EB Jefferson

Start Time	Mon 25-Apr-11	Tue 26-Apr-11	Wed 27-Apr-11	Thu 28-Apr-11	Fri 29-Apr-11	Average Day	Sat 30-Apr-11	Sun 01-May-11	Week Average
12:00 AM	*	8	8	8	*	8	*	*	8
01:00	*	6	5	6	*	6	*	*	6
02:00	*	7	4	9	*	7	*	*	7
03:00	*	9	8	7	*	8	*	*	8
04:00	*	16	16	13	*	15	*	*	15
05:00	*	53	60	56	*	56	*	*	56
06:00	*	171	180	168	*	173	*	*	173
07:00	*	257	293	292	*	281	*	*	281
08:00	*	84	189	185	*	153	*	*	153
09:00	*	136	108	*	*	122	*	*	122
10:00	*	119	98	*	*	108	*	*	108
11:00	*	68	91	*	*	80	*	*	80
12:00 PM	*	76	81	*	*	78	*	*	78
01:00	*	87	63	*	*	75	*	*	75
02:00	*	103	110	*	*	106	*	*	106
03:00	*	168	141	*	*	154	*	*	154
04:00	*	205	151	*	*	178	*	*	178
05:00	*	190	189	*	*	190	*	*	190
06:00	*	94	94	*	*	94	*	*	94
07:00	*	57	64	*	*	60	*	*	60
08:00	*	44	48	*	*	46	*	*	46
09:00	*	24	49	*	*	36	*	*	36
10:00	*	28	25	*	*	26	*	*	26
11:00	*	36	27	*	*	32	*	*	32
Day Total	0	2046	2102	744	0	2092	0	0	2092
% Avg. WkDay	0.0%	97.8%	100.5%	35.6%	0.0%				
% Avg. Week	0.0%	97.8%	100.5%	35.6%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	07:00		07:00			07:00
Vol.		257	293	292		281			281
PM Peak		16:00	17:00			17:00			17:00
Vol.		205	189			190			190
Grand Total	0	2046	2102	744	0	2092	0	0	2092
ADT		ADT 2,074		AADT 2,074					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24707

I-64 EB on ramp fm Yorktown Rd

Start Time	Mon 25-Apr-11	Tue 26-Apr-11	Wed 27-Apr-11	Thu 28-Apr-11	Fri 29-Apr-11	Average Day	Sat 30-Apr-11	Sun 01-May-11	Week Average
12:00 AM	*	20	16	17	*	18	*	*	18
01:00	*	13	8	6	*	9	*	*	9
02:00	*	8	12	9	*	10	*	*	10
03:00	*	10	12	12	*	11	*	*	11
04:00	*	43	43	40	*	42	*	*	42
05:00	*	200	181	177	*	186	*	*	186
06:00	*	329	358	357	*	348	*	*	348
07:00	*	383	383	358	*	375	*	*	375
08:00	*	138	286	222	*	215	*	*	215
09:00	*	180	184	184	*	183	*	*	183
10:00	*	147	151	*	*	149	*	*	149
11:00	*	174	175	*	*	174	*	*	174
12:00 PM	*	155	153	*	*	154	*	*	154
01:00	*	158	179	*	*	168	*	*	168
02:00	*	226	189	*	*	208	*	*	208
03:00	*	242	228	*	*	235	*	*	235
04:00	*	262	150	*	*	206	*	*	206
05:00	*	219	162	*	*	190	*	*	190
06:00	*	108	120	*	*	114	*	*	114
07:00	*	82	77	*	*	80	*	*	80
08:00	*	57	58	*	*	58	*	*	58
09:00	*	58	61	*	*	60	*	*	60
10:00	*	34	40	*	*	37	*	*	37
11:00	*	28	17	*	*	22	*	*	22
Day Total	0	3274	3243	1382	0	3252	0	0	3252
% Avg. WkDay	0.0%	100.7%	99.7%	42.5%	0.0%				
% Avg. Week	0.0%	100.7%	99.7%	42.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	07:00		07:00			07:00
Vol.		383	383	358		375			375
PM Peak		16:00	15:00			15:00			15:00
Vol.		262	228			235			235
Grand Total	0	3274	3243	1382	0	3252	0	0	3252
ADT		ADT 3,258				AADT 3,258			

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25001-02

I-64 WB on ramp fm EB Ft Eustis
I-64 WB off ramp to Jefferson

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	22	57	21	58	37	42	*	*	*	*	*	*	27	52
01:00	*	*	25	33	18	24	21	29	*	*	*	*	*	*	21	29
02:00	*	*	5	15	8	18	8	22	*	*	*	*	*	*	7	18
03:00	*	*	18	15	18	11	21	14	*	*	*	*	*	*	19	13
04:00	*	*	34	19	36	15	39	31	*	*	*	*	*	*	36	22
05:00	*	*	124	87	98	83	88	85	*	*	*	*	*	*	103	85
06:00	*	*	269	260	283	215	266	233	*	*	*	*	*	*	273	236
07:00	*	*	328	320	322	326	336	306	*	*	*	*	*	*	329	317
08:00	*	*	267	241	265	194	274	249	*	*	*	*	*	*	269	228
09:00	*	*	195	199	207	208	*	*	*	*	*	*	*	*	201	204
10:00	*	*	191	193	205	179	*	*	*	*	*	*	*	*	198	186
11:00	*	*	209	204	226	174	*	*	*	*	*	*	*	*	218	189
12:00 PM	*	*	216	241	178	224	*	*	*	*	*	*	*	*	197	232
01:00	*	*	228	248	262	285	*	*	*	*	*	*	*	*	245	266
02:00	*	*	248	279	278	224	*	*	*	*	*	*	*	*	263	252
03:00	*	*	322	402	336	236	*	*	*	*	*	*	*	*	329	319
04:00	*	*	424	530	479	543	*	*	*	*	*	*	*	*	452	536
05:00	*	*	397	490	405	531	*	*	*	*	*	*	*	*	401	510
06:00	*	*	226	297	226	364	*	*	*	*	*	*	*	*	226	330
07:00	*	*	123	189	131	182	*	*	*	*	*	*	*	*	127	186
08:00	*	*	94	175	116	191	*	*	*	*	*	*	*	*	105	183
09:00	*	*	79	109	102	169	*	*	*	*	*	*	*	*	90	139
10:00	*	*	73	100	71	122	*	*	*	*	*	*	*	*	72	111
11:00	*	*	45	67	33	77	*	*	*	*	*	*	*	*	39	72
Lane	0	0	4162	4770	4324	4653	1090	1011	0	0	0	0	0	0	4247	4715
Day	0	0	8932		8977		2101		0	0	0	0	0	0	8962	
AM Peak			07:00	07:00	07:00	07:00	07:00	07:00							07:00	07:00
Vol.			328	320	322	326	336	306							329	317
PM Peak			16:00	16:00	16:00	16:00									16:00	16:00
Vol.			424	530	479	543									452	536

Comb. Total	0	8932	8977	2101	0	0	0	8962
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ADT	ADT 8,954	AADT 8,954
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25003

I-64 WB on ramp fm WB Jefferson
I-64 WB on ramp fm EB Jefferson

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	fm WB Jeff	fm EB J	fm WB J	fm EB J	fm WB J	fm EB J	fm WB J	fm EB J	fm WB J	fm EB J	fm WB J	fm EB J	fm WB J	fm EB J	fm WB J	fm EB J
12:00 AM	*	*	31	0	25	0	30	0	*	*	*	*	*	*	29	0
01:00	*	*	27	0	15	0	25	0	*	*	*	*	*	*	22	0
02:00	*	*	18	0	10	0	15	0	*	*	*	*	*	*	14	0
03:00	*	*	19	0	12	0	21	0	*	*	*	*	*	*	17	0
04:00	*	*	57	0	42	1	61	0	*	*	*	*	*	*	53	0
05:00	*	*	132	2	159	1	173	0	*	*	*	*	*	*	155	1
06:00	*	*	389	2	425	0	398	0	*	*	*	*	*	*	404	1
07:00	*	*	480	4	478	0	533	1	*	*	*	*	*	*	497	2
08:00	*	*	425	0	460	11	418	4	*	*	*	*	*	*	434	5
09:00	*	*	314	4	301	4	*	*	*	*	*	*	*	*	308	4
10:00	*	*	268	2	251	3	*	*	*	*	*	*	*	*	260	2
11:00	*	*	245	4	240	3	*	*	*	*	*	*	*	*	242	4
12:00 PM	*	*	254	5	256	4	*	*	*	*	*	*	*	*	255	4
01:00	*	*	255	2	291	5	*	*	*	*	*	*	*	*	273	4
02:00	*	*	294	9	319	6	*	*	*	*	*	*	*	*	306	8
03:00	*	*	309	6	466	5	*	*	*	*	*	*	*	*	388	6
04:00	*	*	326	6	463	9	*	*	*	*	*	*	*	*	394	8
05:00	*	*	337	3	374	6	*	*	*	*	*	*	*	*	356	4
06:00	*	*	213	1	296	1	*	*	*	*	*	*	*	*	254	1
07:00	*	*	173	1	178	2	*	*	*	*	*	*	*	*	176	2
08:00	*	*	166	0	140	2	*	*	*	*	*	*	*	*	153	1
09:00	*	*	145	0	115	0	*	*	*	*	*	*	*	*	130	0
10:00	*	*	94	0	74	3	*	*	*	*	*	*	*	*	84	2
11:00	*	*	43	0	42	1	*	*	*	*	*	*	*	*	42	0
Lane	0	0	5014	51	5432	67	1674	5	0	0	0	0	0	5246	59	
Day	0	0	5065	51	5499	67	1679	5	0	0	0	0	0	5305	59	
AM Peak			07:00	07:00	07:00	08:00	07:00	08:00						07:00	08:00	
Vol.			480	4	478	11	533	4						497	5	
PM Peak			17:00	14:00	15:00	16:00								16:00	14:00	
Vol.			337	9	466	9								394	8	

Comb. Total	0	5065	5499	1679	0	0	0	5305
ADT	ADT 5,282	AADT 5,282						

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25004

I-64 WB off ramp to WB Ft Eustis

Start Time	Mon 11-Apr-11	Tue 12-Apr-11	Wed 13-Apr-11	Thu 14-Apr-11	Fri 15-Apr-11	Average Day	Sat 16-Apr-11	Sun 17-Apr-11	Week Average
12:00 AM	*	73	61	71	*	68	*	*	68
01:00	*	38	27	34	*	33	*	*	33
02:00	*	48	41	44	*	44	*	*	44
03:00	*	40	37	26	*	34	*	*	34
04:00	*	114	102	99	*	105	*	*	105
05:00	*	551	583	469	*	534	*	*	534
06:00	*	996	951	1023	*	990	*	*	990
07:00	*	1092	1100	1131	*	1108	*	*	1108
08:00	*	766	712	721	*	733	*	*	733
09:00	*	467	526	*	*	496	*	*	496
10:00	*	352	406	*	*	379	*	*	379
11:00	*	376	375	*	*	376	*	*	376
12:00 PM	*	514	498	*	*	506	*	*	506
01:00	*	483	489	*	*	486	*	*	486
02:00	*	472	414	*	*	443	*	*	443
03:00	*	638	359	*	*	498	*	*	498
04:00	*	484	502	*	*	493	*	*	493
05:00	*	533	545	*	*	539	*	*	539
06:00	*	369	390	*	*	380	*	*	380
07:00	*	315	313	*	*	314	*	*	314
08:00	*	254	292	*	*	273	*	*	273
09:00	*	216	257	*	*	236	*	*	236
10:00	*	172	157	*	*	164	*	*	164
11:00	*	105	108	*	*	106	*	*	106
Day Total	0	9468	9245	3618	0	9338	0	0	9338
% Avg. WkDay	0.0%	101.4%	99.0%	38.7%	0.0%				
% Avg. Week	0.0%	101.4%	99.0%	38.7%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	07:00		07:00			07:00
Vol.		1092	1100	1131		1108			1108
PM Peak		15:00	17:00			17:00			17:00
Vol.		638	545			539			539
Grand Total	0	9468	9245	3618	0	9338	0	0	9338

ADT

ADT 9,356

AADT 9,356

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25005-06

I-64 EB off ramp to WB Ft Eustis
I-64 EB on ramp fm WB Ft Eustis

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on
12:00 AM	*	*	22	55	23	54	18	41	*	*	*	*	*	*	21	50
01:00	*	*	18	29	10	27	16	43	*	*	*	*	*	*	15	33
02:00	*	*	16	14	14	13	13	21	*	*	*	*	*	*	14	16
03:00	*	*	28	24	28	21	12	25	*	*	*	*	*	*	23	23
04:00	*	*	61	37	56	30	71	32	*	*	*	*	*	*	63	33
05:00	*	*	230	147	216	194	200	112	*	*	*	*	*	*	215	151
06:00	*	*	546	186	457	348	451	351	*	*	*	*	*	*	485	295
07:00	*	*	826	200	651	495	575	472	*	*	*	*	*	*	684	389
08:00	*	*	623	143	399	353	436	320	*	*	*	*	*	*	486	272
09:00	*	*	428	108	305	204	*	*	*	*	*	*	*	*	366	156
10:00	*	*	341	151	267	167	*	*	*	*	*	*	*	*	304	159
11:00	*	*	271	145	260	162	*	*	*	*	*	*	*	*	266	154
12:00 PM	*	*	289	187	276	189	*	*	*	*	*	*	*	*	282	188
01:00	*	*	270	139	278	191	*	*	*	*	*	*	*	*	274	165
02:00	*	*	303	138	320	189	*	*	*	*	*	*	*	*	312	164
03:00	*	*	393	129	325	318	*	*	*	*	*	*	*	*	359	224
04:00	*	*	401	206	460	291	*	*	*	*	*	*	*	*	430	248
05:00	*	*	323	249	340	282	*	*	*	*	*	*	*	*	332	266
06:00	*	*	228	174	244	183	*	*	*	*	*	*	*	*	236	178
07:00	*	*	136	112	144	118	*	*	*	*	*	*	*	*	140	115
08:00	*	*	88	108	110	129	*	*	*	*	*	*	*	*	99	118
09:00	*	*	85	108	98	113	*	*	*	*	*	*	*	*	92	110
10:00	*	*	51	82	71	71	*	*	*	*	*	*	*	*	61	76
11:00	*	*	35	84	42	91	*	*	*	*	*	*	*	*	38	88
Lane	0	0	6012	2955	5394	4233	1792	1417	0	0	0	0	0	0	5597	3671
Day	0	0	8967	8967	9627	9627	3209	3209	0	0	0	0	0	0	9268	9268
AM Peak			07:00	07:00	07:00	07:00	07:00	07:00							07:00	07:00
Vol.			826	200	651	495	575	472							684	389
PM Peak			16:00	17:00	16:00	15:00									16:00	17:00
Vol.			401	249	460	318									430	266

Comb. Total	0	8967	9627	3209	0	0	0	9268
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ADT	ADT 9,297	AADT 9,297
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25007-08

I-64 EB on ramp fm EB Ft Eustis
I-64 EB off ramp to EB Ft Eustis

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	*	*	134	45	128	35	*	*	*	*	*	*	131	40
01:00	*	*	*	*	63	15	52	10	*	*	*	*	*	*	58	12
02:00	*	*	*	*	49	17	52	26	*	*	*	*	*	*	50	22
03:00	*	*	*	*	41	6	27	14	*	*	*	*	*	*	34	10
04:00	*	*	*	*	78	24	71	24	*	*	*	*	*	*	74	24
05:00	*	*	*	*	203	77	230	74	*	*	*	*	*	*	216	76
06:00	*	*	*	*	512	210	505	225	*	*	*	*	*	*	508	218
07:00	*	*	*	*	720	335	722	310	*	*	*	*	*	*	721	322
08:00	*	*	*	*	603	256	584	249	*	*	*	*	*	*	594	252
09:00	*	*	*	*	460	204	*	*	*	*	*	*	*	*	460	204
10:00	*	*	*	*	511	180	*	*	*	*	*	*	*	*	511	180
11:00	*	*	*	*	575	181	*	*	*	*	*	*	*	*	575	181
12:00 PM	*	*	*	*	517	134	*	*	*	*	*	*	*	*	517	134
01:00	*	*	*	*	480	196	*	*	*	*	*	*	*	*	480	196
02:00	*	*	*	*	803	246	*	*	*	*	*	*	*	*	803	246
03:00	*	*	*	*	946	569	*	*	*	*	*	*	*	*	946	569
04:00	*	*	1289	362	1281	405	*	*	*	*	*	*	*	*	1285	384
05:00	*	*	1002	378	1006	369	*	*	*	*	*	*	*	*	1004	374
06:00	*	*	543	263	547	268	*	*	*	*	*	*	*	*	545	266
07:00	*	*	271	188	305	204	*	*	*	*	*	*	*	*	288	196
08:00	*	*	157	154	215	151	*	*	*	*	*	*	*	*	186	152
09:00	*	*	157	159	191	149	*	*	*	*	*	*	*	*	174	154
10:00	*	*	128	109	139	112	*	*	*	*	*	*	*	*	134	110
11:00	*	*	91	77	82	71	*	*	*	*	*	*	*	*	86	74
Lane	0	0	3638	1690	10461	4424	2371	967	0	0	0	0	0	0	10380	4396
Day	0		5328		14885		3338		0		0		0		14776	
AM Peak					07:00	07:00	07:00	07:00							07:00	07:00
Vol.					720	335	722	310							721	322
PM Peak			16:00	17:00	16:00	15:00									16:00	15:00
Vol.			1289	378	1281	569									1285	569

Comb. Total	0	5328	14885	3338	0	0	0	14776
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ADT	ADT 14,885	AADT 14,885
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25501-02

I-64 WB on ramp fm EB Jefferson
I-64 WB off ramp to EB Jefferson

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	19	16	22	15	32	18	*	*	*	*	*	*	24	16
01:00	*	*	16	10	5	12	10	16	*	*	*	*	*	*	10	13
02:00	*	*	14	6	9	6	8	6	*	*	*	*	*	*	10	6
03:00	*	*	15	6	10	5	8	5	*	*	*	*	*	*	11	5
04:00	*	*	14	10	19	9	13	12	*	*	*	*	*	*	15	10
05:00	*	*	96	35	83	25	66	28	*	*	*	*	*	*	82	29
06:00	*	*	102	95	133	102	149	113	*	*	*	*	*	*	128	103
07:00	*	*	178	80	195	83	166	84	*	*	*	*	*	*	180	82
08:00	*	*	152	106	175	129	149	114	*	*	*	*	*	*	159	116
09:00	*	*	124	144	137	158	137	140	*	*	*	*	*	*	133	147
10:00	*	*	140	144	127	153	112	169	*	*	*	*	*	*	126	155
11:00	*	*	136	189	131	216	120	252	*	*	*	*	*	*	129	219
12:00 PM	*	*	153	212	168	204	145	248	*	*	*	*	*	*	155	221
01:00	*	*	138	162	145	219	147	203	*	*	*	*	*	*	143	195
02:00	*	*	157	185	171	201	151	192	*	*	*	*	*	*	160	193
03:00	*	*	148	231	160	236	179	291	*	*	*	*	*	*	162	253
04:00	*	*	119	402	150	345	131	409	*	*	*	*	*	*	133	385
05:00	*	*	164	397	158	376	122	377	*	*	*	*	*	*	148	383
06:00	*	*	126	270	132	233	*	*	*	*	*	*	*	*	129	252
07:00	*	*	115	226	114	187	*	*	*	*	*	*	*	*	114	206
08:00	*	*	112	141	111	163	*	*	*	*	*	*	*	*	112	152
09:00	*	*	90	93	94	82	*	*	*	*	*	*	*	*	92	88
10:00	*	*	36	57	65	53	*	*	*	*	*	*	*	*	50	55
11:00	*	*	36	25	45	31	*	*	*	*	*	*	*	*	40	28
Lane	0	0	2400	3242	2559	3243	1845	2677	0	0	0	0	0	0	2445	3312
Day	0		5642		5802		4522		0		0		0		5757	
AM Peak			07:00	11:00	07:00	11:00	07:00	11:00							07:00	11:00
Vol.			178	189	195	216	166	252							180	219
PM Peak			17:00	16:00	14:00	17:00	15:00	16:00							15:00	16:00
Vol.			164	402	171	376	179	409							162	385

Comb. Total	0	5642	5802	4522	0	0	0	5757
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ADT	ADT 5,722	AAVT 5,722
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25503-04

I-64 WB on ramp fm WB Jefferson
I-64 WB off ramp to WB Jefferson

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	37	201	34	212	41	209	*	*	*	*	*	*	37	207
01:00	*	*	23	108	24	119	27	130	*	*	*	*	*	*	25	119
02:00	*	*	14	67	15	66	22	72	*	*	*	*	*	*	17	68
03:00	*	*	25	75	19	81	22	88	*	*	*	*	*	*	22	81
04:00	*	*	50	148	38	136	38	133	*	*	*	*	*	*	42	139
05:00	*	*	138	306	143	320	140	311	*	*	*	*	*	*	140	312
06:00	*	*	293	760	301	760	334	739	*	*	*	*	*	*	309	753
07:00	*	*	407	1111	424	1115	396	1124	*	*	*	*	*	*	409	1117
08:00	*	*	380	1040	357	1068	348	1116	*	*	*	*	*	*	362	1075
09:00	*	*	289	957	341	919	295	932	*	*	*	*	*	*	308	936
10:00	*	*	276	848	290	850	275	908	*	*	*	*	*	*	280	869
11:00	*	*	341	941	287	931	244	901	*	*	*	*	*	*	291	924
12:00 PM	*	*	304	983	355	1051	341	998	*	*	*	*	*	*	333	1011
01:00	*	*	363	822	395	1038	404	1018	*	*	*	*	*	*	387	959
02:00	*	*	350	981	404	1110	375	1086	*	*	*	*	*	*	376	1059
03:00	*	*	419	1297	394	1250	443	1140	*	*	*	*	*	*	419	1229
04:00	*	*	355	1249	416	1313	264	1224	*	*	*	*	*	*	345	1262
05:00	*	*	402	1246	414	1234	305	1209	*	*	*	*	*	*	374	1230
06:00	*	*	330	1165	286	1187	*	*	*	*	*	*	*	*	308	1176
07:00	*	*	277	946	251	942	*	*	*	*	*	*	*	*	264	944
08:00	*	*	221	880	274	920	*	*	*	*	*	*	*	*	248	900
09:00	*	*	177	718	198	736	*	*	*	*	*	*	*	*	188	727
10:00	*	*	113	475	146	498	*	*	*	*	*	*	*	*	130	486
11:00	*	*	66	334	68	415	*	*	*	*	*	*	*	*	67	374
Lane	0	0	5650	17658	5874	18271	4314	13338	0	0	0	0	0	0	5681	17957
Day	0	0	23308		24145		17652		0	0	0	0	0	0	23638	
AM Peak			07:00	07:00	07:00	07:00	07:00	07:00							07:00	07:00
Vol.			407	1111	424	1115	396	1124							409	1117
PM Peak			15:00	15:00	16:00	16:00	15:00	16:00							15:00	16:00
Vol.			419	1297	416	1313	443	1224							419	1262

Comb. Total	0	23308	24145	17652	0	0	0	23638
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ADT	ADT 23,726	AADT 23,726
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25505-06

I-64 EB on ramp fm WB Jefferson
I-64 EB off ramp to WB Jefferson

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	25	16	29	22	20	19	*	*	*	*	*	*	25	19
01:00	*	*	13	12	16	11	18	10	*	*	*	*	*	*	16	11
02:00	*	*	18	15	9	20	16	10	*	*	*	*	*	*	14	15
03:00	*	*	7	15	6	20	2	8	*	*	*	*	*	*	5	14
04:00	*	*	6	28	3	20	7	21	*	*	*	*	*	*	5	23
05:00	*	*	31	43	29	49	25	36	*	*	*	*	*	*	28	43
06:00	*	*	57	98	64	100	57	99	*	*	*	*	*	*	59	99
07:00	*	*	109	213	104	168	127	169	*	*	*	*	*	*	113	183
08:00	*	*	89	132	95	156	96	144	*	*	*	*	*	*	93	144
09:00	*	*	93	145	98	134	103	146	*	*	*	*	*	*	98	142
10:00	*	*	121	130	129	123	143	133	*	*	*	*	*	*	131	129
11:00	*	*	162	122	186	161	164	177	*	*	*	*	*	*	171	153
12:00 PM	*	*	203	154	259	153	212	184	*	*	*	*	*	*	225	164
01:00	*	*	235	129	244	145	226	133	*	*	*	*	*	*	235	136
02:00	*	*	189	141	239	169	237	174	*	*	*	*	*	*	222	161
03:00	*	*	220	160	244	149	217	192	*	*	*	*	*	*	227	167
04:00	*	*	210	192	235	171	213	173	*	*	*	*	*	*	219	179
05:00	*	*	275	193	262	214	249	155	*	*	*	*	*	*	262	187
06:00	*	*	279	126	214	168	*	*	*	*	*	*	*	*	246	147
07:00	*	*	229	146	260	121	*	*	*	*	*	*	*	*	244	134
08:00	*	*	223	92	225	124	*	*	*	*	*	*	*	*	224	108
09:00	*	*	235	53	208	87	*	*	*	*	*	*	*	*	222	70
10:00	*	*	128	55	86	55	*	*	*	*	*	*	*	*	107	55
11:00	*	*	54	39	54	52	*	*	*	*	*	*	*	*	54	46
Lane	0	0	3211	2449	3298	2592	2132	1983	0	0	0	0	0	0	3245	2529
Day	0	0	5660		5890		4115		0	0	0	0	0	0	5774	
AM Peak			11:00	07:00	11:00	07:00	11:00	11:00							11:00	07:00
Vol.			162	213	186	168	164	177							171	183
PM Peak			18:00	17:00	17:00	17:00	17:00	15:00							17:00	17:00
Vol.			279	193	262	214	249	192							262	187

Comb. Total	0	5660	5890	4115	0	0	0	5774
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ADT	ADT 5,775	AADT 5,775
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25507-08

I-64 EB on ramp fm EB Jefferson
I-64 EB off ramp to EB Jefferson

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	153	67	138	70	197	71	*	*	*	*	*	*	163	69
01:00	*	*	57	28	92	26	90	48	*	*	*	*	*	*	80	34
02:00	*	*	49	15	51	26	57	19	*	*	*	*	*	*	52	20
03:00	*	*	65	16	85	22	55	18	*	*	*	*	*	*	68	19
04:00	*	*	192	34	164	27	173	34	*	*	*	*	*	*	176	32
05:00	*	*	555	136	562	122	545	127	*	*	*	*	*	*	554	128
06:00	*	*	1114	319	1091	315	1092	312	*	*	*	*	*	*	1099	315
07:00	*	*	1432	505	1483	470	1430	522	*	*	*	*	*	*	1448	499
08:00	*	*	1052	450	1042	522	1074	440	*	*	*	*	*	*	1056	471
09:00	*	*	873	438	852	418	869	394	*	*	*	*	*	*	865	417
10:00	*	*	755	331	787	379	814	382	*	*	*	*	*	*	785	364
11:00	*	*	773	378	735	416	737	386	*	*	*	*	*	*	748	393
12:00 PM	*	*	832	393	876	443	743	456	*	*	*	*	*	*	817	431
01:00	*	*	809	395	883	396	885	414	*	*	*	*	*	*	859	402
02:00	*	*	869	452	904	435	933	423	*	*	*	*	*	*	902	437
03:00	*	*	988	465	1069	454	1068	482	*	*	*	*	*	*	1042	467
04:00	*	*	1079	468	1177	377	1175	364	*	*	*	*	*	*	1144	403
05:00	*	*	1321	433	1281	502	1295	347	*	*	*	*	*	*	1299	427
06:00	*	*	951	395	1018	451	*	*	*	*	*	*	*	*	984	423
07:00	*	*	736	324	730	363	*	*	*	*	*	*	*	*	733	344
08:00	*	*	681	284	744	300	*	*	*	*	*	*	*	*	712	292
09:00	*	*	557	221	595	232	*	*	*	*	*	*	*	*	576	226
10:00	*	*	372	124	457	145	*	*	*	*	*	*	*	*	414	134
11:00	*	*	249	97	248	112	*	*	*	*	*	*	*	*	248	104
Lane	0	0	16514	6768	17064	7023	13232	5239	0	0	0	0	0	0	16824	6851
Day	0	0	23282		24087		18471		0	0	0	0	0	0	23675	
AM Peak			07:00	07:00	07:00	08:00	07:00	07:00							07:00	07:00
Vol.			1432	505	1483	522	1430	522							1448	499
PM Peak			17:00	16:00	17:00	17:00	17:00	15:00							17:00	15:00
Vol.			1321	468	1281	502	1295	482							1299	467

Comb. Total	0	23282	24087	18471	0	0	0	23675
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ADT	ADT 23,684	AADT 23,684
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25601-02

I-64 WB on ramp fm EB Oyster Pt
I-64 WB off ramp to EB Victory Blvd

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	35	64	31	50	33	83	*	*	*	*	*	*	33	66
01:00	*	*	18	51	13	32	20	44	*	*	*	*	*	*	17	42
02:00	*	*	10	34	16	34	14	38	*	*	*	*	*	*	13	35
03:00	*	*	21	40	14	30	16	47	*	*	*	*	*	*	17	39
04:00	*	*	33	30	40	43	30	41	*	*	*	*	*	*	34	38
05:00	*	*	146	111	160	103	168	104	*	*	*	*	*	*	158	106
06:00	*	*	376	377	406	359	421	389	*	*	*	*	*	*	401	375
07:00	*	*	636	438	629	461	581	464	*	*	*	*	*	615	454	
08:00	*	*	427	476	496	431	*	*	*	*	*	*	*	*	462	454
09:00	*	*	267	374	300	434	*	*	*	*	*	*	*	*	284	404
10:00	*	*	265	332	252	319	*	*	*	*	*	*	*	*	258	326
11:00	*	*	232	355	235	432	*	*	*	*	*	*	*	*	234	394
12:00 PM	*	*	301	439	283	409	*	*	*	*	*	*	*	*	292	424
01:00	*	*	296	436	276	443	*	*	*	*	*	*	*	*	286	440
02:00	*	*	266	507	293	474	*	*	*	*	*	*	*	*	280	490
03:00	*	*	285	626	292	910	*	*	*	*	*	*	*	*	288	768
04:00	*	*	312	716	293	765	*	*	*	*	*	*	*	*	302	740
05:00	*	*	333	685	334	876	*	*	*	*	*	*	*	*	334	780
06:00	*	*	264	524	317	601	*	*	*	*	*	*	*	*	290	562
07:00	*	*	191	363	226	401	*	*	*	*	*	*	*	*	208	382
08:00	*	*	175	339	175	365	*	*	*	*	*	*	*	*	175	352
09:00	*	*	124	254	110	277	*	*	*	*	*	*	*	*	117	266
10:00	*	*	66	211	86	184	*	*	*	*	*	*	*	*	76	198
11:00	*	*	58	122	53	107	*	*	*	*	*	*	*	*	56	114
Lane	0	0	5137	7904	5330	8540	1283	1210	0	0	0	0	0	0	5230	8249
Day	0		13041		13870		2493		0		0		0		13479	
AM Peak			07:00	08:00	07:00	07:00	07:00	07:00							07:00	07:00
Vol.			636	476	629	461	581	464							615	454
PM Peak			17:00	16:00	17:00	15:00									17:00	17:00
Vol.			333	716	334	910									334	780

Comb. Total	0	13041	13870	2493	0	0	0	13479
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ADT	ADT 13,456	AADT 13,456
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25603-04

I-64 WB on ramp fm WB Victory
I-64 WB off ramp to WB Oyster Pt

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	15	43	11	32	13	45	*	*	*	*	*	*	13	40
01:00	*	*	4	22	5	19	5	11	*	*	*	*	*	*	5	17
02:00	*	*	6	7	9	8	8	9	*	*	*	*	*	*	8	8
03:00	*	*	2	18	5	3	5	13	*	*	*	*	*	*	4	11
04:00	*	*	6	12	8	21	8	17	*	*	*	*	*	*	7	17
05:00	*	*	25	54	38	54	21	60	*	*	*	*	*	*	28	56
06:00	*	*	92	129	82	153	95	131	*	*	*	*	*	*	90	138
07:00	*	*	130	261	134	239	126	248	*	*	*	*	*	*	130	249
08:00	*	*	148	256	153	250	168	247	*	*	*	*	*	*	156	251
09:00	*	*	97	232	133	241	*	*	*	*	*	*	*	*	115	236
10:00	*	*	124	215	101	210	*	*	*	*	*	*	*	*	112	212
11:00	*	*	101	218	114	212	*	*	*	*	*	*	*	*	108	215
12:00 PM	*	*	129	280	118	296	*	*	*	*	*	*	*	*	124	288
01:00	*	*	119	274	140	256	*	*	*	*	*	*	*	*	130	265
02:00	*	*	125	337	121	329	*	*	*	*	*	*	*	*	123	333
03:00	*	*	172	460	138	497	*	*	*	*	*	*	*	*	155	478
04:00	*	*	239	782	224	747	*	*	*	*	*	*	*	*	232	764
05:00	*	*	240	744	238	813	*	*	*	*	*	*	*	*	239	778
06:00	*	*	138	417	146	457	*	*	*	*	*	*	*	*	142	437
07:00	*	*	85	245	86	248	*	*	*	*	*	*	*	*	86	246
08:00	*	*	73	200	70	223	*	*	*	*	*	*	*	*	72	212
09:00	*	*	54	156	75	193	*	*	*	*	*	*	*	*	64	174
10:00	*	*	34	102	50	91	*	*	*	*	*	*	*	*	42	96
11:00	*	*	18	66	20	71	*	*	*	*	*	*	*	*	19	68
Lane	0	0	2176	5530	2219	5663	449	781	0	0	0	0	0	0	2204	5589
Day	0		7706		7882		1230		0		0		0		7793	
AM Peak			08:00	07:00	08:00	08:00	08:00	07:00							08:00	08:00
Vol.			148	261	153	250	168	248							156	251
PM Peak			17:00	16:00	17:00	17:00									17:00	17:00
Vol.			240	782	238	813									239	778

Comb. Total	0	7706	7882	1230	0	0	0	7793
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ADT	ADT 7,794	AADT 7,794
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25605-06

I-64 EB on ramp fm WB Victory
I-64 EB off ramp to WB Oyster Pt

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	77	34	70	35	57	32	*	*	*	*	*	*	68	34
01:00	*	*	34	14	32	11	42	18	*	*	*	*	*	*	36	14
02:00	*	*	20	14	18	17	29	23	*	*	*	*	*	*	22	18
03:00	*	*	24	8	34	6	27	9	*	*	*	*	*	*	28	8
04:00	*	*	88	7	88	12	88	9	*	*	*	*	*	*	88	9
05:00	*	*	261	48	249	43	253	47	*	*	*	*	*	*	254	46
06:00	*	*	633	135	649	148	639	154	*	*	*	*	*	*	640	146
07:00	*	*	875	220	876	250	884	242	*	*	*	*	*	*	878	237
08:00	*	*	726	206	681	237	672	282	*	*	*	*	*	*	693	242
09:00	*	*	475	162	510	208	*	*	*	*	*	*	*	*	492	185
10:00	*	*	472	143	429	173	*	*	*	*	*	*	*	*	450	158
11:00	*	*	393	162	431	219	*	*	*	*	*	*	*	*	412	190
12:00 PM	*	*	478	156	464	214	*	*	*	*	*	*	*	*	471	185
01:00	*	*	492	180	499	216	*	*	*	*	*	*	*	*	496	198
02:00	*	*	502	205	516	197	*	*	*	*	*	*	*	*	509	201
03:00	*	*	680	293	703	272	*	*	*	*	*	*	*	*	692	282
04:00	*	*	653	394	643	406	*	*	*	*	*	*	*	*	648	400
05:00	*	*	625	503	669	486	*	*	*	*	*	*	*	*	647	494
06:00	*	*	517	308	518	329	*	*	*	*	*	*	*	*	518	318
07:00	*	*	358	205	378	221	*	*	*	*	*	*	*	*	368	213
08:00	*	*	406	133	340	163	*	*	*	*	*	*	*	*	373	148
09:00	*	*	335	153	316	194	*	*	*	*	*	*	*	*	326	174
10:00	*	*	146	93	190	112	*	*	*	*	*	*	*	*	168	102
11:00	*	*	111	66	117	61	*	*	*	*	*	*	*	*	114	64
Lane	0	0	9381	3842	9420	4230	2691	816	0	0	0	0	0	0	9391	4066
Day	0	0	13223		13650		3507		0	0	0	0	0	0	13457	
AM Peak			07:00	07:00	07:00	07:00	07:00	08:00							07:00	08:00
Vol.			875	220	876	250	884	282							878	242
PM Peak			15:00	17:00	15:00	17:00									15:00	17:00
Vol.			680	503	703	486									692	494

Comb. Total	0	13223	13650	3507	0	0	0	13457
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ADT	ADT 13,436	AADT 13,436
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25607-08

I-64 EB on ramp fm EB Oyster Pt
I-64 EB off ramp to EB Victory

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	25	15	22	11	24	11	*	*	*	*	*	*	24	12
01:00	*	*	15	10	19	10	11	3	*	*	*	*	*	*	15	8
02:00	*	*	13	3	7	5	3	10	*	*	*	*	*	*	8	6
03:00	*	*	20	13	16	5	15	11	*	*	*	*	*	*	17	10
04:00	*	*	59	18	52	31	57	24	*	*	*	*	*	*	56	24
05:00	*	*	183	30	185	24	193	43	*	*	*	*	*	*	187	32
06:00	*	*	487	88	482	109	513	142	*	*	*	*	*	*	494	113
07:00	*	*	789	193	832	200	786	235	*	*	*	*	*	*	802	209
08:00	*	*	506	172	453	184	499	227	*	*	*	*	*	*	486	194
09:00	*	*	290	107	274	111	*	*	*	*	*	*	*	*	282	109
10:00	*	*	252	103	219	113	*	*	*	*	*	*	*	*	236	108
11:00	*	*	251	93	273	107	*	*	*	*	*	*	*	*	262	100
12:00 PM	*	*	251	108	277	116	*	*	*	*	*	*	*	*	264	112
01:00	*	*	293	70	292	119	*	*	*	*	*	*	*	*	292	94
02:00	*	*	281	94	305	114	*	*	*	*	*	*	*	*	293	104
03:00	*	*	305	85	322	148	*	*	*	*	*	*	*	*	314	116
04:00	*	*	296	101	333	128	*	*	*	*	*	*	*	*	314	114
05:00	*	*	358	109	376	145	*	*	*	*	*	*	*	*	367	127
06:00	*	*	315	61	334	138	*	*	*	*	*	*	*	*	324	100
07:00	*	*	236	42	215	63	*	*	*	*	*	*	*	*	226	52
08:00	*	*	188	23	158	41	*	*	*	*	*	*	*	*	173	32
09:00	*	*	180	22	135	36	*	*	*	*	*	*	*	*	158	29
10:00	*	*	66	23	91	29	*	*	*	*	*	*	*	*	78	26
11:00	*	*	50	21	45	21	*	*	*	*	*	*	*	*	48	21
Lane	0	0	5709	1604	5717	2008	2101	706	0	0	0	0	0	0	5720	1852
Day	0	0	7313		7725		2807		0	0	0	0	0	0	7572	
AM Peak			07:00	07:00	07:00	07:00	07:00	07:00							07:00	07:00
Vol.			789	193	832	200	786	235							802	209
PM Peak			17:00	17:00	17:00	15:00									17:00	17:00
Vol.			358	109	376	148									367	127

Comb. Total	0	7313	7725	2807	0	0	0	7572
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ADT	ADT 7,519	AADT 7,519						
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25801-02

I-64 WB on ramp fm EB J Clyde Morris
I-64 WB off ramp to EB J Clyde Morris

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	16	95	20	79	15	95	*	*	*	*	*	*	17	90
01:00	*	*	9	37	11	36	8	45	*	*	*	*	*	*	9	39
02:00	*	*	10	48	5	36	5	53	*	*	*	*	*	*	7	46
03:00	*	*	9	40	12	48	15	45	*	*	*	*	*	*	12	44
04:00	*	*	23	74	22	65	21	85	*	*	*	*	*	*	22	75
05:00	*	*	90	151	86	154	70	146	*	*	*	*	*	*	82	150
06:00	*	*	173	581	183	567	183	566	*	*	*	*	*	*	180	571
07:00	*	*	217	1247	218	1187	225	1210	*	*	*	*	*	*	220	1215
08:00	*	*	171	1207	170	1121	157	1233	*	*	*	*	*	*	166	1187
09:00	*	*	120	864	127	999	129	863	*	*	*	*	*	*	125	909
10:00	*	*	101	754	89	762	*	*	*	*	*	*	*	*	95	758
11:00	*	*	119	672	128	756	*	*	*	*	*	*	*	*	124	714
12:00 PM	*	*	105	730	116	830	*	*	*	*	*	*	*	*	110	780
01:00	*	*	126	794	144	746	*	*	*	*	*	*	*	*	135	770
02:00	*	*	109	761	120	742	*	*	*	*	*	*	*	*	114	752
03:00	*	*	135	877	133	818	*	*	*	*	*	*	*	*	134	848
04:00	*	*	177	906	159	917	*	*	*	*	*	*	*	*	168	912
05:00	*	*	172	897	171	1024	*	*	*	*	*	*	*	*	172	960
06:00	*	*	128	660	122	773	*	*	*	*	*	*	*	*	125	716
07:00	*	*	91	415	129	446	*	*	*	*	*	*	*	*	110	430
08:00	*	*	97	330	97	386	*	*	*	*	*	*	*	*	97	358
09:00	*	*	60	300	74	309	*	*	*	*	*	*	*	*	67	304
10:00	*	*	44	211	45	256	*	*	*	*	*	*	*	*	44	234
11:00	*	*	34	145	27	184	*	*	*	*	*	*	*	*	30	164
Lane	0	0	2336	12796	2408	13241	828	4341	0	0	0	0	0	0	2365	13026
Day	0		15132		15649		5169		0		0		0		15391	
AM Peak			07:00	07:00	07:00	07:00	07:00	08:00							07:00	07:00
Vol.			217	1247	218	1187	225	1233							220	1215
PM Peak			16:00	16:00	17:00	17:00									17:00	17:00
Vol.			177	906	171	1024									172	960

Comb. Total	0	15132	15649	5169	0	0	0	15391
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ADT	ADT 15,390	AADT 15,390
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25803-04

I-64 WB on ramp fm WB J Clyde Morris
I-64 WB off ramp to WB J Clyde Morris

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	41	66	37	59	47	75	*	*	*	*	*	*	42	67
01:00	*	*	26	42	20	40	20	31	*	*	*	*	*	*	22	38
02:00	*	*	17	27	18	23	15	30	*	*	*	*	*	*	17	27
03:00	*	*	11	16	22	35	19	28	*	*	*	*	*	*	17	26
04:00	*	*	37	33	38	35	38	36	*	*	*	*	*	*	38	35
05:00	*	*	127	93	117	80	114	104	*	*	*	*	*	*	119	92
06:00	*	*	309	280	320	249	301	281	*	*	*	*	*	*	310	270
07:00	*	*	373	410	358	441	402	432	*	*	*	*	*	*	378	428
08:00	*	*	358	385	353	348	383	405	*	*	*	*	*	*	365	379
09:00	*	*	248	317	323	426	304	436	*	*	*	*	*	*	292	393
10:00	*	*	229	353	264	328	*	*	*	*	*	*	*	*	246	340
11:00	*	*	280	366	263	380	*	*	*	*	*	*	*	*	272	373
12:00 PM	*	*	295	394	360	450	*	*	*	*	*	*	*	*	328	422
01:00	*	*	324	374	326	412	*	*	*	*	*	*	*	*	325	393
02:00	*	*	341	430	388	449	*	*	*	*	*	*	*	*	364	440
03:00	*	*	401	609	373	630	*	*	*	*	*	*	*	*	387	620
04:00	*	*	490	685	406	762	*	*	*	*	*	*	*	*	448	724
05:00	*	*	433	616	432	735	*	*	*	*	*	*	*	*	432	676
06:00	*	*	293	473	317	495	*	*	*	*	*	*	*	*	305	484
07:00	*	*	223	298	219	310	*	*	*	*	*	*	*	*	221	304
08:00	*	*	182	247	211	311	*	*	*	*	*	*	*	*	196	279
09:00	*	*	155	189	173	242	*	*	*	*	*	*	*	*	164	216
10:00	*	*	113	163	115	175	*	*	*	*	*	*	*	*	114	169
11:00	*	*	62	107	75	98	*	*	*	*	*	*	*	*	68	102
Lane	0	0	5368	6973	5528	7513	1643	1858	0	0	0	0	0	0	5470	7297
Day	0	0	12341		13041		3501		0	0	0	0	0	0	12767	
AM Peak			07:00	07:00	07:00	07:00	07:00	09:00							07:00	07:00
Vol.			373	410	358	441	402	436							378	428
PM Peak			16:00	16:00	17:00	16:00									16:00	16:00
Vol.			490	685	432	762									448	724

Comb. Total	0	12341	13041	3501	0	0	0	12767
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ADT	ADT 12,691	AADT 12,691
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25805-06

I-64 EB off ramp to WB J Clyde Morris
I-64 EB on ramp fm WB J Clyde Morris

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on
12:00 AM	*	*	*	*	*	*	103	28	*	*	*	*	*	*	103	28
01:00	*	*	*	*	*	*	68	11	*	*	*	*	*	*	68	11
02:00	*	*	*	*	*	*	59	15	*	*	*	*	*	*	59	15
03:00	*	*	*	*	*	*	47	9	*	*	*	*	*	*	47	9
04:00	*	*	*	*	*	*	83	8	*	*	*	*	*	*	83	8
05:00	*	*	*	*	*	*	273	22	*	*	*	*	*	*	273	22
06:00	*	*	*	*	*	*	537	60	*	*	*	*	*	*	537	60
07:00	*	*	*	*	*	*	735	116	*	*	*	*	*	*	735	116
08:00	*	*	*	*	*	*	693	450	*	*	*	*	*	*	693	450
09:00	*	*	*	*	*	*	710	98	*	*	*	*	*	*	710	98
10:00	*	*	*	*	673	66	*	*	*	*	*	*	*	*	673	66
11:00	*	*	*	*	816	108	*	*	*	*	*	*	*	*	816	108
12:00 PM	*	*	*	*	876	91	*	*	*	*	*	*	*	*	876	91
01:00	*	*	*	*	863	108	*	*	*	*	*	*	*	*	863	108
02:00	*	*	*	*	814	120	*	*	*	*	*	*	*	*	814	120
03:00	*	*	*	*	1000	131	*	*	*	*	*	*	*	*	1000	131
04:00	*	*	*	*	1151	171	*	*	*	*	*	*	*	*	1151	171
05:00	*	*	*	*	1154	210	*	*	*	*	*	*	*	*	1154	210
06:00	*	*	*	*	766	142	*	*	*	*	*	*	*	*	766	142
07:00	*	*	*	*	536	115	*	*	*	*	*	*	*	*	536	115
08:00	*	*	*	*	483	83	*	*	*	*	*	*	*	*	483	83
09:00	*	*	*	*	531	92	*	*	*	*	*	*	*	*	531	92
10:00	*	*	*	*	260	52	*	*	*	*	*	*	*	*	260	52
11:00	*	*	*	*	201	41	*	*	*	*	*	*	*	*	201	41
Lane	0	0	0	0	10124	1530	3308	817	0	0	0	0	0	0	13432	2347
Day	0	0	0	0	11654	1530	4125	817	0	0	0	0	0	0	15779	2347
AM Peak					11:00	11:00	07:00	08:00							11:00	08:00
Vol.					816	108	735	450							816	450
PM Peak					17:00	17:00									17:00	17:00
Vol.					1154	210									1154	210

Comb. Total	0	0	11654	4125	0	0	0	15779
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ADT Not Calculated

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25807-08

I-64 EB on ramp fm EB J Clyde Morris
I-64 EB off ramp to EB J Clyde Morris

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	35	37	38	44	43	51	*	*	*	*	*	*	39	44
01:00	*	*	39	24	21	24	30	29	*	*	*	*	*	*	30	26
02:00	*	*	24	14	12	17	27	21	*	*	*	*	*	*	21	17
03:00	*	*	49	13	22	9	28	15	*	*	*	*	*	*	33	12
04:00	*	*	104	23	117	35	109	32	*	*	*	*	*	*	110	30
05:00	*	*	332	79	326	77	326	76	*	*	*	*	*	*	328	77
06:00	*	*	577	157	587	173	583	182	*	*	*	*	*	*	582	171
07:00	*	*	538	480	535	492	566	539	*	*	*	*	*	*	546	504
08:00	*	*	363	473	376	518	404	624	*	*	*	*	*	*	381	538
09:00	*	*	308	349	311	377	337	382	*	*	*	*	*	*	319	369
10:00	*	*	264	281	273	306	*	*	*	*	*	*	*	*	268	294
11:00	*	*	236	247	278	300	*	*	*	*	*	*	*	*	257	274
12:00 PM	*	*	259	269	322	292	*	*	*	*	*	*	*	*	290	280
01:00	*	*	268	285	335	377	*	*	*	*	*	*	*	*	302	331
02:00	*	*	300	302	280	304	*	*	*	*	*	*	*	*	290	303
03:00	*	*	369	398	395	378	*	*	*	*	*	*	*	*	382	388
04:00	*	*	351	436	414	430	*	*	*	*	*	*	*	*	382	433
05:00	*	*	374	466	373	517	*	*	*	*	*	*	*	*	374	492
06:00	*	*	290	301	337	320	*	*	*	*	*	*	*	*	314	310
07:00	*	*	188	158	209	199	*	*	*	*	*	*	*	*	198	178
08:00	*	*	204	122	192	151	*	*	*	*	*	*	*	*	198	136
09:00	*	*	148	138	156	136	*	*	*	*	*	*	*	*	152	137
10:00	*	*	119	81	104	99	*	*	*	*	*	*	*	*	112	90
11:00	*	*	55	60	75	58	*	*	*	*	*	*	*	*	65	59
Lane	0	0	5794	5193	6088	5633	2453	1951	0	0	0	0	0	0	5973	5493
Day	0		10987		11721		4404		0		0		0		11466	
AM Peak			06:00	07:00	06:00	08:00	06:00	08:00							06:00	08:00
Vol.			577	480	587	518	583	624							582	538
PM Peak			17:00	17:00	16:00	17:00									15:00	17:00
Vol.			374	466	414	517									382	492

Comb. Total	0	10987	11721	4404	0	0	0	11466
ADT	ADT 11,354	AADT 11,354						

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #25809

J Clyde Morris Blvd

Start Time	11-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	161	167	176	144	233	186	*	*	*	*	*	*	190	166
01:00	*	*	88	87	69	86	96	115	*	*	*	*	*	*	84	96
02:00	*	*	58	77	50	78	78	99	*	*	*	*	*	*	62	85
03:00	*	*	55	90	48	82	58	82	*	*	*	*	*	*	54	85
04:00	*	*	71	204	76	189	74	207	*	*	*	*	*	*	74	200
05:00	*	*	222	563	220	569	214	543	*	*	*	*	*	*	219	558
06:00	*	*	556	1172	627	1199	624	1165	*	*	*	*	*	*	602	1179
07:00	*	*	888	1992	883	1994	934	1970	*	*	*	*	*	*	902	1985
08:00	*	*	864	2034	878	2047	889	2160	*	*	*	*	*	*	877	2080
09:00	*	*	818	1637	933	1745	910	1665	*	*	*	*	*	*	887	1682
10:00	*	*	907	1452	874	1436	*	*	*	*	*	*	*	*	890	1444
11:00	*	*	1074	1384	969	1456	*	*	*	*	*	*	*	*	1022	1420
12:00 PM	*	*	1128	1454	1169	1628	*	*	*	*	*	*	*	*	1148	1541
01:00	*	*	1068	1582	1118	1592	*	*	*	*	*	*	*	*	1093	1587
02:00	*	*	1128	1486	1189	1447	*	*	*	*	*	*	*	*	1158	1466
03:00	*	*	1383	1621	1441	1605	*	*	*	*	*	*	*	*	1412	1613
04:00	*	*	1575	1708	1544	1690	*	*	*	*	*	*	*	*	1560	1699
05:00	*	*	1458	1709	1550	1824	*	*	*	*	*	*	*	*	1504	1766
06:00	*	*	1103	1254	1159	1478	*	*	*	*	*	*	*	*	1131	1366
07:00	*	*	808	870	855	1012	*	*	*	*	*	*	*	*	832	941
08:00	*	*	661	681	742	769	*	*	*	*	*	*	*	*	702	725
09:00	*	*	559	634	610	630	*	*	*	*	*	*	*	*	584	632
10:00	*	*	349	440	352	485	*	*	*	*	*	*	*	*	350	462
11:00	*	*	244	279	243	318	*	*	*	*	*	*	*	*	244	298
Lane	0	0	17226	24577	17775	25503	4110	8192	0	0	0	0	0	0	17581	25076
Day	0		41803		43278		12302		0		0		0		42657	
AM Peak			11:00	08:00	11:00	08:00	07:00	08:00							11:00	08:00
Vol.			1074	2034	969	2047	934	2160							1022	2080
PM Peak			16:00	17:00	17:00	17:00									16:00	17:00
Vol.			1575	1709	1550	1824									1560	1766

Comb. Total	0	41803	43278	12302	0	0	0	42657
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ADT	ADT 42,540	AADT 42,540
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26102

I-64 WB on ramp fm EB HR Ctr Pkwy

Start Time	Mon 18-Apr-11	Tue 19-Apr-11	Wed 20-Apr-11	Thu 21-Apr-11	Fri 22-Apr-11	Average Day	Sat 23-Apr-11	Sun 24-Apr-11	Week Average
12:00 AM	*	28	41	30	*	33	*	*	33
01:00	*	14	18	21	*	18	*	*	18
02:00	*	12	14	23	*	16	*	*	16
03:00	*	15	22	16	*	18	*	*	18
04:00	*	36	38	37	*	37	*	*	37
05:00	*	122	128	136	*	129	*	*	129
06:00	*	335	333	334	*	334	*	*	334
07:00	*	363	366	346	*	358	*	*	358
08:00	*	341	329	332	*	334	*	*	334
09:00	*	291	240	297	*	276	*	*	276
10:00	*	238	244	278	*	253	*	*	253
11:00	*	243	254	269	*	255	*	*	255
12:00 PM	*	306	323	301	*	310	*	*	310
01:00	*	327	284	339	*	317	*	*	317
02:00	*	289	288	309	*	295	*	*	295
03:00	*	331	339	*	*	335	*	*	335
04:00	*	255	293	*	*	274	*	*	274
05:00	*	299	319	*	*	309	*	*	309
06:00	*	294	315	*	*	304	*	*	304
07:00	*	254	244	*	*	249	*	*	249
08:00	*	229	233	*	*	231	*	*	231
09:00	*	194	211	*	*	202	*	*	202
10:00	*	129	157	*	*	143	*	*	143
11:00	*	79	73	*	*	76	*	*	76
Day Total	0	5024	5106	3068	0	5106	0	0	5106
% Avg. WkDay	0.0%	98.4%	100.0%	60.1%	0.0%				
% Avg. Week	0.0%	98.4%	100.0%	60.1%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	07:00		07:00			07:00
Vol.		363	366	346		358			358
PM Peak		15:00	15:00	13:00		15:00			15:00
Vol.		331	339	339		335			335
Grand Total	0	5024	5106	3068	0	5106	0	0	5106
ADT		ADT 5,065		ADT 5,065					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26103-04

I-64 WB on ramp fm WB HR Ctr Pkwy
I-64 WB off ramp to WB HR Ctr Pkwy

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	*	*	66	63	61	67	*	*	*	*	*	*	64	65
01:00	*	*	*	*	34	32	32	31	*	*	*	*	*	*	33	32
02:00	*	*	*	*	28	19	19	25	*	*	*	*	*	*	24	22
03:00	*	*	*	*	31	20	24	21	*	*	*	*	*	*	28	20
04:00	*	*	*	*	41	20	41	17	*	*	*	*	*	*	41	18
05:00	*	*	*	*	135	35	124	43	*	*	*	*	*	*	130	39
06:00	*	*	*	*	339	178	354	166	*	*	*	*	*	*	346	172
07:00	*	*	*	*	578	379	591	309	*	*	*	*	*	*	584	344
08:00	*	*	*	*	507	253	493	316	*	*	*	*	*	*	500	284
09:00	*	*	*	*	519	226	542	263	*	*	*	*	*	*	530	244
10:00	*	*	*	*	555	239	562	261	*	*	*	*	*	*	558	250
11:00	*	*	*	*	618	274	656	294	*	*	*	*	*	*	637	284
12:00 PM	*	*	*	*	606	318	612	277	*	*	*	*	*	*	609	298
01:00	*	*	*	*	571	292	608	356	*	*	*	*	*	*	590	324
02:00	*	*	*	*	640	365	676	332	*	*	*	*	*	*	658	348
03:00	*	*	*	*	887	461	*	*	*	*	*	*	*	*	887	461
04:00	*	*	*	*	1238	662	*	*	*	*	*	*	*	*	1238	662
05:00	*	*	*	*	1197	614	*	*	*	*	*	*	*	*	1197	614
06:00	*	*	*	*	741	432	*	*	*	*	*	*	*	*	741	432
07:00	*	*	463	401	459	337	*	*	*	*	*	*	*	*	461	369
08:00	*	*	351	322	404	358	*	*	*	*	*	*	*	*	378	340
09:00	*	*	323	224	274	291	*	*	*	*	*	*	*	*	298	258
10:00	*	*	179	186	184	165	*	*	*	*	*	*	*	*	182	176
11:00	*	*	103	109	115	124	*	*	*	*	*	*	*	*	109	116
Lane	0	0	1419	1242	10767	6157	5395	2778	0	0	0	0	0	0	10823	6172
Day	0	0	2661		16924		8173		0	0	0	0	0	0	16995	
AM Peak					11:00	07:00	11:00	08:00							11:00	07:00
Vol.					618	379	656	316							637	344
PM Peak			19:00	19:00	16:00	16:00	14:00	13:00							16:00	16:00
Vol.			463	401	1238	662	676	356							1238	662

Comb. Total	0	2661	16924	8173	0	0	0	16995
ADT	ADT 16,924	AADT 16,924						

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26105

I-64 EB off ramp to WB HR Ctr Pkwy

Start Time	Mon 18-Apr-11	Tue 19-Apr-11	Wed 20-Apr-11	Thu 21-Apr-11	Fri 22-Apr-11	Average Day	Sat 23-Apr-11	Sun 24-Apr-11	Week Average
12:00 AM	*	61	57	63	*	60	*	*	60
01:00	*	30	27	37	*	31	*	*	31
02:00	*	22	16	19	*	19	*	*	19
03:00	*	11	20	22	*	18	*	*	18
04:00	*	17	21	15	*	18	*	*	18
05:00	*	41	39	42	*	41	*	*	41
06:00	*	136	158	120	*	138	*	*	138
07:00	*	371	381	360	*	371	*	*	371
08:00	*	342	332	364	*	346	*	*	346
09:00	*	384	334	376	*	365	*	*	365
10:00	*	317	272	329	*	306	*	*	306
11:00	*	339	331	339	*	336	*	*	336
12:00 PM	*	391	399	375	*	388	*	*	388
01:00	*	373	379	336	*	363	*	*	363
02:00	*	326	368	354	*	349	*	*	349
03:00	*	416	424	*	*	420	*	*	420
04:00	*	509	551	*	*	530	*	*	530
05:00	*	590	608	*	*	599	*	*	599
06:00	*	488	536	*	*	512	*	*	512
07:00	*	321	306	*	*	314	*	*	314
08:00	*	250	260	*	*	255	*	*	255
09:00	*	201	251	*	*	226	*	*	226
10:00	*	135	152	*	*	144	*	*	144
11:00	*	77	86	*	*	82	*	*	82
Day Total	0	6148	6308	3151	0	6231	0	0	6231
% Avg. WkDay	0.0%	98.7%	101.2%	50.6%	0.0%				
% Avg. Week	0.0%	98.7%	101.2%	50.6%	0.0%	100.0%	0.0%	0.0%	
AM Peak		09:00	07:00	09:00		07:00			07:00
Vol.		384	381	376		371			371
PM Peak		17:00	17:00	12:00		17:00			17:00
Vol.		590	608	375		599			599
Grand Total	0	6148	6308	3151	0	6231	0	0	6231
ADT		ADT 6,228		AADT 6,228					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26107-08

I-64 EB on ramp fm EB HR Ctr Pkwy
I-64 EB off ramp to EB HR Ctr Pkwy

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	*	*	57	56	50	21	36	46	*	*	*	*	*	*	48	41
01:00	*	*	28	20	27	30	23	27	*	*	*	*	*	*	26	26
02:00	*	*	25	10	20	21	30	21	*	*	*	*	*	*	25	17
03:00	*	*	20	21	38	25	30	15	*	*	*	*	*	*	29	20
04:00	*	*	76	46	66	34	76	37	*	*	*	*	*	*	73	39
05:00	*	*	282	144	291	147	257	137	*	*	*	*	*	*	277	143
06:00	*	*	553	674	553	690	591	678	*	*	*	*	*	*	566	681
07:00	*	*	814	1109	804	1073	801	1068	*	*	*	*	*	*	806	1083
08:00	*	*	600	839	599	794	554	821	*	*	*	*	*	*	584	818
09:00	*	*	390	472	394	484	402	460	*	*	*	*	*	*	395	472
10:00	*	*	387	373	360	398	393	391	*	*	*	*	*	*	380	387
11:00	*	*	373	357	318	373	374	390	*	*	*	*	*	*	355	373
12:00 PM	*	*	389	413	376	396	400	407	*	*	*	*	*	*	388	405
01:00	*	*	378	386	444	367	418	424	*	*	*	*	*	*	413	392
02:00	*	*	362	418	402	323	404	400	*	*	*	*	*	*	389	380
03:00	*	*	498	395	507	346	465	467	*	*	*	*	*	*	490	403
04:00	*	*	409	404	419	368	402	442	*	*	*	*	*	*	410	405
05:00	*	*	470	455	461	387	456	414	*	*	*	*	*	*	462	419
06:00	*	*	429	333	452	332	*	*	*	*	*	*	*	*	440	332
07:00	*	*	319	220	353	252	*	*	*	*	*	*	*	*	336	236
08:00	*	*	260	200	268	204	*	*	*	*	*	*	*	*	264	202
09:00	*	*	233	202	278	177	*	*	*	*	*	*	*	*	256	190
10:00	*	*	149	138	144	104	*	*	*	*	*	*	*	*	146	121
11:00	*	*	107	60	83	79	*	*	*	*	*	*	*	*	95	70
Lane	0	0	7608	7745	7707	7425	6112	6645	0	0	0	0	0	0	7653	7655
Day	0	0	15353		15132		12757		0	0	0	0	0	0	15308	
AM Peak			07:00	07:00	07:00	07:00	07:00	07:00							07:00	07:00
Vol.			814	1109	804	1073	801	1068							806	1083
PM Peak			15:00	17:00	15:00	12:00	15:00	15:00							15:00	17:00
Vol.			498	455	507	396	465	467							490	419

Comb. Total	0	15353	15132	12757	0	0	0	15308
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ADT	ADT 15,242	AADT 15,242
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26201

I-64 WB off ramp to NB Magruder

Start Time	Mon 18-Apr-11	Tue 19-Apr-11	Wed 20-Apr-11	Thu 21-Apr-11	Fri 22-Apr-11	Average Day	Sat 23-Apr-11	Sun 24-Apr-11	Week Average
12:00 AM	*	104	123	144	*	124	*	*	124
01:00	*	56	49	97	*	67	*	*	67
02:00	*	47	46	60	*	51	*	*	51
03:00	*	25	41	28	*	31	*	*	31
04:00	*	49	49	57	*	52	*	*	52
05:00	*	167	186	164	*	172	*	*	172
06:00	*	657	668	646	*	657	*	*	657
07:00	*	1147	1162	1027	*	1112	*	*	1112
08:00	*	1118	1108	1135	*	1120	*	*	1120
09:00	*	738	753	783	*	758	*	*	758
10:00	*	726	732	679	*	712	*	*	712
11:00	*	632	668	692	*	664	*	*	664
12:00 PM	*	771	812	752	*	778	*	*	778
01:00	*	638	828	740	*	735	*	*	735
02:00	*	791	829	760	*	793	*	*	793
03:00	*	1051	1066	1034	*	1050	*	*	1050
04:00	*	1307	1336	1352	*	1332	*	*	1332
05:00	*	1180	1148	1170	*	1166	*	*	1166
06:00	*	858	853	806	*	839	*	*	839
07:00	*	642	557	*	*	600	*	*	600
08:00	*	499	530	*	*	514	*	*	514
09:00	*	416	431	*	*	424	*	*	424
10:00	*	320	321	*	*	320	*	*	320
11:00	*	192	209	*	*	200	*	*	200
Day Total	0	14131	14505	12126	0	14271	0	0	14271
% Avg. WkDay	0.0%	99.0%	101.6%	85.0%	0.0%				
% Avg. Week	0.0%	99.0%	101.6%	85.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00	08:00		08:00			08:00
Vol.		1147	1162	1135		1120			1120
PM Peak		16:00	16:00	16:00		16:00			16:00
Vol.		1307	1336	1352		1332			1332
Grand Total	0	14131	14505	12126	0	14271	0	0	14271

ADT

ADT 14,318

AADT 14,318

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26202-03

I-64 EB on ramp from SB Magruder
SB Magruder ramp to Mercury Blvd

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	SB ramp	EB on	SB ramp	EB on	SB ramp	EB on	SB ramp	EB on	SB ramp	EB on	SB ramp	EB on	SB ramp	EB on	SB ramp
12:00 AM	*	*	70	13	64	23	89	18	*	*	*	*	*	*	74	18
01:00	*	*	51	10	49	11	82	8	*	*	*	*	*	*	61	10
02:00	*	*	30	5	39	4	35	8	*	*	*	*	*	*	35	6
03:00	*	*	47	6	51	8	45	7	*	*	*	*	*	*	48	7
04:00	*	*	192	10	181	12	182	8	*	*	*	*	*	*	185	10
05:00	*	*	544	37	533	38	495	39	*	*	*	*	*	*	524	38
06:00	*	*	970	101	976	98	939	93	*	*	*	*	*	*	962	97
07:00	*	*	1157	159	1115	162	1067	160	*	*	*	*	*	*	1113	160
08:00	*	*	788	152	839	152	838	122	*	*	*	*	*	*	822	142
09:00	*	*	657	154	614	160	673	151	*	*	*	*	*	*	648	155
10:00	*	*	604	172	644	177	617	160	*	*	*	*	*	*	622	170
11:00	*	*	654	205	687	195	615	175	*	*	*	*	*	*	652	192
12:00 PM	*	*	696	198	682	212	701	205	*	*	*	*	*	*	693	205
01:00	*	*	571	193	657	174	658	187	*	*	*	*	*	*	629	185
02:00	*	*	736	203	763	175	774	169	*	*	*	*	*	*	758	182
03:00	*	*	968	222	975	235	924	209	*	*	*	*	*	*	956	222
04:00	*	*	958	303	923	286	895	271	*	*	*	*	*	*	925	287
05:00	*	*	1117	305	1027	307	1066	306	*	*	*	*	*	*	1070	306
06:00	*	*	742	236	753	241	742	224	*	*	*	*	*	*	746	234
07:00	*	*	473	147	498	156	*	*	*	*	*	*	*	*	486	152
08:00	*	*	423	89	386	107	*	*	*	*	*	*	*	*	404	98
09:00	*	*	327	83	395	96	*	*	*	*	*	*	*	*	361	90
10:00	*	*	231	53	238	52	*	*	*	*	*	*	*	*	234	52
11:00	*	*	118	25	142	26	*	*	*	*	*	*	*	*	130	26
Lane	0	0	13124	3081	13231	3107	11437	2520	0	0	0	0	0	0	13138	3044
Day	0	0	16205	16205	16338	16338	13957	13957	0	0	0	0	0	0	16182	16182
AM Peak			07:00	11:00	07:00	11:00	07:00	11:00							07:00	11:00
Vol.			1157	205	1115	195	1067	175							1113	192
PM Peak			17:00	17:00	17:00	17:00	17:00	17:00							17:00	17:00
Vol.			1117	305	1027	307	1066	306							1070	306

Comb. Total	0	16205	16338	13957	0	0	0	16182
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ADT	ADT 16,272	AADT 16,272
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26301 #6

I-64 WB off ramp to EB Mercury

Start Time	Mon 18-Apr-11	Tue 19-Apr-11	Wed 20-Apr-11	Thu 21-Apr-11	Fri 22-Apr-11	Average Day	Sat 23-Apr-11	Sun 24-Apr-11	Week Average
12:00 AM	*	91	65	97	*	84	*	*	84
01:00	*	26	47	50	*	41	*	*	41
02:00	*	20	51	40	*	37	*	*	37
03:00	*	24	27	27	*	26	*	*	26
04:00	*	34	31	29	*	31	*	*	31
05:00	*	84	64	75	*	74	*	*	74
06:00	*	159	182	151	*	164	*	*	164
07:00	*	301	312	309	*	307	*	*	307
08:00	*	379	417	430	*	409	*	*	409
09:00	*	332	362	348	*	347	*	*	347
10:00	*	375	394	422	*	397	*	*	397
11:00	*	453	520	517	*	497	*	*	497
12:00 PM	*	522	463	530	*	505	*	*	505
01:00	*	340	486	499	*	442	*	*	442
02:00	*	421	482	*	*	452	*	*	452
03:00	*	544	566	*	*	555	*	*	555
04:00	*	600	668	*	*	634	*	*	634
05:00	*	608	581	*	*	594	*	*	594
06:00	*	473	510	*	*	492	*	*	492
07:00	*	409	385	*	*	397	*	*	397
08:00	*	352	350	*	*	351	*	*	351
09:00	*	245	264	*	*	254	*	*	254
10:00	*	162	164	*	*	163	*	*	163
11:00	*	87	102	*	*	94	*	*	94
Day Total	0	7041	7493	3524	0	7347	0	0	7347
% Avg. WkDay	0.0%	95.8%	102.0%	48.0%	0.0%				
% Avg. Week	0.0%	95.8%	102.0%	48.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak		11:00	11:00	11:00		11:00			11:00
Vol.		453	520	517		497			497
PM Peak		17:00	16:00	12:00		16:00			16:00
Vol.		608	668	530		634			634
Grand Total	0	7041	7493	3524	0	7347	0	0	7347
ADT		ADT 7,267		AADT 7,267					

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26302-07

I-64 WB on ramp fm EB Mercury
I-64 EB on ramp fm EB Mercury

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	EB on	WB on	EB on	WB on	EB on	WB on	EB on	WB on	EB on	WB on	EB on	WB on	EB on	WB on	EB on
12:00 AM	*	*	73	75	100	87	104	102	*	*	*	*	*	*	92	88
01:00	*	*	41	37	47	44	80	107	*	*	*	*	*	*	56	63
02:00	*	*	37	28	34	41	62	74	*	*	*	*	*	*	44	48
03:00	*	*	33	31	45	27	44	40	*	*	*	*	*	*	41	33
04:00	*	*	69	79	63	82	78	79	*	*	*	*	*	*	70	80
05:00	*	*	192	326	225	308	194	305	*	*	*	*	*	*	204	313
06:00	*	*	545	513	521	506	547	530	*	*	*	*	*	*	538	516
07:00	*	*	800	690	803	667	758	657	*	*	*	*	*	*	787	671
08:00	*	*	665	579	640	604	646	579	*	*	*	*	*	*	650	587
09:00	*	*	544	465	563	478	561	454	*	*	*	*	*	*	556	466
10:00	*	*	533	431	599	431	556	423	*	*	*	*	*	*	563	428
11:00	*	*	537	455	535	503	538	421	*	*	*	*	*	*	537	460
12:00 PM	*	*	569	482	623	476	619	486	*	*	*	*	*	*	604	481
01:00	*	*	602	451	593	465	625	489	*	*	*	*	*	*	607	468
02:00	*	*	654	436	663	487	736	497	*	*	*	*	*	*	684	473
03:00	*	*	777	481	797	519	*	*	*	*	*	*	*	*	787	500
04:00	*	*	904	510	873	536	*	*	*	*	*	*	*	*	888	523
05:00	*	*	775	510	819	489	*	*	*	*	*	*	*	*	797	500
06:00	*	*	611	511	666	479	*	*	*	*	*	*	*	*	638	495
07:00	*	*	446	392	462	379	*	*	*	*	*	*	*	*	454	386
08:00	*	*	444	372	464	370	*	*	*	*	*	*	*	*	454	371
09:00	*	*	403	302	451	410	*	*	*	*	*	*	*	*	427	356
10:00	*	*	277	189	256	222	*	*	*	*	*	*	*	*	266	206
11:00	*	*	174	136	196	154	*	*	*	*	*	*	*	*	185	145
Lane	0	0	10705	8481	11038	8764	6148	5243	0	0	0	0	0	0	10929	8657
Day	0	0	19186	19186	19802	19802	11391	11391	0	0	0	0	0	0	19586	19586
AM Peak			07:00	07:00	07:00	07:00	07:00	07:00							07:00	07:00
Vol.			800	690	803	667	758	657							787	671
PM Peak			16:00	18:00	16:00	16:00	14:00	14:00							16:00	16:00
Vol.			904	511	873	536	736	497							888	523

Comb. Total	0	19186	19802	11391	0	0	0	19586
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ADT	ADT 19,494	AADT 19,494
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26303-04

I-64 WB on ramp fm WB Mercury
I-64 WB off ramp to WB Mercury

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	*	*	80	88	85	89	105	127	*	*	*	*	*	*	90	101
01:00	*	*	45	42	47	34	71	54	*	*	*	*	*	*	54	43
02:00	*	*	20	26	28	14	39	37	*	*	*	*	*	*	29	26
03:00	*	*	28	13	34	20	43	20	*	*	*	*	*	*	35	18
04:00	*	*	49	33	51	29	36	48	*	*	*	*	*	*	45	37
05:00	*	*	134	100	134	87	128	87	*	*	*	*	*	*	132	91
06:00	*	*	333	231	337	229	381	239	*	*	*	*	*	*	350	233
07:00	*	*	571	430	542	412	535	360	*	*	*	*	*	*	549	401
08:00	*	*	457	394	463	386	442	409	*	*	*	*	*	*	454	396
09:00	*	*	453	360	384	380	386	344	*	*	*	*	*	*	408	361
10:00	*	*	398	321	388	360	419	321	*	*	*	*	*	*	402	334
11:00	*	*	457	400	464	434	452	415	*	*	*	*	*	*	458	416
12:00 PM	*	*	532	426	538	440	597	392	*	*	*	*	*	*	556	419
01:00	*	*	519	228	580	442	529	410	*	*	*	*	*	*	543	360
02:00	*	*	449	358	559	502	*	*	*	*	*	*	*	*	504	430
03:00	*	*	565	587	540	542	*	*	*	*	*	*	*	*	552	564
04:00	*	*	597	627	574	592	*	*	*	*	*	*	*	*	586	610
05:00	*	*	625	643	644	581	*	*	*	*	*	*	*	*	634	612
06:00	*	*	520	517	559	501	*	*	*	*	*	*	*	*	540	509
07:00	*	*	506	435	460	428	*	*	*	*	*	*	*	*	483	432
08:00	*	*	470	343	399	340	*	*	*	*	*	*	*	*	434	342
09:00	*	*	462	220	361	240	*	*	*	*	*	*	*	*	412	230
10:00	*	*	251	175	217	226	*	*	*	*	*	*	*	*	234	200
11:00	*	*	137	101	149	154	*	*	*	*	*	*	*	*	143	128
Lane	0	0	8658	7098	8537	7462	4163	3263	0	0	0	0	0	0	8627	7293
Day	0		15756		15999		7426		0		0		0		15920	
AM Peak			07:00	07:00	07:00	11:00	07:00	11:00							07:00	11:00
Vol.			571	430	542	434	535	415							549	416
PM Peak			17:00	17:00	17:00	16:00	12:00	13:00							17:00	17:00
Vol.			625	643	644	592	597	410							634	612

Comb. Total	0	15756	15999	7426	0	0	0	15920
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ADT	ADT 15,878	AADT 15,878
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26305-08

I-64 EB off ramp to WB Mercury
I-64 EB off ramp to EB Mercury

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB to WB	EB to E	EB to W	EB to E	EB to W	EB to E	EB to W	EB to E	EB to W	EB to E	EB to W	EB to E	EB to W	EB to E	EB to W	EB to E
12:00 AM	*	*	*	*	88	85	96	82	*	*	*	*	*	*	92	84
01:00	*	*	*	*	51	40	63	47	*	*	*	*	*	*	57	44
02:00	*	*	*	*	33	36	48	45	*	*	*	*	*	*	40	40
03:00	*	*	*	*	29	25	40	16	*	*	*	*	*	*	34	20
04:00	*	*	*	*	89	30	78	41	*	*	*	*	*	*	84	36
05:00	*	*	*	*	212	66	224	53	*	*	*	*	*	*	218	60
06:00	*	*	*	*	426	209	444	230	*	*	*	*	*	*	435	220
07:00	*	*	*	*	659	478	615	506	*	*	*	*	*	*	637	492
08:00	*	*	*	*	571	459	575	531	*	*	*	*	*	*	573	495
09:00	*	*	*	*	502	377	490	419	*	*	*	*	*	*	496	398
10:00	*	*	*	*	484	412	508	428	*	*	*	*	*	*	496	420
11:00	*	*	*	*	550	484	558	462	*	*	*	*	*	*	554	473
12:00 PM	*	*	*	*	550	496	621	519	*	*	*	*	*	*	586	508
01:00	*	*	*	*	574	484	612	494	*	*	*	*	*	*	593	489
02:00	*	*	*	*	560	478	630	488	*	*	*	*	*	*	595	483
03:00	*	*	*	*	706	634	*	*	*	*	*	*	*	*	706	634
04:00	*	*	*	*	828	750	*	*	*	*	*	*	*	*	828	750
05:00	*	*	*	*	853	814	*	*	*	*	*	*	*	*	853	814
06:00	*	*	*	*	760	604	*	*	*	*	*	*	*	*	760	604
07:00	*	*	545	437	535	432	*	*	*	*	*	*	*	540	434	
08:00	*	*	388	373	431	372	*	*	*	*	*	*	*	410	372	
09:00	*	*	300	280	380	321	*	*	*	*	*	*	*	340	300	
10:00	*	*	237	185	236	173	*	*	*	*	*	*	*	236	179	
11:00	*	*	139	143	170	94	*	*	*	*	*	*	*	154	118	
Lane	0	0	1609	1418	10277	8353	5602	4361	0	0	0	0	0	0	10317	8467
Day	0	0	3027		18630		9963		0	0	0	0	0	0	18784	
AM Peak					07:00	11:00	07:00	08:00							07:00	08:00
Vol.					659	484	615	531							637	495
PM Peak			19:00	19:00	17:00	17:00	14:00	12:00							17:00	17:00
Vol.			545	437	853	814	630	519							853	814

Comb. Total	0	3027	18630	9963	0	0	0	18784
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ADT	ADT 18,630	AADT 18,630
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INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26306

I-64 EB on ramp fm WB Mercury

Start Time	Mon 18-Apr-11	Tue 19-Apr-11	Wed 20-Apr-11	Thu 21-Apr-11	Fri 22-Apr-11	Average Day	Sat 23-Apr-11	Sun 24-Apr-11	Week Average
12:00 AM	*	71	59	77	*	69	*	*	69
01:00	*	31	42	48	*	40	*	*	40
02:00	*	19	16	45	*	27	*	*	27
03:00	*	14	16	21	*	17	*	*	17
04:00	*	33	37	46	*	39	*	*	39
05:00	*	132	109	119	*	120	*	*	120
06:00	*	206	199	182	*	196	*	*	196
07:00	*	175	188	191	*	185	*	*	185
08:00	*	181	219	197	*	199	*	*	199
09:00	*	220	217	214	*	217	*	*	217
10:00	*	222	262	244	*	243	*	*	243
11:00	*	248	276	265	*	263	*	*	263
12:00 PM	*	372	408	359	*	380	*	*	380
01:00	*	334	370	383	*	362	*	*	362
02:00	*	298	349	360	*	336	*	*	336
03:00	*	298	349	*	*	324	*	*	324
04:00	*	306	322	*	*	314	*	*	314
05:00	*	329	401	*	*	365	*	*	365
06:00	*	334	280	*	*	307	*	*	307
07:00	*	303	305	*	*	304	*	*	304
08:00	*	300	316	*	*	308	*	*	308
09:00	*	270	240	*	*	255	*	*	255
10:00	*	186	166	*	*	176	*	*	176
11:00	*	110	127	*	*	118	*	*	118
Day Total	0	4992	5273	2751	0	5164	0	0	5164
% Avg. WkDay	0.0%	96.7%	102.1%	53.3%	0.0%				
% Avg. Week	0.0%	96.7%	102.1%	53.3%	0.0%	100.0%	0.0%	0.0%	
AM Peak		11:00	11:00	11:00		11:00			11:00
Vol.		248	276	265		263			263
PM Peak		12:00	12:00	13:00		12:00			12:00
Vol.		372	408	383		380			380
Grand Total	0	4992	5273	2751	0	5164	0	0	5164

ADT

ADT 5,132

AADT 5,132

INTERMODAL ENGINEERING

I-64 EIS counts

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #26309

Mercury Blvd EB
Mercury Blvd WB

Start Time	18-Apr-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	141	219	140	230	163	317	*	*	*	*	*	*	148	255
01:00	*	*	69	140	75	138	122	177	*	*	*	*	*	*	89	152
02:00	*	*	57	84	59	85	162	124	*	*	*	*	*	*	93	98
03:00	*	*	40	60	60	72	57	78	*	*	*	*	*	*	52	70
04:00	*	*	54	134	52	119	52	141	*	*	*	*	*	*	53	131
05:00	*	*	131	335	142	345	135	323	*	*	*	*	*	*	136	334
06:00	*	*	422	656	430	649	462	656	*	*	*	*	*	*	438	654
07:00	*	*	916	1087	909	1075	944	1054	*	*	*	*	*	*	923	1072
08:00	*	*	823	1112	843	1152	901	1125	*	*	*	*	*	*	856	1130
09:00	*	*	801	1151	844	1171	781	1129	*	*	*	*	*	*	809	1150
10:00	*	*	919	1232	981	1272	902	1178	*	*	*	*	*	*	934	1227
11:00	*	*	1133	1411	1143	1533	1098	1461	*	*	*	*	*	*	1125	1468
12:00 PM	*	*	1173	1606	1241	1566	1251	1504	*	*	*	*	*	*	1222	1559
01:00	*	*	1142	1369	1171	1560	1131	1541	*	*	*	*	*	*	1148	1490
02:00	*	*	1128	1481	1168	1588	1188	1452	*	*	*	*	*	*	1161	1507
03:00	*	*	1295	1659	1383	1710	*	*	*	*	*	*	*	*	1339	1684
04:00	*	*	1417	1940	1415	1979	*	*	*	*	*	*	*	*	1416	1960
05:00	*	*	1469	1991	1299	1917	*	*	*	*	*	*	*	*	1384	1954
06:00	*	*	1139	1645	1157	1673	*	*	*	*	*	*	*	*	1148	1659
07:00	*	*	971	1428	962	1405	*	*	*	*	*	*	*	*	966	1416
08:00	*	*	769	1146	828	1155	*	*	*	*	*	*	*	*	798	1150
09:00	*	*	636	853	635	918	*	*	*	*	*	*	*	*	636	886
10:00	*	*	356	595	387	651	*	*	*	*	*	*	*	*	372	623
11:00	*	*	213	339	231	435	*	*	*	*	*	*	*	*	222	387
Lane	0	0	17214	23673	17555	24398	9349	12260	0	0	0	0	0	0	17468	24016
Day	0	0	40887		41953		21609		0	0	0	0	0	0	41484	
AM Peak			11:00	11:00	11:00	11:00	11:00	11:00							11:00	11:00
Vol.			1133	1411	1143	1533	1098	1461							1125	1468
PM Peak			17:00	17:00	16:00	16:00	12:00	13:00							16:00	16:00
Vol.			1469	1991	1415	1979	1251	1541							1416	1960

Comb. Total	0	40887	41953	21609	0	0	0	41484
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ADT	ADT 41,420	AADT 41,420
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INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS counts
Exit 190 - I-95
AM counted: 05/04/11
PM counted: 05/03/11

File Name : I-64 EIS #190
Site Code : 190
Start Date : 5/4/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	I-95 Southbound				I-64 Westbound				I-95 Northbound				Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	311	663	203	56	326	182	423	15	0	294	135	31	0	0	0	0	102	2537	2639
07:15 AM	294	828	264	54	360	254	471	10	0	306	161	13	0	0	0	0	77	2938	3015
07:30 AM	356	781	323	63	396	304	440	19	0	372	169	26	0	0	0	0	108	3141	3249
07:45 AM	312	695	323	55	418	287	380	10	0	450	243	34	0	0	0	0	99	3108	3207
Total	1273	2967	1113	228	1500	1027	1714	54	0	1422	708	104	0	0	0	0	386	11724	12110
08:00 AM	269	723	273	83	350	288	378	18	0	499	216	28	0	0	0	0	129	2996	3125
08:15 AM	271	798	350	61	322	286	389	15	0	550	310	37	0	0	0	0	113	3276	3389
08:30 AM	260	787	308	60	333	256	423	19	0	552	269	41	0	0	0	0	120	3188	3308
08:45 AM	239	719	262	79	346	230	404	15	0	620	310	51	0	0	0	0	145	3130	3275
Total	1039	3027	1193	283	1351	1060	1594	67	0	2221	1105	157	0	0	0	0	507	12590	13097
04:00 PM	576	761	68	87	364	247	205	26	0	549	420	34	0	0	0	0	147	3190	3337
04:15 PM	561	633	63	51	348	264	223	18	0	569	449	32	0	0	0	0	101	3110	3211
04:30 PM	616	784	71	73	401	219	204	20	0	567	444	39	0	0	0	0	132	3306	3438
04:45 PM	566	661	83	48	367	183	213	12	0	505	439	40	0	0	0	0	100	3017	3117
Total	2319	2839	285	259	1480	913	845	76	0	2190	1752	145	0	0	0	0	480	12623	13103
05:00 PM	562	785	56	61	392	208	183	18	0	417	458	22	0	0	0	0	101	3061	3162
05:15 PM	566	767	62	36	377	225	148	7	0	319	385	14	0	0	0	0	57	2849	2906
05:30 PM	621	720	66	45	289	186	175	14	0	333	345	26	0	0	0	0	85	2735	2820
05:45 PM	483	636	62	30	216	141	164	6	0	360	318	19	0	0	0	0	55	2380	2435
Total	2232	2908	246	172	1274	760	670	45	0	1429	1506	81	0	0	0	0	298	11025	11323
Grand Total	6863	11741	2837	942	5605	3760	4823	242	0	7262	5071	487	0	0	0	0	1671	47962	49633
Apprch %	32	54.8	13.2		39.5	26.5	34		0	58.9	41.1		0	0	0				
Total %	14.3	24.5	5.9		11.7	7.8	10.1		0	15.1	10.6		0	0	0		3.4	96.6	

Start Time	I-95 Southbound				I-64 Westbound				I-95 Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	269	723	273	1265	350	288	378	1016	0	499	216	715	0	0	0	0	2996
08:15 AM	271	798	350	1419	322	286	389	997	0	550	310	860	0	0	0	0	3276
08:30 AM	260	787	308	1355	333	256	423	1012	0	552	269	821	0	0	0	0	3188
08:45 AM	239	719	262	1220	346	230	404	980	0	620	310	930	0	0	0	0	3130
Total Volume	1039	3027	1193	5259	1351	1060	1594	4005	0	2221	1105	3326	0	0	0	0	12590
% App. Total	19.8	57.6	22.7		33.7	26.5	39.8		0	66.8	33.2		0	0	0		
PHF	.958	.948	.852	.927	.965	.920	.942	.985	.000	.896	.891	.894	.000	.000	.000	.000	.961

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS counts
Exit 190 - I-95
AM counted: 05/04/11
PM counted: 05/03/11

File Name : I-64 EIS #190
Site Code : 190
Start Date : 5/4/2011
Page No : 2

Start Time	I-95 Southbound				I-64 Westbound				I-95 Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	576	761	68	1405	364	247	205	816	0	549	420	969	0	0	0	0	3190
04:15 PM	561	633	63	1257	348	264	223	835	0	569	449	1018	0	0	0	0	3110
04:30 PM	616	784	71	1471	401	219	204	824	0	567	444	1011	0	0	0	0	3306
04:45 PM	566	661	83	1310	367	183	213	763	0	505	439	944	0	0	0	0	3017
Total Volume	2319	2839	285	5443	1480	913	845	3238	0	2190	1752	3942	0	0	0	0	12623
% App. Total	42.6	52.2	5.2		45.7	28.2	26.1		0	55.6	44.4		0	0	0		
PHF	.941	.905	.858	.925	.923	.865	.947	.969	.000	.962	.976	.968	.000	.000	.000	.000	.955

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS counts
Exit 190 - I-95
AM counted: 05/04/11
PM counted: 05/03/11

File Name : I-64 EIS #19014
Site Code : 19014
Start Date : 5/3/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	N 5th St Southbound				Westbound				N 5th St Northbound				Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	21	3	7	0	0	0	0	6	13	0	4	0	0	0	0	11	43	54
07:15 AM	0	15	1	4	0	0	0	0	11	30	0	3	0	0	0	0	7	57	64
07:30 AM	0	29	6	4	0	0	0	0	7	40	0	1	0	0	0	0	5	82	87
07:45 AM	0	24	5	2	0	0	0	0	12	58	0	3	0	0	0	0	5	99	104
Total	0	89	15	17	0	0	0	0	36	141	0	11	0	0	0	0	28	281	309
08:00 AM	0	32	10	5	0	0	0	0	20	32	0	4	0	0	0	0	9	94	103
08:15 AM	0	27	6	4	0	0	0	0	11	43	0	2	0	0	0	0	6	87	93
08:30 AM	0	21	7	3	0	0	0	0	9	29	0	3	0	0	0	0	6	66	72
08:45 AM	0	29	29	1	0	0	0	0	3	37	0	3	0	0	0	0	4	98	102
Total	0	109	52	13	0	0	0	0	43	141	0	12	0	0	0	0	25	345	370
04:00 PM	3	45	19	5	0	0	0	0	8	42	0	3	0	0	0	0	8	117	125
04:15 PM	2	49	27	3	0	0	0	0	7	36	0	1	0	0	0	0	4	121	125
04:30 PM	1	52	32	3	0	0	0	0	10	39	0	1	0	0	0	0	4	134	138
04:45 PM	0	49	33	3	0	0	0	0	11	40	0	1	0	0	0	0	4	133	137
Total	6	195	111	14	0	0	0	0	36	157	0	6	0	0	0	0	20	505	525
05:00 PM	2	63	48	5	0	0	0	0	7	38	0	1	0	0	0	0	6	158	164
05:15 PM	1	58	21	3	0	0	0	0	1	35	0	2	0	0	0	0	5	116	121
05:30 PM	2	50	32	4	0	0	0	0	5	30	0	1	0	0	0	0	5	119	124
05:45 PM	1	36	19	5	0	0	0	0	3	30	0	2	0	0	0	0	7	89	96
Total	6	207	120	17	0	0	0	0	16	133	0	6	0	0	0	0	23	482	505
Grand Total	12	600	298	61	0	0	0	0	131	572	0	35	0	0	0	0	96	1613	1709
Apprch %	1.3	65.9	32.7		0	0	0		18.6	81.4	0		0	0	0				
Total %	0.7	37.2	18.5		0	0	0		8.1	35.5	0		0	0	0		5.6	94.4	

Start Time	N 5th St Southbound				Westbound				N 5th St Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	29	6	35	0	0	0	0	7	40	0	47	0	0	0	0	82
07:45 AM	0	24	5	29	0	0	0	0	12	58	0	70	0	0	0	0	99
08:00 AM	0	32	10	42	0	0	0	0	20	32	0	52	0	0	0	0	94
08:15 AM	0	27	6	33	0	0	0	0	11	43	0	54	0	0	0	0	87
Total Volume	0	112	27	139	0	0	0	0	50	173	0	223	0	0	0	0	362
% App. Total	0	80.6	19.4		0	0	0		22.4	77.6	0		0	0	0		
PHF	.000	.875	.675	.827	.000	.000	.000	.000	.625	.746	.000	.796	.000	.000	.000	.000	.914

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	2	49	27	78	0	0	0	0	7	36	0	43	0	0	0	0	121
04:30 PM	1	52	32	85	0	0	0	0	10	39	0	49	0	0	0	0	134
04:45 PM	0	49	33	82	0	0	0	0	11	40	0	51	0	0	0	0	133
05:00 PM	2	63	48	113	0	0	0	0	7	38	0	45	0	0	0	0	158
Total Volume	5	213	140	358	0	0	0	0	35	153	0	188	0	0	0	0	546
% App. Total	1.4	59.5	39.1		0	0	0		18.6	81.4	0		0	0	0		
PHF	.625	.845	.729	.792	.000	.000	.000	.000	.795	.956	.000	.922	.000	.000	.000	.000	.864

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
Exit 192 - Mechanicsville Rd
AM counted: 04/06/11
PM counted: 04/07/11

File Name : I-64 EIS #19211
Site Code : 19211
Start Date : 4/6/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	US Rt 360 / Mechanicsville Trnkp Southbound				I64 WB off ramp Westbound				US Rt 360 / Mechanicsville Trnkp Northbound				Magnolia St Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	367	4	14	12	24	8	1	45	190	0	11	5	0	36	15	41	691	732
07:15 AM	0	414	9	9	13	33	17	2	71	179	0	16	4	0	47	5	32	787	819
07:30 AM	0	478	1	13	13	40	24	4	53	191	0	14	13	0	60	4	35	873	908
07:45 AM	0	416	3	6	53	90	34	5	67	243	0	14	8	0	66	6	31	980	1011
Total	0	1675	17	42	91	187	83	12	236	803	0	55	30	0	209	30	139	3331	3470
08:00 AM	0	376	4	12	121	107	64	13	46	151	0	12	16	0	82	11	48	967	1015
08:15 AM	0	485	1	10	49	84	36	3	49	200	0	14	12	0	64	11	38	980	1018
08:30 AM	0	430	8	11	8	15	14	3	44	182	0	6	9	0	60	4	24	770	794
08:45 AM	0	338	11	12	15	23	27	2	41	184	0	24	9	0	64	9	47	712	759
Total	0	1629	24	45	193	229	141	21	180	717	0	56	46	0	270	35	157	3429	3586
04:00 PM	0	249	7	13	12	27	21	7	66	429	0	18	23	0	108	2	40	942	982
04:15 PM	0	270	12	14	13	18	26	8	53	471	0	28	20	0	101	3	53	984	1037
04:30 PM	0	265	3	12	13	26	25	2	48	432	0	6	20	0	103	8	28	935	963
04:45 PM	0	296	6	12	21	20	35	11	40	523	9	12	31	0	85	0	35	1066	1101
Total	0	1080	28	51	59	91	107	28	207	1855	9	64	94	0	397	13	156	3927	4083
05:00 PM	0	286	3	13	11	15	33	2	56	581	0	14	31	0	83	7	36	1099	1135
05:15 PM	0	277	6	17	11	17	38	1	32	520	0	17	28	0	74	2	37	1003	1040
05:30 PM	0	259	5	7	16	24	26	1	41	525	0	6	16	0	88	2	16	1000	1016
05:45 PM	0	281	15	10	10	23	27	4	43	489	0	7	19	0	77	5	26	984	1010
Total	0	1103	29	47	48	79	124	8	172	2115	0	44	94	0	322	16	115	4086	4201
Grand Total	0	5487	98	185	391	586	455	69	795	5490	9	219	264	0	1198	94	567	14773	15340
Apprch %	0	98.2	1.8		27.3	40.9	31.8		12.6	87.2	0.1		18.1	0	81.9				
Total %	0	37.1	0.7		2.6	4	3.1		5.4	37.2	0.1		1.8	0	8.1		3.7	96.3	

Start Time	US Rt 360 / Mechanicsville Trnkp Southbound				I64 WB off ramp Westbound				US Rt 360 / Mechanicsville Trnkp Northbound				Magnolia St Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	478	1	479	13	40	24	77	53	191	0	244	13	0	60	73	873
07:45 AM	0	416	3	419	53	90	34	177	67	243	0	310	8	0	66	74	980
08:00 AM	0	376	4	380	121	107	64	292	46	151	0	197	16	0	82	98	967
08:15 AM	0	485	1	486	49	84	36	169	49	200	0	249	12	0	64	76	980
Total Volume	0	1755	9	1764	236	321	158	715	215	785	0	1000	49	0	272	321	3800
% App. Total	0	99.5	0.5		33	44.9	22.1		21.5	78.5	0		15.3	0	84.7		
PHF	.000	.905	.563	.907	.488	.750	.617	.612	.802	.808	.000	.806	.766	.000	.829	.819	.969

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	296	6	302	21	20	35	76	40	523	9	572	31	0	85	116	1066
05:00 PM	0	286	3	289	11	15	33	59	56	581	0	637	31	0	83	114	1099
05:15 PM	0	277	6	283	11	17	38	66	32	520	0	552	28	0	74	102	1003
05:30 PM	0	259	5	264	16	24	26	66	41	525	0	566	16	0	88	104	1000
Total Volume	0	1118	20	1138	59	76	132	267	169	2149	9	2327	106	0	330	436	4168
% App. Total	0	98.2	1.8		22.1	28.5	49.4		7.3	92.4	0.4		24.3	0	75.7		
PHF	.000	.944	.833	.942	.702	.792	.868	.878	.754	.925	.250	.913	.855	.000	.938	.940	.948

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS counts
Exit 193 - Nine Mile Rd
AM counted: 04/07/11
PM counted: 04/06/11

File Name : I-64 EIS #19311
Site Code : 19311
Start Date : 4/7/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Nine Mile Rd Southbound				Westbound				Nine Mile Rd Northbound				Gordons Lane Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	215	9	11	0	0	0	0	7	116	0	6	6	0	21	0	17	374	391
07:15 AM	0	234	18	10	0	0	0	0	17	157	0	14	12	0	38	2	26	476	502
07:30 AM	0	307	16	6	0	0	0	0	21	138	0	13	15	0	34	3	22	531	553
07:45 AM	0	303	19	15	0	0	0	0	19	150	0	11	15	0	41	3	29	547	576
Total	0	1059	62	42	0	0	0	0	64	561	0	44	48	0	134	8	94	1928	2022
08:00 AM	0	258	23	14	0	0	0	0	22	143	0	15	15	0	27	4	33	488	521
08:15 AM	0	241	15	17	0	0	0	0	17	105	0	16	15	0	34	4	37	427	464
08:30 AM	0	227	5	22	0	0	0	0	11	104	0	8	8	0	20	2	32	375	407
08:45 AM	0	170	14	10	0	0	0	0	18	126	0	9	18	0	28	3	22	374	396
Total	0	896	57	63	0	0	0	0	68	478	0	48	56	0	109	13	124	1664	1788
04:00 PM	0	177	28	6	0	0	0	0	32	274	0	18	33	0	16	3	27	560	587
04:15 PM	0	247	34	10	0	0	0	0	25	253	0	14	29	0	16	1	25	604	629
04:30 PM	0	210	33	14	0	0	0	0	34	255	0	8	32	0	15	0	22	579	601
04:45 PM	0	219	18	6	0	0	0	0	24	303	0	4	46	0	20	0	10	630	640
Total	0	853	113	36	0	0	0	0	115	1085	0	44	140	0	67	4	84	2373	2457
05:00 PM	0	211	28	15	0	0	0	0	31	306	0	6	26	0	23	0	21	625	646
05:15 PM	0	196	25	9	0	0	0	0	25	302	0	6	34	0	23	2	17	605	622
05:30 PM	0	172	20	6	0	0	0	0	25	282	0	4	34	0	29	1	11	562	573
05:45 PM	0	147	24	6	0	0	0	0	31	224	0	2	23	0	20	1	9	469	478
Total	0	726	97	36	0	0	0	0	112	1114	0	18	117	0	95	4	58	2261	2319
Grand Total	0	3534	329	177	0	0	0	0	359	3238	0	154	361	0	405	29	360	8226	8586
Apprch %	0	91.5	8.5		0	0	0		10	90	0		47.1	0	52.9				
Total %	0	43	4		0	0	0		4.4	39.4	0		4.4	0	4.9		4.2	95.8	

Start Time	Nine Mile Rd Southbound				Westbound				Nine Mile Rd Northbound				Gordons Lane Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	234	18	252	0	0	0	0	17	157	0	174	12	0	38	50	476
07:30 AM	0	307	16	323	0	0	0	0	21	138	0	159	15	0	34	49	531
07:45 AM	0	303	19	322	0	0	0	0	19	150	0	169	15	0	41	56	547
08:00 AM	0	258	23	281	0	0	0	0	22	143	0	165	15	0	27	42	488
Total Volume	0	1102	76	1178	0	0	0	0	79	588	0	667	57	0	140	197	2042
% App. Total	0	93.5	6.5		0	0	0		11.8	88.2	0		28.9	0	71.1		
PHF	.000	.897	.826	.912	.000	.000	.000	.000	.898	.936	.000	.958	.950	.000	.854	.879	.933

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	210	33	243	0	0	0	0	34	255	0	289	32	0	15	47	579
04:45 PM	0	219	18	237	0	0	0	0	24	303	0	327	46	0	20	66	630
05:00 PM	0	211	28	239	0	0	0	0	31	306	0	337	26	0	23	49	625
05:15 PM	0	196	25	221	0	0	0	0	25	302	0	327	34	0	23	57	605
Total Volume	0	836	104	940	0	0	0	0	114	1166	0	1280	138	0	81	219	2439
% App. Total	0	88.9	11.1		0	0	0		8.9	91.1	0		63	0	37		
PHF	.000	.954	.788	.967	.000	.000	.000	.000	.838	.953	.000	.950	.750	.000	.880	.830	.968

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS counts
Exit 193 - Nine Mile Rd
AM counted: 04/07/11
PM counted: 04/06/11

File Name : I-64 EIS #19312
Site Code : 19312
Start Date : 4/7/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Nine Mile Rd Southbound				I-64 WB off ramp Westbound				Nine Mile Rd Northbound				Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	7	55	0	3	0	0	0	0	0	25	17	2	1	0	20	2	7	125	132
07:15 AM	4	66	0	2	0	0	0	0	0	42	12	5	0	0	20	2	9	144	153
07:30 AM	11	80	0	3	0	0	0	0	0	53	13	1	0	0	14	1	5	171	176
07:45 AM	9	124	0	8	0	0	0	0	0	32	13	1	0	0	27	0	9	205	214
Total	31	325	0	16	0	0	0	0	0	152	55	9	1	0	81	5	30	645	675
08:00 AM	6	119	0	2	0	0	0	0	0	40	15	3	0	0	27	1	6	207	213
08:15 AM	9	98	0	9	0	0	0	0	0	35	10	5	0	0	35	2	16	187	203
08:30 AM	5	101	0	9	0	0	0	0	0	44	13	6	1	0	31	2	17	195	212
08:45 AM	6	79	0	3	0	0	0	0	0	58	10	6	0	0	25	0	9	178	187
Total	26	397	0	23	0	0	0	0	0	177	48	20	1	0	118	5	48	767	815
04:00 PM	17	74	0	2	0	0	0	0	0	143	33	6	1	0	19	1	9	287	296
04:15 PM	22	99	0	4	0	0	0	0	0	130	28	4	1	0	13	0	8	293	301
04:30 PM	16	77	0	4	0	0	0	0	0	130	43	2	0	0	13	0	6	279	285
04:45 PM	16	97	0	1	0	0	0	0	0	117	39	0	0	0	12	1	2	281	283
Total	71	347	0	11	0	0	0	0	0	520	143	12	2	0	57	2	25	1140	1165
05:00 PM	12	83	0	3	0	0	0	0	0	135	37	3	1	0	19	0	6	287	293
05:15 PM	10	88	0	2	0	0	0	0	0	130	38	1	0	0	21	0	3	287	290
05:30 PM	5	87	0	4	0	0	0	0	0	111	44	4	0	0	22	0	8	269	277
05:45 PM	4	75	0	3	0	0	0	0	0	87	27	0	0	0	25	0	3	218	221
Total	31	333	0	12	0	0	0	0	0	463	146	8	1	0	87	0	20	1061	1081
Grand Total	159	1402	0	62	0	0	0	0	0	1312	392	49	5	0	343	12	123	3613	3736
Apprch %	10.2	89.8	0		0	0	0		0	77	23		1.4	0	98.6				
Total %	4.4	38.8	0		0	0	0		0	36.3	10.8		0.1	0	9.5		3.3	96.7	

Start Time	Nine Mile Rd Southbound				I-64 WB off ramp Westbound				Nine Mile Rd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	9	124	0	133	0	0	0	0	0	32	13	45	0	0	27	27	205
08:00 AM	6	119	0	125	0	0	0	0	0	40	15	55	0	0	27	27	207
08:15 AM	9	98	0	107	0	0	0	0	0	35	10	45	0	0	35	35	187
08:30 AM	5	101	0	106	0	0	0	0	0	44	13	57	1	0	31	32	195
Total Volume	29	442	0	471	0	0	0	0	0	151	51	202	1	0	120	121	794
% App. Total	6.2	93.8	0		0	0	0		0	74.8	25.2		0.8	0	99.2		
PHF	.806	.891	.000	.885	.000	.000	.000	.000	.000	.858	.850	.886	.250	.000	.857	.864	.959

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	17	74	0	91	0	0	0	0	0	143	33	176	1	0	19	20	287
04:15 PM	22	99	0	121	0	0	0	0	0	130	28	158	1	0	13	14	293
04:30 PM	16	77	0	93	0	0	0	0	0	130	43	173	0	0	13	13	279
04:45 PM	16	97	0	113	0	0	0	0	0	117	39	156	0	0	12	12	281
Total Volume	71	347	0	418	0	0	0	0	0	520	143	663	2	0	57	59	1140
% App. Total	17	83	0		0	0	0		0	78.4	21.6		3.4	0	96.6		
PHF	.807	.876	.000	.864	.000	.000	.000	.000	.000	.909	.831	.942	.500	.000	.750	.738	.973

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS counts
Exit 200 - I-295
AM counted: 05/18/11
PM counted: 05/17/11

File Name : I-64 EIS #20014-15
Site Code : 20014-15
Start Date : 5/18/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	I-295 Southbound				Westbound				I-295 Northbound				Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	140	0	0	29	0	0	0	0	0	0	64	12	0	0	0	0	41	204	245
07:15 AM	134	0	0	33	0	0	0	0	0	0	82	17	0	0	0	0	50	216	266
07:30 AM	145	0	0	25	0	0	0	0	0	0	61	14	0	0	0	0	39	206	245
07:45 AM	178	0	0	32	0	0	0	0	0	0	76	18	0	0	0	0	50	254	304
Total	597	0	0	119	0	0	0	0	0	0	283	61	0	0	0	0	180	880	1060
08:00 AM	181	0	0	27	0	0	0	0	0	0	85	9	0	0	0	0	36	266	302
08:15 AM	194	0	0	35	0	0	0	0	0	0	61	11	0	0	0	0	46	255	301
08:30 AM	203	0	0	32	0	0	0	0	0	0	62	11	0	0	0	0	43	265	308
08:45 AM	167	0	0	41	0	0	0	0	0	0	65	10	0	0	0	0	51	232	283
Total	745	0	0	135	0	0	0	0	0	0	273	41	0	0	0	0	176	1018	1194
04:00 PM	224	0	0	23	0	0	0	0	0	0	81	15	0	0	0	0	38	305	343
04:15 PM	230	0	0	25	0	0	0	0	0	0	86	8	0	0	0	0	33	316	349
04:30 PM	240	0	0	17	0	0	0	0	0	0	100	4	0	0	0	0	21	340	361
04:45 PM	262	0	0	28	0	0	0	0	0	0	67	4	0	0	0	0	32	329	361
Total	956	0	0	93	0	0	0	0	0	0	334	31	0	0	0	0	124	1290	1414
05:00 PM	240	0	0	16	0	0	0	0	0	0	89	8	0	0	0	0	24	329	353
05:15 PM	296	0	0	25	0	0	0	0	0	0	73	2	0	0	0	0	27	369	396
05:30 PM	251	0	0	18	0	0	0	0	0	0	84	2	0	0	0	0	20	335	355
05:45 PM	241	0	0	17	0	0	0	0	0	0	67	5	0	0	0	0	22	308	330
Total	1028	0	0	76	0	0	0	0	0	0	313	17	0	0	0	0	93	1341	1434
Grand Total	3326	0	0	423	0	0	0	0	0	0	1203	150	0	0	0	0	573	4529	5102
Apprch %	100	0	0		0	0	0		0	0	100		0	0	0				
Total %	73.4	0	0		0	0	0		0	0	26.6		0	0	0		11.2	88.8	

Start Time	I-295 Southbound				Westbound				I-295 Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	178	0	0	178	0	0	0	0	0	0	76	76	0	0	0	0	254
08:00 AM	181	0	0	181	0	0	0	0	0	0	85	85	0	0	0	0	266
08:15 AM	194	0	0	194	0	0	0	0	0	0	61	61	0	0	0	0	255
08:30 AM	203	0	0	203	0	0	0	0	0	0	62	62	0	0	0	0	265
Total Volume	756	0	0	756	0	0	0	0	0	0	284	284	0	0	0	0	1040
% App. Total	100	0	0		0	0	0		0	0	100		0	0	0		
PHF	.931	.000	.000	.931	.000	.000	.000	.000	.000	.000	.835	.835	.000	.000	.000	.000	.977

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	240	0	0	240	0	0	0	0	0	0	100	100	0	0	0	0	340
04:45 PM	262	0	0	262	0	0	0	0	0	0	67	67	0	0	0	0	329
05:00 PM	240	0	0	240	0	0	0	0	0	0	89	89	0	0	0	0	329
05:15 PM	296	0	0	296	0	0	0	0	0	0	73	73	0	0	0	0	369
Total Volume	1038	0	0	1038	0	0	0	0	0	0	329	329	0	0	0	0	1367
% App. Total	100	0	0		0	0	0		0	0	100		0	0	0		
PHF	.877	.000	.000	.877	.000	.000	.000	.000	.000	.000	.823	.823	.000	.000	.000	.000	.926

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS counts
Exit 211 - Talleyville
AM counted: 05/11/11
PM counted: 05/11/11

File Name : I-64 EIS #21111
Site Code : 21111
Start Date : 5/11/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Emmaus Church Rd Southbound				Westbound				Emmaus Church Rd Northbound				I-64 EB off ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	5	30	0	10	0	0	0	0	0	15	30	17	0	0	12	5	32	92	124
07:15 AM	6	39	0	8	0	0	0	0	0	24	54	25	7	0	9	3	36	139	175
07:30 AM	8	28	0	5	0	0	0	0	0	19	29	10	1	0	8	5	20	93	113
07:45 AM	7	29	0	11	0	0	0	0	0	20	29	17	4	0	18	7	35	107	142
Total	26	126	0	34	0	0	0	0	0	78	142	69	12	0	47	20	123	431	554
08:00 AM	9	33	0	14	0	0	0	0	0	22	28	13	5	0	21	9	36	118	154
08:15 AM	8	20	0	8	0	0	0	0	0	23	39	24	4	1	14	11	43	109	152
08:30 AM	3	22	0	12	0	0	0	0	0	27	29	25	8	0	10	5	42	99	141
08:45 AM	5	29	0	14	0	0	0	0	0	14	20	17	3	0	22	11	42	93	135
Total	25	104	0	48	0	0	0	0	0	86	116	79	20	1	67	36	163	419	582
04:00 PM	5	36	0	14	0	0	0	0	0	26	21	15	6	0	12	4	33	106	139
04:15 PM	7	49	0	19	0	0	0	0	0	27	11	20	5	0	16	4	43	115	158
04:30 PM	4	45	0	19	0	0	0	0	0	30	31	21	8	1	16	4	44	135	179
04:45 PM	3	45	0	19	0	0	0	0	0	36	22	24	7	0	6	1	44	119	163
Total	19	175	0	71	0	0	0	0	0	119	85	80	26	1	50	13	164	475	639
05:00 PM	0	41	0	13	0	0	0	0	0	34	20	14	5	0	16	7	34	116	150
05:15 PM	4	44	0	12	0	0	0	0	0	28	34	21	19	0	10	4	37	139	176
05:30 PM	4	51	0	12	0	0	0	0	0	29	29	12	11	0	13	2	26	137	163
05:45 PM	1	38	0	9	0	0	0	0	0	36	31	22	10	0	21	8	39	137	176
Total	9	174	0	46	0	0	0	0	0	127	114	69	45	0	60	21	136	529	665
Grand Total	79	579	0	199	0	0	0	0	0	410	457	297	103	2	224	90	586	1854	2440
Apprch %	12	88	0		0	0	0		0	47.3	52.7		31.3	0.6	68.1				
Total %	4.3	31.2	0		0	0	0		0	22.1	24.6		5.6	0.1	12.1		24	76	

Start Time	Emmaus Church Rd Southbound				Westbound				Emmaus Church Rd Northbound				I-64 EB off ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	6	39	0	45	0	0	0	0	0	24	54	78	7	0	9	16	139
07:30 AM	8	28	0	36	0	0	0	0	0	19	29	48	1	0	8	9	93
07:45 AM	7	29	0	36	0	0	0	0	0	20	29	49	4	0	18	22	107
08:00 AM	9	33	0	42	0	0	0	0	0	22	28	50	5	0	21	26	118
Total Volume	30	129	0	159	0	0	0	0	0	85	140	225	17	0	56	73	457
% App. Total	18.9	81.1	0		0	0	0		0	37.8	62.2		23.3	0	76.7		
PHF	.833	.827	.000	.883	.000	.000	.000	.000	.000	.885	.648	.721	.607	.000	.667	.702	.822

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	41	0	41	0	0	0	0	0	34	20	54	5	0	16	21	116
05:15 PM	4	44	0	48	0	0	0	0	0	28	34	62	19	0	10	29	139
05:30 PM	4	51	0	55	0	0	0	0	0	29	29	58	11	0	13	24	137
05:45 PM	1	38	0	39	0	0	0	0	0	36	31	67	10	0	21	31	137
Total Volume	9	174	0	183	0	0	0	0	0	127	114	241	45	0	60	105	529
% App. Total	4.9	95.1	0		0	0	0		0	52.7	47.3		42.9	0	57.1		
PHF	.563	.853	.000	.832	.000	.000	.000	.000	.000	.882	.838	.899	.592	.000	.714	.847	.951

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS counts
Exit 211 - Talleyville
AM counted: 05/11/11
PM counted: 05/11/11

File Name : I-64 EIS #21112
Site Code : 21112
Start Date : 5/11/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Emmaus Church Rd Southbound				I-64 WB off ramp Westbound				Emmaus Church Rd Northbound				Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	17	13	0	19	0	1	10	12	4	0	5	0	0	0	0	15	66	81
07:15 AM	0	21	15	1	23	1	4	9	12	19	0	7	0	0	0	0	17	95	112
07:30 AM	0	23	14	0	17	0	3	5	12	6	0	4	0	0	0	0	9	75	84
07:45 AM	0	13	10	0	25	0	4	13	11	13	0	6	0	0	0	0	19	76	95
Total	0	74	52	1	84	1	12	37	47	42	0	22	0	0	0	0	60	312	372
08:00 AM	0	18	9	3	23	1	8	10	15	11	0	6	0	0	0	0	19	85	104
08:15 AM	0	16	14	0	11	0	4	5	13	16	0	6	0	0	0	0	11	74	85
08:30 AM	0	8	9	0	18	0	1	11	14	19	0	9	0	0	0	0	20	69	89
08:45 AM	0	11	2	1	21	1	5	12	9	8	0	7	0	0	0	0	20	57	77
Total	0	53	34	4	73	2	18	38	51	54	0	28	0	0	0	0	70	285	355
04:00 PM	0	11	4	1	30	0	13	11	12	18	0	6	0	0	0	0	18	88	106
04:15 PM	0	15	7	1	42	0	2	16	14	17	0	12	0	0	0	0	29	97	126
04:30 PM	0	11	11	0	34	1	5	19	18	16	0	7	0	0	0	0	26	96	122
04:45 PM	0	5	3	0	39	0	11	16	22	22	0	16	0	0	0	0	32	102	134
Total	0	42	25	2	145	1	31	62	66	73	0	41	0	0	0	0	105	383	488
05:00 PM	0	10	3	2	31	0	5	9	15	22	0	7	0	0	0	0	18	86	104
05:15 PM	0	12	0	0	15	1	1	8	15	28	0	11	0	0	0	0	19	72	91
05:30 PM	0	11	6	0	37	1	3	10	13	27	0	7	0	0	0	0	17	98	115
05:45 PM	0	8	3	0	30	0	6	8	17	27	0	11	0	0	0	0	19	91	110
Total	0	41	12	2	113	2	15	35	60	104	0	36	0	0	0	0	73	347	420
Grand Total	0	210	123	9	415	6	76	172	224	273	0	127	0	0	0	0	308	1327	1635
Apprch %	0	63.1	36.9		83.5	1.2	15.3		45.1	54.9	0		0	0	0				
Total %	0	15.8	9.3		31.3	0.5	5.7		16.9	20.6	0		0	0	0		18.8	81.2	

Start Time	Emmaus Church Rd Southbound				I-64 WB off ramp Westbound				Emmaus Church Rd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	21	15	36	23	1	4	28	12	19	0	31	0	0	0	0	95
07:30 AM	0	23	14	37	17	0	3	20	12	6	0	18	0	0	0	0	75
07:45 AM	0	13	10	23	25	0	4	29	11	13	0	24	0	0	0	0	76
08:00 AM	0	18	9	27	23	1	8	32	15	11	0	26	0	0	0	0	85
Total Volume	0	75	48	123	88	2	19	109	50	49	0	99	0	0	0	0	331
% App. Total	0	61	39		80.7	1.8	17.4		50.5	49.5	0		0	0	0		
PHF	.000	.815	.800	.831	.880	.500	.594	.852	.833	.645	.000	.798	.000	.000	.000	.000	.871

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	11	4	15	30	0	13	43	12	18	0	30	0	0	0	0	88
04:15 PM	0	15	7	22	42	0	2	44	14	17	0	31	0	0	0	0	97
04:30 PM	0	11	11	22	34	1	5	40	18	16	0	34	0	0	0	0	96
04:45 PM	0	5	3	8	39	0	11	50	22	22	0	44	0	0	0	0	102
Total Volume	0	42	25	67	145	1	31	177	66	73	0	139	0	0	0	0	383
% App. Total	0	62.7	37.3		81.9	0.6	17.5		47.5	52.5	0		0	0	0		
PHF	.000	.700	.568	.761	.863	.250	.596	.885	.750	.830	.000	.790	.000	.000	.000	.000	.939

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS counts
Exit 227 - Toano
AM counted: 05/12/11
PM counted: 05/12/11

File Name : I-64 EIS #22711
Site Code : 22711
Start Date : 5/12/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Rt 30 / Old Stage Rd Southbound				Westbound				Rt 30 / Old Stage Rd Northbound				I-64 EB off ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	108	81	8	0	0	0	0	0	59	33	2	0	0	14	4	14	295	309
07:15 AM	0	77	85	3	0	0	0	0	0	73	30	11	1	0	23	7	21	289	310
07:30 AM	0	86	92	7	0	0	0	0	0	49	35	4	0	0	20	4	15	282	297
07:45 AM	0	115	144	9	0	0	0	0	0	42	28	7	2	0	29	5	21	360	381
Total	0	386	402	27	0	0	0	0	0	223	126	24	3	0	86	20	71	1226	1297
08:00 AM	0	109	103	7	0	0	0	0	0	57	34	13	0	0	33	2	22	336	358
08:15 AM	0	100	99	9	0	0	0	0	0	44	15	7	2	0	27	3	19	287	306
08:30 AM	0	101	93	12	0	0	0	0	0	62	29	12	1	0	30	5	29	316	345
08:45 AM	0	73	72	6	0	0	0	0	0	57	29	8	2	0	24	5	19	257	276
Total	0	383	367	34	0	0	0	0	0	220	107	40	5	0	114	15	89	1196	1285
04:00 PM	0	56	39	4	0	0	0	0	0	121	21	9	4	0	20	0	13	261	274
04:15 PM	0	66	38	6	0	0	0	0	0	115	25	7	4	0	21	2	15	269	284
04:30 PM	0	72	38	7	0	0	0	0	0	106	19	9	6	0	23	4	20	264	284
04:45 PM	0	78	35	9	0	0	0	0	0	116	29	4	6	0	25	2	15	289	304
Total	0	272	150	26	0	0	0	0	0	458	94	29	20	0	89	8	63	1083	1146
05:00 PM	0	80	48	1	0	0	0	0	0	132	33	9	9	0	20	4	14	322	336
05:15 PM	0	70	43	5	0	0	0	0	0	100	25	6	8	0	18	1	12	264	276
05:30 PM	0	83	48	5	0	0	0	0	0	108	17	10	5	0	27	2	17	288	305
05:45 PM	0	61	34	6	0	0	0	0	0	95	24	8	7	0	17	1	15	238	253
Total	0	294	173	17	0	0	0	0	0	435	99	33	29	0	82	8	58	1112	1170
Grand Total	0	1335	1092	104	0	0	0	0	0	1336	426	126	57	0	371	51	281	4617	4898
Apprch %	0	55	45		0	0	0		0	75.8	24.2		13.3	0	86.7				
Total %	0	28.9	23.7		0	0	0		0	28.9	9.2		1.2	0	8		5.7	94.3	

Start Time	Rt 30 / Old Stage Rd Southbound				Westbound				Rt 30 / Old Stage Rd Northbound				I-64 EB off ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	115	144	259	0	0	0	0	0	42	28	70	2	0	29	31	360
08:00 AM	0	109	103	212	0	0	0	0	0	57	34	91	0	0	33	33	336
08:15 AM	0	100	99	199	0	0	0	0	0	44	15	59	2	0	27	29	287
08:30 AM	0	101	93	194	0	0	0	0	0	62	29	91	1	0	30	31	316
Total Volume	0	425	439	864	0	0	0	0	0	205	106	311	5	0	119	124	1299
% App. Total	0	49.2	50.8		0	0	0		0	65.9	34.1		4	0	96		
PHF	.000	.924	.762	.834	.000	.000	.000	.000	.000	.827	.779	.854	.625	.000	.902	.939	.902

Start Time	Rt 30 / Old Stage Rd Southbound				Westbound				Rt 30 / Old Stage Rd Northbound				I-64 EB off ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	78	35	113	0	0	0	0	0	116	29	145	6	0	25	31	289
05:00 PM	0	80	48	128	0	0	0	0	0	132	33	165	9	0	20	29	322
05:15 PM	0	70	43	113	0	0	0	0	0	100	25	125	8	0	18	26	264
05:30 PM	0	83	48	131	0	0	0	0	0	108	17	125	5	0	27	32	288
Total Volume	0	311	174	485	0	0	0	0	0	456	104	560	28	0	90	118	1163
% App. Total	0	64.1	35.9		0	0	0		0	81.4	18.6		23.7	0	76.3		
PHF	.000	.937	.906	.926	.000	.000	.000	.000	.000	.864	.788	.848	.778	.000	.833	.922	.903

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS counts
Exit 227 - Toano
AM counted: 05/12/11
PM counted: 05/12/11

File Name : I-64 EIS #22712
Site Code : 22712
Start Date : 5/12/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Rt 30 / Old Stage Rd Southbound				I-64 WB off ramp Westbound				Northbound				Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	167	16	1	22	0	43	0	26	37	0	0	0	0	0	0	1	311	312
07:15 AM	0	154	8	2	8	0	38	1	32	38	0	5	0	0	0	0	8	278	286
07:30 AM	0	163	11	6	15	1	33	1	24	24	0	1	0	0	0	0	8	271	279
07:45 AM	0	234	5	5	25	0	39	1	18	28	0	1	0	0	0	0	7	349	356
Total	0	718	40	14	70	1	153	3	100	127	0	7	0	0	0	0	24	1209	1233
08:00 AM	0	192	3	2	20	3	42	0	23	29	0	4	0	0	0	0	6	312	318
08:15 AM	0	171	6	3	28	0	40	2	15	33	0	3	0	0	0	0	8	293	301
08:30 AM	0	173	5	8	21	0	33	2	23	39	0	6	0	0	0	0	16	294	310
08:45 AM	0	124	7	5	21	0	31	2	19	29	0	1	0	0	0	0	8	231	239
Total	0	660	21	18	90	3	146	6	80	130	0	14	0	0	0	0	38	1130	1168
04:00 PM	0	74	0	0	16	1	91	5	18	68	0	5	0	0	0	0	10	268	278
04:15 PM	0	66	4	5	21	1	100	3	22	77	0	2	0	0	0	0	10	291	301
04:30 PM	0	73	3	3	22	0	92	1	19	80	0	3	0	0	0	0	7	289	296
04:45 PM	0	79	0	1	17	0	115	1	26	88	0	2	0	0	0	0	4	325	329
Total	0	292	7	9	76	2	398	10	85	313	0	12	0	0	0	0	31	1173	1204
05:00 PM	0	92	6	0	19	0	100	1	40	104	0	5	0	0	0	0	6	361	367
05:15 PM	0	82	3	1	13	1	97	1	25	76	0	0	0	0	0	0	2	297	299
05:30 PM	0	76	4	0	16	0	86	0	22	71	0	4	0	0	0	0	4	275	279
05:45 PM	0	66	1	0	17	0	78	0	19	65	0	2	0	0	0	0	2	246	248
Total	0	316	14	1	65	1	361	2	106	316	0	11	0	0	0	0	14	1179	1193
Grand Total	0	1986	82	42	301	7	1058	21	371	886	0	44	0	0	0	0	107	4691	4798
Apprch %	0	96	4		22	0.5	77.5		29.5	70.5	0		0	0	0				
Total %	0	42.3	1.7		6.4	0.1	22.6		7.9	18.9	0		0	0	0		2.2	97.8	

Start Time	Rt 30 / Old Stage Rd Southbound				I-64 WB off ramp Westbound				Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	234	5	239	25	0	39	64	18	28	0	46	0	0	0	0	349
08:00 AM	0	192	3	195	20	3	42	65	23	29	0	52	0	0	0	0	312
08:15 AM	0	171	6	177	28	0	40	68	15	33	0	48	0	0	0	0	293
08:30 AM	0	173	5	178	21	0	33	54	23	39	0	62	0	0	0	0	294
Total Volume	0	770	19	789	94	3	154	251	79	129	0	208	0	0	0	0	1248
% App. Total	0	97.6	2.4		37.5	1.2	61.4		38	62	0		0	0	0		
PHF	.000	.823	.792	.825	.839	.250	.917	.923	.859	.827	.000	.839	.000	.000	.000	.000	.894

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	73	3	76	22	0	92	114	19	80	0	99	0	0	0	0	289
04:45 PM	0	79	0	79	17	0	115	132	26	88	0	114	0	0	0	0	325
05:00 PM	0	92	6	98	19	0	100	119	40	104	0	144	0	0	0	0	361
05:15 PM	0	82	3	85	13	1	97	111	25	76	0	101	0	0	0	0	297
Total Volume	0	326	12	338	71	1	404	476	110	348	0	458	0	0	0	0	1272
% App. Total	0	96.4	3.6		14.9	0.2	84.9		24	76	0		0	0	0		
PHF	.000	.886	.500	.862	.807	.250	.878	.902	.688	.837	.000	.795	.000	.000	.000	.000	.881

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS counts
Exit 231 - Croaker
AM counted: 04/14/11
PM counted: 04/14/11

File Name : I-64 EIS #23111
Site Code : 23111
Start Date : 4/14/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Croaker Rd Southbound				Fenton Mill Rd Westbound				Croaker Rd Northbound				Fenton Mill Rd Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	3	50	0	3	7	0	0	0	20	11	1	0	3	3	27	2	5	125	130
07:15 AM	0	48	2	1	2	0	0	0	21	12	3	2	1	1	22	1	4	112	116
07:30 AM	2	31	0	3	5	2	2	0	31	18	1	2	2	2	29	1	6	125	131
07:45 AM	4	36	3	3	6	1	2	2	19	12	2	2	8	3	24	0	7	120	127
Total	9	165	5	10	20	3	4	2	91	53	7	6	14	9	102	4	22	482	504
08:00 AM	1	39	1	6	7	1	1	0	20	17	3	6	5	3	26	2	14	124	138
08:15 AM	3	45	3	4	4	0	1	1	14	20	3	3	2	0	18	2	10	113	123
08:30 AM	4	24	2	2	2	0	2	0	17	21	3	7	1	1	19	1	10	96	106
08:45 AM	1	38	1	5	0	0	1	0	16	24	2	5	2	1	16	2	12	102	114
Total	9	146	7	17	13	1	5	1	67	82	11	21	10	5	79	7	46	435	481
04:00 PM	4	25	0	0	3	1	6	1	30	40	7	3	3	3	14	1	5	136	141
04:15 PM	3	43	0	2	2	3	4	2	30	55	3	11	7	2	18	1	16	170	186
04:30 PM	10	40	0	3	4	5	4	1	32	40	4	4	5	1	16	3	11	161	172
04:45 PM	3	45	1	4	4	5	5	0	37	49	3	2	4	2	20	1	7	178	185
Total	20	153	1	9	13	14	19	4	129	184	17	20	19	8	68	6	39	645	684
05:00 PM	3	62	0	2	4	2	6	1	31	55	4	9	3	1	14	1	13	185	198
05:15 PM	4	40	3	4	8	3	3	0	26	52	3	5	4	2	22	1	10	170	180
05:30 PM	3	32	1	0	3	2	2	0	21	44	7	4	2	1	21	1	5	139	144
05:45 PM	6	38	0	1	4	2	8	0	41	34	2	5	4	2	19	0	6	160	166
Total	16	172	4	7	19	9	19	1	119	185	16	23	13	6	76	3	34	654	688
Grand Total	54	636	17	43	65	27	47	8	406	504	51	70	56	28	325	20	141	2216	2357
Apprch %	7.6	90	2.4		46.8	19.4	33.8		42.2	52.4	5.3		13.7	6.8	79.5				
Total %	2.4	28.7	0.8		2.9	1.2	2.1		18.3	22.7	2.3		2.5	1.3	14.7		6	94	

Start Time	Croaker Rd Southbound				Fenton Mill Rd Westbound				Croaker Rd Northbound				Fenton Mill Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	50	0	53	7	0	0	7	20	11	1	32	3	3	27	33	125
07:15 AM	0	48	2	50	2	0	0	2	21	12	3	36	1	1	22	24	112
07:30 AM	2	31	0	33	5	2	2	9	31	18	1	50	2	2	29	33	125
07:45 AM	4	36	3	43	6	1	2	9	19	12	2	33	8	3	24	35	120
Total Volume	9	165	5	179	20	3	4	27	91	53	7	151	14	9	102	125	482
% App. Total	5	92.2	2.8		74.1	11.1	14.8		60.3	35.1	4.6		11.2	7.2	81.6		
PHF	.563	.825	.417	.844	.714	.375	.500	.750	.734	.736	.583	.755	.438	.750	.879	.893	.964

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	3	43	0	46	2	3	4	9	30	55	3	88	7	2	18	27	170
04:30 PM	10	40	0	50	4	5	4	13	32	40	4	76	5	1	16	22	161
04:45 PM	3	45	1	49	4	5	5	14	37	49	3	89	4	2	20	26	178
05:00 PM	3	62	0	65	4	2	6	12	31	55	4	90	3	1	14	18	185
Total Volume	19	190	1	210	14	15	19	48	130	199	14	343	19	6	68	93	694
% App. Total	9	90.5	0.5		29.2	31.2	39.6		37.9	58	4.1		20.4	6.5	73.1		
PHF	.475	.766	.250	.808	.875	.750	.792	.857	.878	.905	.875	.953	.679	.750	.850	.861	.938

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
Exit 234 - Lightfoot
AM counted: 05/10/11
PM counted: 05/10/11

File Name : I-64 EIS #23411
Site Code : 23411
Start Date : 5/10/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Rt 199 Southbound				Westbound				Rt 199 Northbound				I-64 EB off ramp to Rt 199 Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	30	105	0	9	0	0	0	0	0	104	89	13	3	0	113	5	27	444	471
07:15 AM	25	108	0	7	0	0	0	0	0	138	107	10	4	0	119	9	26	501	527
07:30 AM	29	133	0	12	0	0	0	0	0	114	105	12	3	0	126	9	33	510	543
07:45 AM	26	149	0	5	0	0	0	0	0	118	78	12	6	0	188	14	31	565	596
Total	110	495	0	33	0	0	0	0	0	474	379	47	16	0	546	37	117	2020	2137
08:00 AM	13	100	0	7	0	0	0	0	0	124	85	12	2	1	133	8	27	458	485
08:15 AM	14	124	0	8	0	0	0	0	0	93	86	10	3	0	167	10	28	487	515
08:30 AM	20	137	0	11	0	0	0	0	0	99	78	16	3	1	146	6	33	484	517
08:45 AM	17	146	0	19	0	0	0	0	0	88	61	12	4	0	144	7	38	460	498
Total	64	507	0	45	0	0	0	0	0	404	310	50	12	2	590	31	126	1889	2015
04:00 PM	18	160	0	12	0	0	0	0	0	184	96	19	7	0	114	4	35	579	614
04:15 PM	12	163	0	7	0	0	0	0	0	199	66	18	8	0	137	6	31	585	616
04:30 PM	10	153	0	6	0	0	0	0	0	195	100	8	4	0	106	8	22	568	590
04:45 PM	7	145	0	5	0	0	0	0	0	194	84	8	10	0	121	1	14	561	575
Total	47	621	0	30	0	0	0	0	0	772	346	53	29	0	478	19	102	2293	2395
05:00 PM	7	167	0	2	0	0	0	0	0	216	92	13	7	0	142	8	23	631	654
05:15 PM	10	167	0	3	0	0	0	0	6	210	116	6	7	0	146	1	10	662	672
05:30 PM	4	176	0	4	0	0	0	0	1	202	68	7	4	0	133	5	16	588	604
05:45 PM	7	138	0	5	0	0	0	0	0	164	77	9	12	0	162	4	18	560	578
Total	28	648	0	14	0	0	0	0	7	792	353	35	30	0	583	18	67	2441	2508
Grand Total	249	2271	0	122	0	0	0	0	7	2442	1388	185	87	2	2197	105	412	8643	9055
Apprch %	9.9	90.1	0		0	0	0		0.2	63.6	36.2		3.8	0.1	96.1				
Total %	2.9	26.3	0		0	0	0		0.1	28.3	16.1		1	0	25.4		4.5	95.5	

Start Time	Rt 199 Southbound				Westbound				Rt 199 Northbound				I-64 EB off ramp to Rt 199 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	25	108	0	133	0	0	0	0	0	138	107	245	4	0	119	123	501
07:30 AM	29	133	0	162	0	0	0	0	0	114	105	219	3	0	126	129	510
07:45 AM	26	149	0	175	0	0	0	0	0	118	78	196	6	0	188	194	565
08:00 AM	13	100	0	113	0	0	0	0	0	124	85	209	2	1	133	136	458
Total Volume	93	490	0	583	0	0	0	0	0	494	375	869	15	1	566	582	2034
% App. Total	16	84	0		0	0	0		0	56.8	43.2		2.6	0.2	97.3		
PHF	.802	.822	.000	.833	.000	.000	.000	.000	.000	.895	.876	.887	.625	.250	.753	.750	.900

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	7	145	0	152	0	0	0	0	0	194	84	278	10	0	121	131	561
05:00 PM	7	167	0	174	0	0	0	0	0	216	92	308	7	0	142	149	631
05:15 PM	10	167	0	177	0	0	0	0	6	210	116	332	7	0	146	153	662
05:30 PM	4	176	0	180	0	0	0	0	1	202	68	271	4	0	133	137	588
Total Volume	28	655	0	683	0	0	0	0	7	822	360	1189	28	0	542	570	2442
% App. Total	4.1	95.9	0		0	0	0		0.6	69.1	30.3		4.9	0	95.1		
PHF	.700	.930	.000	.949	.000	.000	.000	.000	.292	.951	.776	.895	.700	.000	.928	.931	.922

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
Exit 234 - Lightfoot
AM counted: 05/10/11
PM counted: 05/10/11

File Name : I-64 EIS #23412
Site Code : 23412
Start Date : 5/10/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Rt 686 / Newman Rd Southbound				Fenton Mill Rd Westbound				Rt 686 / Newman Rd Northbound				Fenton Mill Rd Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	5	52	0	2	3	2	1	1	8	11	3	1	1	5	15	0	4	106	110
07:15 AM	0	52	0	1	2	1	1	0	4	28	1	1	0	1	15	1	3	105	108
07:30 AM	0	59	1	3	2	0	0	0	5	21	1	1	1	0	9	1	5	99	104
07:45 AM	0	43	2	1	2	1	0	0	6	22	0	0	1	1	23	2	3	101	104
Total	5	206	3	7	9	4	2	1	23	82	5	3	3	7	62	4	15	411	426
08:00 AM	1	32	0	1	3	1	1	0	3	10	1	1	0	3	4	0	2	59	61
08:15 AM	1	54	0	2	2	0	0	0	7	15	1	0	1	0	16	0	2	97	99
08:30 AM	0	51	1	3	1	2	1	0	4	15	1	3	1	0	11	0	6	88	94
08:45 AM	0	52	2	1	1	1	0	0	11	18	2	1	0	0	9	0	2	96	98
Total	2	189	3	7	7	4	2	0	25	58	5	5	2	3	40	0	12	340	352
04:00 PM	1	40	1	0	4	3	3	1	22	55	2	1	1	0	12	2	4	144	148
04:15 PM	0	42	2	3	1	6	3	1	17	53	6	3	0	2	8	2	9	140	149
04:30 PM	1	42	0	1	2	3	2	0	21	65	1	3	1	4	9	1	5	151	156
04:45 PM	0	46	4	0	1	3	4	0	18	38	1	2	4	1	10	0	2	130	132
Total	2	170	7	4	8	15	12	2	78	211	10	9	6	7	39	5	20	565	585
05:00 PM	0	36	2	1	1	1	0	0	23	65	3	0	2	1	8	0	1	142	143
05:15 PM	1	36	1	1	3	6	0	0	21	52	4	1	0	0	8	0	2	132	134
05:30 PM	1	41	1	0	1	2	3	0	21	63	4	0	1	4	11	1	1	153	154
05:45 PM	0	24	2	1	1	1	1	0	8	51	2	2	1	0	16	1	4	107	111
Total	2	137	6	3	6	10	4	0	73	231	13	3	4	5	43	2	8	534	542
Grand Total	11	702	19	21	30	33	20	3	199	582	33	20	15	22	184	11	55	1850	1905
Apprch %	1.5	95.9	2.6		36.1	39.8	24.1		24.4	71.5	4.1		6.8	10	83.3				
Total %	0.6	37.9	1		1.6	1.8	1.1		10.8	31.5	1.8		0.8	1.2	9.9		2.9	97.1	

Start Time	Rt 686 / Newman Rd Southbound				Fenton Mill Rd Westbound				Rt 686 / Newman Rd Northbound				Fenton Mill Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	5	52	0	57	3	2	1	6	8	11	3	22	1	5	15	21	106
07:15 AM	0	52	0	52	2	1	1	4	4	28	1	33	0	1	15	16	105
07:30 AM	0	59	1	60	2	0	0	2	5	21	1	27	1	0	9	10	99
07:45 AM	0	43	2	45	2	1	0	3	6	22	0	28	1	1	23	25	101
Total Volume	5	206	3	214	9	4	2	15	23	82	5	110	3	7	62	72	411
% App. Total	2.3	96.3	1.4		60	26.7	13.3		20.9	74.5	4.5		4.2	9.7	86.1		
PHF	.250	.873	.375	.892	.750	.500	.500	.625	.719	.732	.417	.833	.750	.350	.674	.720	.969

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	40	1	42	4	3	3	10	22	55	2	79	1	0	12	13	144
04:15 PM	0	42	2	44	1	6	3	10	17	53	6	76	0	2	8	10	140
04:30 PM	1	42	0	43	2	3	2	7	21	65	1	87	1	4	9	14	151
04:45 PM	0	46	4	50	1	3	4	8	18	38	1	57	4	1	10	15	130
Total Volume	2	170	7	179	8	15	12	35	78	211	10	299	6	7	39	52	565
% App. Total	1.1	95	3.9		22.9	42.9	34.3		26.1	70.6	3.3		11.5	13.5	75		
PHF	.500	.924	.438	.895	.500	.625	.750	.875	.886	.812	.417	.859	.375	.438	.813	.867	.935

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
AM counted: 05/10/11
PM counted: 05/10/11

File Name : I-64 EIS #23811
Site Code : 23811
Start Date : 5/10/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Pocohantas Trail Southbound				Westbound				Pocohantas Trail Northbound				Rochambeau Trail Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	2	72	49	7	0	0	0	0	105	62	35	2	6	56	55	15	24	442	466
07:15 AM	1	103	18	8	0	0	0	0	23	63	43	2	11	61	38	4	14	361	375
07:30 AM	1	127	35	9	0	0	0	0	33	61	43	1	4	47	25	6	16	376	392
07:45 AM	4	166	54	10	0	0	0	0	38	49	34	7	1	36	29	2	19	411	430
Total	8	468	156	34	0	0	0	0	199	235	155	12	22	200	147	27	73	1590	1663
08:00 AM	0	109	36	13	0	0	0	0	26	55	29	7	2	31	25	3	23	313	336
08:15 AM	2	130	32	4	0	0	0	0	27	36	23	9	2	35	26	2	15	313	328
08:30 AM	4	125	35	4	0	0	0	0	26	35	25	5	1	39	29	8	17	319	336
08:45 AM	2	111	51	4	0	0	0	0	30	36	26	7	2	22	26	2	13	306	319
Total	8	475	154	25	0	0	0	0	109	162	103	28	7	127	106	15	68	1251	1319
04:00 PM	7	97	54	6	0	0	0	0	53	59	52	6	4	45	62	4	16	433	449
04:15 PM	10	100	66	3	0	0	0	0	59	76	42	12	3	37	61	4	19	454	473
04:30 PM	8	133	51	2	0	0	0	0	48	67	52	2	1	33	44	3	7	437	444
04:45 PM	10	116	69	3	0	0	0	0	83	59	49	3	2	36	48	0	6	472	478
Total	35	446	240	14	0	0	0	0	243	261	195	23	10	151	215	11	48	1796	1844
05:00 PM	6	85	66	4	0	0	0	0	53	72	38	3	1	39	63	5	12	423	435
05:15 PM	7	126	61	5	0	0	0	0	62	86	51	0	0	50	46	4	9	489	498
05:30 PM	7	133	54	4	0	0	0	0	43	79	69	3	0	39	58	1	8	482	490
05:45 PM	4	113	44	1	0	0	0	0	57	65	49	2	2	40	42	1	4	416	420
Total	24	457	225	14	0	0	0	0	215	302	207	8	3	168	209	11	33	1810	1843
Grand Total	75	1846	775	87	0	0	0	0	766	960	660	71	42	646	677	64	222	6447	6669
Apprch %	2.8	68.5	28.7		0	0	0		32.1	40.2	27.7		3.1	47.3	49.6				
Total %	1.2	28.6	12		0	0	0		11.9	14.9	10.2		0.7	10	10.5		3.3	96.7	

Start Time	Pocohantas Trail Southbound				Westbound				Pocohantas Trail Northbound				Rochambeau Trail Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	2	72	49	123	0	0	0	0	105	62	35	202	6	56	55	117	442
07:15 AM	1	103	18	122	0	0	0	0	23	63	43	129	11	61	38	110	361
07:30 AM	1	127	35	163	0	0	0	0	33	61	43	137	4	47	25	76	376
07:45 AM	4	166	54	224	0	0	0	0	38	49	34	121	1	36	29	66	411
Total Volume	8	468	156	632	0	0	0	0	199	235	155	589	22	200	147	369	1590
% App. Total	1.3	74.1	24.7		0	0	0		33.8	39.9	26.3		6	54.2	39.8		
PHF	.500	.705	.722	.705	.000	.000	.000	.000	.474	.933	.901	.729	.500	.820	.668	.788	.899

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	10	116	69	195	0	0	0	0	83	59	49	191	2	36	48	86	472
05:00 PM	6	85	66	157	0	0	0	0	53	72	38	163	1	39	63	103	423
05:15 PM	7	126	61	194	0	0	0	0	62	86	51	199	0	50	46	96	489
05:30 PM	7	133	54	194	0	0	0	0	43	79	69	191	0	39	58	97	482
Total Volume	30	460	250	740	0	0	0	0	241	296	207	744	3	164	215	382	1866
% App. Total	4.1	62.2	33.8		0	0	0		32.4	39.8	27.8		0.8	42.9	56.3		
PHF	.750	.865	.906	.949	.000	.000	.000	.000	.726	.860	.750	.935	.375	.820	.853	.927	.954

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
AM counted: 5/10/11
PM counted: 5/10/11

File Name : I-64 EIS #23812
Site Code : 23811
Start Date : 5/10/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Pocohantas Trail Southbound				Westbound				Pocohantas Trail Northbound				I-64 EB off ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	84	0	6	0	0	0	0	0	62	0	0	14	0	39	1	7	199	206
07:15 AM	0	55	0	3	0	0	0	0	0	63	0	1	13	0	67	5	9	198	207
07:30 AM	0	111	0	4	0	0	0	0	0	61	0	0	9	0	52	5	9	233	242
07:45 AM	0	158	0	4	0	0	0	0	0	49	0	3	12	0	66	6	13	285	298
Total	0	408	0	17	0	0	0	0	0	235	0	4	48	0	224	17	38	915	953
08:00 AM	0	94	0	9	0	0	0	0	0	55	0	4	6	0	51	4	17	206	223
08:15 AM	0	81	0	2	0	0	0	0	0	36	0	4	6	0	83	2	8	206	214
08:30 AM	0	85	0	3	0	0	0	0	0	35	0	2	9	0	79	1	6	208	214
08:45 AM	0	113	0	3	0	0	0	0	0	36	0	3	3	0	51	1	7	203	210
Total	0	373	0	17	0	0	0	0	0	162	0	13	24	0	264	8	38	823	861
04:00 PM	0	100	0	1	0	0	0	0	0	56	0	2	7	0	61	2	5	224	229
04:15 PM	0	116	0	1	0	0	0	0	0	63	0	0	2	0	65	0	1	246	247
04:30 PM	0	88	0	0	0	0	0	0	0	51	0	0	1	0	63	0	0	203	203
04:45 PM	0	132	0	1	0	0	0	0	0	38	0	1	3	0	81	1	3	254	257
Total	0	436	0	3	0	0	0	0	0	208	0	3	13	0	270	3	9	927	936
05:00 PM	0	96	0	2	0	0	0	0	0	61	0	2	2	0	29	1	5	188	193
05:15 PM	0	119	0	2	0	0	0	0	0	79	0	0	2	0	102	3	5	302	307
05:30 PM	0	112	0	0	0	0	0	0	0	67	0	0	0	1	69	1	1	249	250
05:45 PM	0	73	0	1	0	0	0	0	0	44	0	0	5	1	70	0	1	193	194
Total	0	400	0	5	0	0	0	0	0	251	0	2	9	2	270	5	12	932	944
Grand Total	0	1617	0	42	0	0	0	0	0	856	0	22	94	2	1028	33	97	3597	3694
Apprch %	0	100	0		0	0	0		0	100	0		8.4	0.2	91.5				
Total %	0	45	0		0	0	0		0	23.8	0		2.6	0.1	28.6		2.6	97.4	

Start Time	Pocohantas Trail Southbound				Westbound				Pocohantas Trail Northbound				I-64 EB off ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	111	0	111	0	0	0	0	0	61	0	61	9	0	52	61	233
07:45 AM	0	158	0	158	0	0	0	0	0	49	0	49	12	0	66	78	285
08:00 AM	0	94	0	94	0	0	0	0	0	55	0	55	6	0	51	57	206
08:15 AM	0	81	0	81	0	0	0	0	0	36	0	36	6	0	83	89	206
Total Volume	0	444	0	444	0	0	0	0	0	201	0	201	33	0	252	285	930
% App. Total	0	100	0		0	0	0		0	100	0		11.6	0	88.4		
PHF	.000	.703	.000	.703	.000	.000	.000	.000	.000	.824	.000	.824	.688	.000	.759	.801	.816

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	132	0	132	0	0	0	0	0	38	0	38	3	0	81	84	254
05:00 PM	0	96	0	96	0	0	0	0	0	61	0	61	2	0	29	31	188
05:15 PM	0	119	0	119	0	0	0	0	0	79	0	79	2	0	102	104	302
05:30 PM	0	112	0	112	0	0	0	0	0	67	0	67	0	1	69	70	249
Total Volume	0	459	0	459	0	0	0	0	0	245	0	245	7	1	281	289	993
% App. Total	0	100	0		0	0	0		0	100	0		2.4	0.3	97.2		
PHF	.000	.869	.000	.869	.000	.000	.000	.000	.000	.775	.000	.775	.583	.250	.689	.695	.822

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS
AM counted: 04/28/11
PM counted: 04/27/11

File Name : I-64 EIS #24311
Site Code : 24311
Start Date : 4/28/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Southbound				US Rt 60/Pocohontas Trail Westbound				Busch Gardens Northbound				US Rt 60/Pocohontas Trail Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	0	0	0	17	55	0	5	0	0	0	0	0	29	55	7	12	156	168
07:15 AM	0	0	0	0	20	67	0	2	0	0	0	0	0	44	25	1	3	156	159
07:30 AM	0	0	0	0	30	69	0	9	0	0	0	0	0	39	39	9	18	177	195
07:45 AM	0	0	0	0	19	72	0	6	0	0	0	0	0	24	28	6	12	143	155
Total	0	0	0	0	86	263	0	22	0	0	0	0	0	136	147	23	45	632	677
08:00 AM	0	0	0	0	27	91	0	6	1	0	0	0	0	17	30	2	8	166	174
08:15 AM	0	0	0	0	29	71	0	14	3	0	1	0	0	16	23	1	15	143	158
08:30 AM	0	0	0	0	20	100	0	14	1	0	0	0	0	18	30	5	19	169	188
08:45 AM	0	0	0	0	14	67	0	6	0	0	0	0	0	32	25	5	11	138	149
Total	0	0	0	0	90	329	0	40	5	0	1	0	0	83	108	13	53	616	669
04:00 PM	0	0	0	0	30	61	0	5	5	0	1	1	0	112	47	7	13	256	269
04:15 PM	0	0	0	0	30	74	0	8	1	0	0	0	0	128	38	16	24	271	295
04:30 PM	0	0	0	0	17	86	0	5	1	0	0	0	0	141	33	15	20	278	298
04:45 PM	0	0	0	0	18	98	0	5	1	0	0	0	0	121	44	12	17	282	299
Total	0	0	0	0	95	319	0	23	8	0	1	1	0	502	162	50	74	1087	1161
05:00 PM	0	0	0	0	35	65	0	4	0	0	0	0	1	109	25	9	13	235	248
05:15 PM	0	0	0	0	24	74	0	7	0	0	0	0	0	141	40	7	14	279	293
05:30 PM	0	0	0	0	8	72	0	2	0	0	0	0	0	108	31	8	10	219	229
05:45 PM	0	0	0	0	14	44	0	3	3	0	0	0	1	87	29	5	8	178	186
Total	0	0	0	0	81	255	0	16	3	0	0	0	2	445	125	29	45	911	956
Grand Total	0	0	0	0	352	1166	0	101	16	0	2	1	2	1166	542	115	217	3246	3463
Apprch %	0	0	0		23.2	76.8	0		88.9	0	11.1		0.1	68.2	31.7				
Total %	0	0	0		10.8	35.9	0		0.5	0	0.1		0.1	35.9	16.7		6.3	93.7	

Start Time	Southbound				US Rt 60/Pocohontas Trail Westbound				Busch Gardens Northbound				US Rt 60/Pocohontas Trail Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	0	0	0	0	20	67	0	87	0	0	0	0	0	44	25	69	156
07:30 AM	0	0	0	0	30	69	0	99	0	0	0	0	0	39	39	78	177
07:45 AM	0	0	0	0	19	72	0	91	0	0	0	0	0	24	28	52	143
08:00 AM	0	0	0	0	27	91	0	118	1	0	0	1	0	17	30	47	166
Total Volume	0	0	0	0	96	299	0	395	1	0	0	1	0	124	122	246	642
% App. Total	0	0	0		24.3	75.7	0		100	0	0		0	50.4	49.6		
PHF	.000	.000	.000	.000	.800	.821	.000	.837	.250	.000	.000	.250	.000	.705	.782	.788	.907

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

04:00 PM	0	0	0	0	30	61	0	91	5	0	1	6	0	112	47	159	256
04:15 PM	0	0	0	0	30	74	0	104	1	0	0	1	0	128	38	166	271
04:30 PM	0	0	0	0	17	86	0	103	1	0	0	1	0	141	33	174	278
04:45 PM	0	0	0	0	18	98	0	116	1	0	0	1	0	121	44	165	282
Total Volume	0	0	0	0	95	319	0	414	8	0	1	9	0	502	162	664	1087
% App. Total	0	0	0		22.9	77.1	0		88.9	0	11.1		0	75.6	24.4		
PHF	.000	.000	.000	.000	.792	.814	.000	.892	.400	.000	.250	.375	.000	.890	.862	.954	.964

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS
AM counted: 04/28/11
PM counted: 04/27/11

File Name : I-64 EIS #24312
Site Code : 24312
Start Date : 4/28/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Southbound				US Rt 60/Pocohontas Trail Westbound				I-64 off ramp Northbound				US Rt 60/Pocohontas Trail Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	0	0	0	0	55	0	4	33	0	20	6	1	84	0	7	17	193	210
07:15 AM	0	0	0	0	0	67	0	1	35	0	28	3	0	69	0	2	6	199	205
07:30 AM	0	0	0	0	0	69	0	3	60	0	26	6	0	78	0	13	22	233	255
07:45 AM	0	0	0	0	0	72	0	2	28	0	28	8	0	52	0	6	16	180	196
Total	0	0	0	0	0	263	0	10	156	0	102	23	1	283	0	28	61	805	866
08:00 AM	0	0	0	0	0	92	0	2	39	0	24	6	0	47	0	6	14	202	216
08:15 AM	0	0	0	0	0	74	0	8	53	0	20	4	0	39	0	1	13	186	199
08:30 AM	0	0	0	0	0	101	0	7	46	0	15	2	0	48	0	8	17	210	227
08:45 AM	0	0	0	0	0	67	0	3	49	0	17	3	0	57	0	6	12	190	202
Total	0	0	0	0	0	334	0	20	187	0	76	15	0	191	0	21	56	788	844
04:00 PM	0	0	0	0	0	67	0	5	22	0	31	4	0	130	0	9	18	250	268
04:15 PM	0	0	0	0	0	72	0	2	22	0	35	4	0	142	0	15	21	271	292
04:30 PM	0	0	0	0	0	84	0	3	15	0	40	9	0	144	0	8	20	283	303
04:45 PM	0	0	0	0	1	100	0	2	29	0	30	5	0	132	0	9	16	292	308
Total	0	0	0	0	1	323	0	12	88	0	136	22	0	548	0	41	75	1096	1171
05:00 PM	0	0	0	0	0	67	0	1	20	0	36	5	0	112	0	6	12	235	247
05:15 PM	0	0	0	0	0	71	0	3	22	0	40	2	0	134	0	6	11	267	278
05:30 PM	0	0	0	0	1	72	0	2	12	0	35	4	0	110	1	5	11	231	242
05:45 PM	0	0	0	0	1	47	0	1	21	0	24	2	0	93	2	4	7	188	195
Total	0	0	0	0	2	257	0	7	75	0	135	13	0	449	3	21	41	921	962
Grand Total	0	0	0	0	3	1177	0	49	506	0	449	73	1	1471	3	111	233	3610	3843
Apprch %	0	0	0		0.3	99.7	0		53	0	47		0.1	99.7	0.2				
Total %	0	0	0		0.1	32.6	0		14	0	12.4		0	40.7	0.1		6.1	93.9	

Start Time	Southbound				US Rt 60/Pocohontas Trail Westbound				I-64 off ramp Northbound				US Rt 60/Pocohontas Trail Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	0	0	0	0	0	67	0	67	35	0	28	63	0	69	0	69	199
07:30 AM	0	0	0	0	0	69	0	69	60	0	26	86	0	78	0	78	233
07:45 AM	0	0	0	0	0	72	0	72	28	0	28	56	0	52	0	52	180
08:00 AM	0	0	0	0	0	92	0	92	39	0	24	63	0	47	0	47	202
Total Volume	0	0	0	0	0	300	0	300	162	0	106	268	0	246	0	246	814
% App. Total	0	0	0		0	100	0		60.4	0	39.6		0	100	0		
PHF	.000	.000	.000	.000	.000	.815	.000	.815	.675	.000	.946	.779	.000	.788	.000	.788	.873

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:00 PM

04:00 PM	0	0	0	0	0	67	0	67	22	0	31	53	0	130	0	130	250
04:15 PM	0	0	0	0	0	72	0	72	22	0	35	57	0	142	0	142	271
04:30 PM	0	0	0	0	0	84	0	84	15	0	40	55	0	144	0	144	283
04:45 PM	0	0	0	0	1	100	0	101	29	0	30	59	0	132	0	132	292
Total Volume	0	0	0	0	1	323	0	324	88	0	136	224	0	548	0	548	1096
% App. Total	0	0	0		0.3	99.7	0		39.3	0	60.7		0	100	0		
PHF	.000	.000	.000	.000	.250	.808	.000	.802	.759	.000	.850	.949	.000	.951	.000	.951	.938

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS
AM counted: 04/26/11
PM counted: 04/26/11

File Name : I-64 EIS #24711
Site Code : 24711
Start Date : 4/26/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Yorktown Rd Southbound				I-64 WB off ramp Westbound				Yorktown Rd Northbound				Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	134	0	3	6	0	60	5	0	35	0	0	0	0	0	0	8	235	243
07:15 AM	0	154	0	11	8	0	83	3	0	38	0	2	0	0	0	0	16	283	299
07:30 AM	0	103	0	7	7	0	68	10	0	50	0	2	0	0	0	0	19	228	247
07:45 AM	0	119	0	3	12	0	85	14	0	53	0	1	0	0	0	0	18	269	287
Total	0	510	0	24	33	0	296	32	0	176	0	5	0	0	0	0	61	1015	1076
08:00 AM	0	85	0	10	12	0	46	8	0	31	0	5	0	0	0	0	23	174	197
08:15 AM	0	95	0	4	5	0	38	7	0	65	0	11	0	0	0	0	22	203	225
08:30 AM	0	65	0	4	2	0	35	10	0	38	0	4	0	0	0	0	18	140	158
08:45 AM	0	78	0	9	11	0	48	10	0	42	0	6	0	0	0	0	25	179	204
Total	0	323	0	27	30	0	167	35	0	176	0	26	0	0	0	0	88	696	784
04:00 PM	0	107	0	5	7	0	113	3	0	77	0	6	0	0	0	0	14	304	318
04:15 PM	0	104	0	1	10	0	112	4	0	62	0	2	0	0	0	0	7	288	295
04:30 PM	0	93	0	2	8	0	126	5	0	59	0	3	0	0	0	0	10	286	296
04:45 PM	0	90	0	6	14	0	109	1	0	73	0	7	0	0	0	0	14	286	300
Total	0	394	0	14	39	0	460	13	0	271	0	18	0	0	0	0	45	1164	1209
05:00 PM	0	111	0	1	8	0	104	7	0	56	0	4	0	0	0	0	12	279	291
05:15 PM	0	86	0	3	7	0	102	5	0	80	0	2	0	0	0	0	10	275	285
05:30 PM	0	105	0	1	17	0	106	5	0	52	0	3	0	0	0	0	9	280	289
05:45 PM	0	93	0	2	15	0	87	5	0	36	0	1	0	0	0	0	8	231	239
Total	0	395	0	7	47	0	399	22	0	224	0	10	0	0	0	0	39	1065	1104
Grand Total	0	1622	0	72	149	0	1322	102	0	847	0	59	0	0	0	0	233	3940	4173
Apprch %	0	100	0		10.1	0	89.9		0	100	0		0	0	0				
Total %	0	41.2	0		3.8	0	33.6		0	21.5	0		0	0	0		5.6	94.4	

Start Time	Yorktown Rd Southbound				I-64 WB off ramp Westbound				Yorktown Rd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	134	0	134	6	0	60	66	0	35	0	35	0	0	0	0	235
07:15 AM	0	154	0	154	8	0	83	91	0	38	0	38	0	0	0	0	283
07:30 AM	0	103	0	103	7	0	68	75	0	50	0	50	0	0	0	0	228
07:45 AM	0	119	0	119	12	0	85	97	0	53	0	53	0	0	0	0	269
Total Volume	0	510	0	510	33	0	296	329	0	176	0	176	0	0	0	0	1015
% App. Total	0	100	0		10	0	90		0	100	0		0	0	0		
PHF	.000	.828	.000	.828	.688	.000	.871	.848	.000	.830	.000	.830	.000	.000	.000	.000	.897

Start Time	Yorktown Rd Southbound				I-64 WB off ramp Westbound				Yorktown Rd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	107	0	107	7	0	113	120	0	77	0	77	0	0	0	0	304
04:15 PM	0	104	0	104	10	0	112	122	0	62	0	62	0	0	0	0	288
04:30 PM	0	93	0	93	8	0	126	134	0	59	0	59	0	0	0	0	286
04:45 PM	0	90	0	90	14	0	109	123	0	73	0	73	0	0	0	0	286
Total Volume	0	394	0	394	39	0	460	499	0	271	0	271	0	0	0	0	1164
% App. Total	0	100	0		7.8	0	92.2		0	100	0		0	0	0		
PHF	.000	.921	.000	.921	.696	.000	.913	.931	.000	.880	.000	.880	.000	.000	.000	.000	.957

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS
AM counted: 04/26/11
PM counted: 04/26/11

File Name : I-64 EIS #24712
Site Code : 24712
Start Date : 4/26/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Yorktown Rd Southbound				Westbound				Yorktown Rd Northbound				Eastbound				Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks				
07:00 AM	103	37	0	0	0	0	0	0	0	27	12	0	0	0	0	0	0	0	179	
07:15 AM	123	54	0	0	0	0	0	0	0	33	15	1	0	0	0	0	0	225	226	
07:30 AM	91	33	0	0	0	0	0	0	0	47	8	1	0	0	0	0	0	179	180	
07:45 AM	55	44	0	0	0	0	0	0	0	48	10	1	0	0	0	0	0	157	158	
Total	372	168	0	0	0	0	0	0	0	155	45	3	0	0	0	0	0	3	740	743
08:00 AM	47	25	0	1	0	0	0	0	0	28	7	3	0	0	0	0	0	4	107	111
08:15 AM	42	50	0	1	0	0	0	0	0	60	0	1	0	0	0	0	0	2	152	154
08:30 AM	17	46	0	1	0	0	0	0	0	38	1	2	0	0	0	0	0	3	102	105
08:45 AM	36	48	0	6	0	0	0	0	0	37	0	4	0	0	0	0	0	10	121	131
Total	142	169	0	9	0	0	0	0	0	163	8	10	0	0	0	0	0	19	482	501
04:00 PM	81	38	0	4	0	0	0	0	0	77	7	7	0	0	0	0	0	11	203	214
04:15 PM	60	60	0	0	0	0	0	0	0	50	7	0	0	0	0	0	0	0	177	177
04:30 PM	55	39	0	2	0	0	0	0	0	33	6	2	0	0	0	0	0	4	133	137
04:45 PM	43	46	0	2	0	0	0	0	0	46	4	2	0	0	0	0	0	4	139	143
Total	239	183	0	8	0	0	0	0	0	206	24	11	0	0	0	0	0	19	652	671
05:00 PM	56	52	0	0	0	0	0	0	0	45	5	2	0	0	0	0	0	2	158	160
05:15 PM	42	47	0	1	0	0	0	0	0	75	4	1	0	0	0	0	0	2	168	170
05:30 PM	68	62	0	0	0	0	0	0	0	44	6	1	0	0	0	0	0	1	180	181
05:45 PM	53	62	0	0	0	0	0	0	0	18	1	0	0	0	0	0	0	0	134	134
Total	219	223	0	1	0	0	0	0	0	182	16	4	0	0	0	0	0	5	640	645
Grand Total	972	743	0	18	0	0	0	0	0	706	93	28	0	0	0	0	0	46	2514	2560
Apprch %	56.7	43.3	0		0	0	0		0	88.4	11.6		0	0	0					
Total %	38.7	29.6	0		0	0	0		0	28.1	3.7		0	0	0			1.8	98.2	

Start Time	Yorktown Rd Southbound				Westbound				Yorktown Rd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	103	37	0	140	0	0	0	0	0	27	12	39	0	0	0	0	179
07:15 AM	123	54	0	177	0	0	0	0	0	33	15	48	0	0	0	0	225
07:30 AM	91	33	0	124	0	0	0	0	0	47	8	55	0	0	0	0	179
07:45 AM	55	44	0	99	0	0	0	0	0	48	10	58	0	0	0	0	157
Total Volume	372	168	0	540	0	0	0	0	0	155	45	200	0	0	0	0	740
% App. Total	68.9	31.1	0		0	0	0		0	77.5	22.5		0	0	0		
PHF	.756	.778	.000	.763	.000	.000	.000	.000	.000	.807	.750	.862	.000	.000	.000	.000	.822

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	81	38	0	119	0	0	0	0	0	77	7	84	0	0	0	0	203
04:15 PM	60	60	0	120	0	0	0	0	0	50	7	57	0	0	0	0	177
04:30 PM	55	39	0	94	0	0	0	0	0	33	6	39	0	0	0	0	133
04:45 PM	43	46	0	89	0	0	0	0	0	46	4	50	0	0	0	0	139
Total Volume	239	183	0	422	0	0	0	0	0	206	24	230	0	0	0	0	652
% App. Total	56.6	43.4	0		0	0	0		0	89.6	10.4		0	0	0		
PHF	.738	.763	.000	.879	.000	.000	.000	.000	.000	.669	.857	.685	.000	.000	.000	.000	.803

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS
AM counted: 04/26/11
PM counted: 04/26/11

File Name : I-64 EIS #24713
Site Code : 24713
Start Date : 4/26/2011
Page No : 1

Groups Printed- NB Rt trks

Start Time	Jefferson Ave Southbound				Westbound				Merrimac Trail Northbound				I-64 Off ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	6
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	0	8
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	17	0	17
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0				
Total %																	100	0	

Start Time	Jefferson Ave Southbound				Westbound				Merrimac Trail Northbound				I-64 Off ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS
AM counted: 04/26/11
PM counted: 04/26/11

File Name : I-64 EIS #24713
Site Code : 24713
Start Date : 4/26/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Jefferson Ave Southbound				Westbound				Merrimac Trail Northbound				I-64 Off ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	59	0	6	0	0	0	0	0	133	48	2	25	0	0	1	9	265	274
07:15 AM	0	85	0	6	0	0	0	0	0	166	53	9	32	0	0	2	17	336	353
07:30 AM	0	102	0	9	0	0	0	0	0	191	74	12	34	0	0	3	24	401	425
07:45 AM	0	119	0	6	0	0	0	0	0	165	41	9	38	0	8	3	18	371	389
Total	0	365	0	27	0	0	0	0	0	655	216	32	129	0	8	9	68	1373	1441
08:00 AM	0	90	0	12	0	0	0	0	0	138	39	14	28	0	4	1	27	299	326
08:15 AM	2	89	0	8	0	0	0	0	0	149	13	9	80	0	10	9	26	343	369
08:30 AM	1	63	0	6	0	0	0	0	0	175	9	16	101	0	10	8	30	359	389
08:45 AM	1	69	2	6	0	0	0	0	0	173	2	18	99	0	8	9	33	354	387
Total	4	311	2	32	0	0	0	0	0	635	63	57	308	0	32	27	116	1355	1471
04:00 PM	1	95	0	11	0	0	0	0	0	199	52	15	25	0	1	1	27	373	400
04:15 PM	1	93	0	1	0	0	0	0	0	174	45	3	31	0	3	2	6	347	353
04:30 PM	0	86	1	2	0	0	0	0	0	135	21	3	8	0	2	0	5	253	258
04:45 PM	0	86	0	2	0	0	0	0	0	194	49	2	38	0	4	2	6	371	377
Total	2	360	1	16	0	0	0	0	0	702	167	23	102	0	10	5	44	1344	1388
05:00 PM	0	124	0	1	0	0	0	0	0	176	30	2	24	0	0	2	5	354	359
05:15 PM	0	114	0	3	0	0	0	0	0	266	39	3	32	0	3	3	9	454	463
05:30 PM	0	102	0	1	0	0	0	0	0	205	44	3	29	0	0	1	5	380	385
05:45 PM	0	70	0	0	0	0	0	0	0	150	39	0	26	0	1	1	1	286	287
Total	0	410	0	5	0	0	0	0	0	797	152	8	111	0	4	7	20	1474	1494
Grand Total	6	1446	3	80	0	0	0	0	0	2789	598	120	650	0	54	48	248	5546	5794
Apprch %	0.4	99.4	0.2		0	0	0		0	82.3	17.7		92.3	0	7.7				
Total %	0.1	26.1	0.1		0	0	0		0	50.3	10.8		11.7	0	1		4.3	95.7	

Start Time	Jefferson Ave Southbound				Westbound				Merrimac Trail Northbound				I-64 Off ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	102	0	102	0	0	0	0	0	191	74	265	34	0	0	34	401
07:45 AM	0	119	0	119	0	0	0	0	0	165	41	206	38	0	8	46	371
08:00 AM	0	90	0	90	0	0	0	0	0	138	39	177	28	0	4	32	299
08:15 AM	2	89	0	91	0	0	0	0	0	149	13	162	80	0	10	90	343
Total Volume	2	400	0	402	0	0	0	0	0	643	167	810	180	0	22	202	1414
% App. Total	0.5	99.5	0		0	0	0		0	79.4	20.6		89.1	0	10.9		
PHF	.250	.840	.000	.845	.000	.000	.000	.000	.000	.842	.564	.764	.563	.000	.550	.561	.882

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	86	0	86	0	0	0	0	0	194	49	243	38	0	4	42	371
05:00 PM	0	124	0	124	0	0	0	0	0	176	30	206	24	0	0	24	354
05:15 PM	0	114	0	114	0	0	0	0	0	266	39	305	32	0	3	35	454
05:30 PM	0	102	0	102	0	0	0	0	0	205	44	249	29	0	0	29	380
Total Volume	0	426	0	426	0	0	0	0	0	841	162	1003	123	0	7	130	1559
% App. Total	0	100	0		0	0	0		0	83.8	16.2		94.6	0	5.4		
PHF	.000	.859	.000	.859	.000	.000	.000	.000	.000	.790	.827	.822	.809	.000	.438	.774	.858

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS
AM counted: 05/02/11
PM counted: 05/05/11

File Name : I-64 EIS #24714
Site Code : 24714
Start Date : 5/3/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Yorktown Rd Southbound				Jefferson Ave Westbound				Yorktown Rd Northbound				Jefferson Ave Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	13	137	27	4	1	46	23	7	56	69	4	8	18	50	20	3	22	464	486
07:15 AM	19	117	47	7	1	67	19	6	52	76	3	11	33	61	27	6	30	522	552
07:30 AM	22	89	42	7	3	68	35	2	55	47	5	17	28	72	22	6	32	488	520
07:45 AM	28	75	66	4	2	93	25	4	55	44	5	5	26	95	23	14	27	537	564
Total	82	418	182	22	7	274	102	19	218	236	17	41	105	278	92	29	111	2011	2122
08:00 AM	34	58	46	11	4	57	11	6	42	25	5	8	32	62	32	14	39	408	447
08:15 AM	26	76	34	14	3	55	17	6	30	41	5	15	20	60	22	8	43	389	432
08:30 AM	28	60	49	12	0	50	19	2	23	28	3	8	21	55	26	7	29	362	391
08:45 AM	23	71	36	12	2	43	27	5	24	33	2	5	31	44	10	17	39	346	385
Total	111	265	165	49	9	205	74	19	119	127	15	36	104	221	90	46	150	1505	1655
04:00 PM	46	89	20	2	10	52	47	6	43	108	6	8	51	95	28	4	20	595	615
04:15 PM	28	78	36	2	3	91	38	4	49	117	7	10	31	129	23	3	19	630	649
04:30 PM	29	81	36	4	5	74	45	4	29	134	6	5	37	84	21	2	15	581	596
04:45 PM	25	54	30	0	8	83	55	1	40	102	1	10	33	124	25	0	11	580	591
Total	128	302	122	8	26	300	185	15	161	461	20	33	152	432	97	9	65	2386	2451
05:00 PM	30	70	27	0	8	74	40	1	55	105	9	11	28	93	24	0	12	563	575
05:15 PM	20	68	22	0	5	88	42	5	54	103	4	6	45	152	24	1	12	627	639
05:30 PM	16	53	10	1	4	87	48	2	34	108	10	5	46	147	21	2	10	584	594
05:45 PM	18	53	27	2	13	53	35	1	38	108	5	4	38	80	20	2	9	488	497
Total	84	244	86	3	30	302	165	9	181	424	28	26	157	472	89	5	43	2262	2305
Grand Total	405	1229	555	82	72	1081	526	62	679	1248	80	136	518	1403	368	89	369	8164	8533
Apprch %	18.5	56.1	25.4		4.3	64.4	31.3		33.8	62.2	4		22.6	61.3	16.1				
Total %	5	15.1	6.8		0.9	13.2	6.4		8.3	15.3	1		6.3	17.2	4.5		4.3	95.7	

Start Time	Yorktown Rd Southbound				Jefferson Ave Westbound				Yorktown Rd Northbound				Jefferson Ave Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	13	137	27	177	1	46	23	70	56	69	4	129	18	50	20	88	464
07:15 AM	19	117	47	183	1	67	19	87	52	76	3	131	33	61	27	121	522
07:30 AM	22	89	42	153	3	68	35	106	55	47	5	107	28	72	22	122	488
07:45 AM	28	75	66	169	2	93	25	120	55	44	5	104	26	95	23	144	537
Total Volume	82	418	182	682	7	274	102	383	218	236	17	471	105	278	92	475	2011
% App. Total	12	61.3	26.7		1.8	71.5	26.6		46.3	50.1	3.6		22.1	58.5	19.4		
PHF	.732	.763	.689	.932	.583	.737	.729	.798	.973	.776	.850	.899	.795	.732	.852	.825	.936

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	46	89	20	155	10	52	47	109	43	108	6	157	51	95	28	174	595
04:15 PM	28	78	36	142	3	91	38	132	49	117	7	173	31	129	23	183	630
04:30 PM	29	81	36	146	5	74	45	124	29	134	6	169	37	84	21	142	581
04:45 PM	25	54	30	109	8	83	55	146	40	102	1	143	33	124	25	182	580
Total Volume	128	302	122	552	26	300	185	511	161	461	20	642	152	432	97	681	2386
% App. Total	23.2	54.7	22.1		5.1	58.7	36.2		25.1	71.8	3.1		22.3	63.4	14.2		
PHF	.696	.848	.847	.890	.650	.824	.841	.875	.821	.860	.714	.928	.745	.837	.866	.930	.947

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
AM counted: 04/14/11
PM counted: 04/13/11

File Name : I-64 EIS #25011
Site Code : 25011
Start Date : 4/14/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Jefferson Ave Southbound				Westbound				Jefferson Ave Northbound				I64 WB off ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	0	76	0	0	0	0	0	0	0	185	0	4	64	0	21	6	10	346	356
07:15 AM	0	104	0	6	0	0	0	0	0	211	0	9	48	0	18	2	17	381	398
07:30 AM	0	92	0	3	0	0	0	0	0	153	0	9	27	0	21	5	17	293	310
07:45 AM	0	59	0	2	0	0	0	0	0	132	0	8	15	0	10	3	13	216	229
Total	0	331	0	11	0	0	0	0	0	681	0	30	154	0	70	16	57	1236	1293
08:00 AM	0	91	0	7	0	0	0	0	0	148	0	8	22	0	16	2	17	277	294
08:15 AM	0	102	0	2	0	0	0	0	0	179	0	10	29	0	14	3	15	324	339
08:30 AM	0	65	0	4	0	0	0	0	0	173	0	14	31	0	20	6	24	289	313
08:45 AM	0	85	0	7	0	0	0	0	0	191	0	11	29	0	13	3	21	318	339
Total	0	343	0	20	0	0	0	0	0	691	0	43	111	0	63	14	77	1208	1285
04:00 PM	0	318	0	6	0	0	0	0	0	344	0	8	86	0	36	0	14	784	798
04:15 PM	0	306	0	16	0	0	0	0	0	355	0	11	82	0	66	5	32	809	841
04:30 PM	0	310	0	6	0	0	0	0	0	244	0	4	72	0	74	8	18	700	718
04:45 PM	0	296	0	4	0	0	0	0	0	253	0	4	76	0	50	4	12	675	687
Total	0	1230	0	32	0	0	0	0	0	1196	0	27	316	0	226	17	76	2968	3044
05:00 PM	0	308	0	6	0	0	0	0	0	243	0	10	71	0	48	4	20	670	690
05:15 PM	0	285	0	3	0	0	0	0	0	240	0	0	84	0	52	1	4	661	665
05:30 PM	0	252	0	3	0	0	0	0	0	183	0	3	79	0	52	3	9	566	575
05:45 PM	0	214	0	1	0	0	0	0	0	194	0	4	64	0	74	2	7	546	553
Total	0	1059	0	13	0	0	0	0	0	860	0	17	298	0	226	10	40	2443	2483
Grand Total	0	2963	0	76	0	0	0	0	0	3428	0	117	879	0	585	57	250	7855	8105
Apprch %	0	100	0		0	0	0		0	100	0		60	0	40				
Total %	0	37.7	0		0	0	0		0	43.6	0		11.2	0	7.4		3.1	96.9	

Start Time	Jefferson Ave Southbound				Westbound				Jefferson Ave Northbound				I64 WB off ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	76	0	76	0	0	0	0	0	185	0	185	64	0	21	85	346
07:15 AM	0	104	0	104	0	0	0	0	0	211	0	211	48	0	18	66	381
07:30 AM	0	92	0	92	0	0	0	0	0	153	0	153	27	0	21	48	293
07:45 AM	0	59	0	59	0	0	0	0	0	132	0	132	15	0	10	25	216
Total Volume	0	331	0	331	0	0	0	0	0	681	0	681	154	0	70	224	1236
% App. Total	0	100	0		0	0	0		0	100	0		68.8	0	31.2		
PHF	.000	.796	.000	.796	.000	.000	.000	.000	.000	.807	.000	.807	.602	.000	.833	.659	.811

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	318	0	318	0	0	0	0	0	344	0	344	86	0	36	122	784
04:15 PM	0	306	0	306	0	0	0	0	0	355	0	355	82	0	66	148	809
04:30 PM	0	310	0	310	0	0	0	0	0	244	0	244	72	0	74	146	700
04:45 PM	0	296	0	296	0	0	0	0	0	253	0	253	76	0	50	126	675
Total Volume	0	1230	0	1230	0	0	0	0	0	1196	0	1196	316	0	226	542	2968
% App. Total	0	100	0		0	0	0		0	100	0		58.3	0	41.7		
PHF	.000	.967	.000	.967	.000	.000	.000	.000	.000	.842	.000	.842	.919	.000	.764	.916	.917

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
AM counted: 04/13/11
PM counted: 04/12/11

File Name : I-64 EIS #25012
Site Code : 25012
Start Date : 4/13/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Jefferson Ave Southbound				Fort Eustis Blvd Westbound				Jefferson Ave Northbound				Fort Eustis Blvd Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	8	224	74	5	93	114	64	1	21	136	66	9	19	20	19	3	18	858	876
07:15 AM	12	227	59	3	100	147	67	1	19	78	88	11	14	48	23	4	19	882	901
07:30 AM	11	181	80	3	140	153	46	6	40	73	118	12	10	51	17	1	22	920	942
07:45 AM	13	180	48	2	104	132	51	5	35	85	151	10	12	81	68	9	26	960	986
Total	44	812	261	13	437	546	228	13	115	372	423	42	55	200	127	17	85	3620	3705
08:00 AM	5	136	78	6	73	119	47	5	16	54	70	7	16	54	35	6	24	703	727
08:15 AM	4	92	65	11	94	83	11	0	8	57	65	14	23	46	18	7	32	566	598
08:30 AM	0	43	37	9	58	65	7	5	20	55	52	19	12	44	29	5	38	422	460
08:45 AM	3	131	47	3	157	101	45	3	9	50	67	19	13	38	20	6	31	681	712
Total	12	402	227	29	382	368	110	13	53	216	254	59	64	182	102	24	125	2372	2497
04:00 PM	10	87	53	7	59	111	80	2	15	83	107	6	27	152	83	5	20	867	887
04:15 PM	12	87	29	3	62	83	94	1	48	148	150	8	23	122	54	6	18	912	930
04:30 PM	6	66	55	5	37	120	94	1	39	144	153	11	31	113	50	5	22	908	930
04:45 PM	8	68	32	2	60	113	102	2	36	165	216	7	29	92	42	12	23	963	986
Total	36	308	169	17	218	427	370	6	138	540	626	32	110	479	229	28	83	3650	3733
05:00 PM	6	41	32	1	64	161	72	1	48	107	134	3	24	100	42	5	10	831	841
05:15 PM	17	76	20	0	80	134	111	0	34	145	196	6	28	98	27	6	12	966	978
05:30 PM	7	25	32	0	37	81	70	0	34	120	145	3	31	100	35	3	6	717	723
05:45 PM	6	62	2	1	63	103	85	1	14	117	127	5	15	82	30	2	9	706	715
Total	36	204	86	2	244	479	338	2	130	489	602	17	98	380	134	16	37	3220	3257
Grand Total	128	1726	743	61	1281	1820	1046	34	436	1617	1905	150	327	1241	592	85	330	12862	13192
Apprch %	4.9	66.5	28.6		30.9	43.9	25.2		11	40.9	48.1		15.1	57.5	27.4				
Total %	1	13.4	5.8		10	14.2	8.1		3.4	12.6	14.8		2.5	9.6	4.6		2.5	97.5	

Start Time	Jefferson Ave Southbound				Fort Eustis Blvd Westbound				Jefferson Ave Northbound				Fort Eustis Blvd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	8	224	74	306	93	114	64	271	21	136	66	223	19	20	19	58	858
07:15 AM	12	227	59	298	100	147	67	314	19	78	88	185	14	48	23	85	882
07:30 AM	11	181	80	272	140	153	46	339	40	73	118	231	10	51	17	78	920
07:45 AM	13	180	48	241	104	132	51	287	35	85	151	271	12	81	68	161	960
Total Volume	44	812	261	1117	437	546	228	1211	115	372	423	910	55	200	127	382	3620
% App. Total	3.9	72.7	23.4		36.1	45.1	18.8		12.6	40.9	46.5		14.4	52.4	33.2		
PHF	.846	.894	.816	.913	.780	.892	.851	.893	.719	.684	.700	.839	.724	.617	.467	.593	.943

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	6	66	55	127	37	120	94	251	39	144	153	336	31	113	50	194	908
04:45 PM	8	68	32	108	60	113	102	275	36	165	216	417	29	92	42	163	963
05:00 PM	6	41	32	79	64	161	72	297	48	107	134	289	24	100	42	166	831
05:15 PM	17	76	20	113	80	134	111	325	34	145	196	375	28	98	27	153	966
Total Volume	37	251	139	427	241	528	379	1148	157	561	699	1417	112	403	161	676	3668
% App. Total	8.7	58.8	32.6		21	46	33		11.1	39.6	49.3		16.6	59.6	23.8		
PHF	.544	.826	.632	.841	.753	.820	.854	.883	.818	.850	.809	.850	.903	.892	.805	.871	.949

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
AM counted: 04/20/11
PM counted: 04/19/11

File Name : I-64 EIS #25511
Site Code : 25511
Start Date : 4/20/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Jefferson Ave Southbound				Patrick Henry Mall Westbound				Jefferson Ave Northbound				Freedom Way Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	7	320	12	13	3	0	6	1	12	214	9	18	27	1	23	2	34	634	668
07:15 AM	7	402	13	13	1	1	4	1	10	296	4	19	49	1	16	2	35	804	839
07:30 AM	19	417	17	21	3	0	8	4	8	352	5	21	35	0	15	2	48	879	927
07:45 AM	21	494	26	15	3	0	8	3	14	312	9	22	40	3	30	1	41	960	1001
Total	54	1633	68	62	10	1	26	9	44	1174	27	80	151	5	84	7	158	3277	3435
08:00 AM	22	412	20	12	3	1	10	3	22	285	9	13	37	1	25	3	31	847	878
08:15 AM	26	374	28	29	3	1	8	0	25	318	14	17	28	3	21	5	51	849	900
08:30 AM	34	370	37	27	10	5	16	4	16	276	7	12	25	1	22	2	45	819	864
08:45 AM	46	365	43	24	4	1	6	1	27	352	10	21	27	2	15	3	49	898	947
Total	128	1521	128	92	20	8	40	8	90	1231	40	63	117	7	83	13	176	3413	3589
04:00 PM	72	436	40	19	22	3	84	3	30	526	28	9	20	3	21	2	33	1285	1318
04:15 PM	79	456	42	20	20	10	83	3	36	529	28	11	20	7	16	2	36	1326	1362
04:30 PM	76	456	38	25	25	6	102	1	32	641	11	0	31	3	20	1	27	1441	1468
04:45 PM	119	500	48	20	22	7	105	1	34	567	12	2	29	6	20	2	25	1469	1494
Total	346	1848	168	84	89	26	374	8	132	2263	79	22	100	19	77	7	121	5521	5642
05:00 PM	97	497	80	19	26	7	83	1	35	629	21	3	49	10	40	5	28	1574	1602
05:15 PM	97	489	57	20	40	7	93	3	40	574	22	3	44	10	25	2	28	1498	1526
05:30 PM	87	544	59	7	12	2	114	1	41	622	20	2	46	9	19	2	12	1575	1587
05:45 PM	89	451	57	13	39	2	89	1	68	547	17	0	46	7	37	2	16	1449	1465
Total	370	1981	253	59	117	18	379	6	184	2372	80	8	185	36	121	11	84	6096	6180
Grand Total	898	6983	617	297	236	53	819	31	450	7040	226	173	553	67	365	38	539	18307	18846
Apprch %	10.6	82.2	7.3		21.3	4.8	73.9		5.8	91.2	2.9		56.1	6.8	37.1				
Total %	4.9	38.1	3.4		1.3	0.3	4.5		2.5	38.5	1.2		3	0.4	2		2.9	97.1	

Start Time	Jefferson Ave Southbound				Patrick Henry Mall Westbound				Jefferson Ave Northbound				Freedom Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	19	417	17	453	3	0	8	11	8	352	5	365	35	0	15	50	879
07:45 AM	21	494	26	541	3	0	8	11	14	312	9	335	40	3	30	73	960
08:00 AM	22	412	20	454	3	1	10	14	22	285	9	316	37	1	25	63	847
08:15 AM	26	374	28	428	3	1	8	12	25	318	14	357	28	3	21	52	849
Total Volume	88	1697	91	1876	12	2	34	48	69	1267	37	1373	140	7	91	238	3535
% App. Total	4.7	90.5	4.9		2.5	4.2	70.8		5	92.3	2.7		58.8	2.9	38.2		
PHF	.846	.859	.813	.867	1.000	.500	.850	.857	.690	.900	.661	.940	.875	.583	.758	.815	.921

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	119	500	48	667	22	7	105	134	34	567	12	613	29	6	20	55	1469
05:00 PM	97	497	80	674	26	7	83	116	35	629	21	685	49	10	40	99	1574
05:15 PM	97	489	57	643	40	7	93	140	40	574	22	636	44	10	25	79	1498
05:30 PM	87	544	59	690	12	2	114	128	41	622	20	683	46	9	19	74	1575
Total Volume	400	2030	244	2674	100	23	395	518	150	2392	75	2617	168	35	104	307	6116
% App. Total	15	75.9	9.1		19.3	4.4	76.3		5.7	91.4	2.9		54.7	11.4	33.9		
PHF	.840	.933	.763	.969	.625	.821	.866	.925	.915	.951	.852	.955	.857	.875	.650	.775	.971

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
AM counted: 04/21/11
PM counted: 04/21/11

File Name : I-64 EIS #25512
Site Code : 25512
Start Date : 4/21/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Jefferson Ave Southbound				Brick Kiln Blvd Westbound				Jefferson Ave Northbound				Walmart Way Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	36	511	12	18	51	12	62	0	21	424	9	0	7	3	19	3	21	1167	1188
07:15 AM	51	566	8	15	56	10	67	1	31	457	10	8	3	3	31	2	26	1293	1319
07:30 AM	57	588	10	21	60	5	52	2	29	459	17	13	7	2	44	1	37	1330	1367
07:45 AM	73	699	6	32	63	5	90	0	20	498	22	2	14	7	37	3	37	1534	1571
Total	217	2364	36	86	230	32	271	3	101	1838	58	23	31	15	131	9	121	5324	5445
08:00 AM	67	600	8	35	49	8	74	3	27	581	26	8	11	8	26	0	46	1485	1531
08:15 AM	51	554	10	24	60	14	89	5	19	485	19	8	7	5	27	0	37	1340	1377
08:30 AM	61	492	12	29	47	8	69	1	33	447	19	9	7	5	42	2	41	1242	1283
08:45 AM	38	472	15	37	43	11	46	1	23	561	8	16	7	4	28	0	54	1256	1310
Total	217	2118	45	125	199	41	278	10	102	2074	72	41	32	22	123	2	178	5323	5501
04:00 PM	105	632	13	27	23	11	100	2	62	796	21	7	21	21	63	0	36	1868	1904
04:15 PM	100	633	21	25	26	35	121	0	66	827	12	8	36	12	67	2	35	1956	1991
04:30 PM	99	619	23	19	20	20	116	1	44	734	23	3	23	10	70	1	24	1801	1825
04:45 PM	129	638	16	19	31	27	116	0	48	636	12	7	18	12	72	1	27	1755	1782
Total	433	2522	73	90	100	93	453	3	220	2993	68	25	98	55	272	4	122	7380	7502
05:00 PM	99	642	24	33	33	24	122	1	48	574	8	5	34	12	69	0	39	1689	1728
05:15 PM	129	685	21	20	42	39	137	0	83	808	17	2	36	18	75	1	23	2090	2113
05:30 PM	129	683	15	11	45	31	123	1	64	770	46	5	39	11	83	1	18	2039	2057
05:45 PM	125	677	21	14	52	25	138	1	54	759	36	0	26	14	80	2	17	2007	2024
Total	482	2687	81	78	172	119	520	3	249	2911	107	12	135	55	307	4	97	7825	7922
Grand Total	1349	9691	235	379	701	285	1522	19	672	9816	305	101	296	147	833	19	518	25852	26370
Apprch %	12	86	2.1		28	11.4	60.7		6.2	90.9	2.8		23.2	11.5	65.3				
Total %	5.2	37.5	0.9		2.7	1.1	5.9		2.6	38	1.2		1.1	0.6	3.2		2	98	

Start Time	Jefferson Ave Southbound				Brick Kiln Blvd Westbound				Jefferson Ave Northbound				Walmart Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	57	588	10	655	60	5	52	117	29	459	17	505	7	2	44	53	1330
07:45 AM	73	699	6	778	63	5	90	158	20	498	22	540	14	7	37	58	1534
08:00 AM	67	600	8	675	49	8	74	131	27	581	26	634	11	8	26	45	1485
08:15 AM	51	554	10	615	60	14	89	163	19	485	19	523	7	5	27	39	1340
Total Volume	248	2441	34	2723	232	32	305	569	95	2023	84	2202	39	22	134	195	5689
% App. Total	9.1	89.6	1.2		40.8	5.6	53.6		4.3	91.9	3.8		20	11.3	68.7		
PHF	.849	.873	.850	.875	.921	.571	.847	.873	.819	.870	.808	.868	.696	.688	.761	.841	.927

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	99	642	24	765	33	24	122	179	48	574	8	630	34	12	69	115	1689
05:15 PM	129	685	21	835	42	39	137	218	83	808	17	908	36	18	75	129	2090
05:30 PM	129	683	15	827	45	31	123	199	64	770	46	880	39	11	83	133	2039
05:45 PM	125	677	21	823	52	25	138	215	54	759	36	849	26	14	80	120	2007
Total Volume	482	2687	81	3250	172	119	520	811	249	2911	107	3267	135	55	307	497	7825
% App. Total	14.8	82.7	2.5		21.2	14.7	64.1		7.6	89.1	3.3		27.2	11.1	61.8		
PHF	.934	.981	.844	.973	.827	.763	.942	.930	.750	.901	.582	.900	.865	.764	.925	.934	.936

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS counts
Exit 264 - I-664
AM counted: 05/05/11
PM counted: 05/04/11

File Name : I-64 EIS #264
Site Code : 264
Start Date : 5/5/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Southbound				I-64 Westbound				I-664 Northbound				I-64 Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
06:00 AM	0	0	0	0	347	402	0	22	248	0	152	54	0	682	491	47	123	2322	2445
06:15 AM	0	0	0	0	482	518	0	19	310	0	124	47	0	754	353	74	140	2541	2681
06:30 AM	0	0	0	0	362	646	0	26	371	0	135	65	0	781	846	65	156	3141	3297
06:45 AM	0	0	0	0	336	677	0	34	384	0	197	57	0	835	272	43	134	2701	2835
Total	0	0	0	0	1527	2243	0	101	1313	0	608	223	0	3052	1962	229	553	10705	11258
07:00 AM	0	0	0	0	313	598	0	48	343	0	207	48	0	999	259	51	147	2719	2866
07:15 AM	0	0	0	0	328	686	0	21	374	0	199	54	0	1016	290	58	133	2893	3026
07:30 AM	0	0	0	0	274	783	0	46	441	0	199	55	0	945	384	67	168	3026	3194
07:45 AM	0	0	0	0	264	781	0	41	429	0	191	52	0	977	509	50	143	3151	3294
Total	0	0	0	0	1179	2848	0	156	1587	0	796	209	0	3937	1442	226	591	11789	12380
08:00 AM	0	0	0	0	240	754	0	42	432	0	194	66	0	866	550	61	169	3036	3205
08:15 AM	0	0	0	0	211	700	0	65	363	0	166	56	0	758	432	70	191	2630	2821
08:30 AM	0	0	0	0	187	724	0	54	421	0	128	66	0	772	416	67	187	2648	2835
08:45 AM	0	0	0	0	165	705	0	64	396	0	139	58	0	670	412	66	188	2487	2675
Total	0	0	0	0	803	2883	0	225	1612	0	627	246	0	3066	1810	264	735	10801	11536
03:00 PM	0	0	0	0	158	821	0	28	451	0	202	22	0	713	416	68	118	2761	2879
03:15 PM	0	0	0	0	168	815	0	19	597	0	251	36	0	729	440	60	115	3000	3115
03:30 PM	0	0	0	0	178	930	0	27	636	0	355	24	0	814	467	58	109	3380	3489
03:45 PM	0	0	0	0	183	918	0	55	1091	0	336	35	0	788	502	69	159	3818	3977
Total	0	0	0	0	687	3484	0	129	2775	0	1144	117	0	3044	1825	255	501	12959	13460
04:00 PM	0	0	0	0	192	996	0	25	942	0	330	33	0	779	456	47	105	3695	3800
04:15 PM	0	0	0	0	185	1028	0	15	1295	0	305	36	0	744	510	56	107	4067	4174
04:30 PM	0	0	0	0	208	1152	0	26	979	0	250	31	0	727	540	56	113	3856	3969
04:45 PM	0	0	0	0	205	1443	0	21	1119	0	208	30	0	706	551	52	103	4232	4335
Total	0	0	0	0	790	4619	0	87	4335	0	1093	130	0	2956	2057	211	428	15850	16278
05:00 PM	0	0	0	0	197	1308	0	20	888	0	246	28	0	776	483	25	73	3898	3971
05:15 PM	0	0	0	0	220	1402	0	21	1161	0	215	23	0	830	427	40	84	4255	4339
05:30 PM	0	0	0	0	182	1223	0	19	760	0	184	21	0	836	368	32	72	3553	3625
05:45 PM	0	0	0	0	184	1180	0	19	675	0	167	21	0	821	346	32	72	3373	3445
Total	0	0	0	0	783	5113	0	79	3484	0	812	93	0	3263	1624	129	301	15079	15380
Grand Total	0	0	0	0	5769	21190	0	777	15106	0	5080	5101	0	19318	10720	1314	3109	77183	80292
Apprch %	0	0	0	0	21.4	78.6	0		74.8	0	25.2		0	64.3	35.7				
Total %	0	0	0	0	7.5	27.5	0		19.6	0	6.6		0	25	13.9		3.9	96.1	

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS counts
Exit 264 - I-664
AM counted: 05/05/11
PM counted: 05/04/11

File Name : I-64 EIS #264
Site Code : 264
Start Date : 5/5/2011
Page No : 2

Start Time	Southbound				I-64 Westbound				I-664 Northbound				I-64 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	328	686	0	1014	374	0	199	573	0	1016	290	1306	2893
07:30 AM	0	0	0	0	274	783	0	1057	441	0	199	640	0	945	384	1329	3026
07:45 AM	0	0	0	0	264	781	0	1045	429	0	191	620	0	977	509	1486	3151
08:00 AM	0	0	0	0	240	754	0	994	432	0	194	626	0	866	550	1416	3036
Total Volume	0	0	0	0	1106	3004	0	4110	1676	0	783	2459	0	3804	1733	5537	12106
% App. Total	0	0	0	0	26.9	73.1	0		68.2	0	31.8		0	68.7	31.3		
PHF	.000	.000	.000	.000	.843	.959	.000	.972	.950	.000	.984	.961	.000	.936	.788	.932	.960

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	0	0	0	0	208	1152	0	1360	979	0	250	1229	0	727	540	1267	3856
04:45 PM	0	0	0	0	205	1443	0	1648	1119	0	208	1327	0	706	551	1257	4232
05:00 PM	0	0	0	0	197	1308	0	1505	888	0	246	1134	0	776	483	1259	3898
05:15 PM	0	0	0	0	220	1402	0	1622	1161	0	215	1376	0	830	427	1257	4255
Total Volume	0	0	0	0	830	5305	0	6135	4147	0	919	5066	0	3039	2001	5040	16241
% App. Total	0	0	0	0	13.5	86.5	0		81.9	0	18.1		0	60.3	39.7		
PHF	.000	.000	.000	.000	.943	.919	.000	.931	.893	.000	.919	.920	.000	.915	.908	.994	.954

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23401-02 Wknd
Site Code: 23402
I64 WB on ramp fm WB Rt 199
Station ID: 23401
I64 WB off ramp to WB Rt 199

Start Time	11-Jul-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	
12:00 AM	*	*	*	*	*	*	*	*	*	*	3	51	6	50	4	50	
01:00	*	*	*	*	*	*	*	*	*	*	0	41	0	27	0	34	
02:00	*	*	*	*	*	*	*	*	*	*	1	23	1	15	1	19	
03:00	*	*	*	*	*	*	*	*	*	*	1	22	1	20	1	21	
04:00	*	*	*	*	*	*	*	*	*	*	4	18	3	16	4	17	
05:00	*	*	*	*	*	*	*	*	*	*	2	40	4	24	3	32	
06:00	*	*	*	*	*	*	*	*	*	*	16	127	19	69	18	98	
07:00	*	*	*	*	*	*	*	*	*	*	31	155	15	98	23	126	
08:00	*	*	*	*	*	*	*	*	*	*	44	224	31	146	38	185	
09:00	*	*	*	*	*	*	*	*	*	*	40	272	33	165	36	218	
10:00	*	*	*	*	*	*	*	*	*	*	49	344	36	308	42	326	
11:00	*	*	*	*	*	*	*	*	*	35	412	40	308	46	327	40	349
12:00 PM	*	*	*	*	*	*	*	*	*	31	448	44	368	33	340	36	385
01:00	*	*	*	*	*	*	*	*	*	27	451	21	411	28	359	25	407
02:00	*	*	*	*	*	*	*	*	*	27	444	33	383	35	436	32	421
03:00	*	*	*	*	*	*	*	*	*	28	429	30	475	26	342	28	415
04:00	*	*	*	*	*	*	*	*	*	29	446	28	352	28	326	28	375
05:00	*	*	*	*	*	*	*	*	*	28	419	26	350	35	299	30	356
06:00	*	*	*	*	*	*	*	*	*	35	372	25	311	22	236	27	306
07:00	*	*	*	*	*	*	*	*	*	21	289	16	294	22	207	20	263
08:00	*	*	*	*	*	*	*	*	*	20	216	27	228	26	156	24	200
09:00	*	*	*	*	*	*	*	*	*	21	175	16	161	25	121	21	152
10:00	*	*	*	*	*	*	*	*	*	11	177	18	142	4	123	11	147
11:00	*	*	*	*	*	*	*	*	*	9	86	15	99	3	53	9	79
Lane	0	0	0	0	0	0	0	0	0	322	4364	530	5199	482	4263	501	4981
Day	0	0	0	0	0	0	0	0	0	4686	5729	4745	5482				
AM Peak										11:00	11:00	10:00	10:00	11:00	11:00	10:00	11:00
Vol.										35	412	49	344	46	327	42	349
PM Peak										18:00	13:00	12:00	15:00	14:00	14:00	12:00	14:00
Vol.										35	451	44	475	35	436	36	421

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23401-02 Wknd
Site Code: 23402
I64 WB on ramp fm WB Rt 199
Station ID: 23401
I64 WB off ramp to WB Rt 199

Start Time	18-Jul-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	0	27	*	*	*	*	*	*	*	*	*	*	*	*	0	27
01:00	2	10	*	*	*	*	*	*	*	*	*	*	*	*	2	10
02:00	2	12	*	*	*	*	*	*	*	*	*	*	*	*	2	12
03:00	1	16	*	*	*	*	*	*	*	*	*	*	*	*	1	16
04:00	4	19	*	*	*	*	*	*	*	*	*	*	*	*	4	19
05:00	8	63	*	*	*	*	*	*	*	*	*	*	*	*	8	63
06:00	25	226	*	*	*	*	*	*	*	*	*	*	*	*	25	226
07:00	29	284	*	*	*	*	*	*	*	*	*	*	*	*	29	284
08:00	26	354	*	*	*	*	*	*	*	*	*	*	*	*	26	354
09:00	22	297	*	*	*	*	*	*	*	*	*	*	*	*	22	297
10:00	27	300	*	*	*	*	*	*	*	*	*	*	*	*	27	300
11:00	21	320	*	*	*	*	*	*	*	*	*	*	*	*	21	320
12:00 PM	22	383	*	*	*	*	*	*	*	*	*	*	*	*	22	383
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane	189	2311	0	0	0	0	0	0	0	0	0	0	0	0	189	2311
Day	2500		0		0		0		0		0		0		2500	
AM Peak	07:00	08:00													07:00	08:00
Vol.	29	354													29	354
PM Peak	12:00	12:00													12:00	12:00
Vol.	22	383													22	383

Comb. Total	2500	0	0	0	4686	5729	4745	7982
ADT	ADT 5,237		AADT 5,237					

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23403-04 Wknd
Site Code: 23403
I64 WB on ramp fm EB Rt 646
Station ID: 23404
I64 WB off ramp to Rt 646

Start Time	11-Jul-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	
12:00 AM	*	*	*	*	*	*	*	*	*	*	74	7	91	10	82	8	
01:00	*	*	*	*	*	*	*	*	*	*	41	9	45	8	43	8	
02:00	*	*	*	*	*	*	*	*	*	*	28	8	23	8	26	8	
03:00	*	*	*	*	*	*	*	*	*	*	13	2	25	2	19	2	
04:00	*	*	*	*	*	*	*	*	*	*	43	3	37	0	40	2	
05:00	*	*	*	*	*	*	*	*	*	*	71	2	58	1	64	2	
06:00	*	*	*	*	*	*	*	*	*	*	149	11	103	6	126	8	
07:00	*	*	*	*	*	*	*	*	*	*	237	30	154	20	196	25	
08:00	*	*	*	*	*	*	*	*	*	*	364	40	279	46	322	43	
09:00	*	*	*	*	*	*	*	*	*	*	508	47	401	52	454	50	
10:00	*	*	*	*	*	*	*	*	*	*	643	54	516	37	580	46	
11:00	*	*	*	*	*	*	*	*	*	477	57	524	61	617	35	539	51
12:00 PM	*	*	*	*	*	*	*	*	*	455	75	546	79	592	60	531	71
01:00	*	*	*	*	*	*	*	*	*	474	82	525	69	622	79	540	77
02:00	*	*	*	*	*	*	*	*	*	485	82	566	67	651	82	567	77
03:00	*	*	*	*	*	*	*	*	*	537	76	567	85	590	55	565	72
04:00	*	*	*	*	*	*	*	*	*	533	108	517	71	508	79	519	86
05:00	*	*	*	*	*	*	*	*	*	515	88	514	50	505	75	511	71
06:00	*	*	*	*	*	*	*	*	*	456	76	443	60	473	56	457	64
07:00	*	*	*	*	*	*	*	*	*	389	64	439	62	448	46	425	57
08:00	*	*	*	*	*	*	*	*	*	341	49	454	59	295	46	363	51
09:00	*	*	*	*	*	*	*	*	*	408	58	424	42	234	43	355	48
10:00	*	*	*	*	*	*	*	*	*	235	36	288	31	137	31	220	33
11:00	*	*	*	*	*	*	*	*	*	176	21	176	27	89	13	147	20
Lane	0	0	0	0	0	0	0	0	0	5481	872	8154	976	7493	890	7691	980
Day	0	0	0	0	0	0	0	0	0	6353	872	9130	976	8383	890	8671	980
AM Peak										11:00	11:00	10:00	11:00	11:00	09:00	10:00	11:00
Vol.										477	57	643	61	617	52	580	51
PM Peak										15:00	16:00	15:00	15:00	14:00	14:00	14:00	16:00
Vol.										537	108	567	85	651	82	567	86

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23403-04 Wknd
Site Code: 23403
I64 WB on ramp fm EB Rt 646
Station ID: 23404
I64 WB off ramp to Rt 646

Start Time	18-Jul-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	50	9	*	*	*	*	*	*	*	*	*	*	*	*	50	9
01:00	29	4	*	*	*	*	*	*	*	*	*	*	*	*	29	4
02:00	10	2	*	*	*	*	*	*	*	*	*	*	*	*	10	2
03:00	24	1	*	*	*	*	*	*	*	*	*	*	*	*	24	1
04:00	62	3	*	*	*	*	*	*	*	*	*	*	*	*	62	3
05:00	91	2	*	*	*	*	*	*	*	*	*	*	*	*	91	2
06:00	241	9	*	*	*	*	*	*	*	*	*	*	*	*	241	9
07:00	411	32	*	*	*	*	*	*	*	*	*	*	*	*	411	32
08:00	339	28	*	*	*	*	*	*	*	*	*	*	*	*	339	28
09:00	289	34	*	*	*	*	*	*	*	*	*	*	*	*	289	34
10:00	349	34	*	*	*	*	*	*	*	*	*	*	*	*	349	34
11:00	389	38	*	*	*	*	*	*	*	*	*	*	*	*	389	38
12:00 PM	376	36	*	*	*	*	*	*	*	*	*	*	*	*	376	36
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane Day	2660	232	0	0	0	0	0	0	0	0	0	0	0	0	2660	232
AM Peak	07:00	11:00													07:00	11:00
Vol.	411	38													411	38
PM Peak	12:00	12:00													12:00	12:00
Vol.	376	36													376	36

Comb. Total	2892	0	0	0	6353	9130	8383	11563
ADT	ADT 8,756	AADT 8,756						

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23406 Wknd #20
Site Code: 23406
I64 EB on ramp fm Rt 199
Station ID:

Start Time	Mon 11-Jul-11	Tue 12-Jul-11	Wed 13-Jul-11	Thu 14-Jul-11	Fri 15-Jul-11	Average Day	Sat 16-Jul-11	Sun 17-Jul-11	Week Average
12:00 AM	*	*	*	*	*	*	66	33	50
01:00	*	*	*	*	*	*	43	32	38
02:00	*	*	*	*	*	*	19	22	20
03:00	*	*	*	*	*	*	32	18	25
04:00	*	*	*	*	*	*	27	22	24
05:00	*	*	*	*	*	*	48	23	36
06:00	*	*	*	*	*	*	105	46	76
07:00	*	*	*	*	*	*	226	123	174
08:00	*	*	*	*	*	*	277	184	230
09:00	*	*	*	*	*	*	353	237	295
10:00	*	*	*	*	*	*	364	290	327
11:00	*	*	*	*	394	394	374	335	368
12:00 PM	*	*	*	*	424	424	384	355	388
01:00	*	*	*	*	390	390	386	328	368
02:00	*	*	*	*	403	403	400	296	366
03:00	*	*	*	*	402	402	366	353	374
04:00	*	*	*	*	369	369	368	340	359
05:00	*	*	*	*	404	404	383	316	368
06:00	*	*	*	*	287	287	325	301	304
07:00	*	*	*	*	281	281	313	243	279
08:00	*	*	*	*	232	232	240	188	220
09:00	*	*	*	*	246	246	238	168	217
10:00	*	*	*	*	175	175	154	111	147
11:00	*	*	*	*	126	126	85	62	91
Day Total	0	0	0	0	4133	4133	5576	4426	5144
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	80.3%	80.3%	108.4%	86.0%	
AM Peak Vol.					11:00 394	11:00 394	11:00 374	11:00 335	11:00 368
PM Peak Vol.					12:00 424	12:00 424	14:00 400	12:00 355	12:00 388

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23406 Wknd #20
Site Code: 23406
I64 EB on ramp fm Rt 199
Station ID:

Start Time	Mon 18-Jul-11	Tue 19-Jul-11	Wed 20-Jul-11	Thu 21-Jul-11	Fri 22-Jul-11	Average Day	Sat 23-Jul-11	Sun 24-Jul-11	Week Average
12:00 AM	55	*	*	*	*	55	*	*	55
01:00	23	*	*	*	*	23	*	*	23
02:00	22	*	*	*	*	22	*	*	22
03:00	10	*	*	*	*	10	*	*	10
04:00	48	*	*	*	*	48	*	*	48
05:00	143	*	*	*	*	143	*	*	143
06:00	324	*	*	*	*	324	*	*	324
07:00	453	*	*	*	*	453	*	*	453
08:00	332	*	*	*	*	332	*	*	332
09:00	312	*	*	*	*	312	*	*	312
10:00	345	*	*	*	*	345	*	*	345
11:00	356	*	*	*	*	356	*	*	356
12:00 PM	352	*	*	*	*	352	*	*	352
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	2775	0	0	0	0	2775	0	0	2775
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	07:00					07:00			07:00
Vol.	453					453			453
PM Peak	12:00					12:00			12:00
Vol.	352					352			352
Grand Total	2775	0	0	0	4133	6908	5576	4426	7919
ADT		ADT 5,001			ADT 5,001				

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23407 Wknd
Site Code: 23407
I64 EB off ramp to Rt 199
Station ID:

Start Time	Mon 11-Jul-11	Tue 12-Jul-11	Wed 13-Jul-11	Thu 14-Jul-11	Fri 15-Jul-11	Average Day	Sat 16-Jul-11	Sun 17-Jul-11	Week Average
12:00 AM	*	*	*	*	*	*	131	99	115
01:00	*	*	*	*	*	*	52	58	55
02:00	*	*	*	*	*	*	36	26	31
03:00	*	*	*	*	*	*	25	23	24
04:00	*	*	*	*	*	*	41	20	30
05:00	*	*	*	*	*	*	45	25	35
06:00	*	*	*	*	*	*	164	89	126
07:00	*	*	*	*	*	*	259	161	210
08:00	*	*	*	*	*	*	386	250	318
09:00	*	*	*	*	*	*	498	315	406
10:00	*	*	*	*	*	*	503	435	469
11:00	*	*	*	*	570	570	579	539	563
12:00 PM	*	*	*	*	609	609	634	612	618
01:00	*	*	*	*	625	625	604	729	653
02:00	*	*	*	*	547	547	628	621	599
03:00	*	*	*	*	543	543	591	620	585
04:00	*	*	*	*	587	587	622	570	593
05:00	*	*	*	*	653	653	458	594	568
06:00	*	*	*	*	605	605	550	455	537
07:00	*	*	*	*	454	454	465	361	427
08:00	*	*	*	*	424	424	337	282	348
09:00	*	*	*	*	313	313	290	238	280
10:00	*	*	*	*	257	257	217	175	216
11:00	*	*	*	*	209	209	178	120	169
Day Total	0	0	0	0	6396	6396	8293	7417	7975
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	80.2%	80.2%	104.0%	93.0%	
AM Peak					11:00	11:00	11:00	11:00	11:00
Vol.					570	570	579	539	563
PM Peak					17:00	17:00	12:00	13:00	13:00
Vol.					653	653	634	729	653

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23407 Wknd
Site Code: 23407
I64 EB off ramp to Rt 199
Station ID:

Start Time	Mon 18-Jul-11	Tue 19-Jul-11	Wed 20-Jul-11	Thu 21-Jul-11	Fri 22-Jul-11	Average Day	Sat 23-Jul-11	Sun 24-Jul-11	Week Average
12:00 AM	70	*	*	*	*	70	*	*	70
01:00	43	*	*	*	*	43	*	*	43
02:00	32	*	*	*	*	32	*	*	32
03:00	21	*	*	*	*	21	*	*	21
04:00	32	*	*	*	*	32	*	*	32
05:00	97	*	*	*	*	97	*	*	97
06:00	284	*	*	*	*	284	*	*	284
07:00	482	*	*	*	*	482	*	*	482
08:00	526	*	*	*	*	526	*	*	526
09:00	480	*	*	*	*	480	*	*	480
10:00	449	*	*	*	*	449	*	*	449
11:00	498	*	*	*	*	498	*	*	498
12:00 PM	533	*	*	*	*	533	*	*	533
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	3547	0	0	0	0	3547	0	0	3547
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	08:00					08:00			08:00
Vol.	526					526			526
PM Peak	12:00					12:00			12:00
Vol.	533					533			533
Grand Total	3547	0	0	0	6396	9943	8293	7417	11522
ADT		ADT 7,855			ADT 7,855				

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23409 Wknd
Site Code: 23409
Rt 199 NB-SB
Station ID:
S of EB off, N off EB on fm NB

Start Time	11-Jul-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
12:00 AM	*	*	*	*	*	*	*	*	*	*	98	73	114	62	106	68	
01:00	*	*	*	*	*	*	*	*	*	*	56	48	64	35	60	42	
02:00	*	*	*	*	*	*	*	*	*	*	33	35	26	29	30	32	
03:00	*	*	*	*	*	*	*	*	*	*	19	24	31	30	25	27	
04:00	*	*	*	*	*	*	*	*	*	*	44	23	43	19	44	21	
05:00	*	*	*	*	*	*	*	*	*	*	78	56	60	27	69	42	
06:00	*	*	*	*	*	*	*	*	*	*	171	179	114	97	142	138	
07:00	*	*	*	*	*	*	*	*	*	*	274	232	191	151	232	192	
08:00	*	*	*	*	*	*	*	*	*	*	444	355	341	254	392	304	
09:00	*	*	*	*	*	*	*	*	*	*	622	436	502	310	562	373	
10:00	*	*	*	*	*	*	*	*	*	*	778	501	638	477	708	489	
11:00	*	*	*	*	*	*	*	*	*	610	578	670	486	740	475	673	513
12:00 PM	*	*	*	*	*	*	*	*	*	622	601	711	564	792	530	708	565
01:00	*	*	*	*	*	*	*	*	*	615	593	670	585	824	569	703	582
02:00	*	*	*	*	*	*	*	*	*	646	600	745	537	812	596	734	578
03:00	*	*	*	*	*	*	*	*	*	735	556	736	633	733	465	735	551
04:00	*	*	*	*	*	*	*	*	*	772	611	676	498	672	561	707	557
05:00	*	*	*	*	*	*	*	*	*	752	598	682	514	643	435	692	516
06:00	*	*	*	*	*	*	*	*	*	650	517	602	465	640	365	631	449
07:00	*	*	*	*	*	*	*	*	*	543	409	579	411	591	334	571	385
08:00	*	*	*	*	*	*	*	*	*	492	317	593	337	406	233	497	296
09:00	*	*	*	*	*	*	*	*	*	522	251	526	222	329	174	459	216
10:00	*	*	*	*	*	*	*	*	*	340	202	357	189	200	165	299	185
11:00	*	*	*	*	*	*	*	*	*	226	122	228	128	130	74	195	108
Lane	0	0	0	0	0	0	0	0	0	7525	5955	10392	7531	9636	6467	9974	7229
Day	0	0	0	0	0	0	0	0	0	13480	17923	17923	17923	16103	6467	17203	17203
AM Peak										11:00	11:00	10:00	10:00	11:00	10:00	10:00	11:00
Vol.										610	578	778	501	740	477	708	513
PM Peak										16:00	16:00	14:00	15:00	13:00	14:00	15:00	13:00
Vol.										772	611	745	633	824	596	735	582

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 234 - Lightfoot

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23409 Wknd
Site Code: 23409
Rt 199 NB-SB
Station ID:
S of EB off, N off EB on fm NB

Start Time	18-Jul-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	56	36	*	*	*	*	*	*	*	*	*	*	*	*	56	36
01:00	38	19	*	*	*	*	*	*	*	*	*	*	*	*	38	19
02:00	18	14	*	*	*	*	*	*	*	*	*	*	*	*	18	14
03:00	28	20	*	*	*	*	*	*	*	*	*	*	*	*	28	20
04:00	63	20	*	*	*	*	*	*	*	*	*	*	*	*	63	20
05:00	97	89	*	*	*	*	*	*	*	*	*	*	*	*	97	89
06:00	264	296	*	*	*	*	*	*	*	*	*	*	*	*	264	296
07:00	465	423	*	*	*	*	*	*	*	*	*	*	*	*	465	423
08:00	424	554	*	*	*	*	*	*	*	*	*	*	*	*	424	554
09:00	370	457	*	*	*	*	*	*	*	*	*	*	*	*	370	457
10:00	465	446	*	*	*	*	*	*	*	*	*	*	*	*	465	446
11:00	512	443	*	*	*	*	*	*	*	*	*	*	*	*	512	443
12:00 PM	530	507	*	*	*	*	*	*	*	*	*	*	*	*	530	507
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane	3330	3324	0	0	0	0	0	0	0	0	0	0	0	0	3330	3324
Day	6654		0		0		0		0		0		0		6654	
AM Peak	11:00	08:00													11:00	08:00
Vol.	512	554													512	554
PM Peak	12:00	12:00													12:00	12:00
Vol.	530	507													530	507

Comb. Total	6654	0	0	0	13480	17923	16103	23857
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ADT	ADT 17,013	AADT 17,013
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INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
Exit 234 - Lightfoot
SA counted: 07/16/11
SU counted: 07/17/11

File Name : I-64 EIS #23411 SASU
Site Code : 23411
Start Date : 7/16/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Rt 199 Southbound				Westbound				Rt 199 Northbound				I64 EB off ramp to Rt 199 Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
08:30 AM	15	119	0	8	0	0	0	0	0	117	56	2	1	0	85	5	15	393	408
08:45 AM	16	105	0	3	0	0	0	0	0	132	52	1	1	0	111	5	9	417	426
Total	31	224	0	11	0	0	0	0	0	249	108	3	2	0	196	10	24	810	834
09:00 AM	13	108	0	3	0	0	0	0	0	159	79	8	3	0	109	6	17	471	488
09:15 AM	17	119	0	5	0	0	0	0	0	174	83	10	4	0	127	7	22	524	546
09:30 AM	11	104	0	6	0	0	0	0	0	156	64	8	3	0	142	5	19	480	499
09:45 AM	17	133	0	1	0	0	0	0	0	152	69	3	1	1	135	1	5	508	513
Total	58	464	0	15	0	0	0	0	0	641	295	29	11	1	513	19	63	1983	2046
10:00 AM	19	121	0	3	0	0	0	0	0	204	80	5	0	0	120	2	10	544	554
10:15 AM	10	129	0	1	0	0	0	0	0	200	80	8	3	0	138	2	11	560	571
10:30 AM	19	155	0	5	0	0	0	0	0	202	71	6	2	0	136	2	13	585	598
10:45 AM	12	121	0	3	0	0	0	0	0	169	94	2	1	1	135	3	8	533	541
Total	60	526	0	12	0	0	0	0	0	775	325	21	6	1	529	9	42	2222	2264
11:00 AM	20	119	0	5	0	0	0	0	0	178	86	7	7	0	122	4	16	532	548
11:15 AM	7	124	0	4	0	0	0	0	0	180	64	4	2	0	171	7	15	548	563
Total	27	243	0	9	0	0	0	0	0	358	150	11	9	0	293	11	31	1080	1111
01:00 PM	8	121	0	2	0	0	0	0	1	204	77	6	3	0	151	4	12	565	577
01:15 PM	10	138	0	0	0	0	0	0	0	183	65	2	3	0	124	2	4	523	527
01:30 PM	7	126	0	4	0	0	0	0	1	158	76	1	7	0	202	3	8	577	585
01:45 PM	9	152	0	0	0	0	0	0	0	190	67	2	4	1	203	3	5	626	631
Total	34	537	0	6	0	0	0	0	2	735	285	11	17	1	680	12	29	2291	2320
02:00 PM	11	154	0	0	0	0	0	0	0	190	71	2	7	1	133	2	4	567	571
02:15 PM	4	146	0	2	0	0	0	0	0	193	75	0	1	0	122	0	2	541	543
02:30 PM	7	145	0	0	0	0	0	0	0	208	54	3	4	1	139	1	4	558	562
02:45 PM	6	124	0	1	0	0	0	0	0	220	67	2	6	1	146	1	4	570	574
Total	28	569	0	3	0	0	0	0	0	811	267	7	18	3	540	4	14	2236	2250
03:00 PM	6	116	0	0	0	0	0	0	0	179	93	2	3	2	148	1	3	547	550
03:15 PM	10	112	0	1	0	0	0	0	0	180	84	5	10	1	137	2	8	534	542
03:30 PM	8	105	0	0	0	0	0	0	0	174	59	5	2	0	138	2	7	486	493
03:45 PM	12	128	0	2	0	0	0	0	0	164	77	6	7	0	145	2	10	533	543
Total	36	461	0	3	0	0	0	0	0	697	313	18	22	3	568	7	28	2100	2128
Grand Total	274	3024	0	59	0	0	0	0	2	4266	1743	100	85	9	3319	72	231	12722	12953
Apprch %	8.3	91.7	0		0	0	0		0	71	29		2.5	0.3	97.2				
Total %	2.2	23.8	0		0	0	0		0	33.5	13.7		0.7	0.1	26.1		1.8	98.2	

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
Exit 234 - Lightfoot
SA counted: 07/16/11
SU counted: 07/17/11

File Name : I-64 EIS #23411 SASU
Site Code : 23411
Start Date : 7/16/2011
Page No : 2

Start Time	Rt 199 Southbound				Westbound				Rt 199 Northbound				I64 EB off ramp to Rt 199 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:00 AM																	
10:00 AM	19	121	0	140	0	0	0	0	0	204	80	284	0	0	120	120	544
10:15 AM	10	129	0	139	0	0	0	0	0	200	80	280	3	0	138	141	560
10:30 AM	19	155	0	174	0	0	0	0	0	202	71	273	2	0	136	138	585
10:45 AM	12	121	0	133	0	0	0	0	0	169	94	263	1	1	135	137	533
Total Volume	60	526	0	586	0	0	0	0	0	775	325	1100	6	1	529	536	2222
% App. Total	10.2	89.8	0		0	0	0		0	70.5	29.5		1.1	0.2	98.7		
PHF	.789	.848	.000	.842	.000	.000	.000	.000	.000	.950	.864	.968	.500	.250	.958	.950	.950

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 01:30 PM

01:30 PM	7	126	0	133	0	0	0	0	1	158	76	235	7	0	202	209	577
01:45 PM	9	152	0	161	0	0	0	0	0	190	67	257	4	1	203	208	626
02:00 PM	11	154	0	165	0	0	0	0	0	190	71	261	7	1	133	141	567
02:15 PM	4	146	0	150	0	0	0	0	0	193	75	268	1	0	122	123	541
Total Volume	31	578	0	609	0	0	0	0	1	731	289	1021	19	2	660	681	2311
% App. Total	5.1	94.9	0		0	0	0		0.1	71.6	28.3		2.8	0.3	96.9		
PHF	.705	.938	.000	.923	.000	.000	.000	.000	.250	.947	.951	.952	.679	.500	.813	.815	.923

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
Exit 234 - Lightfoot
SA counted: 07/16/11
SU counted: 07/17/11

File Name : I-64 EIS #23412 SASU
Site Code : 23412
Start Date : 7/16/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Southbound				Westbound				Northbound				Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
08:30 AM	0	42	1	0	3	0	0	0	11	16	0	0	0	0	12	0	0	85	85
08:45 AM	1	38	4	0	1	1	1	0	15	17	0	0	1	0	5	0	0	84	84
Total	1	80	5	0	4	1	1	0	26	33	0	0	1	0	17	0	0	169	169
09:00 AM	3	36	2	0	4	1	0	0	7	25	0	0	0	1	9	0	0	88	88
09:15 AM	0	49	5	3	1	0	0	0	12	35	1	0	4	2	8	0	3	117	120
09:30 AM	2	48	3	0	3	3	1	0	13	37	0	0	3	1	6	0	0	120	120
09:45 AM	2	32	3	0	4	0	0	0	12	20	2	0	2	4	14	0	0	95	95
Total	7	165	13	3	12	4	1	0	44	117	3	0	9	8	37	0	3	420	423
10:00 AM	1	29	4	0	5	0	1	0	8	28	1	0	1	1	7	0	0	86	86
10:15 AM	1	27	0	0	4	2	0	0	11	27	0	0	0	1	9	0	0	82	82
10:30 AM	0	48	0	0	0	2	0	0	11	31	2	0	3	4	8	0	0	109	109
10:45 AM	0	47	3	0	4	0	0	0	11	30	0	0	2	4	9	0	0	110	110
Total	2	151	7	0	13	4	1	0	41	116	3	0	6	10	33	0	0	387	387
11:00 AM	0	32	1	0	3	1	0	0	19	52	3	0	2	2	12	0	0	127	127
11:15 AM	2	23	0	0	0	1	0	0	7	26	1	0	1	0	9	0	0	70	70
Total	2	55	1	0	3	2	0	0	26	78	4	0	3	2	21	0	0	197	197
01:00 PM	1	33	3	1	1	3	0	0	14	43	1	0	2	1	7	0	1	109	110
01:15 PM	0	45	0	0	3	3	1	0	26	41	4	2	0	2	7	0	2	132	134
01:30 PM	0	38	5	3	6	1	0	0	28	45	5	2	1	1	4	0	5	134	139
01:45 PM	1	31	2	1	2	5	1	0	29	38	4	2	2	2	7	0	3	124	127
Total	2	147	10	5	12	12	2	0	97	167	14	6	5	6	25	0	11	499	510
02:00 PM	1	24	4	1	0	1	5	0	41	37	1	1	2	2	5	0	2	123	125
02:15 PM	1	39	0	0	4	3	1	0	25	44	0	0	3	5	10	0	0	135	135
02:30 PM	0	25	0	0	4	5	1	0	17	39	1	0	1	1	12	0	0	106	106
02:45 PM	0	22	2	0	0	3	1	0	17	38	1	0	4	0	6	1	1	94	95
Total	2	110	6	1	8	12	8	0	100	158	3	1	10	8	33	1	3	458	461
03:00 PM	1	30	0	2	2	3	1	0	20	28	2	0	1	0	5	0	2	93	95
03:15 PM	0	18	0	0	2	1	2	0	15	42	3	2	0	0	8	0	2	91	93
03:30 PM	2	26	0	0	3	2	0	0	13	30	1	0	0	0	3	0	0	80	80
03:45 PM	4	23	0	0	0	2	1	0	21	42	0	1	2	3	6	0	1	104	105
Total	7	97	0	2	7	8	4	0	69	142	6	3	3	3	22	0	5	368	373
Grand Total	23	805	42	11	59	43	17	0	403	811	33	10	37	37	188	1	22	2498	2520
Apprch %	2.6	92.5	4.8		49.6	36.1	14.3		32.3	65	2.6		14.1	14.1	71.8				
Total %	0.9	32.2	1.7		2.4	1.7	0.7		16.1	32.5	1.3		1.5	1.5	7.5		0.9	99.1	

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
Exit 234 - Lightfoot
SA counted: 07/16/11
SU counted: 07/17/11

File Name : I-64 EIS #23412 SASU
Site Code : 23412
Start Date : 7/16/2011
Page No : 2

Start Time	Southbound				Westbound				Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:15 AM																	
10:15 AM	1	27	0	28	4	2	0	6	11	27	0	38	0	1	9	10	82
10:30 AM	0	48	0	48	0	2	0	2	11	31	2	44	3	4	8	15	109
10:45 AM	0	47	3	50	4	0	0	4	11	30	0	41	2	4	9	15	110
11:00 AM	0	32	1	33	3	1	0	4	19	52	3	74	2	2	12	16	127
Total Volume	1	154	4	159	11	5	0	16	52	140	5	197	7	11	38	56	428
% App. Total	0.6	96.9	2.5		68.8	31.2	0		26.4	71.1	2.5		12.5	19.6	67.9		
PHF	.250	.802	.333	.795	.688	.625	.000	.667	.684	.673	.417	.666	.583	.688	.792	.875	.843

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 01:30 PM

01:30 PM	0	38	5	43	6	1	0	7	28	45	5	78	1	1	4	6	134
01:45 PM	1	31	2	34	2	5	1	8	29	38	4	71	2	2	7	11	124
02:00 PM	1	24	4	29	0	1	5	6	41	37	1	79	2	2	5	9	123
02:15 PM	1	39	0	40	4	3	1	8	25	44	0	69	3	5	10	18	135
Total Volume	3	132	11	146	12	10	7	29	123	164	10	297	8	10	26	44	516
% App. Total	2.1	90.4	7.5		41.4	34.5	24.1		41.4	55.2	3.4		18.2	22.7	59.1		
PHF	.750	.846	.550	.849	.500	.500	.350	.906	.750	.911	.500	.940	.667	.500	.650	.611	.956

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23801 Wknd

I-64 WB off ramp to Rt 143 NB
I-64 WB off ramp to Rt 143 SB

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	WB off NB	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	
12:00 AM	*	*	*	*	*	*	*	*	*	*	5	89	2	99	4	94	
01:00	*	*	*	*	*	*	*	*	*	*	3	93	3	101	3	97	
02:00	*	*	*	*	*	*	*	*	*	*	1	29	2	40	2	34	
03:00	*	*	*	*	*	*	*	*	*	*	0	27	0	27	0	27	
04:00	*	*	*	*	*	*	*	*	*	*	0	18	1	17	0	18	
05:00	*	*	*	*	*	*	*	*	*	*	2	36	4	28	3	32	
06:00	*	*	*	*	*	*	*	*	*	*	0	132	2	112	1	122	
07:00	*	*	*	*	*	*	*	*	*	*	7	248	0	179	4	214	
08:00	*	*	*	*	*	*	*	*	*	*	3	289	2	271	2	280	
09:00	*	*	*	*	*	*	*	*	*	10	264	5	301	4	244	6	270
10:00	*	*	*	*	*	*	*	*	*	6	257	8	276	3	309	6	281
11:00	*	*	*	*	*	*	*	*	*	7	336	11	250	6	335	8	307
12:00 PM	*	*	*	*	*	*	*	*	*	3	349	2	334	3	314	3	332
01:00	*	*	*	*	*	*	*	*	*	11	352	11	337	8	253	10	314
02:00	*	*	*	*	*	*	*	*	*	2	376	6	352	2	286	3	338
03:00	*	*	*	*	*	*	*	*	*	5	390	9	343	6	358	7	364
04:00	*	*	*	*	*	*	*	*	*	10	400	11	473	18	375	13	416
05:00	*	*	*	*	*	*	*	*	*	14	429	12	412	5	339	10	393
06:00	*	*	*	*	*	*	*	*	*	3	362	8	371	6	308	6	347
07:00	*	*	*	*	*	*	*	*	*	5	339	9	322	9	322	8	328
08:00	*	*	*	*	*	*	*	*	*	9	277	5	285	9	311	8	291
09:00	*	*	*	*	*	*	*	*	*	7	243	7	238	12	236	9	239
10:00	*	*	*	*	*	*	*	*	*	3	210	11	299	7	163	7	224
11:00	*	*	*	*	*	*	*	*	*	3	122	6	135	3	52	4	103
Lane	0	0	0	0	0	0	0	0	0	98	4706	142	5689	117	5079	127	5465
Day	0	0	0	0	0	0	0	0	0	4804	4706	5831	5689	5196	5079	5592	5465
AM Peak										09:00	11:00	11:00	09:00	11:00	11:00	11:00	11:00
Vol.										10	336	11	301	6	335	8	307
PM Peak										17:00	17:00	17:00	16:00	16:00	16:00	16:00	16:00
Vol.										14	429	12	473	18	375	13	416

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23801 Wknd

I-64 WB off ramp to Rt 143 NB
I-64 WB off ramp to Rt 143 SB

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB off NB	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S	WB off N	WB off S
12:00 AM	0	59	*	*	*	*	*	*	*	*	*	*	*	*	0	59
01:00	2	23	*	*	*	*	*	*	*	*	*	*	*	*	2	23
02:00	0	16	*	*	*	*	*	*	*	*	*	*	*	*	0	16
03:00	1	9	*	*	*	*	*	*	*	*	*	*	*	*	1	9
04:00	2	24	*	*	*	*	*	*	*	*	*	*	*	*	2	24
05:00	21	59	*	*	*	*	*	*	*	*	*	*	*	*	21	59
06:00	29	189	*	*	*	*	*	*	*	*	*	*	*	*	29	189
07:00	24	312	*	*	*	*	*	*	*	*	*	*	*	*	24	312
08:00	17	371	*	*	*	*	*	*	*	*	*	*	*	*	17	371
09:00	9	276	*	*	*	*	*	*	*	*	*	*	*	*	9	276
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane Day	105	1338	0	0	0	0	0	0	0	0	0	0	0	0	105	1338
AM Peak	06:00	08:00													06:00	08:00
Vol.	29	371													29	371
PM Peak																
Vol.																
Comb. Total	1443	0	0	0	0	0	0	0	0	4804	5831	5196	7035			
ADT	ADT 5,514	AADT 5,514														

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23802 Wknd

I-64 WB on ramp fm NB Rt 143

Start Time	Mon 20-Jun-11	Tue 21-Jun-11	Wed 22-Jun-11	Thu 23-Jun-11	Fri 24-Jun-11	Average Day	Sat 25-Jun-11	Sun 26-Jun-11	Week Average
12:00 AM	*	*	*	*	*	*	25	32	28
01:00	*	*	*	*	*	*	20	21	20
02:00	*	*	*	*	*	*	12	16	14
03:00	*	*	*	*	*	*	10	16	13
04:00	*	*	*	*	*	*	14	28	21
05:00	*	*	*	*	*	*	42	23	32
06:00	*	*	*	*	*	*	94	54	74
07:00	*	*	*	*	*	*	137	103	120
08:00	*	*	*	*	*	*	200	184	192
09:00	*	*	*	*	219	219	268	318	268
10:00	*	*	*	*	277	277	318	364	320
11:00	*	*	*	*	229	229	270	336	278
12:00 PM	*	*	*	*	276	276	257	268	267
01:00	*	*	*	*	268	268	215	308	264
02:00	*	*	*	*	283	283	259	326	289
03:00	*	*	*	*	289	289	243	344	292
04:00	*	*	*	*	272	272	272	309	284
05:00	*	*	*	*	318	318	271	275	288
06:00	*	*	*	*	223	223	203	209	212
07:00	*	*	*	*	145	145	188	168	167
08:00	*	*	*	*	146	146	150	158	151
09:00	*	*	*	*	109	109	167	145	140
10:00	*	*	*	*	93	93	111	76	93
11:00	*	*	*	*	67	67	63	45	58
Day Total	0	0	0	0	3214	3214	3809	4126	3885
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	82.7%	82.7%	98.0%	106.2%	
AM Peak					10:00	10:00	10:00	10:00	10:00
Vol.					277	277	318	364	320
PM Peak					17:00	17:00	16:00	15:00	15:00
Vol.					318	318	272	344	292

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23802 Wknd

I-64 WB on ramp fm NB Rt 143

Start Time	Mon 27-Jun-11	Tue 28-Jun-11	Wed 29-Jun-11	Thu 30-Jun-11	Fri 01-Jul-11	Average Day	Sat 02-Jul-11	Sun 03-Jul-11	Week Average
12:00 AM	27	*	*	*	*	27	*	*	27
01:00	16	*	*	*	*	16	*	*	16
02:00	16	*	*	*	*	16	*	*	16
03:00	7	*	*	*	*	7	*	*	7
04:00	26	*	*	*	*	26	*	*	26
05:00	53	*	*	*	*	53	*	*	53
06:00	86	*	*	*	*	86	*	*	86
07:00	150	*	*	*	*	150	*	*	150
08:00	179	*	*	*	*	179	*	*	179
09:00	224	*	*	*	*	224	*	*	224
10:00	207	*	*	*	*	207	*	*	207
11:00	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	991	0	0	0	0	991	0	0	991
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	09:00					09:00			09:00
Vol.	224					224			224
PM Peak									
Vol.									
Grand Total	991	0	0	0	3214	4205	3809	4126	4876
ADT		ADT 3,968			ADT 3,968				

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23803 Wknd

I-64 WB on ramp fm SB Rt 143

Start Time	Mon 20-Jun-11	Tue 21-Jun-11	Wed 22-Jun-11	Thu 23-Jun-11	Fri 24-Jun-11	Average Day	Sat 25-Jun-11	Sun 26-Jun-11	Week Average
12:00 AM	*	*	*	*	*	*	1	0	0
01:00	*	*	*	*	*	*	1	1	1
02:00	*	*	*	*	*	*	0	0	0
03:00	*	*	*	*	*	*	0	0	0
04:00	*	*	*	*	*	*	1	0	0
05:00	*	*	*	*	*	*	0	0	0
06:00	*	*	*	*	*	*	3	2	2
07:00	*	*	*	*	*	*	7	8	8
08:00	*	*	*	*	*	*	8	14	11
09:00	*	*	*	*	16	16	9	7	11
10:00	*	*	*	*	24	24	12	7	14
11:00	*	*	*	*	50	50	12	8	23
12:00 PM	*	*	*	*	56	56	10	7	24
01:00	*	*	*	*	57	57	6	6	23
02:00	*	*	*	*	52	52	9	7	23
03:00	*	*	*	*	46	46	7	3	19
04:00	*	*	*	*	36	36	5	12	18
05:00	*	*	*	*	13	13	4	4	7
06:00	*	*	*	*	11	11	6	5	7
07:00	*	*	*	*	4	4	3	7	5
08:00	*	*	*	*	5	5	1	4	3
09:00	*	*	*	*	3	3	4	3	3
10:00	*	*	*	*	6	6	6	10	7
11:00	*	*	*	*	1	1	0	1	1
Day Total	0	0	0	0	380	380	115	116	210
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	181.0%	181.0%	54.8%	55.2%	
AM Peak					11:00	11:00	10:00	08:00	11:00
Vol.					50	50	12	14	23
PM Peak					13:00	13:00	12:00	16:00	12:00
Vol.					57	57	10	12	24

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23803 Wknd

I-64 WB on ramp fm SB Rt 143

Start Time	Mon 27-Jun-11	Tue 28-Jun-11	Wed 29-Jun-11	Thu 30-Jun-11	Fri 01-Jul-11	Average Day	Sat 02-Jul-11	Sun 03-Jul-11	Week Average
12:00 AM	0	*	*	*	*	0	*	*	0
01:00	0	*	*	*	*	0	*	*	0
02:00	0	*	*	*	*	0	*	*	0
03:00	0	*	*	*	*	0	*	*	0
04:00	1	*	*	*	*	1	*	*	1
05:00	0	*	*	*	*	0	*	*	0
06:00	3	*	*	*	*	3	*	*	3
07:00	6	*	*	*	*	6	*	*	6
08:00	11	*	*	*	*	11	*	*	11
09:00	4	*	*	*	*	4	*	*	4
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	25	0	0	0	0	25	0	0	25
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	08:00					08:00			08:00
Vol.	11					11			11
PM Peak									
Vol.									
Grand Total	25	0	0	0	380	405	115	116	235
ADT		ADT 116			AADT 116				

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23805 Wknd

I-64 EB off ramp to Rt 143

Start Time	Mon 20-Jun-11	Tue 21-Jun-11	Wed 22-Jun-11	Thu 23-Jun-11	Fri 24-Jun-11	Average Day	Sat 25-Jun-11	Sun 26-Jun-11	Week Average	
12:00 AM	*	*	*	*	*	*	63	40	52	
01:00	*	*	*	*	*	*	31	23	27	
02:00	*	*	*	*	*	*	28	15	22	
03:00	*	*	*	*	*	*	12	13	12	
04:00	*	*	*	*	*	*	20	11	16	
05:00	*	*	*	*	*	*	26	24	25	
06:00	*	*	*	*	*	*	74	45	60	
07:00	*	*	*	*	*	*	207	87	147	
08:00	*	*	*	*	*	*	260	138	199	
09:00	*	*	*	*	284	284	302	182	256	
10:00	*	*	*	*	247	247	301	245	264	
11:00	*	*	*	*	298	298	302	269	290	
12:00 PM	*	*	*	*	282	282	336	332	317	
01:00	*	*	*	*	275	275	256	308	280	
02:00	*	*	*	*	335	335	280	252	289	
03:00	*	*	*	*	383	383	268	261	304	
04:00	*	*	*	*	437	437	311	277	342	
05:00	*	*	*	*	458	458	364	310	377	
06:00	*	*	*	*	309	309	271	346	309	
07:00	*	*	*	*	210	210	200	240	217	
08:00	*	*	*	*	221	221	140	175	179	
09:00	*	*	*	*	183	183	113	143	146	
10:00	*	*	*	*	190	190	89	90	123	
11:00	*	*	*	*	127	127	77	69	91	
Day Total	0	0	0	0	4239	4239	4331	3895	4344	
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%					
% Avg. Week	0.0%	0.0%	0.0%	0.0%	97.6%	97.6%	99.7%	89.7%		
AM Peak					11:00	11:00	09:00	11:00	11:00	
Vol.					298	298	302	269	290	
PM Peak					17:00	17:00	17:00	18:00	17:00	
Vol.					458	458	364	346	377	

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23805 Wknd

I-64 EB off ramp to Rt 143

Start Time	Mon 27-Jun-11	Tue 28-Jun-11	Wed 29-Jun-11	Thu 30-Jun-11	Fri 01-Jul-11	Average Day	Sat 02-Jul-11	Sun 03-Jul-11	Week Average
12:00 AM	24	*	*	*	*	24	*	*	24
01:00	20	*	*	*	*	20	*	*	20
02:00	21	*	*	*	*	21	*	*	21
03:00	6	*	*	*	*	6	*	*	6
04:00	20	*	*	*	*	20	*	*	20
05:00	73	*	*	*	*	73	*	*	73
06:00	195	*	*	*	*	195	*	*	195
07:00	317	*	*	*	*	317	*	*	317
08:00	302	*	*	*	*	302	*	*	302
09:00	205	*	*	*	*	205	*	*	205
10:00	247	*	*	*	*	247	*	*	247
11:00	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	1430	0	0	0	0	1430	0	0	1430
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	07:00					07:00			07:00
Vol.	317					317			317
PM Peak									
Vol.									
Grand Total	1430	0	0	0	4239	5669	4331	3895	5774
ADT		ADT 4,113			ADT 4,113				

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23807 Wknd

I-64 EB on ramp

Start Time	Mon 20-Jun-11	Tue 21-Jun-11	Wed 22-Jun-11	Thu 23-Jun-11	Fri 24-Jun-11	Average Day	Sat 25-Jun-11	Sun 26-Jun-11	Week Average
12:00 AM	*	*	*	*	*	*	102	125	114
01:00	*	*	*	*	*	*	56	64	60
02:00	*	*	*	*	*	*	32	33	32
03:00	*	*	*	*	*	*	30	17	24
04:00	*	*	*	*	*	*	21	19	20
05:00	*	*	*	*	*	*	40	42	41
06:00	*	*	*	*	*	*	91	64	78
07:00	*	*	*	*	*	*	113	98	106
08:00	*	*	*	*	*	*	211	162	186
09:00	*	*	*	*	*	*	352	290	321
10:00	*	*	*	*	394	394	423	367	395
11:00	*	*	*	*	376	376	412	411	400
12:00 PM	*	*	*	*	359	359	373	410	381
01:00	*	*	*	*	386	386	464	432	427
02:00	*	*	*	*	422	422	440	413	425
03:00	*	*	*	*	458	458	432	388	426
04:00	*	*	*	*	373	373	416	428	406
05:00	*	*	*	*	339	339	490	418	416
06:00	*	*	*	*	333	333	446	413	397
07:00	*	*	*	*	313	313	381	371	355
08:00	*	*	*	*	310	310	364	273	316
09:00	*	*	*	*	303	303	394	208	302
10:00	*	*	*	*	262	262	286	159	236
11:00	*	*	*	*	246	246	244	159	216
Day Total	0	0	0	0	4874	4874	6613	5764	6080
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	80.2%	80.2%	108.8%	94.8%	
AM Peak Vol.					10:00 394	10:00 394	10:00 423	11:00 411	11:00 400
PM Peak Vol.					15:00 458	15:00 458	17:00 490	13:00 432	13:00 427

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23807 Wknd

I-64 EB on ramp

Start Time	Mon 27-Jun-11	Tue 28-Jun-11	Wed 29-Jun-11	Thu 30-Jun-11	Fri 01-Jul-11	Average Day	Sat 02-Jul-11	Sun 03-Jul-11	Week Average
12:00 AM	92	*	*	*	*	92	*	*	92
01:00	48	*	*	*	*	48	*	*	48
02:00	24	*	*	*	*	24	*	*	24
03:00	17	*	*	*	*	17	*	*	17
04:00	22	*	*	*	*	22	*	*	22
05:00	76	*	*	*	*	76	*	*	76
06:00	163	*	*	*	*	163	*	*	163
07:00	293	*	*	*	*	293	*	*	293
08:00	279	*	*	*	*	279	*	*	279
09:00	274	*	*	*	*	274	*	*	274
10:00	374	*	*	*	*	374	*	*	374
11:00	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	1662	0	0	0	0	1662	0	0	1662
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	10:00					10:00			10:00
Vol.	374					374			374
PM Peak									
Vol.									
Grand Total	1662	0	0	0	4874	6536	6613	5764	7742
ADT		ADT 6,188			ADT 6,188				

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23809 Wknd

Rt 143 NB at EB off ramp b/t NB and SB
Rt 143 SB at EB off ramp b/t NB and SB

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
12:00 AM	*	*	*	*	*	*	*	*	*	*	28	93	32	102	30	98	
01:00	*	*	*	*	*	*	*	*	*	*	20	99	24	107	22	103	
02:00	*	*	*	*	*	*	*	*	*	*	13	32	17	45	15	38	
03:00	*	*	*	*	*	*	*	*	*	*	13	28	17	28	15	28	
04:00	*	*	*	*	*	*	*	*	*	*	14	20	28	18	21	19	
05:00	*	*	*	*	*	*	*	*	*	*	42	37	29	30	36	34	
06:00	*	*	*	*	*	*	*	*	*	*	100	140	58	130	79	135	
07:00	*	*	*	*	*	*	*	*	*	*	145	260	111	183	128	222	
08:00	*	*	*	*	*	*	*	*	*	*	205	315	193	289	199	302	
09:00	*	*	*	*	*	*	*	*	*	242	304	271	330	319	264	277	299
10:00	*	*	*	*	*	*	*	*	*	300	300	331	308	371	351	334	320
11:00	*	*	*	*	*	*	*	*	*	257	441	296	282	357	377	303	367
12:00 PM	*	*	*	*	*	*	*	*	*	320	432	276	362	290	346	295	380
01:00	*	*	*	*	*	*	*	*	*	304	427	245	385	344	348	298	387
02:00	*	*	*	*	*	*	*	*	*	303	520	291	392	342	331	312	414
03:00	*	*	*	*	*	*	*	*	*	317	512	266	385	369	394	317	430
04:00	*	*	*	*	*	*	*	*	*	293	518	294	523	343	430	310	490
05:00	*	*	*	*	*	*	*	*	*	353	539	293	460	298	372	315	457
06:00	*	*	*	*	*	*	*	*	*	246	403	236	408	246	355	243	389
07:00	*	*	*	*	*	*	*	*	*	168	374	206	348	203	371	192	364
08:00	*	*	*	*	*	*	*	*	*	172	310	161	307	195	359	176	325
09:00	*	*	*	*	*	*	*	*	*	136	267	191	260	177	260	168	262
10:00	*	*	*	*	*	*	*	*	*	106	223	120	310	91	181	106	238
11:00	*	*	*	*	*	*	*	*	*	74	135	67	147	47	63	63	115
Lane	0	0	0	0	0	0	0	0	0	3591	5705	4124	6231	4501	5734	4254	6216
Day	0	0	0	0	0	0	0	0	0	9296	9296	10355	10355	10235	10235	10470	10470
AM Peak										10:00	11:00	10:00	09:00	10:00	11:00	10:00	11:00
Vol.										300	441	331	330	371	377	334	367
PM Peak										17:00	17:00	16:00	16:00	15:00	16:00	15:00	16:00
Vol.										353	539	294	523	369	430	317	490

INTERMODAL ENGINEERING

I-64 EIS counts
Exit 238 - Colonial Williamsburg

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #23809 Wknd

Rt 143 NB at EB off ramp b/t NB and SB
Rt 143 SB at EB off ramp b/t NB and SB

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	29	63	*	*	*	*	*	*	*	*	*	*	*	*	29	63
01:00	15	24	*	*	*	*	*	*	*	*	*	*	*	*	15	24
02:00	16	17	*	*	*	*	*	*	*	*	*	*	*	*	16	17
03:00	10	10	*	*	*	*	*	*	*	*	*	*	*	*	10	10
04:00	33	26	*	*	*	*	*	*	*	*	*	*	*	*	33	26
05:00	80	60	*	*	*	*	*	*	*	*	*	*	*	*	80	60
06:00	146	204	*	*	*	*	*	*	*	*	*	*	*	*	146	204
07:00	237	326	*	*	*	*	*	*	*	*	*	*	*	*	237	326
08:00	215	415	*	*	*	*	*	*	*	*	*	*	*	*	215	415
09:00	253	327	*	*	*	*	*	*	*	*	*	*	*	*	253	327
10:00	242	337	*	*	*	*	*	*	*	*	*	*	*	*	242	337
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane Day	1276	1809	0	0	0	0	0	0	0	0	0	0	0	0	1276	1809
AM Peak	09:00	08:00													09:00	08:00
Vol.	253	415													253	415
PM Peak																
Vol.																
Comb. Total	3085	0	0	0	0	0	0	0	9296	10355	10235	13555				
ADT	ADT 10,295	AADT 10,295														

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
SA AM counted: 06/25/11
SU PM counted: 06/26/11

File Name : I-64 EIS #23811 Wknd
Site Code : 23811
Start Date : 6/25/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Rt 143 Southbound				Westbound				Rt 143 Northbound				Rochambeau Trail Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
08:30 AM	2	122	19	0	0	0	0	0	24	51	41	2	0	5	15	0	2	279	281
08:45 AM	1	121	24	2	0	0	0	0	27	45	44	2	0	7	20	0	4	289	293
Total	3	243	43	2	0	0	0	0	51	96	85	4	0	12	35	0	6	568	574
09:00 AM	3	117	25	5	0	0	0	0	34	66	53	6	1	8	17	0	11	324	335
09:15 AM	5	123	31	3	0	0	0	0	30	68	76	3	0	23	17	1	7	373	380
09:30 AM	8	120	24	3	0	0	0	0	34	75	98	3	1	29	32	3	9	421	430
09:45 AM	9	111	24	2	0	0	0	0	42	80	79	5	1	13	40	3	10	399	409
Total	25	471	104	13	0	0	0	0	140	289	306	17	3	73	106	7	37	1517	1554
10:00 AM	2	123	15	1	0	0	0	0	42	88	81	3	0	19	38	0	4	408	412
10:15 AM	5	137	29	1	0	0	0	0	42	83	79	1	0	15	33	0	2	423	425
10:30 AM	3	121	28	3	0	0	0	0	44	68	77	3	2	37	26	3	9	406	415
10:45 AM	4	125	32	2	0	0	0	0	34	61	81	1	3	20	36	1	4	396	400
Total	14	506	104	7	0	0	0	0	162	300	318	8	5	91	133	4	19	1633	1652
11:00 AM	4	115	19	1	0	0	0	0	39	79	73	3	1	20	43	1	5	393	398
11:15 AM	2	101	18	2	0	0	0	0	50	56	71	1	0	28	46	3	6	372	378
Total	6	216	37	3	0	0	0	0	89	135	144	4	1	48	89	4	11	765	776
01:00 PM	6	96	42	1	0	0	0	0	38	77	51	2	1	48	18	0	3	377	380
01:15 PM	2	126	43	2	0	0	0	0	42	86	67	5	0	29	32	1	8	427	435
01:30 PM	4	100	23	1	0	0	0	0	36	82	67	2	4	37	33	1	4	386	390
01:45 PM	6	127	30	3	0	0	0	0	35	74	63	1	0	16	29	0	4	380	384
Total	18	449	138	7	0	0	0	0	151	319	248	10	5	130	112	2	19	1570	1589
02:00 PM	2	107	20	1	0	0	0	0	27	52	46	0	5	30	30	0	1	319	320
02:15 PM	11	101	18	2	0	0	0	0	38	55	33	3	1	28	32	0	5	317	322
02:30 PM	3	87	16	0	0	0	0	0	32	49	31	0	3	22	31	0	0	274	274
02:45 PM	2	88	23	0	0	0	0	0	35	71	56	1	1	27	35	1	2	338	340
Total	18	383	77	3	0	0	0	0	132	227	166	4	10	107	128	1	8	1248	1256
03:00 PM	6	85	26	1	0	0	0	0	37	96	60	0	3	39	42	1	2	394	396
03:15 PM	5	104	27	1	0	0	0	0	54	83	62	4	4	39	36	4	9	414	423
03:30 PM	9	147	42	4	0	0	0	0	54	100	68	1	1	32	45	0	5	498	503
03:45 PM	2	151	68	2	0	0	0	0	44	86	68	1	3	40	36	3	6	498	504
Total	22	487	163	8	0	0	0	0	189	365	258	6	11	150	159	8	22	1804	1826
Grand Total	106	2755	666	43	0	0	0	0	914	1731	1525	53	35	611	762	26	122	9105	9227
Apprch %	3	78.1	18.9		0	0	0		21.9	41.5	36.6		2.5	43.4	54.1				
Total %	1.2	30.3	7.3		0	0	0		10	19	16.7		0.4	6.7	8.4		1.3	98.7	

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
SA AM counted: 06/25/11
SU PM counted: 06/26/11

File Name : I-64 EIS #23811 Wknd
Site Code : 23811
Start Date : 6/25/2011
Page No : 2

Start Time	Rt 143 Southbound				Westbound				Rt 143 Northbound				Rochambeau Trail Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 09:30 AM																	
09:30 AM	8	120	24	152	0	0	0	0	34	75	98	207	1	29	32	62	421
09:45 AM	9	111	24	144	0	0	0	0	42	80	79	201	1	13	40	54	399
10:00 AM	2	123	15	140	0	0	0	0	42	88	81	211	0	19	38	57	408
10:15 AM	5	137	29	171	0	0	0	0	42	83	79	204	0	15	33	48	423
Total Volume	24	491	92	607	0	0	0	0	160	326	337	823	2	76	143	221	1651
% App. Total	4	80.9	15.2		0	0	0		19.4	39.6	40.9		0.9	34.4	64.7		
PHF	.667	.896	.793	.887	.000	.000	.000	.000	.952	.926	.860	.975	.500	.655	.894	.891	.976

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	6	85	26	117	0	0	0	0	37	96	60	193	3	39	42	84	394
03:15 PM	5	104	27	136	0	0	0	0	54	83	62	199	4	39	36	79	414
03:30 PM	9	147	42	198	0	0	0	0	54	100	68	222	1	32	45	78	498
03:45 PM	2	151	68	221	0	0	0	0	44	86	68	198	3	40	36	79	498
Total Volume	22	487	163	672	0	0	0	0	189	365	258	812	11	150	159	320	1804
% App. Total	3.3	72.5	24.3		0	0	0		23.3	45	31.8		3.4	46.9	49.7		
PHF	.611	.806	.599	.760	.000	.000	.000	.000	.875	.913	.949	.914	.688	.938	.883	.952	.906

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
SA AM counted: 06/25/11
SU PM counted: 06/26/11

File Name : I-64 EIS #23812 Wknd
Site Code : 23812
Start Date : 6/25/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Rt 143 Southbound				Westbound				Rt 143 Northbound				I-64 EB off ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
08:30 AM	0	80	0	0	0	0	0	0	0	51	0	0	2	0	63	0	0	196	196
08:45 AM	0	76	0	1	0	0	0	0	0	45	0	0	3	0	70	1	2	194	196
Total	0	156	0	1	0	0	0	0	0	96	0	0	5	0	133	1	2	390	392
09:00 AM	0	79	0	3	0	0	0	0	0	67	0	0	0	0	66	2	5	212	217
09:15 AM	0	92	0	3	0	0	0	0	0	68	0	0	3	0	67	3	6	230	236
09:30 AM	0	86	0	2	0	0	0	0	0	76	0	0	2	0	66	1	3	230	233
09:45 AM	0	81	0	2	0	0	0	0	0	81	0	0	2	0	63	0	2	227	229
Total	0	338	0	10	0	0	0	0	0	292	0	0	7	0	262	6	16	899	915
10:00 AM	0	92	0	1	0	0	0	0	0	88	0	0	4	0	48	0	1	232	233
10:15 AM	0	88	0	1	0	0	0	0	0	83	0	0	3	0	83	0	1	257	258
10:30 AM	0	105	0	3	0	0	0	0	0	70	0	0	1	0	47	0	3	223	226
10:45 AM	0	91	0	0	0	0	0	0	0	64	0	0	1	0	70	2	2	226	228
Total	0	376	0	5	0	0	0	0	0	305	0	0	9	0	248	2	7	938	945
11:00 AM	0	71	0	1	0	0	0	0	0	80	0	0	3	0	67	0	1	221	222
11:15 AM	0	65	0	1	0	0	0	0	0	56	0	0	5	0	56	1	2	182	184
Total	0	136	0	2	0	0	0	0	0	136	0	0	8	0	123	1	3	403	406
01:00 PM	0	98	0	1	0	0	0	0	0	78	0	0	7	0	46	0	1	229	230
01:15 PM	0	126	0	2	0	0	0	0	0	86	0	0	3	0	45	1	3	260	263
01:30 PM	0	82	0	1	0	0	0	0	0	86	0	0	7	0	45	0	1	220	221
01:45 PM	0	90	0	3	0	0	0	0	0	74	0	0	5	0	73	0	3	242	245
Total	0	396	0	7	0	0	0	0	0	324	0	0	22	0	209	1	8	951	959
02:00 PM	0	85	0	1	0	0	0	0	0	57	0	0	2	0	44	0	1	188	189
02:15 PM	0	90	0	1	0	0	0	0	0	56	0	0	2	0	40	1	2	188	190
02:30 PM	0	82	0	0	0	0	0	0	0	52	0	0	0	0	24	0	0	158	158
02:45 PM	0	78	0	0	0	0	0	0	0	72	0	0	0	0	35	0	0	185	185
Total	0	335	0	2	0	0	0	0	0	237	0	0	4	0	143	1	3	719	722
03:00 PM	0	92	0	1	0	0	0	0	0	99	0	0	5	0	25	0	1	221	222
03:15 PM	0	85	0	1	0	0	0	0	0	87	0	0	3	0	51	0	1	226	227
03:30 PM	0	147	0	3	0	0	0	0	0	101	0	0	1	0	51	1	4	300	304
03:45 PM	0	153	0	1	0	0	0	0	0	89	0	0	5	0	68	1	2	315	317
Total	0	477	0	6	0	0	0	0	0	376	0	0	14	0	195	2	8	1062	1070
Grand Total	0	2214	0	33	0	0	0	0	0	1766	0	0	69	0	1313	14	47	5362	5409
Apprch %	0	100	0		0	0	0		0	100	0		5	0	95				
Total %	0	41.3	0		0	0	0		0	32.9	0		1.3	0	24.5		0.9	99.1	

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
SA AM counted: 06/25/11
SU PM counted: 06/26/11

File Name : I-64 EIS #23812 Wknd
Site Code : 23812
Start Date : 6/25/2011
Page No : 2

Start Time	Rt 143 Southbound				Westbound				Rt 143 Northbound				I-64 EB off ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 09:30 AM																	
09:30 AM	0	86	0	86	0	0	0	0	0	76	0	76	2	0	66	68	230
09:45 AM	0	81	0	81	0	0	0	0	0	81	0	81	2	0	63	65	227
10:00 AM	0	92	0	92	0	0	0	0	0	88	0	88	4	0	48	52	232
10:15 AM	0	88	0	88	0	0	0	0	0	83	0	83	3	0	83	86	257
Total Volume	0	347	0	347	0	0	0	0	0	328	0	328	11	0	260	271	946
% App. Total	0	100	0		0	0	0		0	100	0		4.1	0	95.9		
PHF	.000	.943	.000	.943	.000	.000	.000	.000	.000	.932	.000	.932	.688	.000	.783	.788	.920

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	92	0	92	0	0	0	0	0	99	0	99	5	0	25	30	221
03:15 PM	0	85	0	85	0	0	0	0	0	87	0	87	3	0	51	54	226
03:30 PM	0	147	0	147	0	0	0	0	0	101	0	101	1	0	51	52	300
03:45 PM	0	153	0	153	0	0	0	0	0	89	0	89	5	0	68	73	315
Total Volume	0	477	0	477	0	0	0	0	0	376	0	376	14	0	195	209	1062
% App. Total	0	100	0		0	0	0		0	100	0		6.7	0	93.3		
PHF	.000	.779	.000	.779	.000	.000	.000	.000	.000	.931	.000	.931	.700	.000	.717	.716	.843

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water Country

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24201-02 Wknd

I-64 WB on ramp fm EB Rt 199
I-64 WB off ramp to EB Rt 199

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	
12:00 AM	*	*	*	*	*	*	*	*	*	*	22	26	21	36	22	31	
01:00	*	*	*	*	*	*	*	*	*	*	11	25	12	20	12	22	
02:00	*	*	*	*	*	*	*	*	*	*	5	22	10	10	8	16	
03:00	*	*	*	*	*	*	*	*	*	*	18	6	7	5	12	6	
04:00	*	*	*	*	*	*	*	*	*	*	11	15	7	13	9	14	
05:00	*	*	*	*	*	*	*	*	*	*	23	27	9	21	16	24	
06:00	*	*	*	*	*	*	*	*	*	*	58	62	32	38	45	50	
07:00	*	*	*	*	*	*	*	*	*	*	67	105	41	60	54	82	
08:00	*	*	*	*	*	*	*	*	*	*	102	128	79	93	90	110	
09:00	*	*	*	*	*	*	*	*	*	93	227	125	223	140	189	119	213
10:00	*	*	*	*	*	*	*	*	*	142	294	170	309	135	317	149	307
11:00	*	*	*	*	*	*	*	*	*	142	248	179	284	179	222	167	251
12:00 PM	*	*	*	*	*	*	*	*	*	161	225	178	259	181	221	173	235
01:00	*	*	*	*	*	*	*	*	*	160	218	138	227	173	273	157	239
02:00	*	*	*	*	*	*	*	*	*	150	194	178	275	169	195	166	221
03:00	*	*	*	*	*	*	*	*	*	160	194	201	194	242	190	201	193
04:00	*	*	*	*	*	*	*	*	*	194	171	121	174	158	182	158	176
05:00	*	*	*	*	*	*	*	*	*	170	179	129	154	142	133	147	155
06:00	*	*	*	*	*	*	*	*	*	108	114	92	120	93	77	98	104
07:00	*	*	*	*	*	*	*	*	*	82	100	108	100	108	100	99	100
08:00	*	*	*	*	*	*	*	*	*	80	90	78	101	82	100	80	97
09:00	*	*	*	*	*	*	*	*	*	68	96	86	90	109	103	88	96
10:00	*	*	*	*	*	*	*	*	*	54	82	92	90	84	53	77	75
11:00	*	*	*	*	*	*	*	*	*	50	26	52	34	39	32	47	31
Lane	0	0	0	0	0	0	0	0	0	1814	2458	2244	3050	2252	2683	2194	2848
Day	0	0	0	0	0	0	0	0	0	4272	5294	4935	5042				
AM Peak										10:00	10:00	11:00	10:00	11:00	10:00	11:00	10:00
Vol.										142	294	179	309	179	317	167	307
PM Peak										16:00	12:00	15:00	14:00	15:00	13:00	15:00	13:00
Vol.										194	225	201	275	242	273	201	239

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water Country

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24201-02 Wknd

I-64 WB on ramp fm EB Rt 199
I-64 WB off ramp to EB Rt 199

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	25	15	*	*	*	*	*	*	*	*	*	*	*	*	25	15
01:00	10	10	*	*	*	*	*	*	*	*	*	*	*	*	10	10
02:00	8	14	*	*	*	*	*	*	*	*	*	*	*	*	8	14
03:00	10	18	*	*	*	*	*	*	*	*	*	*	*	*	10	18
04:00	9	12	*	*	*	*	*	*	*	*	*	*	*	*	9	12
05:00	28	104	*	*	*	*	*	*	*	*	*	*	*	*	28	104
06:00	54	255	*	*	*	*	*	*	*	*	*	*	*	*	54	255
07:00	70	195	*	*	*	*	*	*	*	*	*	*	*	*	70	195
08:00	128	197	*	*	*	*	*	*	*	*	*	*	*	*	128	197
09:00	109	185	*	*	*	*	*	*	*	*	*	*	*	*	109	185
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane	451	1005	0	0	0	0	0	0	0	0	0	0	0	0	451	1005
Day	1456		0		0		0		0		0		0		1456	
AM Peak	08:00	06:00													08:00	06:00
Vol.	128	255													128	255
PM Peak																
Vol.																
Comb. Total	1456	0	0	0	0	0	0	0	4272	5294	4935	6498				
ADT	ADT 5,114	AADT 5,114														

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water Country

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24203-04 Wknd

I-64 WB on ramp fm WB Rt 199
I-64 WB off ramp to WB Rt 199

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	
12:00 AM	*	*	*	*	*	*	*	*	*	*	14	97	21	114	18	106	
01:00	*	*	*	*	*	*	*	*	*	*	3	90	5	100	4	95	
02:00	*	*	*	*	*	*	*	*	*	*	2	56	6	56	4	56	
03:00	*	*	*	*	*	*	*	*	*	*	6	55	5	31	6	43	
04:00	*	*	*	*	*	*	*	*	*	*	8	48	4	20	6	34	
05:00	*	*	*	*	*	*	*	*	*	*	10	99	18	67	14	83	
06:00	*	*	*	*	*	*	*	*	*	*	30	203	18	143	24	173	
07:00	*	*	*	*	*	*	*	*	*	*	49	351	25	236	37	294	
08:00	*	*	*	*	*	*	*	*	*	60	816	54	380	51	306	55	501
09:00	*	*	*	*	*	*	*	*	*	85	533	52	353	59	313	65	400
10:00	*	*	*	*	*	*	*	*	*	99	374	80	302	93	331	91	336
11:00	*	*	*	*	*	*	*	*	*	103	450	107	249	99	287	103	329
12:00 PM	*	*	*	*	*	*	*	*	*	105	492	116	293	111	301	111	362
01:00	*	*	*	*	*	*	*	*	*	161	514	131	345	136	307	143	389
02:00	*	*	*	*	*	*	*	*	*	159	529	118	330	157	265	145	375
03:00	*	*	*	*	*	*	*	*	*	281	506	161	329	187	289	210	375
04:00	*	*	*	*	*	*	*	*	*	174	650	221	451	226	359	207	487
05:00	*	*	*	*	*	*	*	*	*	179	697	226	410	194	371	200	493
06:00	*	*	*	*	*	*	*	*	*	160	543	233	415	179	355	191	438
07:00	*	*	*	*	*	*	*	*	*	171	423	191	306	175	298	179	342
08:00	*	*	*	*	*	*	*	*	*	92	293	163	317	141	270	132	293
09:00	*	*	*	*	*	*	*	*	*	42	338	70	258	43	272	52	289
10:00	*	*	*	*	*	*	*	*	*	21	223	34	330	13	180	23	244
11:00	*	*	*	*	*	*	*	*	*	14	170	21	195	12	86	16	150
Lane	0	0	0	0	0	0	0	0	0	1906	7551	2100	6262	1978	5357	2036	6687
Day	0	0	0	0	0	0	0	0	0	9457	8362	7335	8723				
AM Peak										11:00	08:00	11:00	08:00	11:00	10:00	11:00	08:00
Vol.										103	816	107	380	99	331	103	501
PM Peak										15:00	17:00	18:00	16:00	16:00	17:00	15:00	17:00
Vol.										281	697	233	451	226	371	210	493

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water Country

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24203-04 Wknd

I-64 WB on ramp fm WB Rt 199
I-64 WB off ramp to WB Rt 199

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	11	62	*	*	*	*	*	*	*	*	*	*	*	*	11	62
01:00	6	40	*	*	*	*	*	*	*	*	*	*	*	*	6	40
02:00	3	23	*	*	*	*	*	*	*	*	*	*	*	*	3	23
03:00	5	19	*	*	*	*	*	*	*	*	*	*	*	*	5	19
04:00	7	44	*	*	*	*	*	*	*	*	*	*	*	*	7	44
05:00	32	168	*	*	*	*	*	*	*	*	*	*	*	*	32	168
06:00	60	378	*	*	*	*	*	*	*	*	*	*	*	*	60	378
07:00	70	698	*	*	*	*	*	*	*	*	*	*	*	*	70	698
08:00	79	763	*	*	*	*	*	*	*	*	*	*	*	*	79	763
09:00	71	561	*	*	*	*	*	*	*	*	*	*	*	*	71	561
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane Day	344	2756	0	0	0	0	0	0	0	0	0	0	0	0	344	2756
AM Peak	08:00	08:00													08:00	08:00
Vol.	79	763													79	763
PM Peak																
Vol.																
Comb. Total	3100	0	0	0	0	9457	8362	7335	11823							
ADT	ADT 7,848	AADT 7,848														

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water County

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24205-06 Wknd

I-64 EB on ramp fm WB Rt 199
I-64 EB off ramp to WB Rt 199

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	
12:00 AM	*	*	*	*	*	*	*	*	*	*	13	42	25	27	19	34	
01:00	*	*	*	*	*	*	*	*	*	*	10	21	14	13	12	17	
02:00	*	*	*	*	*	*	*	*	*	*	9	36	10	9	10	22	
03:00	*	*	*	*	*	*	*	*	*	*	6	14	2	13	4	14	
04:00	*	*	*	*	*	*	*	*	*	*	6	27	4	16	5	22	
05:00	*	*	*	*	*	*	*	*	*	*	9	30	5	15	7	22	
06:00	*	*	*	*	*	*	*	*	*	*	28	51	8	36	18	44	
07:00	*	*	*	*	*	*	*	*	*	*	47	99	59	60	53	80	
08:00	*	*	*	*	*	*	*	*	101	165	50	119	46	77	66	120	
09:00	*	*	*	*	*	*	*	*	117	132	84	142	88	116	96	130	
10:00	*	*	*	*	*	*	*	*	136	153	108	127	99	94	114	125	
11:00	*	*	*	*	*	*	*	*	160	149	119	193	109	173	129	172	
12:00 PM	*	*	*	*	*	*	*	*	153	180	124	175	114	159	130	171	
01:00	*	*	*	*	*	*	*	*	224	169	143	169	180	130	182	156	
02:00	*	*	*	*	*	*	*	*	241	181	177	181	172	152	197	171	
03:00	*	*	*	*	*	*	*	*	330	254	221	153	220	135	257	181	
04:00	*	*	*	*	*	*	*	*	145	261	238	111	267	129	217	167	
05:00	*	*	*	*	*	*	*	*	129	340	288	284	304	131	240	252	
06:00	*	*	*	*	*	*	*	*	159	176	271	123	230	96	220	132	
07:00	*	*	*	*	*	*	*	*	189	99	280	90	296	113	255	101	
08:00	*	*	*	*	*	*	*	*	160	105	341	74	213	111	238	97	
09:00	*	*	*	*	*	*	*	*	85	95	107	89	108	84	100	89	
10:00	*	*	*	*	*	*	*	*	59	82	64	61	34	69	52	71	
11:00	*	*	*	*	*	*	*	*	24	68	25	27	23	38	24	44	
Lane	0	0	0	0	0	0	0	0	0	2412	2609	2768	2438	2630	1996	2645	2434
Day	0	0	0	0	0	0	0	0	0	5021	5206	5206	4626	4626	1996	5079	5079
AM Peak										11:00	08:00	11:00	11:00	11:00	11:00	11:00	11:00
Vol.										160	165	119	193	109	173	129	172
PM Peak										15:00	17:00	20:00	17:00	17:00	12:00	15:00	17:00
Vol.										330	340	341	284	304	159	257	252

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water County

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24205-06 Wknd

I-64 EB on ramp fm WB Rt 199
I-64 EB off ramp to WB Rt 199

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	17	29	*	*	*	*	*	*	*	*	*	*	*	*	17	29
01:00	10	12	*	*	*	*	*	*	*	*	*	*	*	*	10	12
02:00	4	16	*	*	*	*	*	*	*	*	*	*	*	*	4	16
03:00	8	10	*	*	*	*	*	*	*	*	*	*	*	*	8	10
04:00	19	27	*	*	*	*	*	*	*	*	*	*	*	*	19	27
05:00	26	36	*	*	*	*	*	*	*	*	*	*	*	*	26	36
06:00	46	82	*	*	*	*	*	*	*	*	*	*	*	*	46	82
07:00	70	164	*	*	*	*	*	*	*	*	*	*	*	*	70	164
08:00	96	224	*	*	*	*	*	*	*	*	*	*	*	*	96	224
09:00	126	136	*	*	*	*	*	*	*	*	*	*	*	*	126	136
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane	422	736	0	0	0	0	0	0	0	0	0	0	0	0	422	736
Day	1158		0	0	0	0	0	0	0	0	0	0	0	0	1158	
AM Peak	09:00	08:00													09:00	08:00
Vol.	126	224													126	224
PM Peak																
Vol.																

Comb. Total	1158	0	0	0	5021	5206	4626	6237
ADT	ADT 4,916	AADT 4,916						

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water County

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24207-08 Wknd

I-64 EB on ramp fm EB Rt 199
I-64 EB off ramp to EB Rt 199

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	
12:00 AM	*	*	*	*	*	*	*	*	*	*	120	8	148	15	134	12	
01:00	*	*	*	*	*	*	*	*	*	*	62	13	71	7	66	10	
02:00	*	*	*	*	*	*	*	*	*	*	50	5	61	3	56	4	
03:00	*	*	*	*	*	*	*	*	*	*	35	5	37	4	36	4	
04:00	*	*	*	*	*	*	*	*	*	*	55	15	34	4	44	10	
05:00	*	*	*	*	*	*	*	*	*	*	97	9	71	5	84	7	
06:00	*	*	*	*	*	*	*	*	*	*	207	33	132	13	170	23	
07:00	*	*	*	*	*	*	*	*	*	*	300	42	188	38	244	40	
08:00	*	*	*	*	*	*	*	*	*	751	84	346	63	291	41	463	63
09:00	*	*	*	*	*	*	*	*	*	608	141	464	183	375	133	482	152
10:00	*	*	*	*	*	*	*	*	*	589	197	528	257	454	249	524	234
11:00	*	*	*	*	*	*	*	*	*	629	184	457	245	473	217	520	215
12:00 PM	*	*	*	*	*	*	*	*	*	622	159	485	185	475	168	527	171
01:00	*	*	*	*	*	*	*	*	*	583	145	454	188	500	194	512	176
02:00	*	*	*	*	*	*	*	*	*	629	129	484	203	469	128	527	153
03:00	*	*	*	*	*	*	*	*	*	613	191	468	118	502	114	528	141
04:00	*	*	*	*	*	*	*	*	*	449	286	511	137	497	99	486	174
05:00	*	*	*	*	*	*	*	*	*	415	224	495	226	500	96	470	182
06:00	*	*	*	*	*	*	*	*	*	402	135	412	92	453	93	422	107
07:00	*	*	*	*	*	*	*	*	*	362	72	366	85	378	64	369	74
08:00	*	*	*	*	*	*	*	*	*	267	58	334	80	332	54	311	64
09:00	*	*	*	*	*	*	*	*	*	345	53	408	43	360	37	371	44
10:00	*	*	*	*	*	*	*	*	*	345	38	360	44	210	31	305	38
11:00	*	*	*	*	*	*	*	*	*	256	22	261	21	171	17	229	20
Lane	0	0	0	0	0	0	0	0	0	7865	2118	7759	2300	7182	1824	7880	2118
Day	0	0	0	0	0	0	0	0	0	9983		10059		9006		9998	
AM Peak										08:00	10:00	10:00	10:00	11:00	10:00	10:00	10:00
Vol.										751	197	528	257	473	249	524	234
PM Peak										14:00	16:00	16:00	17:00	15:00	13:00	15:00	17:00
Vol.										629	286	511	226	502	194	528	182

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water County

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24207-08 Wknd

I-64 EB on ramp fm EB Rt 199
I-64 EB off ramp to EB Rt 199

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off	EB on	EB off
12:00 AM	83	12	*	*	*	*	*	*	*	*	*	*	*	*	83	12
01:00	42	3	*	*	*	*	*	*	*	*	*	*	*	*	42	3
02:00	33	10	*	*	*	*	*	*	*	*	*	*	*	*	33	10
03:00	45	1	*	*	*	*	*	*	*	*	*	*	*	*	45	1
04:00	88	4	*	*	*	*	*	*	*	*	*	*	*	*	88	4
05:00	370	27	*	*	*	*	*	*	*	*	*	*	*	*	370	27
06:00	758	74	*	*	*	*	*	*	*	*	*	*	*	*	758	74
07:00	987	92	*	*	*	*	*	*	*	*	*	*	*	*	987	92
08:00	763	81	*	*	*	*	*	*	*	*	*	*	*	*	763	81
09:00	579	119	*	*	*	*	*	*	*	*	*	*	*	*	579	119
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane Day	3748	423	0	0	0	0	0	0	0	0	0	0	0	0	3748	423
AM Peak	07:00	09:00													07:00	09:00
Vol.	987	119													987	119
PM Peak																
Vol.																
Comb. Total	4171	0	0	0	0	9983	10059	9006	14169							
ADT	ADT 9,532	AADT 9,532														

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water Country

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24209 Wknd

Rt199 EB, E of EB on/off fm EB/to WB 199
Rt199 WB, E of EB on/off fm EB/to WB 199

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
12:00 AM	*	*	*	*	*	*	*	*	*	*	48	115	45	128	46	122	
01:00	*	*	*	*	*	*	*	*	*	*	20	99	23	109	22	104	
02:00	*	*	*	*	*	*	*	*	*	*	10	69	23	66	16	68	
03:00	*	*	*	*	*	*	*	*	*	*	20	68	10	40	15	54	
04:00	*	*	*	*	*	*	*	*	*	*	19	55	9	25	14	40	
05:00	*	*	*	*	*	*	*	*	*	*	44	136	20	81	32	108	
06:00	*	*	*	*	*	*	*	*	*	*	88	257	67	188	78	222	
07:00	*	*	*	*	*	*	*	*	*	*	161	431	112	300	136	366	
08:00	*	*	*	*	*	*	*	*	*	317	1003	263	511	181	393	254	636
09:00	*	*	*	*	*	*	*	*	*	402	720	427	562	358	444	396	575
10:00	*	*	*	*	*	*	*	*	*	586	651	710	530	553	532	616	571
11:00	*	*	*	*	*	*	*	*	*	580	799	682	560	605	543	622	634
12:00 PM	*	*	*	*	*	*	*	*	*	589	840	661	675	619	560	623	692
01:00	*	*	*	*	*	*	*	*	*	560	870	591	718	606	615	586	734
02:00	*	*	*	*	*	*	*	*	*	520	918	606	728	592	605	573	750
03:00	*	*	*	*	*	*	*	*	*	555	1110	670	767	640	664	622	847
04:00	*	*	*	*	*	*	*	*	*	613	1078	497	883	459	762	523	908
05:00	*	*	*	*	*	*	*	*	*	627	1116	434	859	412	722	491	899
06:00	*	*	*	*	*	*	*	*	*	374	918	331	842	271	669	325	810
07:00	*	*	*	*	*	*	*	*	*	327	739	332	655	249	574	303	656
08:00	*	*	*	*	*	*	*	*	*	278	515	293	631	208	509	260	552
09:00	*	*	*	*	*	*	*	*	*	237	477	224	421	234	373	232	424
10:00	*	*	*	*	*	*	*	*	*	140	313	192	414	137	222	156	316
11:00	*	*	*	*	*	*	*	*	*	98	213	104	226	74	105	92	181
Lane	0	0	0	0	0	0	0	0	0	6803	12280	7427	11212	6507	9229	7033	11269
Day	0	0	0	0	0	0	0	0	0	19083	18639	15736	18302				
AM Peak										10:00	08:00	10:00	09:00	11:00	11:00	11:00	08:00
Vol.										586	1003	710	562	605	543	622	636
PM Peak										17:00	17:00	15:00	16:00	15:00	16:00	12:00	16:00
Vol.										627	1116	670	883	640	762	623	908

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 242 - Jamestown/Water Country

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24209 Wknd

Rt199 EB, E of EB on/off fm EB/to WB 199
Rt199 WB, E of EB on/off fm EB/to WB 199

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	46	76	*	*	*	*	*	*	*	*	*	*	*	*	46	76
01:00	17	47	*	*	*	*	*	*	*	*	*	*	*	*	17	47
02:00	12	33	*	*	*	*	*	*	*	*	*	*	*	*	12	33
03:00	13	29	*	*	*	*	*	*	*	*	*	*	*	*	13	29
04:00	17	61	*	*	*	*	*	*	*	*	*	*	*	*	17	61
05:00	73	217	*	*	*	*	*	*	*	*	*	*	*	*	73	217
06:00	175	473	*	*	*	*	*	*	*	*	*	*	*	*	175	473
07:00	227	871	*	*	*	*	*	*	*	*	*	*	*	*	227	871
08:00	319	963	*	*	*	*	*	*	*	*	*	*	*	*	319	963
09:00	383	771	*	*	*	*	*	*	*	*	*	*	*	*	383	771
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane Day	1282	3541	0	0	0	0	0	0	0	0	0	0	0	0	1282	3541
AM Peak	09:00	08:00													09:00	08:00
Vol.	383	963													383	963
PM Peak																
Vol.																
Comb. Total	4823	0	0	0	0	0	0	0	19083	18639	15736	23125				
ADT	ADT 17,188	AADT 17,188														

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24301-05 Wknd

I-64 EB off ramp to WB Rt 143
I-64 WB off ramp to WB Rt 143

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	
12:00 AM	*	*	*	*	*	*	*	*	*	*	3	46	2	59	2	52	
01:00	*	*	*	*	*	*	*	*	*	*	1	41	4	45	2	43	
02:00	*	*	*	*	*	*	*	*	*	*	1	23	3	33	2	28	
03:00	*	*	*	*	*	*	*	*	*	*	2	27	2	12	2	20	
04:00	*	*	*	*	*	*	*	*	*	*	0	16	0	15	0	16	
05:00	*	*	*	*	*	*	*	*	*	*	0	26	0	26	0	26	
06:00	*	*	*	*	*	*	*	*	*	*	2	81	3	59	2	70	
07:00	*	*	*	*	*	*	*	*	4	240	5	127	3	90	4	152	
08:00	*	*	*	*	*	*	*	*	10	227	3	139	4	87	6	151	
09:00	*	*	*	*	*	*	*	*	11	153	12	136	2	103	8	131	
10:00	*	*	*	*	*	*	*	*	7	142	14	119	12	128	11	130	
11:00	*	*	*	*	*	*	*	*	14	171	14	103	8	123	12	132	
12:00 PM	*	*	*	*	*	*	*	*	14	207	46	127	16	127	25	154	
01:00	*	*	*	*	*	*	*	*	10	197	43	145	14	133	22	158	
02:00	*	*	*	*	*	*	*	*	44	217	126	156	16	88	62	154	
03:00	*	*	*	*	*	*	*	*	152	152	73	150	9	98	78	133	
04:00	*	*	*	*	*	*	*	*	125	210	135	181	11	141	90	177	
05:00	*	*	*	*	*	*	*	*	139	243	84	172	13	123	79	179	
06:00	*	*	*	*	*	*	*	*	26	198	263	132	54	139	114	156	
07:00	*	*	*	*	*	*	*	*	8	153	96	129	9	114	38	132	
08:00	*	*	*	*	*	*	*	*	10	117	7	107	9	134	9	119	
09:00	*	*	*	*	*	*	*	*	7	119	6	117	7	123	7	120	
10:00	*	*	*	*	*	*	*	*	5	96	4	86	4	64	4	82	
11:00	*	*	*	*	*	*	*	*	5	80	2	62	1	44	3	62	
Lane	0	0	0	0	0	0	0	0	0	591	2922	942	2448	206	2108	582	2577
Day	0	0	0	0	0	0	0	0	0	3513	3390	2314	3159				
AM Peak										11:00	07:00	10:00	08:00	10:00	10:00	11:00	07:00
Vol.										14	240	14	139	12	128	12	152
PM Peak										15:00	17:00	18:00	16:00	18:00	16:00	18:00	17:00
Vol.										152	243	263	181	54	141	114	179

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24301-05 Wknd

I-64 EB off ramp to WB Rt 143
I-64 WB off ramp to WB Rt 143

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off	EB off	WB off
12:00 AM	3	31	*	*	*	*	*	*	*	*	*	*	*	*	3	31
01:00	2	26	*	*	*	*	*	*	*	*	*	*	*	*	2	26
02:00	1	27	*	*	*	*	*	*	*	*	*	*	*	*	1	27
03:00	0	13	*	*	*	*	*	*	*	*	*	*	*	*	0	13
04:00	1	33	*	*	*	*	*	*	*	*	*	*	*	*	1	33
05:00	1	53	*	*	*	*	*	*	*	*	*	*	*	*	1	53
06:00	8	113	*	*	*	*	*	*	*	*	*	*	*	*	8	113
07:00	12	233	*	*	*	*	*	*	*	*	*	*	*	*	12	233
08:00	10	230	*	*	*	*	*	*	*	*	*	*	*	*	10	230
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane	38	759	0	0	0	0	0	0	0	0	0	0	0	0	38	759
Day	797		0		0		0		0		0		0		797	
AM Peak	07:00	07:00													07:00	07:00
Vol.	12	233													12	233
PM Peak																
Vol.																
Comb. Total	797	0	0	0	0	3513	3390	2314	3956							
ADT	ADT 2,852	AADT 2,852														

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24302-03 Wknd

I-64 WB on ramp to Busch Gardens
I-64 WB off ramp fm Busch Gardens

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	
12:00 AM	*	*	*	*	*	*	*	*	*	*	48	20	48	31	48	26	
01:00	*	*	*	*	*	*	*	*	*	*	38	19	21	17	30	18	
02:00	*	*	*	*	*	*	*	*	*	*	33	9	13	13	23	11	
03:00	*	*	*	*	*	*	*	*	*	*	33	13	9	13	21	13	
04:00	*	*	*	*	*	*	*	*	*	*	23	18	18	9	20	14	
05:00	*	*	*	*	*	*	*	*	*	*	40	39	31	32	36	36	
06:00	*	*	*	*	*	*	*	*	*	*	82	88	37	87	60	88	
07:00	*	*	*	*	*	*	*	*	*	*	93	143	65	97	79	120	
08:00	*	*	*	*	*	*	*	*	*	137	246	97	181	81	168	105	198
09:00	*	*	*	*	*	*	*	*	*	135	283	112	323	88	325	112	310
10:00	*	*	*	*	*	*	*	*	*	118	344	131	445	111	501	120	430
11:00	*	*	*	*	*	*	*	*	*	154	366	187	394	130	407	157	389
12:00 PM	*	*	*	*	*	*	*	*	*	150	315	185	340	136	310	157	322
01:00	*	*	*	*	*	*	*	*	*	171	260	207	326	174	375	184	320
02:00	*	*	*	*	*	*	*	*	*	247	194	251	346	205	313	234	284
03:00	*	*	*	*	*	*	*	*	*	370	181	274	288	306	381	317	283
04:00	*	*	*	*	*	*	*	*	*	352	175	250	303	274	396	292	291
05:00	*	*	*	*	*	*	*	*	*	317	199	289	378	295	255	300	277
06:00	*	*	*	*	*	*	*	*	*	252	195	332	216	282	171	289	194
07:00	*	*	*	*	*	*	*	*	*	262	132	268	127	272	116	267	125
08:00	*	*	*	*	*	*	*	*	*	239	74	342	92	388	140	323	102
09:00	*	*	*	*	*	*	*	*	*	300	72	417	78	559	136	425	95
10:00	*	*	*	*	*	*	*	*	*	263	105	536	108	249	86	349	100
11:00	*	*	*	*	*	*	*	*	*	55	54	81	61	100	47	79	54
Lane	0	0	0	0	0	0	0	0	0	3522	3195	4349	4355	3892	4426	4027	4100
Day	0	0	0	0	0	0	0	0	0	6717	6717	8704	8704	8318	8318	8127	8127
AM Peak										11:00	11:00	11:00	10:00	11:00	10:00	11:00	10:00
Vol.										154	366	187	445	130	501	157	430
PM Peak										15:00	12:00	22:00	17:00	21:00	16:00	21:00	12:00
Vol.										370	315	536	378	559	396	425	322

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24302-03 Wknd

I-64 WB on ramp to Busch Gardens
I-64 WB off ramp fm Busch Gardens

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off	WB on	WB off
12:00 AM	35	18	*	*	*	*	*	*	*	*	*	*	*	*	35	18
01:00	35	7	*	*	*	*	*	*	*	*	*	*	*	*	35	7
02:00	23	11	*	*	*	*	*	*	*	*	*	*	*	*	23	11
03:00	31	8	*	*	*	*	*	*	*	*	*	*	*	*	31	8
04:00	40	27	*	*	*	*	*	*	*	*	*	*	*	*	40	27
05:00	78	57	*	*	*	*	*	*	*	*	*	*	*	*	78	57
06:00	108	114	*	*	*	*	*	*	*	*	*	*	*	*	108	114
07:00	124	183	*	*	*	*	*	*	*	*	*	*	*	*	124	183
08:00	125	242	*	*	*	*	*	*	*	*	*	*	*	*	125	242
09:00	128	273	*	*	*	*	*	*	*	*	*	*	*	*	128	273
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane	727	940	0	0	0	0	0	0	0	0	0	0	0	0	727	940
Day	1667		0		0		0		0		0		0		1667	
AM Peak	09:00	09:00													09:00	09:00
Vol.	128	273													128	273
PM Peak																
Vol.																
Comb. Total	1667	0	0	0	0	0	0	0	6717	8704	8318	9794				
ADT	ADT 8,511	AADT 8,511														

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24304 Wknd

I-64 EB off ramp to Busch Gardens

Start Time	Mon 20-Jun-11	Tue 21-Jun-11	Wed 22-Jun-11	Thu 23-Jun-11	Fri 24-Jun-11	Average Day	Sat 25-Jun-11	Sun 26-Jun-11	Week Average
12:00 AM	*	*	*	*	*	*	29	30	30
01:00	*	*	*	*	*	*	20	15	18
02:00	*	*	*	*	*	*	12	20	16
03:00	*	*	*	*	*	*	9	4	6
04:00	*	*	*	*	*	*	17	10	14
05:00	*	*	*	*	*	*	33	20	26
06:00	*	*	*	*	*	*	22	15	18
07:00	*	*	*	*	*	*	52	32	42
08:00	*	*	*	*	*	*	83	39	61
09:00	*	*	*	*	*	*	311	228	270
10:00	*	*	*	*	395	395	425	328	383
11:00	*	*	*	*	277	277	300	289	289
12:00 PM	*	*	*	*	214	214	305	285	268
01:00	*	*	*	*	194	194	296	245	245
02:00	*	*	*	*	207	207	439	271	306
03:00	*	*	*	*	652	652	244	250	382
04:00	*	*	*	*	629	629	448	266	448
05:00	*	*	*	*	484	484	669	219	457
06:00	*	*	*	*	206	206	705	212	374
07:00	*	*	*	*	139	139	353	160	217
08:00	*	*	*	*	99	99	117	110	109
09:00	*	*	*	*	86	86	84	102	91
10:00	*	*	*	*	72	72	81	48	67
11:00	*	*	*	*	50	50	40	43	44
Day Total	0	0	0	0	3704	3704	5094	3241	4181
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	88.6%	88.6%	121.8%	77.5%	
AM Peak Vol.					10:00 395	10:00 395	10:00 425	10:00 328	10:00 383
PM Peak Vol.					15:00 652	15:00 652	18:00 705	12:00 285	17:00 457

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24304 Wknd

I-64 EB off ramp to Busch Gardens

Start Time	Mon 27-Jun-11	Tue 28-Jun-11	Wed 29-Jun-11	Thu 30-Jun-11	Fri 01-Jul-11	Average Day	Sat 02-Jul-11	Sun 03-Jul-11	Week Average
12:00 AM	19	*	*	*	*	19	*	*	19
01:00	18	*	*	*	*	18	*	*	18
02:00	10	*	*	*	*	10	*	*	10
03:00	8	*	*	*	*	8	*	*	8
04:00	15	*	*	*	*	15	*	*	15
05:00	43	*	*	*	*	43	*	*	43
06:00	62	*	*	*	*	62	*	*	62
07:00	93	*	*	*	*	93	*	*	93
08:00	97	*	*	*	*	97	*	*	97
09:00	255	*	*	*	*	255	*	*	255
10:00	315	*	*	*	*	315	*	*	315
11:00	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	935	0	0	0	0	935	0	0	935
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	10:00					10:00			10:00
Vol.	315					315			315
PM Peak									
Vol.									
Grand Total	935	0	0	0	3704	4639	5094	3241	5116
ADT		ADT 4,168			ADT 4,168				

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24306 Wknd

I-64 EB on ramp fm Busch Gardens

Start Time	Mon 20-Jun-11	Tue 21-Jun-11	Wed 22-Jun-11	Thu 23-Jun-11	Fri 24-Jun-11	Average Day	Sat 25-Jun-11	Sun 26-Jun-11	Week Average
12:00 AM	*	*	*	*	*	*	62	77	70
01:00	*	*	*	*	*	*	28	33	30
02:00	*	*	*	*	*	*	9	16	12
03:00	*	*	*	*	*	*	14	17	16
04:00	*	*	*	*	*	*	27	6	16
05:00	*	*	*	*	*	*	16	5	10
06:00	*	*	*	*	*	*	32	22	27
07:00	*	*	*	*	151	151	81	75	102
08:00	*	*	*	*	120	120	92	68	93
09:00	*	*	*	*	117	117	106	74	99
10:00	*	*	*	*	118	118	102	93	104
11:00	*	*	*	*	145	145	112	88	115
12:00 PM	*	*	*	*	122	122	111	78	104
01:00	*	*	*	*	158	158	122	128	136
02:00	*	*	*	*	203	203	153	160	172
03:00	*	*	*	*	270	270	187	220	226
04:00	*	*	*	*	267	267	269	271	269
05:00	*	*	*	*	236	236	253	272	254
06:00	*	*	*	*	192	192	289	286	256
07:00	*	*	*	*	229	229	309	424	321
08:00	*	*	*	*	248	248	437	571	419
09:00	*	*	*	*	283	283	687	987	652
10:00	*	*	*	*	314	314	812	336	487
11:00	*	*	*	*	183	183	241	254	226
Day Total	0	0	0	0	3356	3356	4551	4561	4216
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	79.6%	79.6%	107.9%	108.2%	
AM Peak Vol.					07:00 151	07:00 151	11:00 112	10:00 93	11:00 115
PM Peak Vol.						22:00 314	22:00 812	21:00 987	21:00 652

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24306 Wknd

I-64 EB on ramp fm Busch Gardens

Start Time	Mon 27-Jun-11	Tue 28-Jun-11	Wed 29-Jun-11	Thu 30-Jun-11	Fri 01-Jul-11	Average Day	Sat 02-Jul-11	Sun 03-Jul-11	Week Average
12:00 AM	119	*	*	*	*	119	*	*	119
01:00	39	*	*	*	*	39	*	*	39
02:00	10	*	*	*	*	10	*	*	10
03:00	13	*	*	*	*	13	*	*	13
04:00	15	*	*	*	*	15	*	*	15
05:00	41	*	*	*	*	41	*	*	41
06:00	76	*	*	*	*	76	*	*	76
07:00	166	*	*	*	*	166	*	*	166
08:00	114	*	*	*	*	114	*	*	114
09:00	129	*	*	*	*	129	*	*	129
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	722	0	0	0	0	722	0	0	722
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	07:00					07:00			07:00
Vol.	166					166			166
PM Peak									
Vol.									
Grand Total	722	0	0	0	3356	4078	4551	4561	4938
ADT		ADT 4,556			AADT 4,556				

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24307-08 Wknd

I-64 EB and WB off ramps to US Rt 60
US Rt 60 to Busch Gardens

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average			
	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in		
12:00 AM	*	*	*	*	*	*	*	*	*	*	50	2	63	0	56	1		
01:00	*	*	*	*	*	*	*	*	*	*	40	0	27	0	34	0		
02:00	*	*	*	*	*	*	*	*	*	*	20	0	31	0	26	0		
03:00	*	*	*	*	*	*	*	*	*	*	20	1	18	0	19	0		
04:00	*	*	*	*	*	*	*	*	*	*	31	1	16	0	24	0		
05:00	*	*	*	*	*	*	*	*	*	*	76	0	52	0	64	0		
06:00	*	*	*	*	*	*	*	*	*	*	104	0	102	1	103	0		
07:00	*	*	*	*	*	*	*	*	*	269	1	184	7	125	0	193	3	
08:00	*	*	*	*	*	*	*	*	*	325	18	228	27	190	14	248	20	
09:00	*	*	*	*	*	*	*	*	*	271	197	203	262	178	207	217	222	
10:00	*	*	*	*	*	*	*	*	*	193	345	201	417	203	361	199	374	
11:00	*	*	*	*	*	*	*	*	*	282	244	221	316	257	297	253	286	
12:00 PM	*	*	*	*	*	*	*	*	*	257	167	230	224	190	239	226	210	
01:00	*	*	*	*	*	*	*	*	*	263	108	281	189	186	216	243	171	
02:00	*	*	*	*	*	*	*	*	*	254	100	422	206	185	295	287	200	
03:00	*	*	*	*	*	*	*	*	*	696	91	248	213	174	318	373	207	
04:00	*	*	*	*	*	*	*	*	*	692	97	408	218	199	309	433	208	
05:00	*	*	*	*	*	*	*	*	*	563	148	591	231	172	228	442	202	
06:00	*	*	*	*	*	*	*	*	*	270	169	654	195	229	120	384	161	
07:00	*	*	*	*	*	*	*	*	*	177	78	382	122	190	68	250	89	
08:00	*	*	*	*	*	*	*	*	*	119	42	135	62	193	43	149	49	
09:00	*	*	*	*	*	*	*	*	*	147	21	128	36	204	25	160	27	
10:00	*	*	*	*	*	*	*	*	*	168	7	171	23	132	2	157	11	
11:00	*	*	*	*	*	*	*	*	*	105	0	99	1	86	0	97	0	
Lane	0	0	0	0	0	0	0	0	0	0	5051	1833	5127	2753	3402	2743	4637	2441
Day	0		0		0		0		0		6884		7880		6145		7078	
AM Peak											08:00	10:00	08:00	10:00	11:00	10:00	11:00	10:00
Vol.											325	345	228	417	257	361	253	374
PM Peak											15:00	18:00	18:00	17:00	18:00	15:00	17:00	12:00
Vol.											696	169	654	231	229	318	442	210

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24307-08 Wknd

I-64 EB and WB off ramps to US Rt 60
US Rt 60 to Busch Gardens

Start Time	27-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in	I-64 off	BG in
12:00 AM	34	0	*	*	*	*	*	*	*	*	*	*	*	*	34	0
01:00	24	0	*	*	*	*	*	*	*	*	*	*	*	*	24	0
02:00	21	0	*	*	*	*	*	*	*	*	*	*	*	*	21	0
03:00	14	0	*	*	*	*	*	*	*	*	*	*	*	*	14	0
04:00	44	0	*	*	*	*	*	*	*	*	*	*	*	*	44	0
05:00	98	0	*	*	*	*	*	*	*	*	*	*	*	*	98	0
06:00	172	0	*	*	*	*	*	*	*	*	*	*	*	*	172	0
07:00	264	3	*	*	*	*	*	*	*	*	*	*	*	*	264	3
08:00	337	11	*	*	*	*	*	*	*	*	*	*	*	*	337	11
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane	1008	14	0	0	0	0	0	0	0	0	0	0	0	0	1008	14
Day	1022		0		0		0		0		0		0		1022	
AM Peak	08:00	08:00													08:00	08:00
Vol.	337	11													337	11
PM Peak																
Vol.																
Comb. Total	1022	0	0	0	0	0	0	0	6884	7880	6145	8100				
ADT	ADT 7,012	AADT 7,012														

INTERMODAL ENGINEERING

I-64 EIS counts
I-64 Exit 243 - Williamsburg/Busch

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I-64 EIS #24309-10 Wknd

Busch Gardens to US Rt 60
I-64 EB and WB on ramp fm US Rt 60

Start Time	20-Jun-11		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	BG out	I-64 on	
12:00 AM	*	*	*	*	*	*	*	*	*	*	1	108	1	126	1	117	
01:00	*	*	*	*	*	*	*	*	*	*	0	67	2	50	1	58	
02:00	*	*	*	*	*	*	*	*	*	*	0	45	1	30	0	38	
03:00	*	*	*	*	*	*	*	*	*	*	0	42	0	27	0	34	
04:00	*	*	*	*	*	*	*	*	*	*	0	49	2	21	1	35	
05:00	*	*	*	*	*	*	*	*	*	*	0	60	0	39	0	50	
06:00	*	*	*	*	*	*	*	*	*	*	0	108	1	58	0	83	
07:00	*	*	*	*	*	*	*	*	*	2	287	7	169	0	198		
08:00	*	*	*	*	*	*	*	*	*	7	248	3	189	4	195		
09:00	*	*	*	*	*	*	*	*	*	13	239	14	204	9	198		
10:00	*	*	*	*	*	*	*	*	*	15	219	10	223	9	207		
11:00	*	*	*	*	*	*	*	*	*	21	258	29	246	15	189	22	231
12:00 PM	*	*	*	*	*	*	*	*	*	35	234	27	230	36	159	33	208
01:00	*	*	*	*	*	*	*	*	*	54	230	46	253	73	206	58	230
02:00	*	*	*	*	*	*	*	*	*	89	329	86	267	85	203	87	266
03:00	*	*	*	*	*	*	*	*	*	176	321	94	297	117	303	129	307
04:00	*	*	*	*	*	*	*	*	*	149	409	138	290	115	263	134	321
05:00	*	*	*	*	*	*	*	*	*	75	375	133	272	133	243	114	297
06:00	*	*	*	*	*	*	*	*	*	139	234	192	237	162	214	164	228
07:00	*	*	*	*	*	*	*	*	*	132	198	168	221	190	277	163	232
08:00	*	*	*	*	*	*	*	*	*	107	192	166	281	253	284	175	252
09:00	*	*	*	*	*	*	*	*	*	136	230	342	327	374	574	284	377
10:00	*	*	*	*	*	*	*	*	*	123	290	354	365	89	271	189	309
11:00	*	*	*	*	*	*	*	*	*	0	234	5	277	1	349	2	287
Lane	0	0	0	0	0	0	0	0	0	1273	4527	1815	4827	1672	4502	1588	4758
Day	0	0	0	0	0	0	0	0	0	5800	6642	6642	6174	6174	6346	6346	6346
AM Peak										11:00	07:00	11:00	11:00	11:00	11:00	11:00	11:00
Vol.										21	287	29	246	15	189	22	231
PM Peak										15:00	16:00	22:00	22:00	21:00	21:00	21:00	21:00
Vol.										176	409	354	365	374	574	284	377

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
SA AM counted: 06/25/11
SU PM counted: 06/26/11

File Name : I-64 EIS #24311 Wknd
Site Code : 24311
Start Date : 6/25/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Southbound				US Rt 60 Westbound				Busch Gardens exit Northbound				US Rt 60 Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
08:30 AM	0	0	0	0	15	82	0	0	0	0	0	0	0	36	26	3	3	159	162
08:45 AM	0	0	0	0	14	89	0	1	2	0	0	0	1	46	31	5	6	183	189
Total	0	0	0	0	29	171	0	1	2	0	0	0	1	82	57	8	9	342	351
09:00 AM	0	0	0	0	12	42	0	1	0	0	0	0	0	32	24	3	4	110	114
09:15 AM	0	0	0	0	13	42	0	1	2	0	0	0	0	32	25	5	6	114	120
09:30 AM	0	0	0	0	17	69	0	4	9	0	0	0	0	55	44	4	8	194	202
09:45 AM	0	0	0	0	12	79	0	2	4	0	1	0	0	39	31	2	4	166	170
Total	0	0	0	0	54	232	0	8	15	0	1	0	0	158	124	14	22	584	606
10:00 AM	0	0	0	0	14	54	0	5	1	0	0	0	0	46	33	3	8	148	156
10:15 AM	0	0	0	0	12	66	0	1	2	0	0	0	0	58	28	1	2	166	168
10:30 AM	0	0	0	0	16	77	0	1	2	0	0	0	0	59	43	8	9	197	206
10:45 AM	0	0	0	0	15	110	0	1	2	0	0	0	1	65	30	7	8	223	231
Total	0	0	0	0	57	307	0	8	7	0	0	0	1	228	134	19	27	734	761
11:00 AM	0	0	0	0	19	79	0	1	0	0	2	0	1	54	35	8	9	190	199
11:15 AM	0	0	0	0	25	105	0	1	3	0	0	0	0	71	27	3	4	231	235
Total	0	0	0	0	44	184	0	2	3	0	2	0	1	125	62	11	13	421	434
01:00 PM	0	0	0	0	24	63	0	2	7	0	2	0	1	49	23	0	2	169	171
01:15 PM	0	0	0	0	21	79	0	3	8	0	3	0	0	70	27	2	5	208	213
01:30 PM	0	0	0	0	15	111	0	1	15	0	6	0	1	70	23	2	3	241	244
01:45 PM	0	0	0	0	23	91	0	3	19	0	4	0	0	63	26	3	6	226	232
Total	0	0	0	0	83	344	0	9	49	0	15	0	2	252	99	7	16	844	860
02:00 PM	0	0	0	0	15	100	0	0	17	0	8	0	0	74	25	2	2	239	241
02:15 PM	0	0	0	0	20	93	0	3	12	0	2	0	0	68	26	3	6	221	227
02:30 PM	0	0	0	0	22	109	0	2	17	0	5	0	0	75	30	0	2	258	260
02:45 PM	0	0	0	0	24	118	0	1	15	0	3	0	0	59	33	2	3	252	255
Total	0	0	0	0	81	420	0	6	61	0	18	0	0	276	114	7	13	970	983
03:00 PM	0	0	0	0	31	126	0	3	24	0	4	0	5	102	55	3	6	347	353
03:15 PM	0	0	0	0	26	127	0	1	13	0	3	0	0	88	28	2	3	285	288
03:30 PM	0	0	0	0	35	123	0	3	25	0	12	0	0	92	40	2	5	327	332
03:45 PM	0	0	0	0	30	114	0	2	31	0	6	0	0	87	33	1	3	301	304
Total	0	0	0	0	122	490	0	9	93	0	25	0	5	369	156	8	17	1260	1277
Grand Total	0	0	0	0	470	2148	0	43	230	0	61	0	10	1490	746	74	117	5155	5272
Apprch %	0	0	0		18	82	0		79	0	21		0.4	66.3	33.2				
Total %	0	0	0		9.1	41.7	0		4.5	0	1.2		0.2	28.9	14.5		2.2	97.8	

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
SA AM counted: 06/25/11
SU PM counted: 06/26/11

File Name : I-64 EIS #24311 Wknd
Site Code : 24311
Start Date : 6/25/2011
Page No : 2

Start Time	Southbound				US Rt 60 Westbound				Busch Gardens exit Northbound				US Rt 60 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:30 AM																	
10:30 AM	0	0	0	0	16	77	0	93	2	0	0	2	0	59	43	102	197
10:45 AM	0	0	0	0	15	110	0	125	2	0	0	2	1	65	30	96	223
11:00 AM	0	0	0	0	19	79	0	98	0	0	2	2	1	54	35	90	190
11:15 AM	0	0	0	0	25	105	0	130	3	0	0	3	0	71	27	98	231
Total Volume	0	0	0	0	75	371	0	446	7	0	2	9	2	249	135	386	841
% App. Total	0	0	0	0	16.8	83.2	0		77.8	0	22.2		0.5	64.5	35		
PHF	.000	.000	.000	.000	.750	.843	.000	.858	.583	.000	.250	.750	.500	.877	.785	.946	.910

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	31	126	0	157	24	0	4	28	5	102	55	162	347
03:15 PM	0	0	0	0	26	127	0	153	13	0	3	16	0	88	28	116	285
03:30 PM	0	0	0	0	35	123	0	158	25	0	12	37	0	92	40	132	327
03:45 PM	0	0	0	0	30	114	0	144	31	0	6	37	0	87	33	120	301
Total Volume	0	0	0	0	122	490	0	612	93	0	25	118	5	369	156	530	1260
% App. Total	0	0	0	0	19.9	80.1	0		78.8	0	21.2		0.9	69.6	29.4		
PHF	.000	.000	.000	.000	.871	.965	.000	.968	.750	.000	.521	.797	.250	.904	.709	.818	.908

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
SA AM counted: 06/25/11
SU PM counted: 06/26/11

File Name : I-64 EIS #24312 Wknd
Site Code : 24312
Start Date : 6/25/2011
Page No : 1

Groups Printed- All Vehicles

Start Time	Southbound				US Rt 60 Westbound				I-64 EB/WB off ramps Northbound				US Rt 60 Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
08:30 AM	0	0	0	0	0	88	0	2	45	0	7	0	0	62	8	6	8	210	218
08:45 AM	0	0	0	0	2	92	0	2	54	0	12	0	0	61	18	10	12	239	251
Total	0	0	0	0	2	180	0	4	99	0	19	0	0	123	26	16	20	449	469
09:00 AM	0	0	0	0	2	40	0	2	40	0	10	2	0	50	30	3	7	172	179
09:15 AM	0	0	0	0	3	59	0	1	34	0	13	0	1	58	37	6	7	205	212
09:30 AM	0	0	0	0	5	67	0	1	42	0	16	1	0	78	89	3	5	297	302
09:45 AM	0	0	0	0	7	83	0	0	26	0	11	2	0	60	98	1	3	285	288
Total	0	0	0	0	17	249	0	4	142	0	50	5	1	246	254	13	22	959	981
10:00 AM	0	0	0	0	4	57	0	0	39	0	15	2	0	60	115	3	5	290	295
10:15 AM	0	0	0	0	5	67	0	1	26	0	19	1	0	78	87	4	6	282	288
10:30 AM	0	0	0	0	11	70	0	1	25	0	12	0	1	85	93	13	14	297	311
10:45 AM	0	0	0	0	14	97	0	1	38	0	26	4	2	67	76	9	14	320	334
Total	0	0	0	0	34	291	0	3	128	0	72	7	3	290	371	29	39	1189	1228
11:00 AM	0	0	0	0	14	111	0	5	24	0	11	1	0	102	84	6	12	346	358
11:15 AM	0	0	0	0	10	107	0	1	29	0	17	1	4	80	51	4	6	298	304
Total	0	0	0	0	24	218	0	6	53	0	28	2	4	182	135	10	18	644	662
01:00 PM	0	0	0	0	4	82	0	1	22	0	16	0	1	70	52	1	2	247	249
01:15 PM	0	0	0	0	9	87	0	1	21	0	22	2	0	77	39	5	8	255	263
01:30 PM	0	0	0	0	19	106	0	1	35	0	13	0	0	84	45	2	3	302	305
01:45 PM	0	0	0	0	14	95	0	1	29	0	21	1	0	79	41	5	7	279	286
Total	0	0	0	0	46	370	0	4	107	0	72	3	1	310	177	13	20	1083	1103
02:00 PM	0	0	0	0	23	97	0	0	28	0	17	2	0	79	37	4	6	281	287
02:15 PM	0	0	0	0	18	116	0	0	37	0	21	3	0	77	66	2	5	335	340
02:30 PM	0	0	0	0	19	104	0	1	18	0	15	1	0	80	58	2	4	294	298
02:45 PM	0	0	0	0	21	110	0	2	13	0	22	0	0	75	62	3	5	303	308
Total	0	0	0	0	81	427	0	3	96	0	75	6	0	311	223	11	20	1213	1233
03:00 PM	0	0	0	0	26	132	0	1	15	0	22	1	1	136	55	4	6	387	393
03:15 PM	0	0	0	0	17	136	0	0	25	0	29	2	0	89	56	5	7	352	359
03:30 PM	0	0	0	0	30	114	0	0	26	0	14	1	0	117	53	3	4	354	358
03:45 PM	0	0	0	0	23	103	0	1	25	0	18	1	0	91	58	5	7	318	325
Total	0	0	0	0	96	485	0	2	91	0	83	5	1	433	222	17	24	1411	1435
Grand Total	0	0	0	0	300	2220	0	26	716	0	399	28	10	1895	1408	109	163	6948	7111
Apprch %	0	0	0		11.9	88.1	0		64.2	0	35.8		0.3	57.2	42.5				
Total %	0	0	0		4.3	32	0		10.3	0	5.7		0.1	27.3	20.3		2.3	97.7	

INTERMODAL ENGINEERING, P.C.

3656 E. Stratford Road
Virginia Beach, VA 23455
(757) 464-5129

I64 EIS
SA AM counted: 06/25/11
SU PM counted: 06/26/11

File Name : I-64 EIS #24312 Wknd
Site Code : 24312
Start Date : 6/25/2011
Page No : 2

Start Time	Southbound				US Rt 60 Westbound				I-64 EB/WB off ramps Northbound				US Rt 60 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:30 AM																	
10:30 AM	0	0	0	0	11	70	0	81	25	0	12	37	1	85	93	179	297
10:45 AM	0	0	0	0	14	97	0	111	38	0	26	64	2	67	76	145	320
11:00 AM	0	0	0	0	14	111	0	125	24	0	11	35	0	102	84	186	346
11:15 AM	0	0	0	0	10	107	0	117	29	0	17	46	4	80	51	135	298
Total Volume	0	0	0	0	49	385	0	434	116	0	66	182	7	334	304	645	1261
% App. Total	0	0	0	0	11.3	88.7	0		63.7	0	36.3		1.1	51.8	47.1		
PHF	.000	.000	.000	.000	.875	.867	.000	.868	.763	.000	.635	.711	.438	.819	.817	.867	.911

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 03:00 PM

03:00 PM	0	0	0	0	26	132	0	158	15	0	22	37	1	136	55	192	387
03:15 PM	0	0	0	0	17	136	0	153	25	0	29	54	0	89	56	145	352
03:30 PM	0	0	0	0	30	114	0	144	26	0	14	40	0	117	53	170	354
03:45 PM	0	0	0	0	23	103	0	126	25	0	18	43	0	91	58	149	318
Total Volume	0	0	0	0	96	485	0	581	91	0	83	174	1	433	222	656	1411
% App. Total	0	0	0	0	16.5	83.5	0		52.3	0	47.7		0.2	66	33.8		
PHF	.000	.000	.000	.000	.800	.892	.000	.919	.875	.000	.716	.806	.250	.796	.957	.854	.911

LABURNUM AVE

NINE MILE RD

INTERVAL	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT
7:00 AM 7:15 AM	21	76	5	39	73	40	33	101	9	17	117	24
7:15 AM 7:30 AM	33	97	11	15	85	51	29	58	2	11	175	34
7:30 AM 7:45 AM	36	73	28	13	98	62	47	68	9	15	149	29
7:45 AM 8:00 AM	22	87	26	15	115	59	47	72	10	12	143	29
8:00 AM 8:15 AM	39	77	17	20	89	52	38	74	10	10	163	20
8:15 AM 8:30 AM	29	77	19	18	73	50	22	75	3	9	111	14
8:30 AM 8:45 AM	21	85	12	20	79	52	23	77	4	13	107	20
8:45 AM 9:00 AM	19	85	16	26	90	43	26	93	6	11	121	21
TOTAL	220	657	134	166	702	409	265	618	53	98	1086	191
PEAK HOUR	130	334	82	63	387	224	161	272	31	48	630	112

LABURNUM AVE

NINE MILE RD

INTERVAL	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT
4:00 PM 4:15 PM	30	129	26	50	93	23	43	105	32	17	78	25
4:15 PM 4:30 PM	30	158	34	42	116	45	25	121	24	14	35	28
4:30 PM 4:45 PM	50	84	68	43	124	32	52	171	25	14	60	27
4:45 PM 5:00 PM	48	157	34	48	137	48	37	171	13	30	117	25
5:00 PM 5:15 PM	35	208	34	54	143	46	57	157	14	18	111	26
5:15 PM 5:30 PM	37	189	34	61	173	42	47	162	19	24	102	19
5:30 PM 5:45 PM	42	157	37	38	163	52	37	134	8	22	122	38
5:45 PM 6:00 PM	36	163	30	47	168	42	68	156	14	26	84	22
TOTAL	308	1245	297	383	1117	330	366	1177	149	165	709	210
PEAK HOUR	162	711	139	201	616	188	178	624	54	94	452	108

Groups Printed- 1 - Vehicles

Start Time	Laburnum Ave Southbound					Nine Mile Rd Westbound					Laburnum Ave Northbound					Nine Mile Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
10:00 AM	48	116	39	0	203	34	96	35	0	165	31	107	38	0	176	17	93	32	0	142	686
10:15 AM	41	123	34	0	198	38	89	47	0	174	36	105	38	1	180	3	77	42	0	122	674
10:30 AM	47	116	35	0	198	40	87	41	0	168	38	120	37	0	195	18	102	36	0	156	717
10:45 AM	45	120	33	0	198	41	97	41	0	179	29	108	33	0	170	17	116	43	0	176	723
Total	181	475	141	0	797	153	369	164	0	686	134	440	146	1	721	55	388	153	0	596	2800
11:00 AM	51	140	56	0	247	26	89	46	0	161	44	141	26	0	211	15	114	43	0	172	791
11:15 AM	53	143	38	0	234	35	99	37	0	171	43	145	37	1	226	16	122	53	0	191	822
11:30 AM	58	120	49	0	227	40	110	41	0	191	24	152	25	0	201	11	126	39	0	176	795
11:45 AM	64	127	44	0	235	35	94	31	0	160	53	142	44	0	239	15	123	47	0	185	819
Total	226	530	187	0	943	136	392	155	0	683	164	580	132	1	877	57	485	182	0	724	3227
12:00 PM	52	142	51	0	245	45	118	43	0	206	30	138	48	0	216	7	110	53	0	170	837
12:15 PM	57	142	52	0	251	32	103	41	2	178	37	127	32	1	197	12	114	50	0	176	802
12:30 PM	52	129	48	0	229	32	120	47	0	199	42	148	29	0	219	16	128	52	0	196	843
12:45 PM	51	139	62	0	252	43	101	35	0	179	43	125	43	0	211	10	116	71	0	197	839
Total	212	552	213	0	977	152	442	166	2	762	152	538	152	1	843	45	468	226	0	739	3321
01:00 PM	59	139	57	2	257	28	108	29	0	165	52	158	43	0	253	17	133	49	0	199	874
01:15 PM	40	140	56	0	236	42	121	47	0	210	38	152	40	0	230	17	119	49	0	185	861
01:30 PM	65	132	44	0	241	51	108	42	0	201	34	138	31	0	203	18	124	55	0	197	842
01:45 PM	63	124	46	0	233	37	118	36	0	191	47	143	54	0	244	19	130	58	0	207	875
Total	227	535	203	2	967	158	455	154	0	767	171	591	168	0	930	71	506	211	0	788	3452
Grand Total	846	2092	744	2	3684	599	1658	639	2	2898	621	2149	598	3	3371	228	1847	772	0	2847	12800
Apprch %	23.0	56.8	20.2	0.1		20.7	57.2	22.0	0.1		18.4	63.7	17.7	0.1		8.0	64.9	27.1	0.0		
Total %	6.6	16.3	5.8	0.0	28.8	4.7	13.0	5.0	0.0	22.6	4.9	16.8	4.7	0.0	26.3	1.8	14.4	6.0	0.0	22.2	

Start Time	Laburnum Ave Southbound					Nine Mile Rd Westbound					Laburnum Ave Northbound					Nine Mile Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	
Peak Hour From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Intersection	01:00 PM																				
Volume	227	535	203	2	967	158	455	154	0	767	171	591	168	0	930	71	506	211	0	788	3452
Percent	23.5	55.3	21.0	0.2		20.6	59.3	20.1	0.0		18.4	63.5	18.1	0.0		9.0	64.2	26.8	0.0		
01:45 Volume	63	124	46	0	233	37	118	36	0	191	47	143	54	0	244	19	130	58	0	207	875
Peak Factor																					0.986
High Int.	01:00 PM					01:15 PM					01:00 PM					01:45 PM					
Volume	59	139	57	2	257	42	121	47	0	210	52	158	43	0	253	19	130	58	0	207	
Peak Factor	0.941					0.913					0.919					0.952					

LABURNUM AVE

I-64 RAMPS

INTERVAL	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT
7:00 AM 7:15 AM		328	43	16	134		9		186			
7:15 AM 7:30 AM		338	36	14	132		16		251			
7:30 AM 7:45 AM		390	67	24	156		18		239			
7:45 AM 8:00 AM		354	56	15	156		15		273			
8:00 AM 8:15 AM		400	60	18	149		14		221			
8:15 AM 8:30 AM		428	42	14	136		14		235			
8:30 AM 8:45 AM		404	58	21	139		25		265			
8:45 AM 9:00 AM		376	70	17	182		15		208			
TOTAL		3018	432	139	1184		126		1878			
PEAK HOUR		1608	230	70	606		68		929			

LABURNUM AVE

I-64 RAMPS

INTERVAL	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT
4:00 PM 4:15 PM		338	17	27	113		6		111			
4:15 PM 4:30 PM		404	33	18	205		11		149			
4:30 PM 4:45 PM		409	16	11	231		13		150			
4:45 PM 5:00 PM		380	24	7	243		10		187			
5:00 PM 5:15 PM		429	19	9	204		5		161			
5:15 PM 5:30 PM		335	19	2	249		7		125			
5:30 PM 5:45 PM		346	24	12	256		8		106			
5:45 PM 6:00 PM		362	30	10	228		4		143			
TOTAL		3003	182	96	1729		64		1132			
PEAK HOUR		1553	78	29	927		35		623			

Groups Printed- Vehicles

Start Time	Laburnum Ave Southbound					I-64 EB Off Ramps Westbound					Laburnum Ave Northbound					I-64 EB Off Ramps Eastbound					Int. Total
	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
10:00 AM	0	193	23	0	216	0	0	0	0	0	21	260	0	0	281	96	0	6	0	102	599
10:15 AM	0	196	11	0	207	0	0	0	0	0	29	287	0	0	316	109	0	7	0	116	639
10:30 AM	0	207	14	0	221	0	0	0	0	0	29	329	0	0	358	103	0	5	0	108	687
10:45 AM	0	231	25	0	256	0	0	0	0	0	33	298	0	0	331	108	1	13	0	122	709
Total	0	827	73	0	900	0	0	0	0	0	112	1174	0	0	1286	416	1	31	0	448	2634
11:00 AM	0	245	14	0	259	0	0	0	0	0	49	313	0	0	362	105	0	7	0	112	733
11:15 AM	0	224	13	0	237	0	0	0	0	0	43	316	0	0	359	109	0	11	0	120	716
11:30 AM	0	237	14	0	251	0	0	0	0	0	39	330	0	0	369	97	0	14	0	111	731
11:45 AM	0	250	15	0	265	0	0	0	0	0	43	351	0	0	394	108	0	9	0	117	776
Total	0	956	56	0	1012	0	0	0	0	0	174	1310	0	0	1484	419	0	41	0	460	2956
12:00 PM	0	243	17	0	260	0	0	0	0	0	35	313	0	0	348	135	1	13	0	149	757
12:15 PM	0	253	16	0	269	0	0	0	0	0	38	350	0	0	388	122	0	8	0	130	787
12:30 PM	0	257	18	0	275	0	0	0	0	0	47	340	0	0	387	136	1	10	0	147	809
12:45 PM	0	252	24	0	276	0	0	0	0	0	42	392	0	0	434	99	0	18	0	117	827
Total	0	1005	75	0	1080	0	0	0	0	0	162	1395	0	0	1557	492	2	49	0	543	3180
01:00 PM	0	256	12	0	268	0	0	0	0	0	43	314	0	0	357	112	0	10	0	122	747
01:15 PM	0	218	20	0	238	0	0	0	0	0	49	333	0	0	382	132	0	10	0	142	762
01:30 PM	0	253	17	0	270	0	0	0	0	0	49	321	0	0	370	133	0	11	0	144	784
01:45 PM	0	236	16	0	252	0	0	0	0	0	54	331	0	0	385	131	1	12	0	144	781
Total	0	963	65	0	1028	0	0	0	0	0	195	1299	0	0	1494	508	1	43	0	552	3074
Grand Total	0	3751	269	0	4020	0	0	0	0	0	643	5178	0	0	5821	1835	4	164	0	2003	11844
Apprch %	0.0	93.3	6.7	0.0		0.0	0.0	0.0	0.0		11.0	89.0	0.0	0.0		91.6	0.2	8.2	0.0		
Total %	0.0	31.7	2.3	0.0	33.9	0.0	0.0	0.0	0.0	0.0	5.4	43.7	0.0	0.0	49.1	15.5	0.0	1.4	0.0	16.9	

Start Time	Laburnum Ave Southbound					I-64 EB Off Ramps Westbound					Laburnum Ave Northbound					I-64 EB Off Ramps Eastbound					Int. Total
	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	Right	Thru	Left	Peds	App-Total	
Peak Hour From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Intersection	12:00 PM																				
Volume	0	1005	75	0	1080	0	0	0	0	0	162	1395	0	0	1557	492	2	49	0	543	3180
Percent	0.0	93.1	6.9	0.0		0.0	0.0	0.0	0.0		10.4	89.6	0.0	0.0		90.6	0.4	9.0	0.0		
12:45 Volume	0	252	24	0	276	0	0	0	0	0	42	392	0	0	434	99	0	18	0	117	827
Peak Factor																					
High Int.	12:45 PM																				
Volume	0	252	24	0	276	0	0	0	0	0	42	392	0	0	434	135	1	13	0	149	0.961
Peak Factor	0.978										0.897					0.911					

LABURNUM AVE

I-64 RAMPS

INTERVAL	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT
7:00 AM 7:15 AM	246	91			111	13				23		10
7:15 AM 7:30 AM	249	105			101	14				31		13
7:30 AM 7:45 AM	301	107			122	15				34		15
7:45 AM 8:00 AM	235	134			131	13				25		10
8:00 AM 8:15 AM	289	125			124	18				25		19
8:15 AM 8:30 AM	319	123			113	17				23		11
8:30 AM 8:45 AM	321	108			121	15				18		13
8:45 AM 9:00 AM	273	118			156	6				26		9
TOTAL	2233	911			979	111				205		100
PEAK HOUR	1202	474			514	56				92		52

LABURNUM AVE

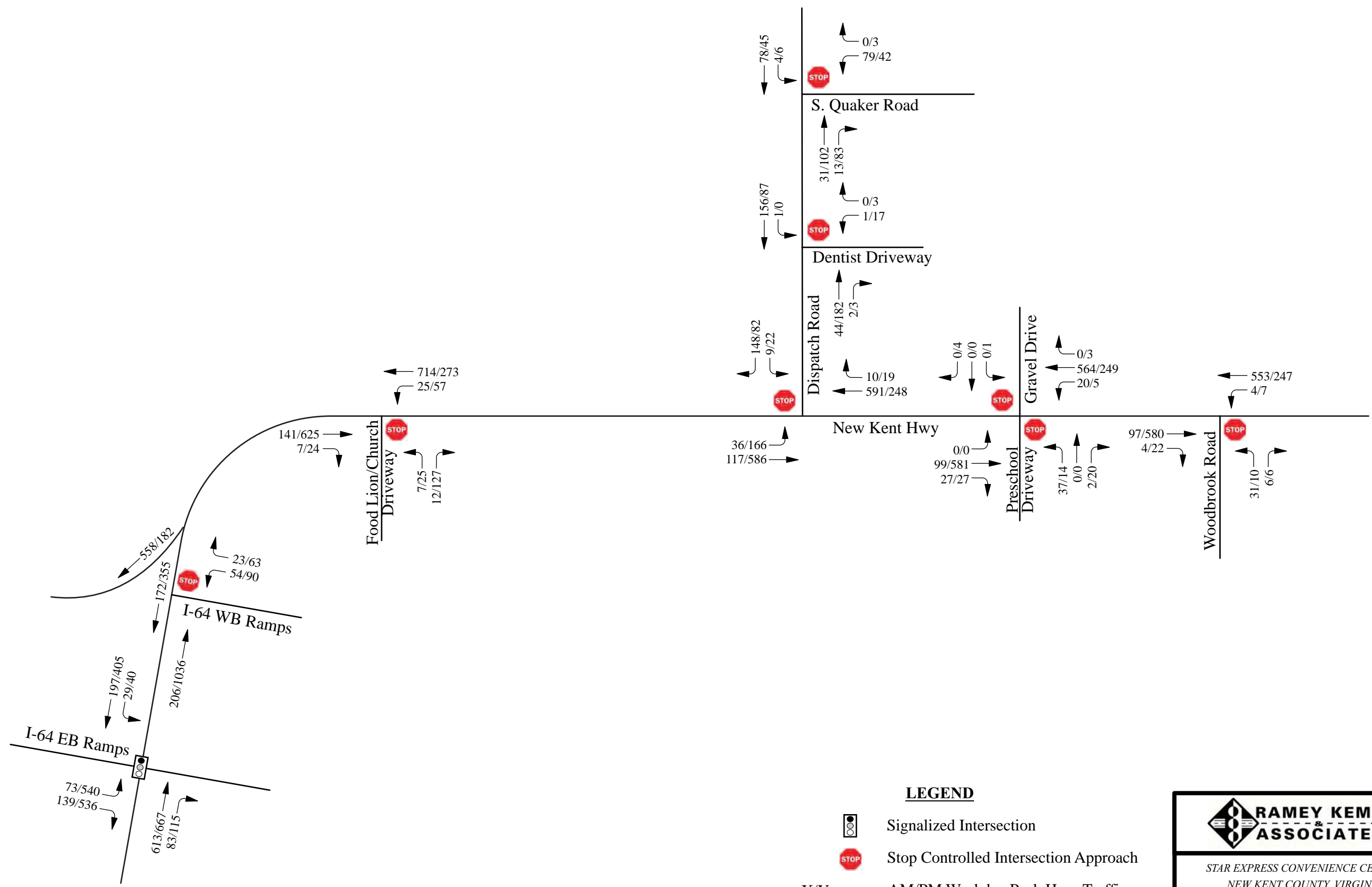
I-64 RAMPS

INTERVAL	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT
4:00 PM 4:15 PM	149	195			98	27				15		17
4:15 PM 4:30 PM	218	197			165	10				40		16
4:30 PM 4:45 PM	159	250			206	4				25		15
4:45 PM 5:00 PM	137	212			209	15				34		13
5:00 PM 5:15 PM	155	304			183	12				21		14
5:15 PM 5:30 PM	167	313			215	8				34		15
5:30 PM 5:45 PM	142	221			228	18				28		16
5:45 PM 6:00 PM	117	217			195	7				33		9
TOTAL	1244	1909			1499	101				230		115
PEAK HOUR	581	1055			821	45				116		54



Groups Printed- 1 - Vehicles

Start Time	Laburnum Ave Southbound					I-64 WB Off Ramps Westbound					Laburnum Ave Northbound					I-64 WB Off Ramps Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	I-64 WB On Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
10:00 AM	6	197	0	0	203	10	0	17	0	27	96	172	0	0	268	0	0	0	0	0	498
10:15 AM	8	184	0	0	192	19	0	26	0	45	104	190	0	0	294	0	0	0	0	0	531
10:30 AM	14	189	0	0	203	12	0	31	0	43	121	217	0	0	338	0	0	0	0	0	584
10:45 AM	8	221	0	0	229	17	0	31	0	48	117	194	0	0	311	0	0	0	0	0	588
Total	36	791	0	0	827	58	0	105	0	163	438	773	0	0	1211	0	0	0	0	0	2201
11:00 AM	13	232	0	0	245	29	0	25	0	54	101	219	0	0	320	0	0	0	0	0	619
11:15 AM	10	225	0	0	235	15	0	25	0	40	95	233	0	0	328	0	0	0	0	0	603
11:30 AM	9	219	0	0	228	12	0	24	0	36	122	225	0	0	347	0	0	0	0	0	611
11:45 AM	11	219	0	0	230	10	0	43	0	53	108	247	0	0	355	0	0	0	0	0	638
Total	43	895	0	0	938	66	0	117	0	183	426	924	0	0	1350	0	0	0	0	0	2471
12:00 PM	7	220	0	0	227	13	0	34	0	47	110	216	0	0	326	0	0	0	0	0	600
12:15 PM	6	243	0	0	249	9	0	38	0	47	122	237	0	0	359	0	0	0	0	0	655
12:30 PM	8	235	0	0	243	15	0	35	0	50	123	229	0	0	352	0	0	0	0	0	645
12:45 PM	8	239	0	0	247	13	0	32	0	45	135	278	0	0	413	0	0	0	0	0	705
Total	29	937	0	0	966	50	0	139	0	189	490	960	0	0	1450	0	0	0	0	0	2605
01:00 PM	9	236	0	0	245	16	0	34	0	50	95	229	0	0	324	0	0	0	0	0	619
01:15 PM	10	209	0	0	219	9	0	29	0	38	112	230	0	0	342	0	0	0	0	0	599
01:30 PM	5	235	0	0	240	15	0	35	0	50	106	226	0	0	332	0	0	0	0	0	622
01:45 PM	12	238	0	0	250	15	0	29	0	44	107	237	0	0	344	0	0	0	0	0	638
Total	36	918	0	0	954	55	0	127	0	182	420	922	0	0	1342	0	0	0	0	0	2478
Grand Total	144	3541	0	0	3685	229	0	488	0	717	1774	3579	0	0	5353	0	0	0	0	0	9755
Apprch %	3.9	96.1	0.0	0.0		31.9	0.0	68.1	0.0		33.1	66.9	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	1.5	36.3	0.0	0.0	37.8	2.3	0.0	5.0	0.0	7.4	18.2	36.7	0.0	0.0	54.9	0.0	0.0	0.0	0.0	0.0	

Start Time	Laburnum Ave Southbound					I-64 WB Off Ramps Westbound					Laburnum Ave Northbound					I-64 WB Off Ramps Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	I-64 WB On Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Intersection 12:15 PM																					
Volume	31	953	0	0	984	53	0	139	0	192	475	973	0	0	1448	0	0	0	0	0	2624
Percent	3.2	96.8	0.0	0.0		27.6	0.0	72.4	0.0		32.8	67.2	0.0	0.0		0.0	0.0	0.0	0.0		
12:45 Volume	8	239	0	0	247	13	0	32	0	45	135	278	0	0	413	0	0	0	0	0	705
Peak Factor																					
High Int. 12:15 PM						12:30 PM					12:45 PM					9:45:00 AM					
Volume	6	243	0	0	249	15	0	35	0	50	135	278	0	0	413						
Peak Factor	0.988					0.960					0.877										



LEGEND

-  Signalized Intersection
-  Stop Controlled Intersection Approach
- X/Y → AM/PM Weekday Peak Hour Traffic

RAMEY KEMP & ASSOCIATES	
<i>STAR EXPRESS CONVENIENCE CENTER NEW KENT COUNTY, VIRGINIA</i>	
Existing 2009 Peak Hour Volumes	
Scale: Not to Scale	Figure 5

Ramey Kemp and Associates of Richmond
 4343 Cox Road, Glen Allen, VA 23060

Counter:
 Counted By:
 Weather:
 Other:

File Name : COE249~1
 Site Code : 00001234
 Start Date : 02/26/2010
 Page No : 1

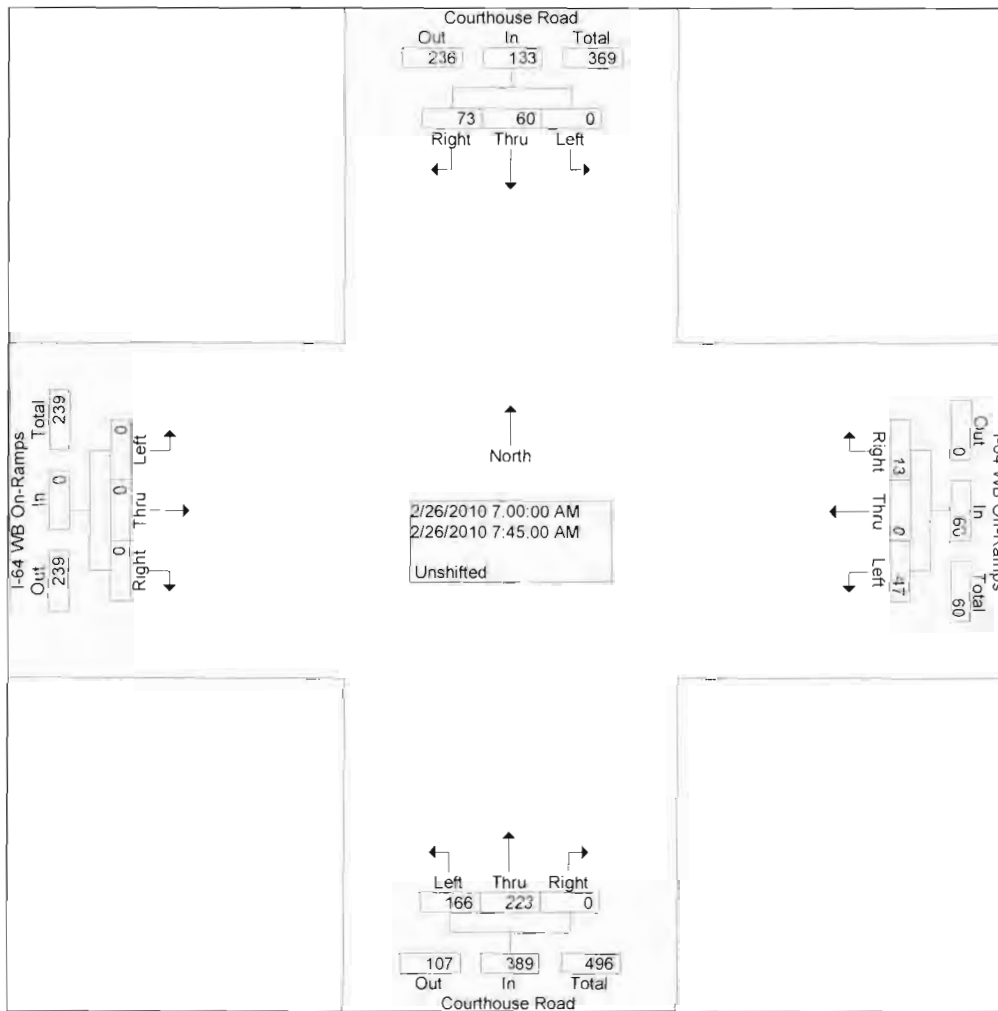
Groups Printed- Unshifted

Start Time	Courthouse Road Southbound			I-64 WB Off-Ramps Westbound			Courthouse Road Northbound			I-64 WB On-Ramps Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	8	16	12	0	3	43	71	0	0	0	0	153
07:15 AM	0	15	17	14	0	5	33	59	0	0	0	0	143
07:30 AM	0	25	21	12	0	3	53	45	0	0	0	0	159
07:45 AM	0	12	19	9	0	2	37	48	0	0	0	0	127
Total	0	60	73	47	0	13	166	223	0	0	0	0	582
08:00 AM	0	5	7	7	0	2	40	28	0	0	0	0	89
08:15 AM	0	10	9	15	0	1	21	32	0	0	0	0	88
08:30 AM	0	19	9	15	0	3	23	30	0	0	0	0	99
08:45 AM	0	23	8	11	0	0	15	18	0	0	0	0	75
Total	0	57	33	48	0	6	99	108	0	0	0	0	351
Grand Total	0	117	106	95	0	19	265	331	0	0	0	0	933
Apprch %	0.0	52.5	47.5	83.3	0.0	16.7	44.5	55.5	0.0	0.0	0.0	0.0	
Total %	0.0	12.5	11.4	10.2	0.0	2.0	28.4	35.5	0.0	0.0	0.0	0.0	

Ramey Kemp and Associates of Richmond
 4343 Cox Road, Glen Allen, VA 23060

File Name : COE249~1
 Site Code : 00001234
 Start Date : 02/26/2010
 Page No : 2

Start Time	Courthouse Road Southbound				I-64 WB Off-Ramps Westbound				Courthouse Road Northbound				I-64 WB On-Ramps Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	0	60	73	133	47	0	13	60	166	223	0	389	0	0	0	0	582
Percent	0.0	45.1	54.9		78.3	0.0	21.7		42.7	57.3	0.0		0.0	0.0	0.0		
07:30																	
Volume	0	25	21	46	12	0	3	15	53	45	0	98	0	0	0	0	159
Peak Factor																	0.915
High Int.	07:30 AM				07:15 AM				07:00 AM				6:45:00 AM				
Volume	0	25	21	46	14	0	5	19	43	71	0	114					
Peak Factor	0.723								0.789				0.853				



Ramey Kemp and Associates of Richmond
 4343 Cox Road, Glen Allen, VA 23060

Counter:
 Counted By:
 Weather:
 Other:

HVs Only

File Name : COE249~1
 Site Code : 00001234
 Start Date : 02/26/2010
 Page No : 1

Groups Printed- Bank 1

Start Time	Courthouse Road Southbound			I-64 WB Off-Ramps Westbound			Courthouse Road Northbound			I-64 WB On-Ramps Eastbound			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
07:00 AM	0	0	0	2	0	0	0	7	0	0	0	0	0	9	9
07:15 AM	0	1	0	2	0	0	0	2	0	0	0	0	0	5	5
07:30 AM	0	3	2	2	0	1	1	0	0	0	0	0	0	9	9
07:45 AM	0	2	1	2	0	0	0	2	0	0	0	0	0	7	7
Total	0	6	3	8	0	1	1	11	0	0	0	0	0	30	30
08:00 AM	0	0	0	0	0	1	1	2	0	0	0	0	0	4	4
08:15 AM	0	0	0	2	0	1	2	4	0	0	0	0	0	9	9
08:30 AM	0	1	1	5	0	0	2	3	0	0	0	0	0	12	12
08:45 AM	0	0	0	1	0	0	1	2	0	0	0	0	0	4	4
Total	0	1	1	8	0	2	6	11	0	0	0	0	0	29	29
Grand Total	0	7	4	16	0	3	7	22	0	0	0	0	0	59	59
Apprch %	0.0	63.6	36.4	84.2	0.0	15.8	24.1	75.9	0.0						
Total %	0.0	11.9	6.8	27.1	0.0	5.1	11.9	37.3	0.0				0.0	100.0	

Ramey Kemp and Associates of Richmond
 4343 Cox Road, Glen Allen, VA 23060

Counter: D4-4791
 Counted By: F. Gontaruk
 Weather: Clear
 Other:

File Name : CO0347~1
 Site Code : 00001234
 Start Date : 02/25/2010
 Page No : 1

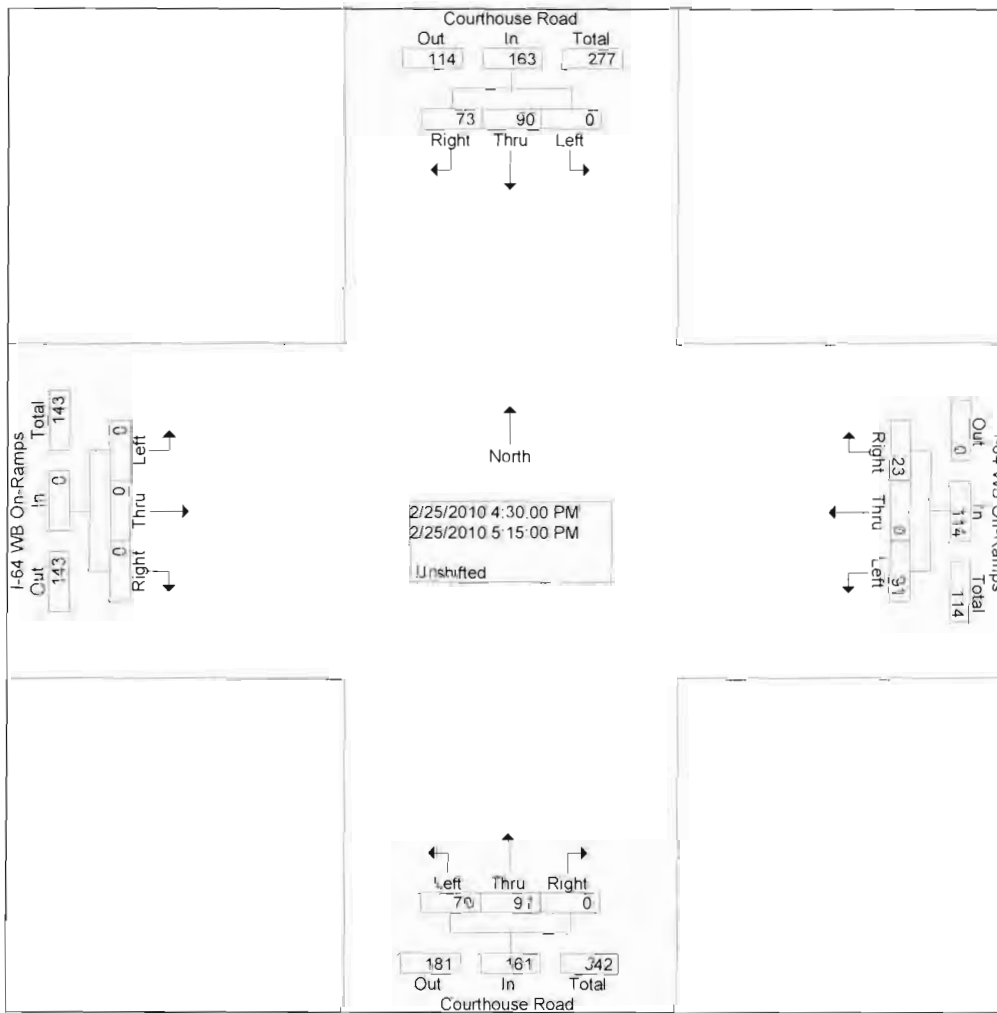
Groups Printed- Unshifted

Start Time	Courthouse Road Southbound			I-64 WB Off-Ramps Westbound			Courthouse Road Northbound			I-64 WB On-Ramps Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	14	16	19	0	5	22	28	0	0	0	0	104
04:15 PM	0	16	11	21	0	3	23	16	0	0	0	0	90
04:30 PM	0	24	24	19	0	8	14	26	0	0	0	0	115
04:45 PM	0	26	20	24	0	6	13	20	0	0	0	0	109
Total	0	80	71	83	0	22	72	90	0	0	0	0	418
05:00 PM	0	23	22	19	0	2	19	22	0	0	0	0	107
05:15 PM	0	17	7	29	0	7	24	23	0	0	0	0	107
05:30 PM	0	18	10	18	0	4	19	26	0	0	0	0	95
05:45 PM	0	13	8	26	0	2	17	35	0	0	0	0	101
Total	0	71	47	92	0	15	79	106	0	0	0	0	410
Grand Total	0	151	118	175	0	37	151	196	0	0	0	0	828
Apprch %	0.0	56.1	43.9	82.5	0.0	17.5	43.5	56.5	0.0	0.0	0.0	0.0	
Total %	0.0	18.2	14.3	21.1	0.0	4.5	18.2	23.7	0.0	0.0	0.0	0.0	

Ramey Kemp and Associates of Richmond
 4343 Cox Road, Glen Allen, VA 23060

File Name : CO0347~1
 Site Code : 00001234
 Start Date : 02/25/2010
 Page No : 2

Start Time	Courthouse Road Southbound				I-64 WB Off-Ramps Westbound				Courthouse Road Northbound				I-64 WB On-Ramps Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:30 PM																
Volume	0	90	73	163	91	0	23	114	70	91	0	161	0	0	0	0	438
Percent	0.0	55.2	44.8		79.8	0.0	20.2		43.5	56.5	0.0		0.0	0.0	0.0		
04:30																	
Volume	0	24	24	48	19	0	8	27	14	26	0	40	0	0	0	0	115
Peak Factor	0.952																
High Int.	04:30 PM				05:15 PM				05:15 PM				3:45:00 PM				
Volume	0	24	24	48	29	0	7	36	24	23	0	47					
Peak Factor	0.849				0.792				0.856								



Ramey Kemp and Associates of Richmond
4343 Cox Road, Glen Allen, VA 23060

Counter: D4-4791
Counted By: F. Gontaruk
Weather: Clear
Other:

File Name : CO0347~1
Site Code : 00001234
Start Date : 02/25/2010
Page No : 1

HW: Only

Groups Printed- Bank 1

Start Time	Courthouse Road Southbound			I-64 WB Off-Ramps Westbound			Courthouse Road Northbound			I-64 WB On-Ramps Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	0	0	1	0	1	0	1	0	0	0	0	3
04:15 PM	0	2	1	1	0	0	0	0	0	0	0	0	4
04:30 PM	0	0	1	0	0	0	1	1	0	0	0	0	3
04:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	2	2	3	0	1	1	2	0	0	0	0	11
05:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	1	0	0	1	0	0	0	0	0	2
05:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	1	0	1	0	0	0	1	0	0	0	0	3
Total	0	4	0	3	0	0	1	1	0	0	0	0	9
Grand Total	0	6	2	6	0	1	2	3	0	0	0	0	20
Apprch %	0.0	75.0	25.0	85.7	0.0	14.3	40.0	60.0	0.0	0.0	0.0	0.0	
Total %	0.0	30.0	10.0	30.0	0.0	5.0	10.0	15.0	0.0	0.0	0.0	0.0	

Ramey Kemp and Associates of Richmond
 4343 Cox Road, Glen Allen, VA 23060

Counter: D4-3295
 Counted By: C. Evans
 Weather: Clear
 Other:

File Name : COURTH~3
 Site Code : 00000001
 Start Date : 01/28/2010
 Page No : 1

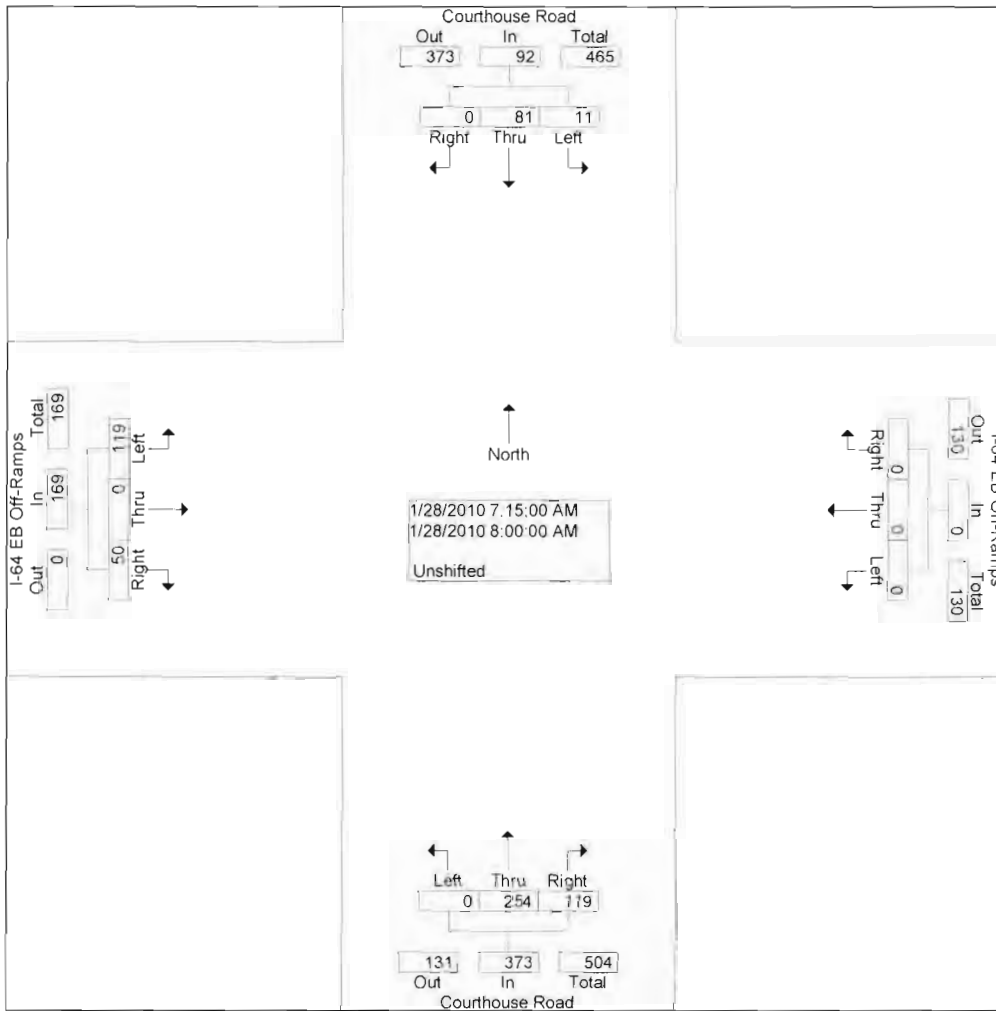
Groups Printed- Unshifted

Start Time	Courthouse Road Southbound			I-64 EB On-Ramps Westbound			Courthouse Road Northbound			I-64 EB Off-Ramps Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	6	15	0	0	0	0	0	42	11	20	0	3	97
07:15 AM	2	8	0	0	0	0	0	75	36	44	0	15	180
07:30 AM	4	30	0	0	0	0	0	77	28	22	0	10	171
07:45 AM	2	26	0	0	0	0	0	56	27	30	0	15	156
Total	14	79	0	0	0	0	0	250	102	116	0	43	604
08:00 AM	3	17	0	0	0	0	0	46	28	23	0	10	127
08:15 AM	6	18	0	0	0	0	0	40	12	28	1	9	114
08:30 AM	4	18	0	0	0	0	0	35	13	14	0	15	99
08:45 AM	6	31	0	0	0	0	0	41	12	16	0	24	130
Total	19	84	0	0	0	0	0	162	65	81	1	58	470
Grand Total	33	163	0	0	0	0	0	412	167	197	1	101	1074
Apprch %	16.8	83.2	0.0	0.0	0.0	0.0	0.0	71.2	28.8	65.9	0.3	33.8	
Total %	3.1	15.2	0.0	0.0	0.0	0.0	0.0	38.4	15.5	18.3	0.1	9.4	

Ramey Kemp and Associates of Richmond
 4343 Cox Road, Glen Allen, VA 23060

File Name : COURTH~3
 Site Code : 00000001
 Start Date : 01/28/2010
 Page No : 2

Start Time	Courthouse Road Southbound				I-64 EB On-Ramps Westbound				Courthouse Road Northbound				I-64 EB Off-Ramps Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	11	81	0	92	0	0	0	0	0	254	119	373	119	0	50	169	634
Percent	12.0	88.0	0.0		0.0	0.0	0.0		0.0	68.1	31.9		70.4	0.0	29.6		
07:15																	
Volume	2	8	0	10	0	0	0	0	0	75	36	111	44	0	15	59	180
Peak Factor	0.881																
High Int.	07:30 AM				6:45:00 AM				07:15 AM				07:15 AM				
Volume	4	30	0	34	0	0	0	0	0	75	36	111	44	0	15	59	
Peak Factor	0.676								0.840				0.716				



Ramey Kemp and Associates of Richmond
4343 Cox Road, Glen Allen, VA 23060

Counter: D4-3295
Counted By: C. Evans
Weather: Clear
Other:

HVs Only

File Name : COURTH~3
Site Code : 00000001
Start Date : 01/28/2010
Page No : 1

Groups Printed- Bank 1

Start Time	Courthouse Road Southbound			I-64 EB On-Ramps Westbound			Courthouse Road Northbound			I-64 EB Off-Ramps Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	1	0	0	0	1	0	2	2	0	0	1	7
07:15 AM	0	1	0	0	0	0	0	3	2	3	0	1	10
07:30 AM	0	5	0	0	0	0	0	2	0	2	0	1	10
07:45 AM	0	0	0	0	0	0	0	0	2	0	0	3	5
Total	0	7	0	0	0	1	0	7	6	5	0	6	32
08:00 AM	0	0	0	0	0	0	0	0	2	2	0	1	5
08:15 AM	0	1	0	0	0	0	0	1	0	2	1	0	5
08:30 AM	0	1	0	0	0	0	0	5	0	2	0	2	10
08:45 AM	0	4	0	0	0	0	0	2	0	1	0	2	9
Total	0	6	0	0	0	0	0	8	2	7	1	5	29
Grand Total	0	13	0	0	0	1	0	15	8	12	1	11	61
Apprch %	0.0	100.0	0.0	0.0	0.0	100.0	0.0	65.2	34.8	50.0	4.2	45.8	
Total %	0.0	21.3	0.0	0.0	0.0	1.6	0.0	24.6	13.1	19.7	1.6	18.0	

Ramey Kemp and Associates of Richmond
4343 Cox Road, Glen Allen, VA 23060

Counter: D4-4792
Counted By: C. Evans
Weather: Clear
Other:

File Name : COURTH~2
Site Code : 00012010
Start Date : 01/20/2010
Page No : 1

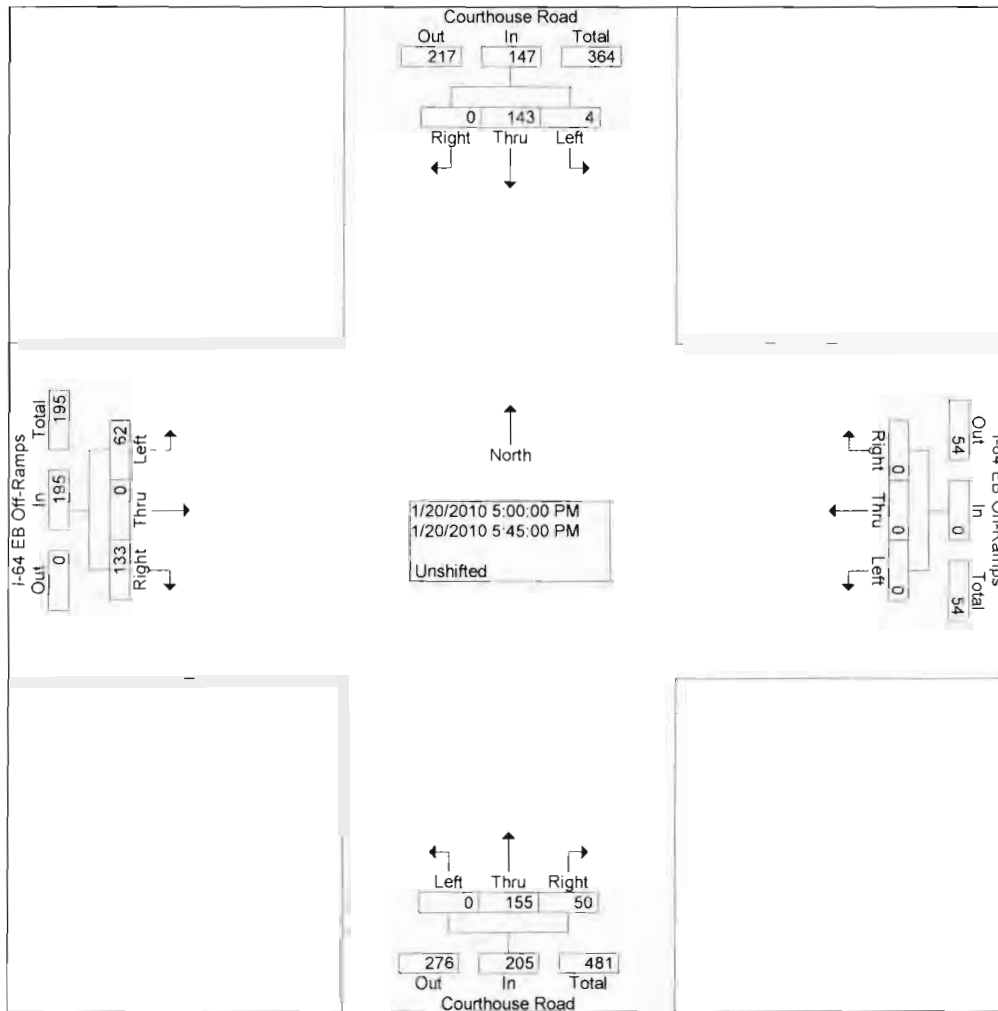
Groups Printed- Unshifted

Start Time	Courthouse Road Southbound			I-64 EB On-Ramps Westbound			Courthouse Road Northbound			I-64 EB Off-Ramps Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	1	41	0	0	0	0	0	44	18	9	2	30	145
04:15 PM	7	40	0	0	0	0	0	28	14	15	0	19	123
04:30 PM	6	38	0	0	0	0	0	17	20	17	0	19	117
04:45 PM	1	44	0	0	0	0	0	38	12	11	0	22	128
Total	15	163	0	0	0	0	0	127	64	52	2	90	513
05:00 PM	1	41	0	0	0	0	0	42	13	15	0	31	143
05:15 PM	0	33	0	0	0	0	0	37	11	18	0	29	128
05:30 PM	2	35	0	0	0	0	0	43	13	10	0	40	143
05:45 PM	1	34	0	0	0	0	0	33	13	19	0	33	133
Total	4	143	0	0	0	0	0	155	50	62	0	133	547
Grand Total	19	306	0	0	0	0	0	282	114	114	2	223	1060
Apprch %	5.8	94.2	0.0	0.0	0.0	0.0	0.0	71.2	28.8	33.6	0.6	65.8	
Total %	1.8	28.9	0.0	0.0	0.0	0.0	0.0	26.6	10.8	10.8	0.2	21.0	

Ramey Kemp and Associates of Richmond
 4343 Cox Road, Glen Allen, VA 23060

File Name : COURTH~2
 Site Code : 00012010
 Start Date : 01/20/2010
 Page No : 2

Start Time	Courthouse Road Southbound				I-64 EB On-Ramps Westbound				Courthouse Road Northbound				I-64 EB Off-Ramps Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	4	143	0	147	0	0	0	0	0	155	50	205	62	0	133	195	547
Percent	2.7	97.3	0.0		0.0	0.0	0.0		0.0	75.6	24.4		31.8	0.0	68.2		
05:30 Volume	2	35	0	37	0	0	0	0	0	43	13	56	10	0	40	50	143
Peak Factor	0.875								0.915				0.956				
High Int.	05:00 PM				3:45:00 PM				05:30 PM				05:45 PM				
Volume	1	41	0	42	0	0	0	0	0	43	13	56	19	0	33	52	
Peak Factor													0.938				



Ramey Kemp and Associates of Richmond
4343 Cox Road, Glen Allen, VA 23060

Counter: D4-4792
Counted By: C. Evans
Weather: Clear
Other:

File Name : COURTH~2
Site Code : 00012010
Start Date : 01/20/2010
Page No : 1

HV's Only

Groups Printed- Bank 1

Start Time	Courthouse Road Southbound			I-64 EB On-Ramps Westbound			Courthouse Road Northbound			I-64 EB Off-Ramps Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	5	0	0	0	0	0	5	1	0	0	0	11
04:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
04:30 PM	0	3	0	0	0	0	0	1	0	1	0	0	5
04:45 PM	0	0	0	0	0	0	0	3	0	0	0	1	4
Total	0	9	0	0	0	0	0	10	1	1	0	1	22
05:00 PM	0	0	0	0	0	0	0	3	0	2	0	1	6
05:15 PM	0	2	0	0	0	0	0	1	0	1	0	0	4
05:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
05:45 PM	0	1	0	0	0	0	0	0	1	0	0	1	3
Total	0	3	0	0	0	0	0	5	1	3	0	2	14
Grand Total	0	12	0	0	0	0	0	15	2	4	0	3	36
Apprch %	0.0	100.0	0.0	0.0	0.0	0.0	0.0	88.2	11.8	57.1	0.0	42.9	
Total %	0.0	33.3	0.0	0.0	0.0	0.0	0.0	41.7	5.6	11.1	0.0	8.3	

AM PEAK HOUR

Date: Thu, 9/4/08

LOCATION: Croaker Road/Rochambeau Drive

CUMULATIVE 15 MINUTE COUNTS

TIME	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
7:00 to 7:15	10	68	7	5	52	28	57	20	3	1	8	1	260
7:15 to 7:30	18	150	17	10	91	60	121	42	9	6	22	7	553
7:30 to 7:45	30	218	27	13	130	98	199	72	19	10	31	10	857
7:45 to 8:00	54	294	33	17	181	151	261	109	32	19	58	14	1223
8:00 to 8:15	75	353	42	27	238	225	343	144	58	23	81	16	1625
8:15 to 8:30	84	412	51	33	280	253	413	179	78	25	93	17	1918
8:30 to 8:45	90	475	67	40	324	271	468	224	100	30	99	20	2208
8:45 to 9:00	96	518	76	47	376	285	510	255	106	33	104	22	2428
Count Sheet	A	B	C	D	E	F	G	H	I	J	K	L	

15 MINUTE INTERVAL COUNTS

TIME	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
7:00 to 7:15	10	68	7	5	52	28	57	20	3	1	8	1	260
7:15 to 7:30	8	82	10	5	39	32	64	22	6	5	14	6	293
7:30 to 7:45	12	68	10	3	39	38	78	30	10	4	9	3	304
7:45 to 8:00	24	76	6	4	51	53	62	37	13	9	27	4	366
8:00 to 8:15	21	59	9	10	57	74	82	35	26	4	23	2	402
8:15 to 8:30	9	59	9	6	42	28	70	35	20	2	12	1	293
8:30 to 8:45	6	63	16	7	44	18	55	45	22	5	6	3	290
8:45 to 9:00	6	43	9	7	52	14	42	31	6	3	5	2	220

HOUR INTERVAL

TIME	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
7:00 to 8:00	54	294	33	17	181	151	261	109	32	19	58	14	1223
7:15 to 8:15	65	285	35	22	186	197	286	124	55	22	73	15	1365
7:30 to 8:30	66	262	34	23	189	193	292	137	69	19	71	10	1365
7:45 to 8:45	60	257	40	27	194	173	269	152	81	20	68	10	1351
8:00 to 9:00	42	224	43	30	195	134	249	146	74	14	46	8	1205

PEAK HOUR TURNING MOVEMENT VOLUMES

TIME	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
7:15 to 8:15	65	285	35	22	186	197	286	124	55	22	73	15	1365
7:30 to 8:30	66	262	34	23	189	193	292	137	69	19	71	10	1365

PEAK HOUR FACTOR BY APPROACH

	NB	SB	EB	WB
7:00 to 7:15	85	85	80	10
7:15 to 7:30	100	76	92	25
7:30 to 7:45	90	80	118	16
7:45 to 8:00	106	108	112	40
8:00 to 8:15	89	141	143	29
8:15 to 8:30	77	76	125	15
8:30 to 8:45	85	69	122	14
8:45 to 9:00	58	73	79	10
PHF	0.91	0.72	0.81	0.69

PM PEAK HOUR

Date: Wed, 9/3/08

LOCATION: Croaker Road/Rochambeau Drive

CUMULATIVE 15 MINUTE COUNTS

TIME	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
3:45 to 4:00													
4:00 to 4:15	13	51	10	6	63	29	25	30	13	16	39	10	305
4:15 to 4:30	22	122	17	13	139	60	52	53	23	29	72	20	622
4:30 to 4:45	47	181	24	21	223	92	87	67	32	41	121	33	969
4:45 to 5:00	67	228	30	25	289	145	114	87	50	60	167	44	1306
5:00 to 5:15	82	297	39	32	372	194	151	123	59	75	201	48	1673
5:15 to 5:30	106	374	51	37	443	223	184	153	75	94	248	67	2055
5:30 to 5:45	123	435	61	43	521	284	218	181	101	113	283	78	2441
5:45 to 6:00	135	489	75	49	598	332	248	205	114	126	311	92	2774
Count Sheet	A	B	C	D	E	F	G	H	I	J	K	L	

15 MINUTE INTERVAL COUNTS

TIME	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
4:00 to 4:15	13	51	10	6	63	29	25	30	13	16	39	10	305
4:15 to 4:30	9	71	7	7	76	31	27	23	10	13	33	10	317
4:30 to 4:45	25	59	7	8	84	32	35	14	9	12	49	13	347
4:45 to 5:00	20	47	6	4	66	53	27	20	18	19	46	11	337
5:00 to 5:15	15	69	9	7	83	49	37	36	9	15	34	4	367
5:15 to 5:30	24	77	12	5	71	29	33	30	16	19	47	19	382
5:30 to 5:45	17	61	10	6	78	61	34	28	26	19	35	11	386
5:45 to 6:00	12	54	14	6	77	48	30	24	13	13	28	14	333

HOUR INTERVAL

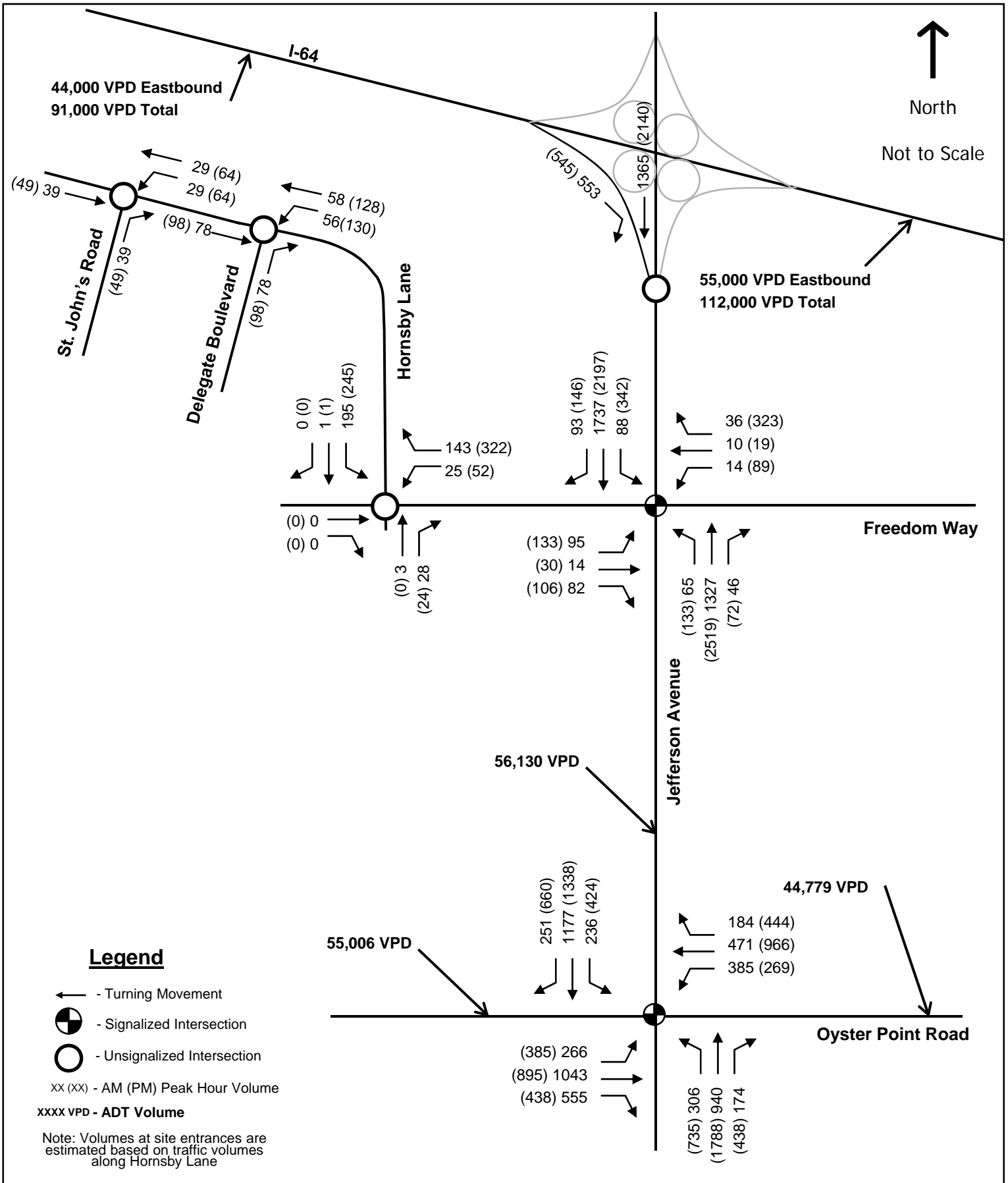
TIME	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
4:00 to 5:00	67	228	30	25	289	145	114	87	50	60	167	44	1306
4:15 to 5:15	69	246	29	26	309	165	126	93	46	59	162	38	1368
4:30 to 5:30	84	252	34	24	304	163	132	100	52	65	176	47	1433
4:45 to 5:45	76	254	37	22	298	192	131	114	69	72	162	45	1472
5:00 to 6:00	68	261	45	24	309	187	134	118	64	66	144	48	1468

PEAK HOUR TURNING MOVEMENT VOLUMES

TIME	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
4:45 to 5:45	76	254	37	22	298	192	131	114	69	72	162	45	1472

PEAK HOUR FACTOR BY APPROACH

	NB	SB	EB	WB
4:00 to 4:15	74	98	68	65
4:15 to 4:30	87	114	60	56
4:30 to 4:45	91	124	58	74
4:45 to 5:00	73	123	65	76
5:00 to 5:15	93	139	82	53
5:15 to 5:30	113	105	79	85
5:30 to 5:45	88	145	88	65
5:45 to 6:00	80	131	67	55
PHF	0.81	0.88	0.89	0.82

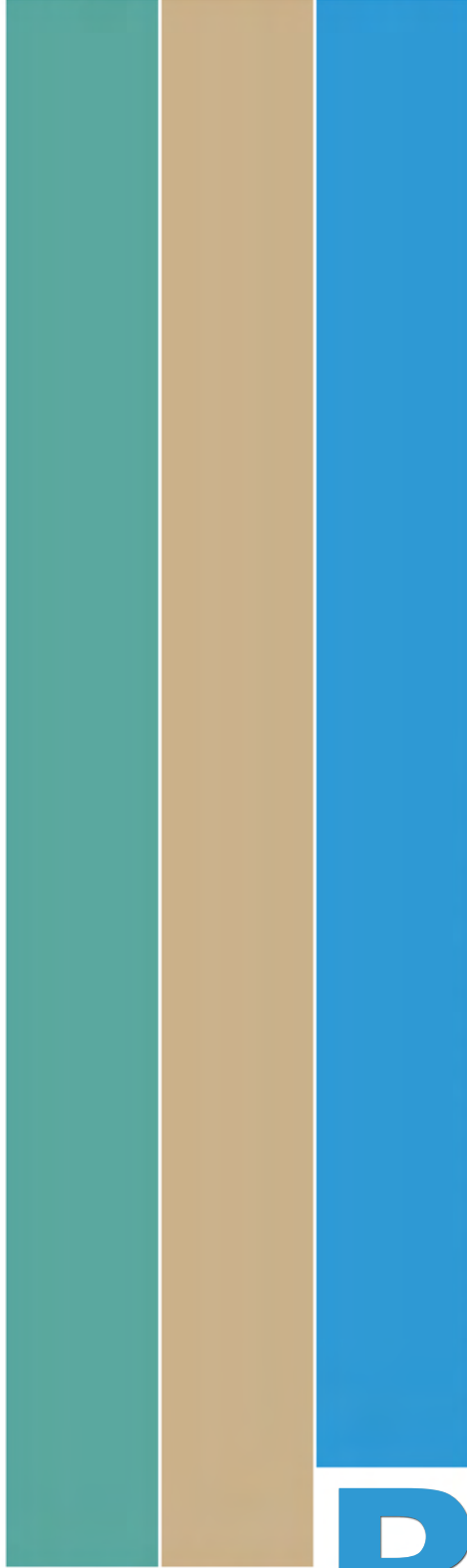


Patrick Henry Place
Newport News, Virginia

Existing Turning
Movement Volumes

FIGURE
4

INTERSTATE 64 PENINSULA STUDY



Balanced 2011 Existing Traffic Volumes

APPENDIX B

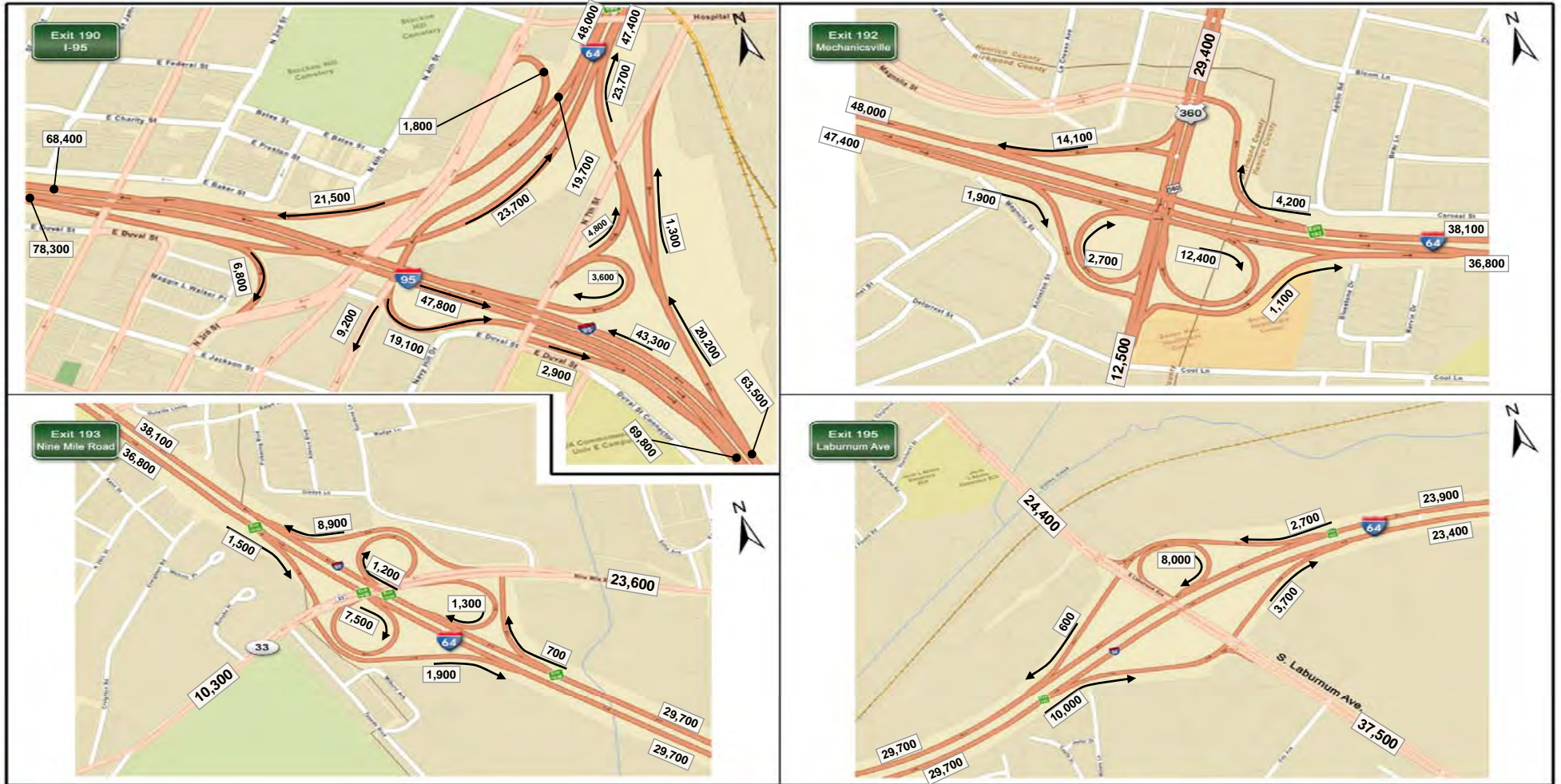


FIGURE 3: ADT Volumes
Base Year (2011) Balanced Volumes
Sheet 1 of 7

Note: Due to rounding, some volumes do not balance exactly.

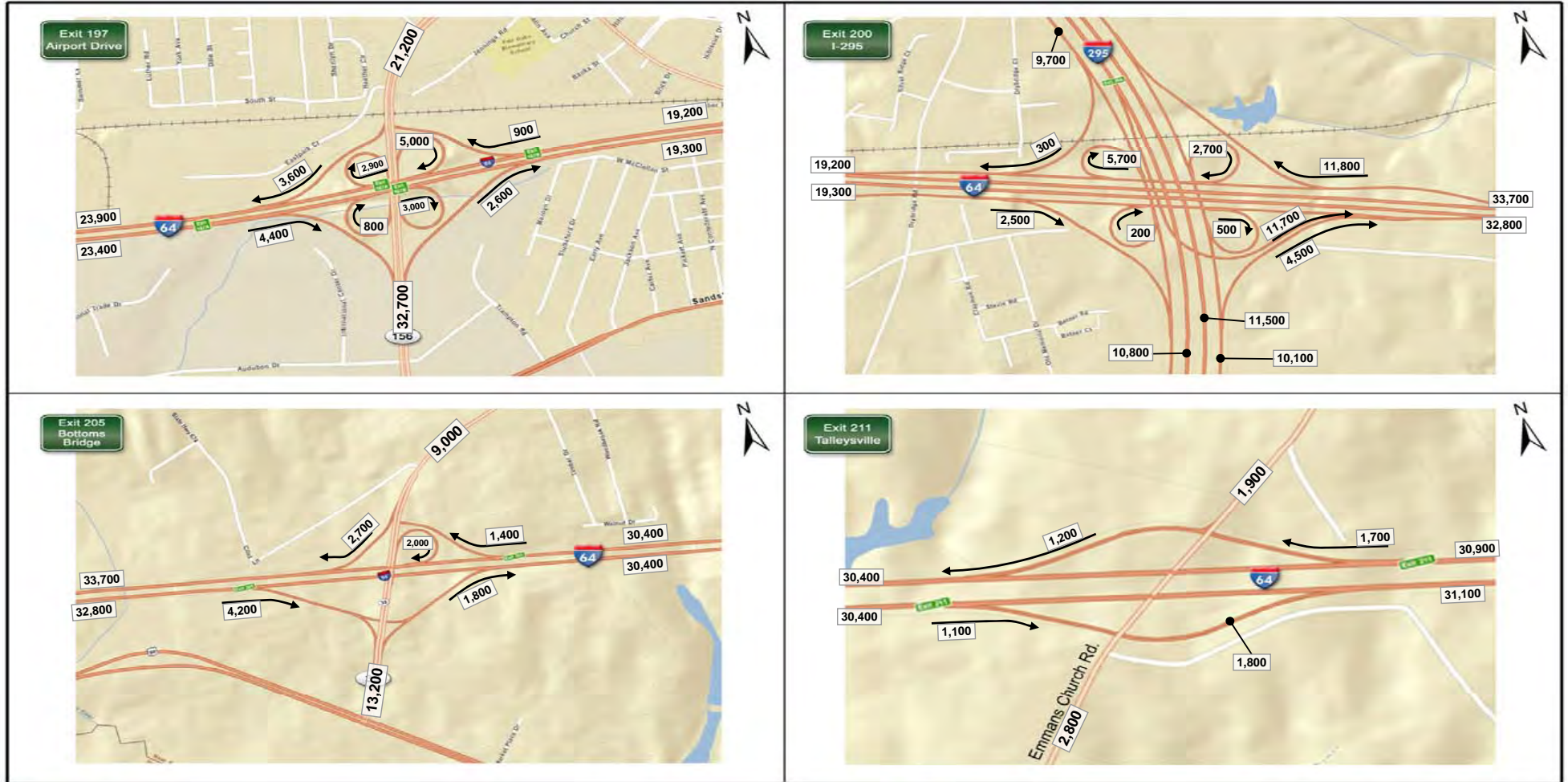


FIGURE 3: ADT Volumes
Base Year (2011) Balanced Volumes
Sheet 2 of 7

Note: Due to rounding, some volumes do not balance exactly.

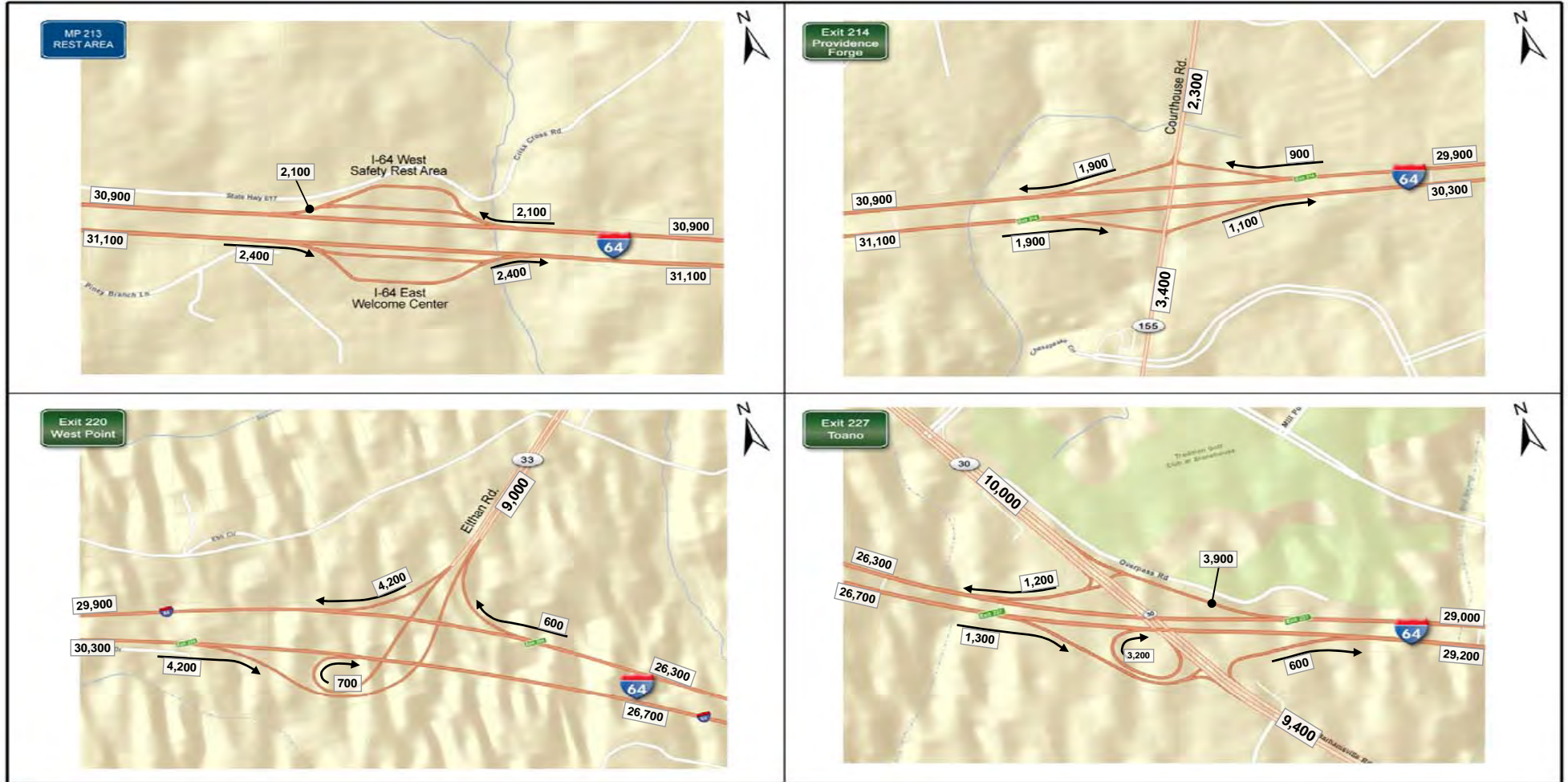


FIGURE 3: ADT Volumes
Base Year (2011) Balanced Volumes
Sheet 3 of 7

Note: Due to rounding, some volumes do not balance exactly.

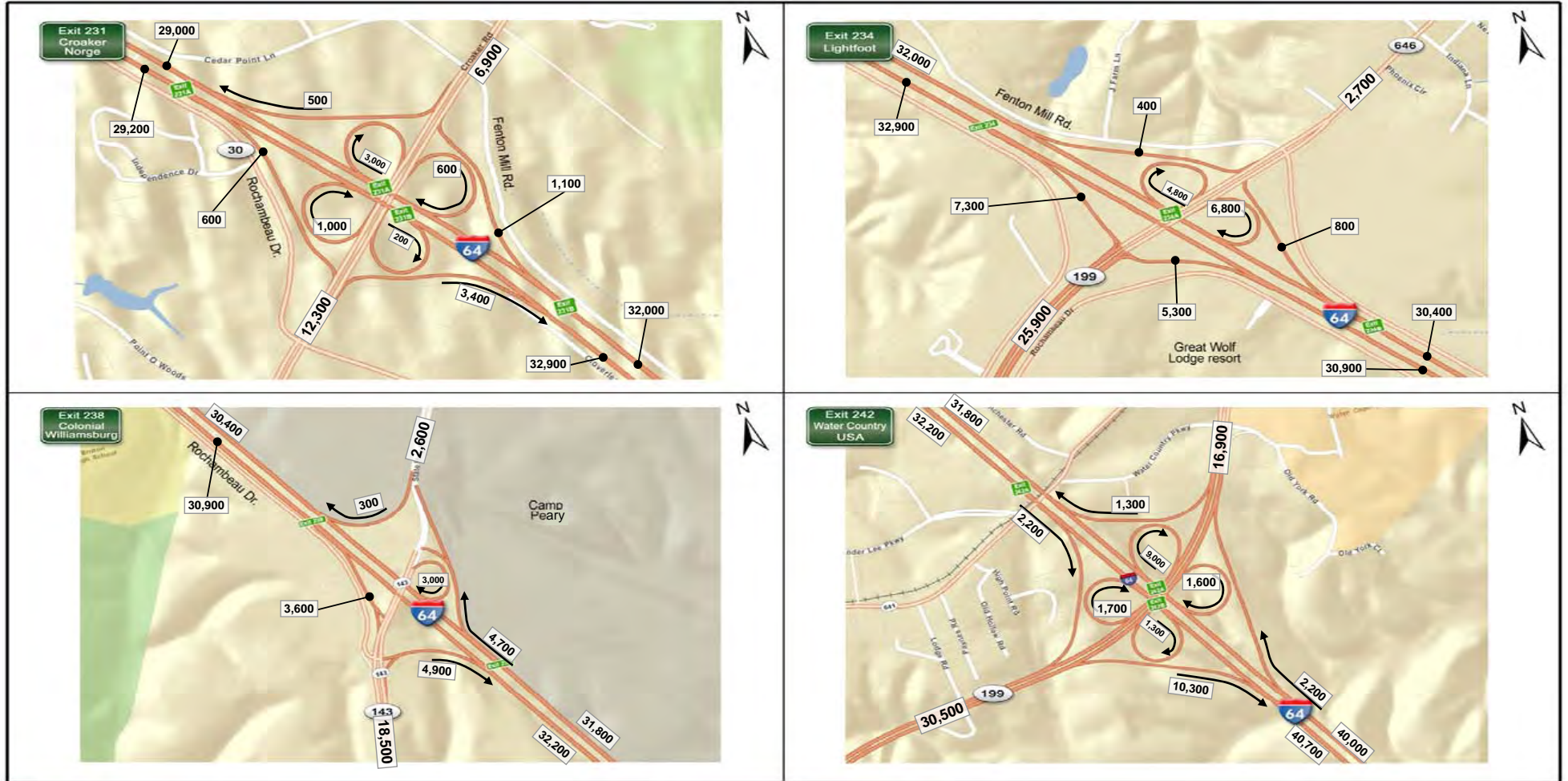


FIGURE 3: ADT Volumes
Base Year (2011) Balanced Volumes
Sheet 4 of 7

Note: Due to rounding, some volumes do not balance exactly.

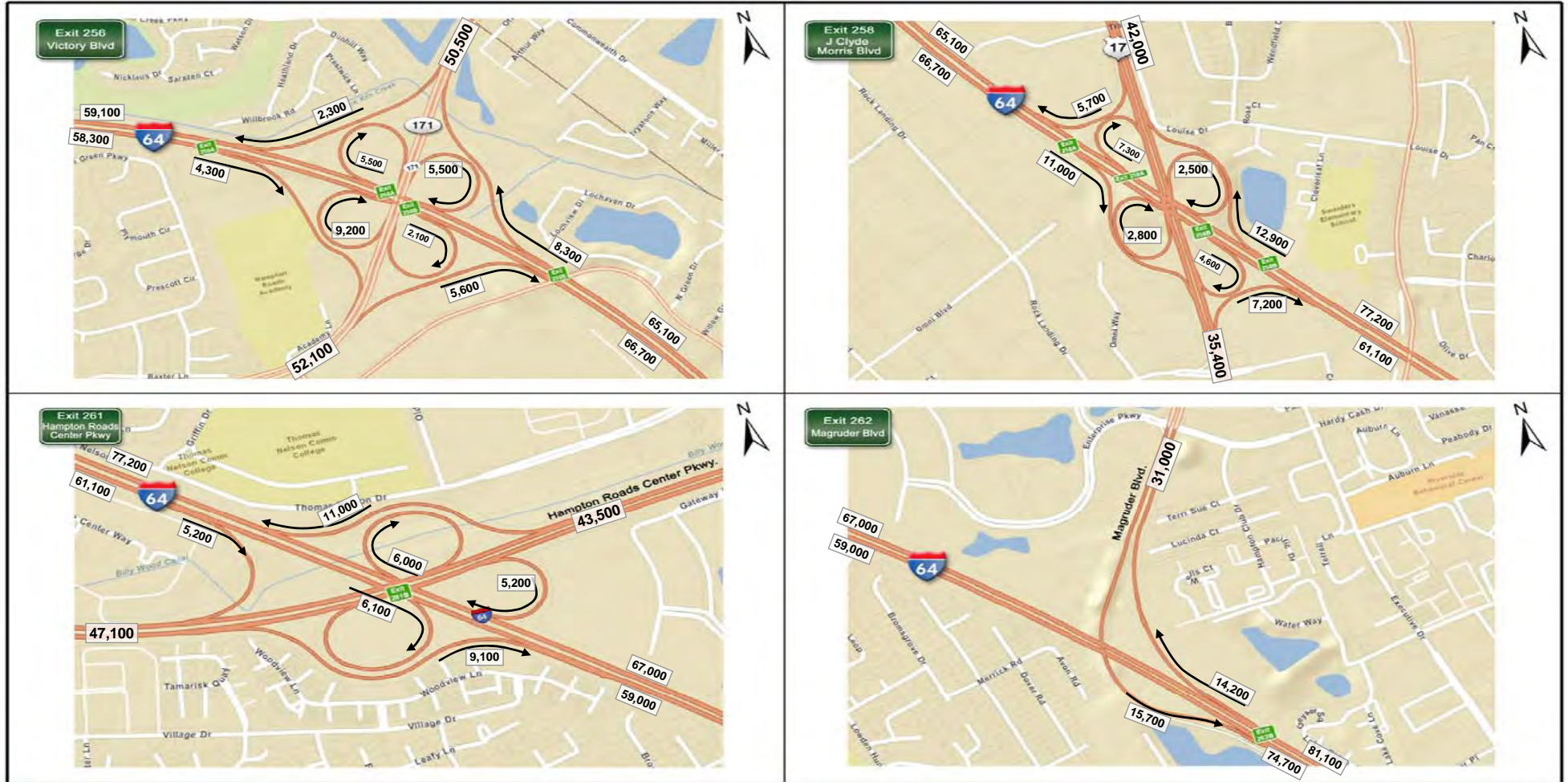


FIGURE 3: ADT Volumes
Base Year (2011) Balanced Volumes
Sheet 6 of 7

Note: Due to rounding, some volumes do not balance exactly.

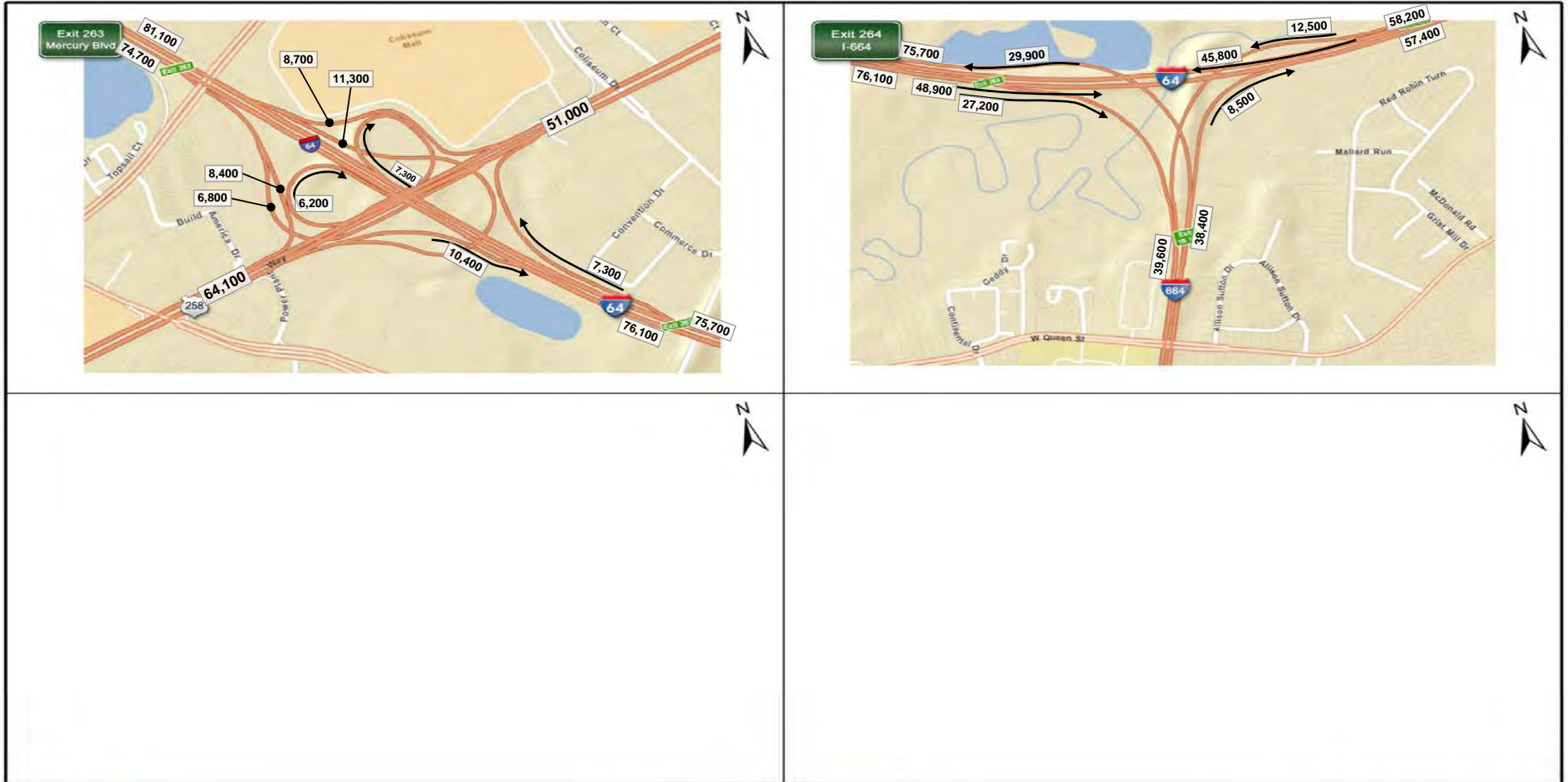


FIGURE 3: ADT Volumes
Base Year (2011) Balanced Volumes
Sheet 7 of 7

Note: Due to rounding, some volumes do not balance exactly.

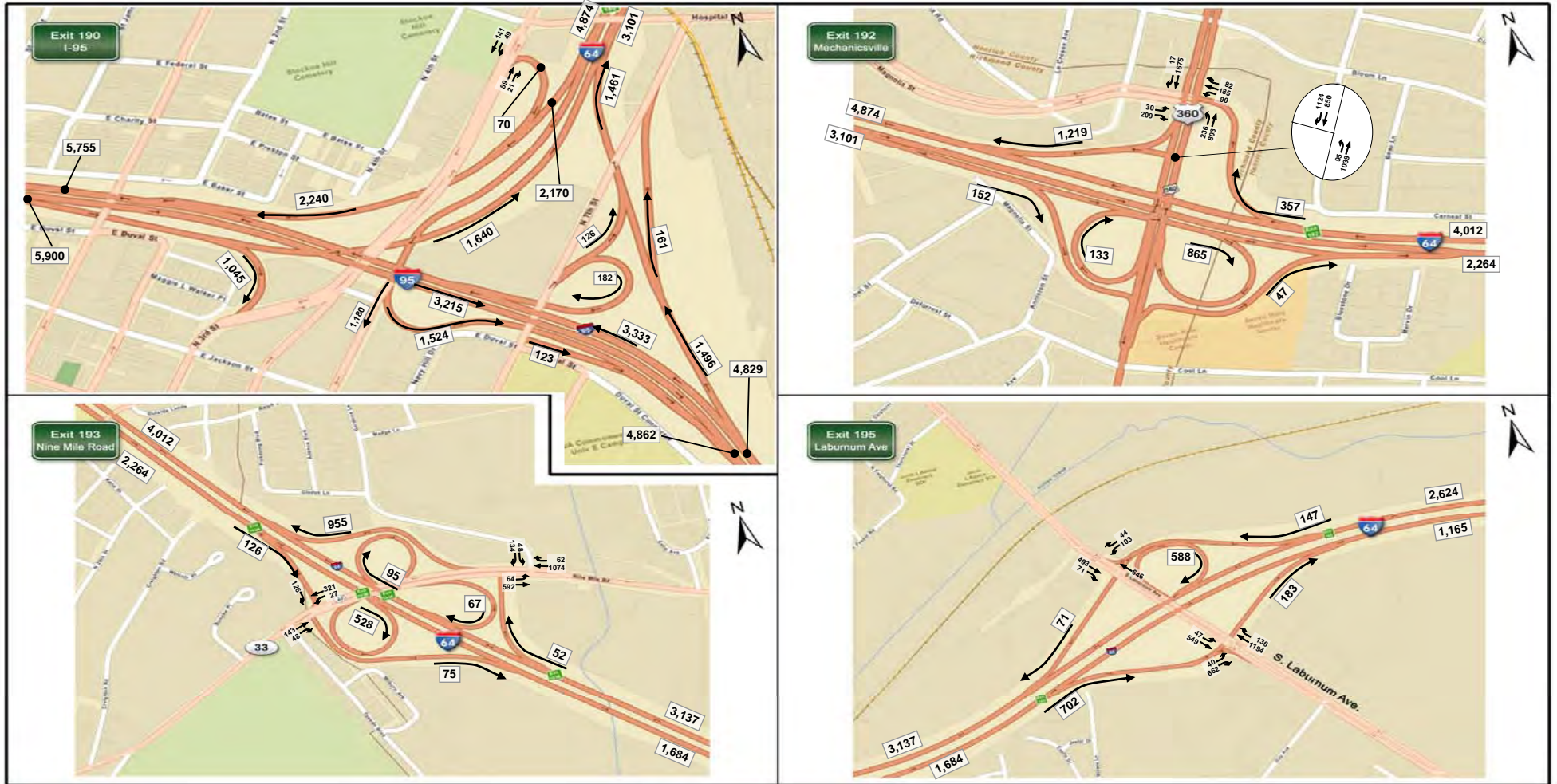


FIGURE 1: AM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 1 of 7

Note: Due to rounding, some volumes do not balance exactly.

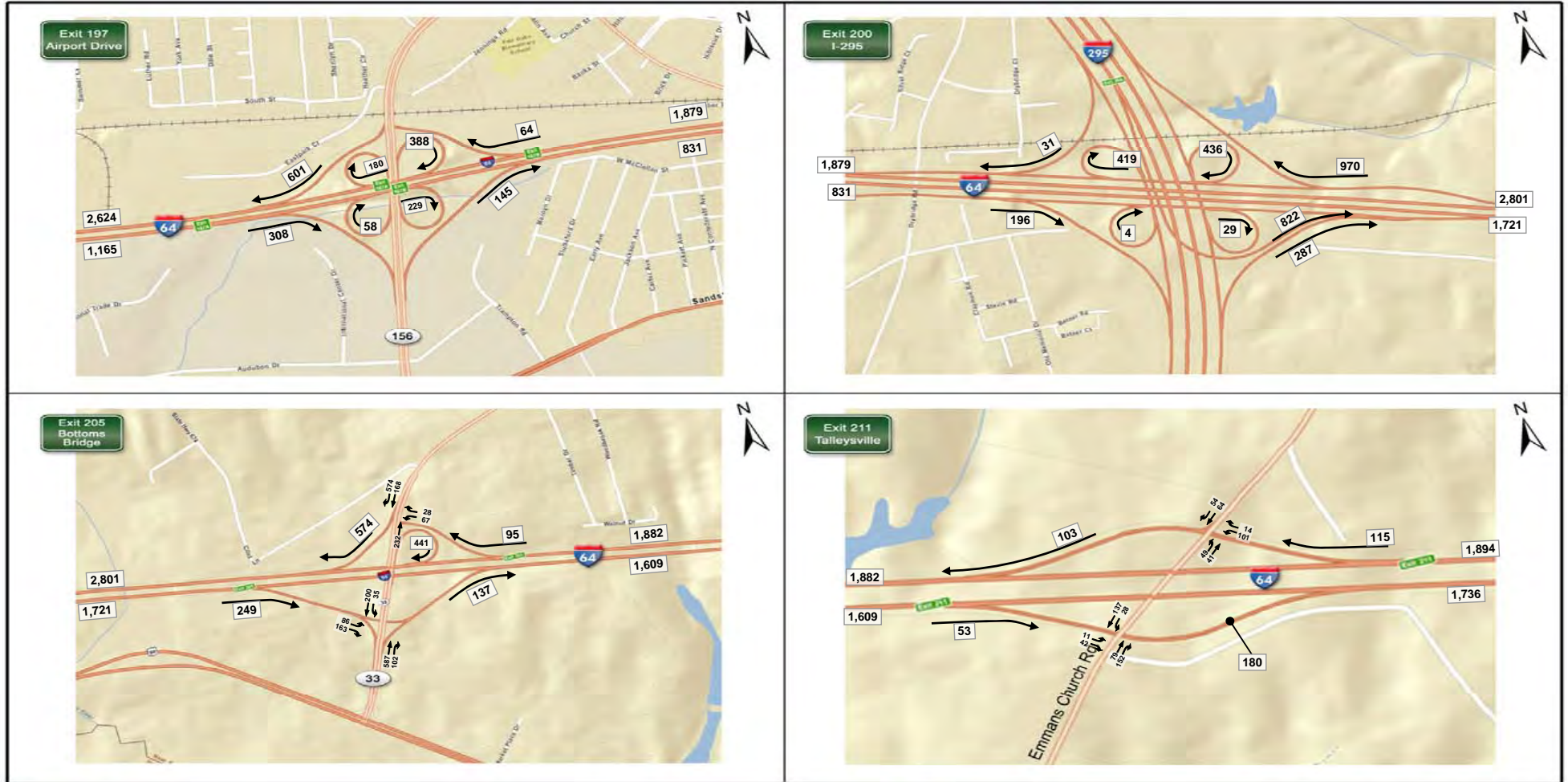


FIGURE 1: AM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 2 of 7

Note: Due to rounding, some volumes do not balance exactly.

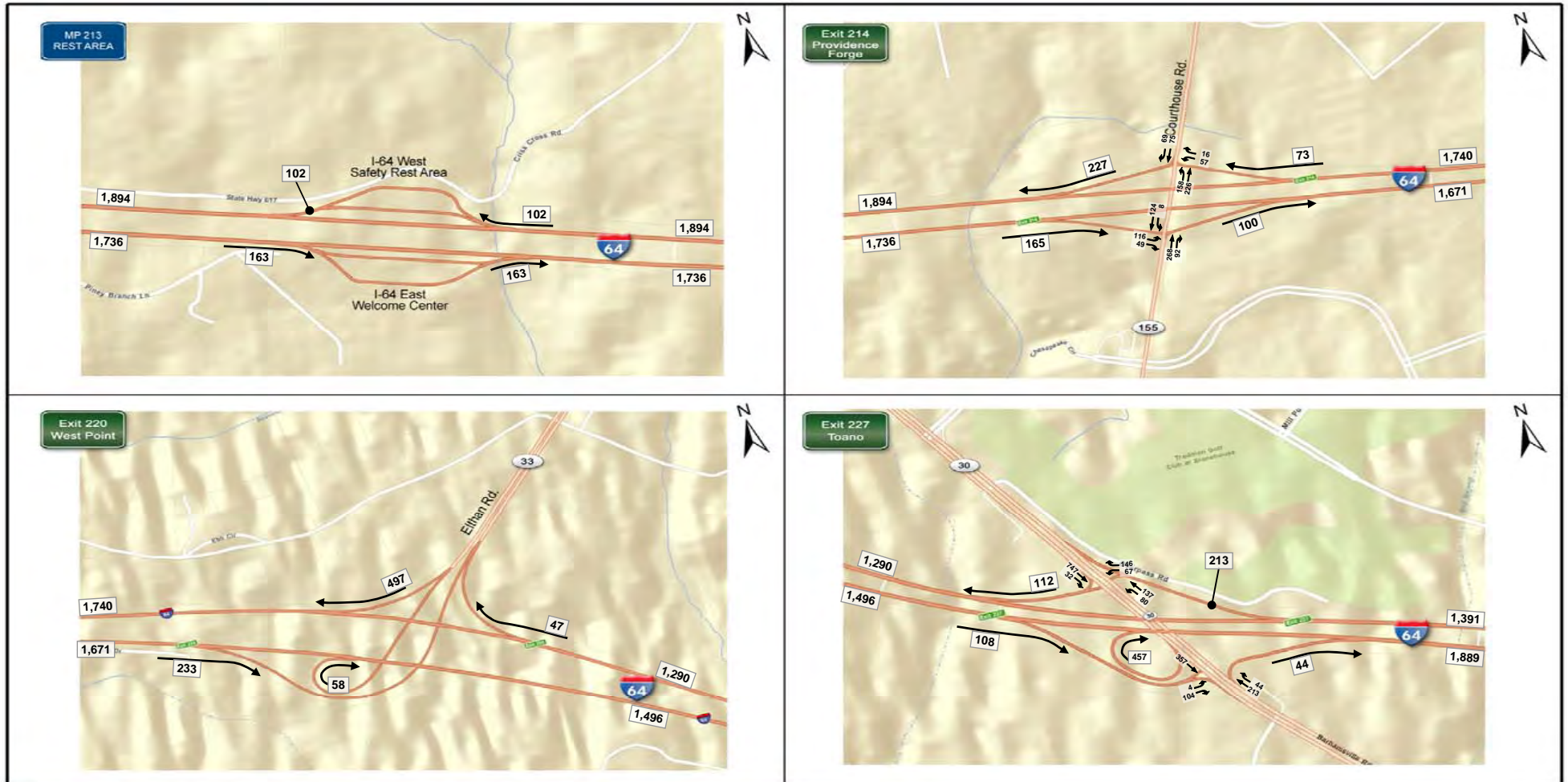


FIGURE 1: AM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 3 of 7

Note: Due to rounding, some volumes do not balance exactly.

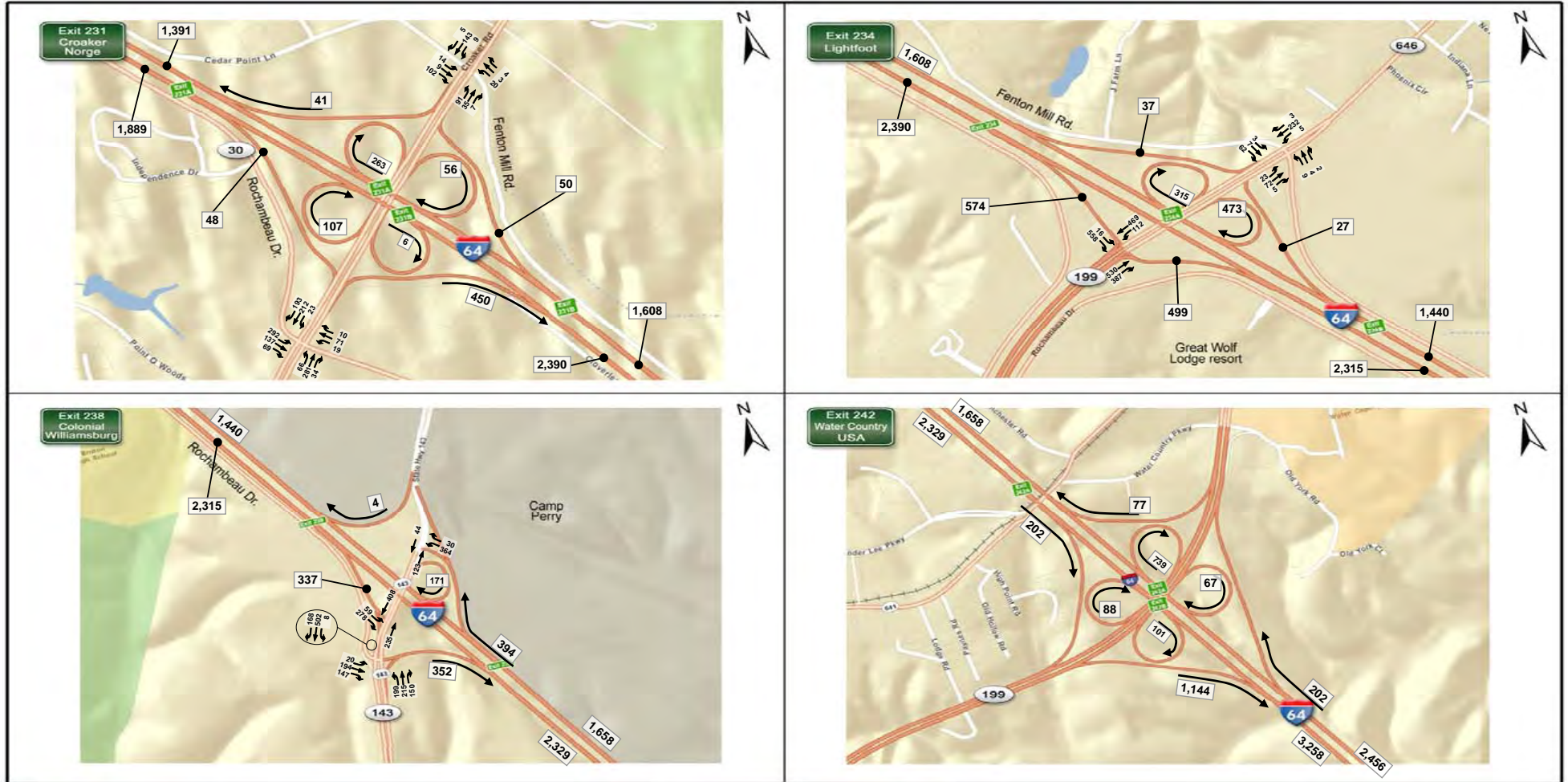


FIGURE 1: AM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 4 of 7

Note: Due to rounding, some volumes do not balance exactly.

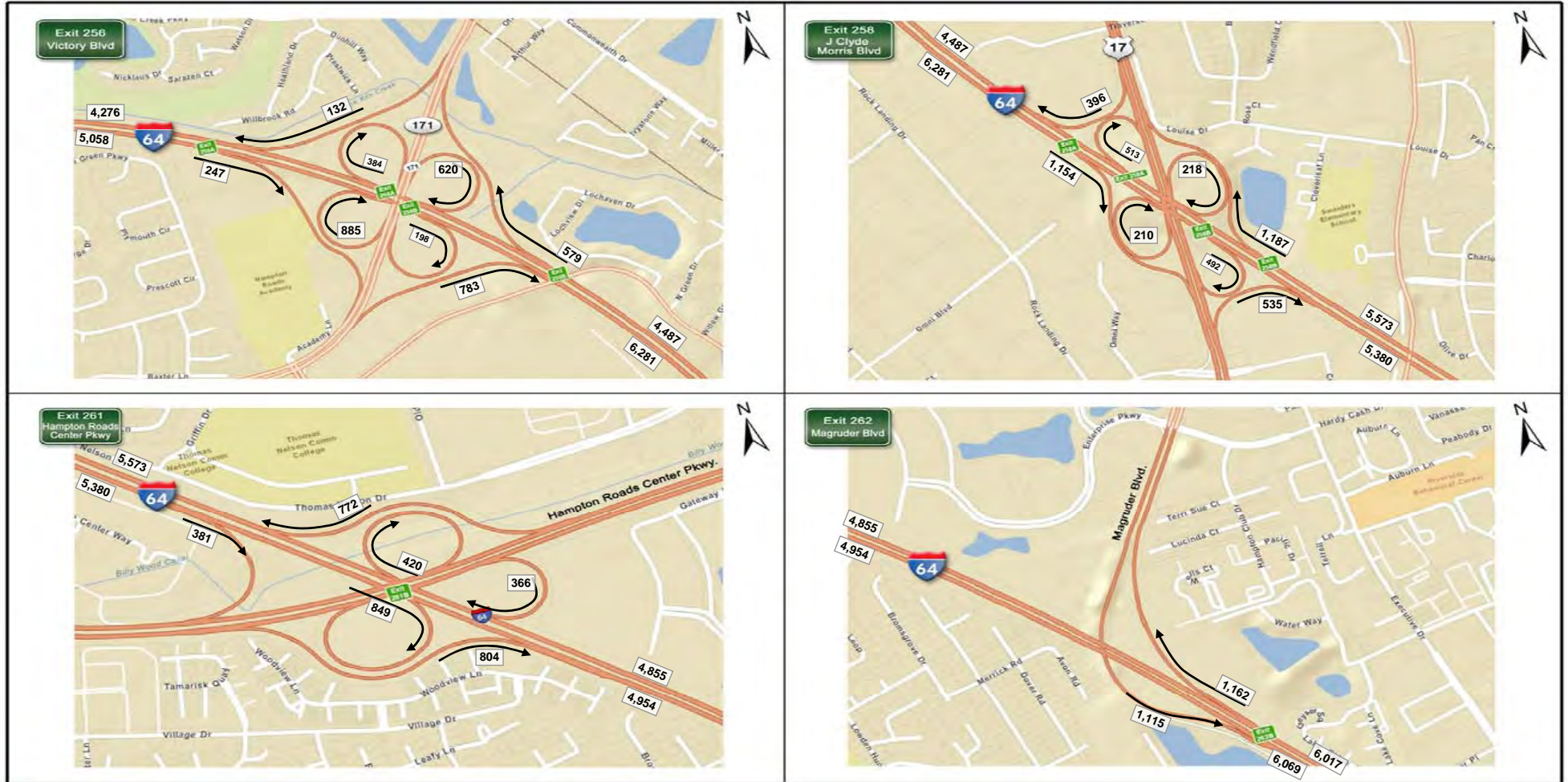


FIGURE 1: AM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 6 of 7

Note: Due to rounding, some volumes do not balance exactly.

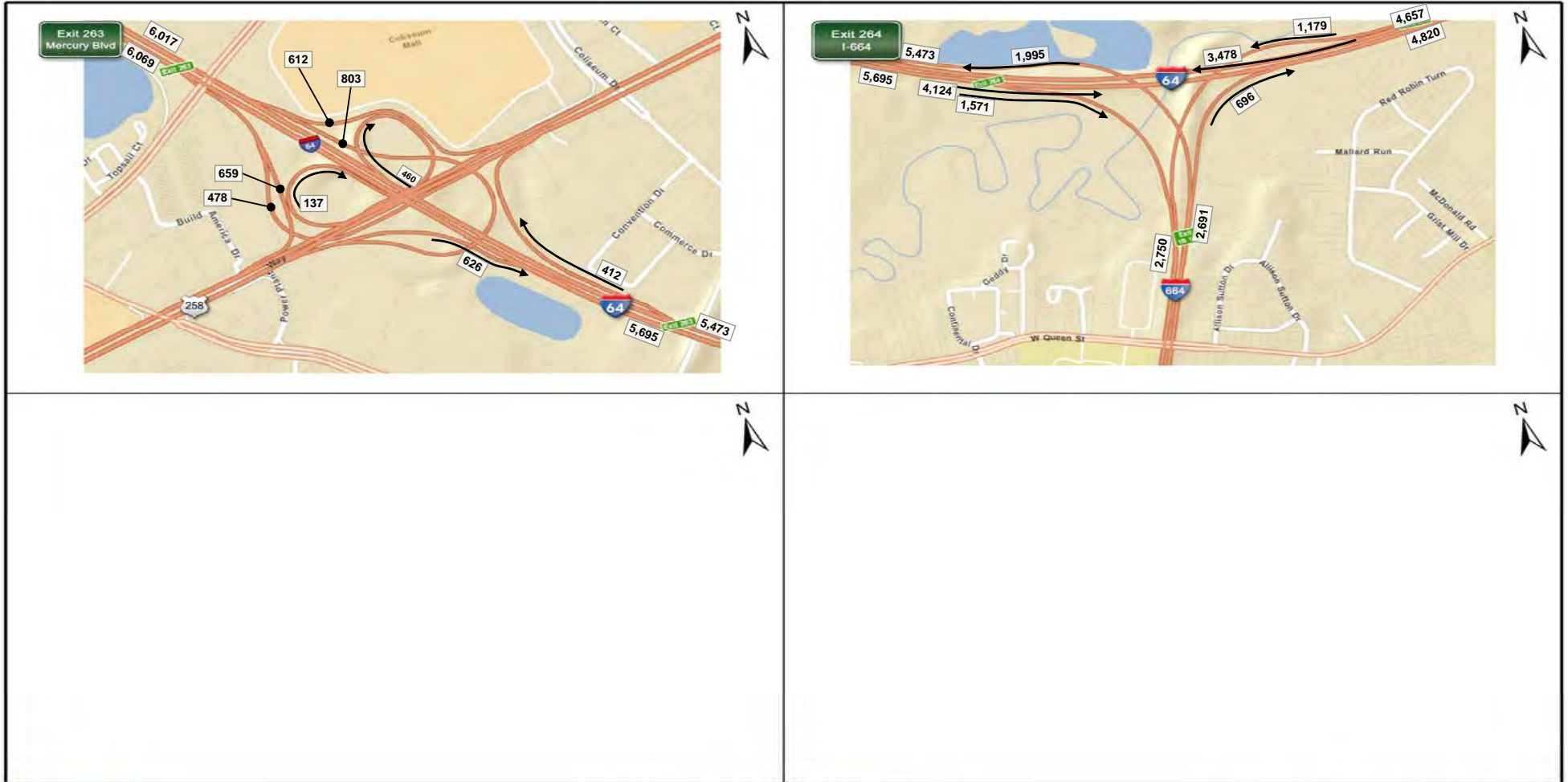


FIGURE 1: AM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 7 of 7

Note: Due to rounding, some volumes do not balance exactly.

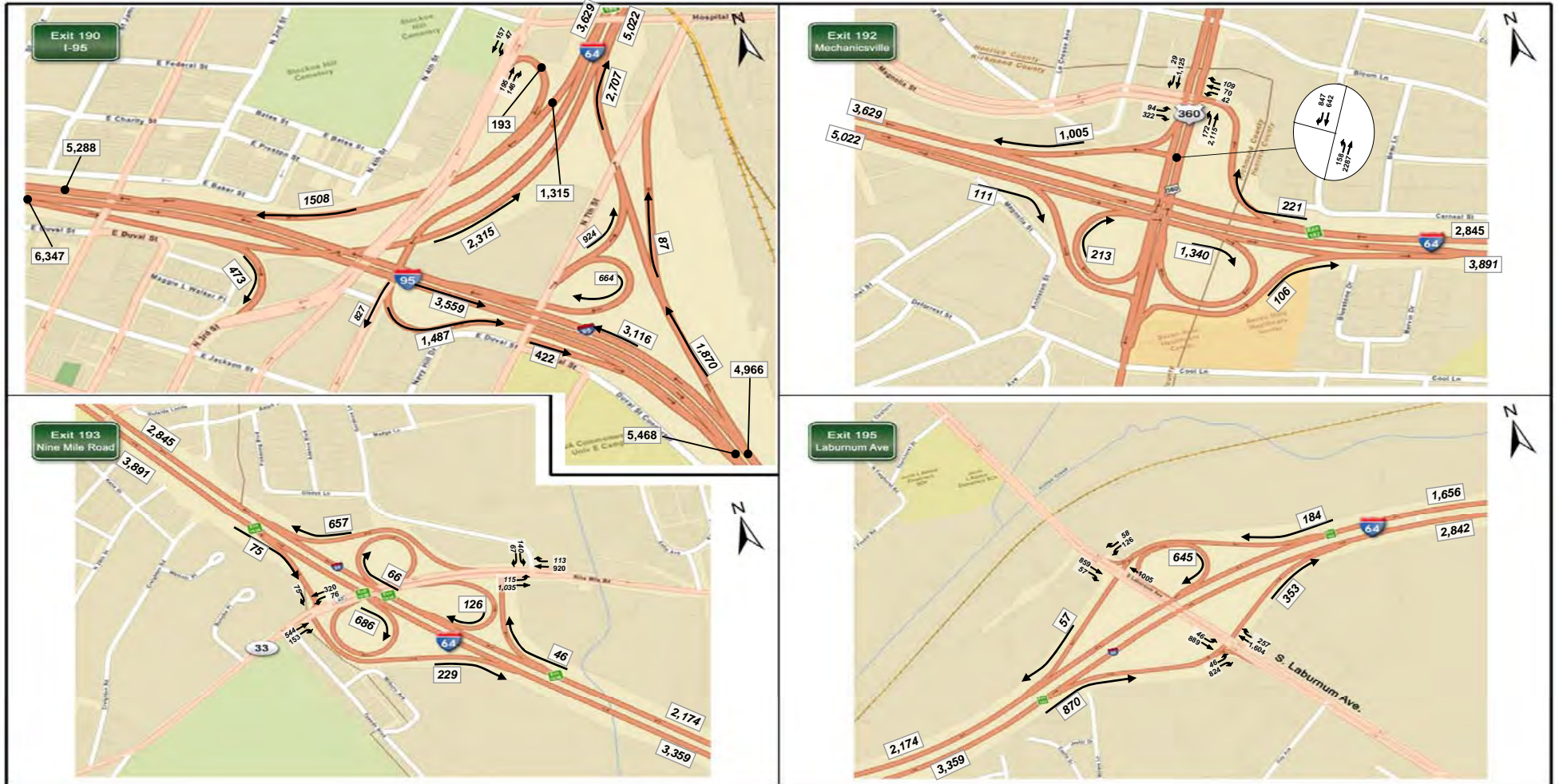


FIGURE 2: PM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 1 of 7

Note: Due to rounding, some volumes do not balance exactly.

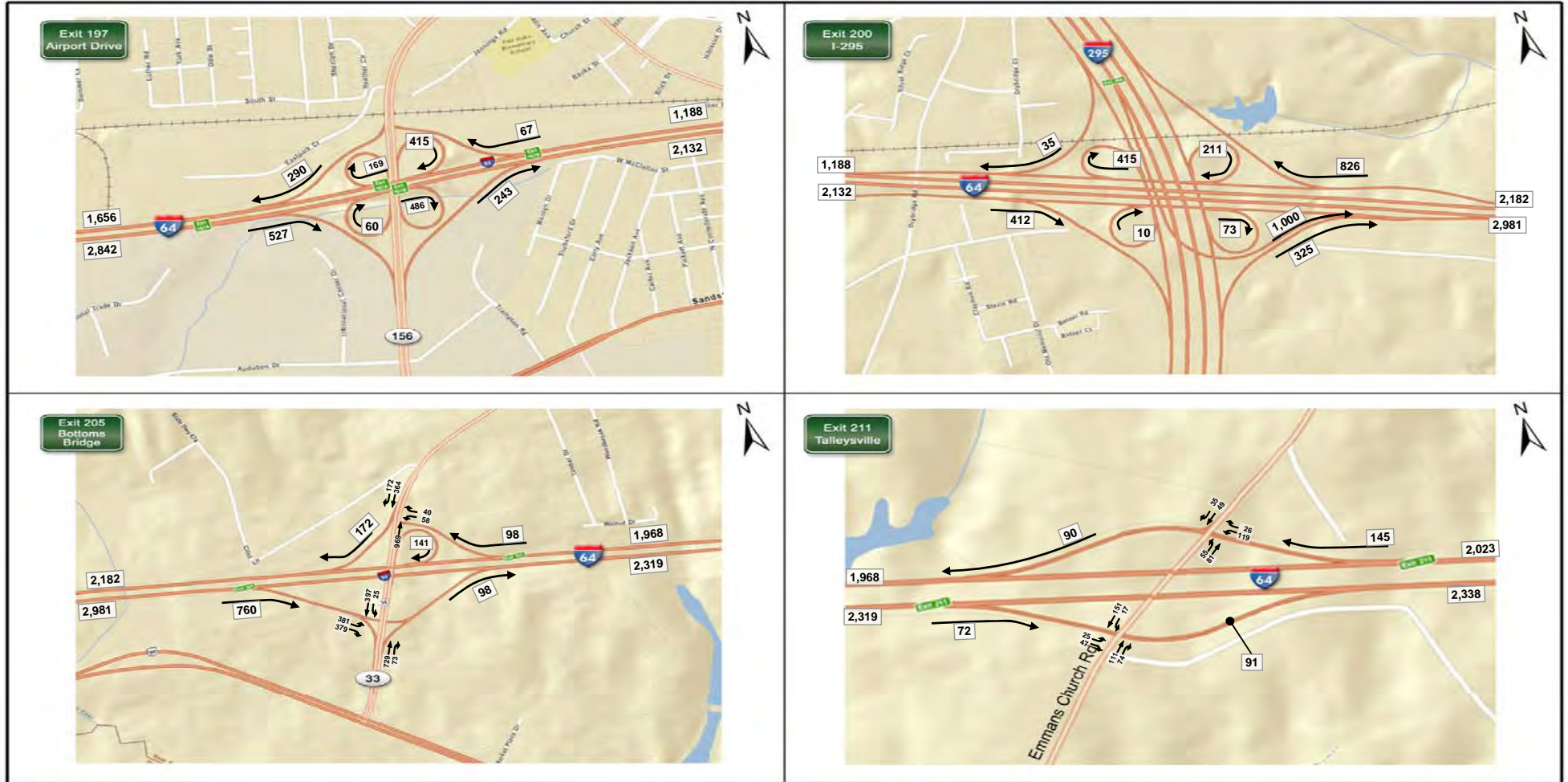


FIGURE 2: PM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 2 of 7

Note: Due to rounding, some volumes do not balance exactly.

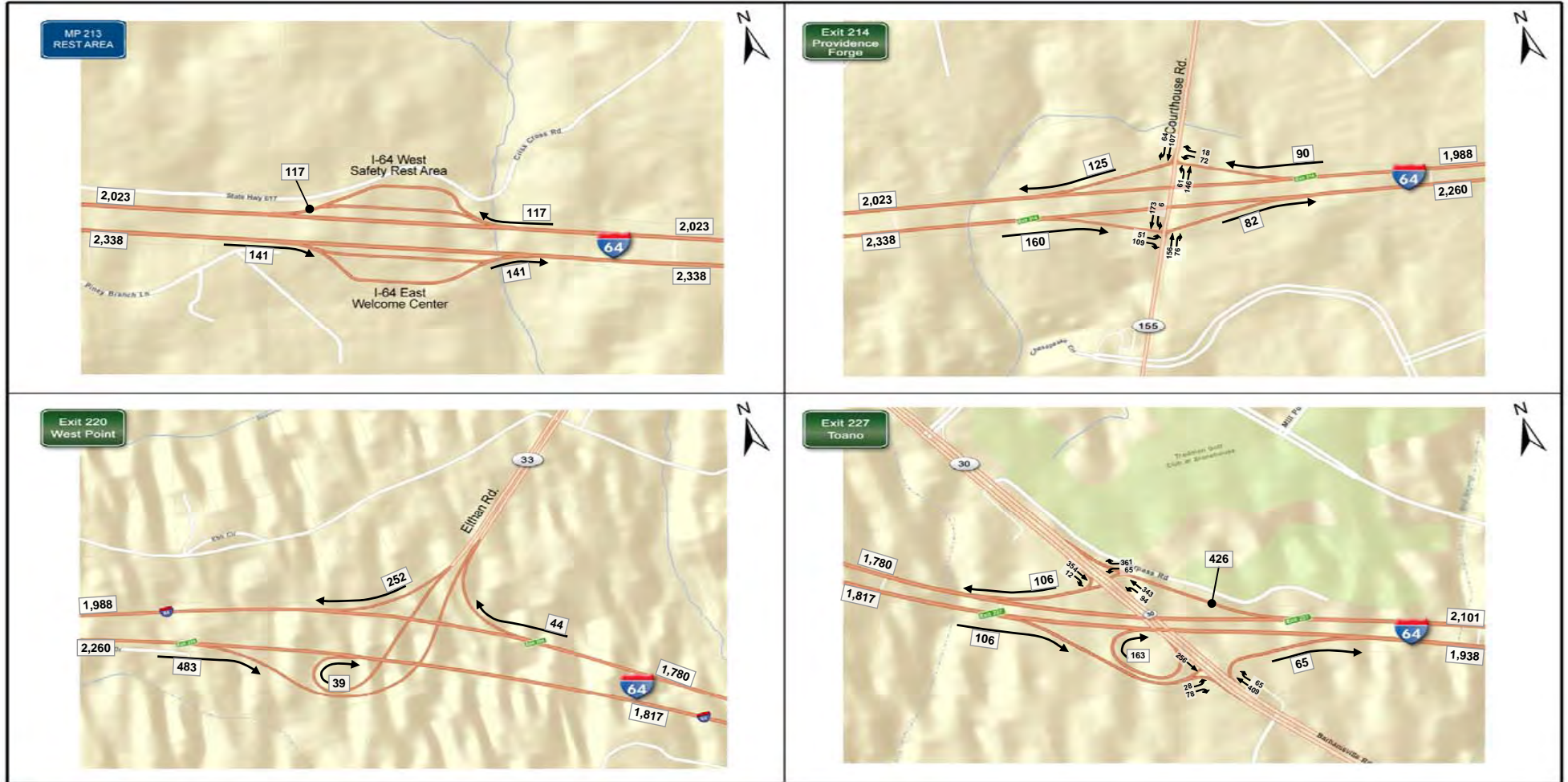


FIGURE 2: PM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 3 of 7

Note: Due to rounding, some volumes do not balance exactly.

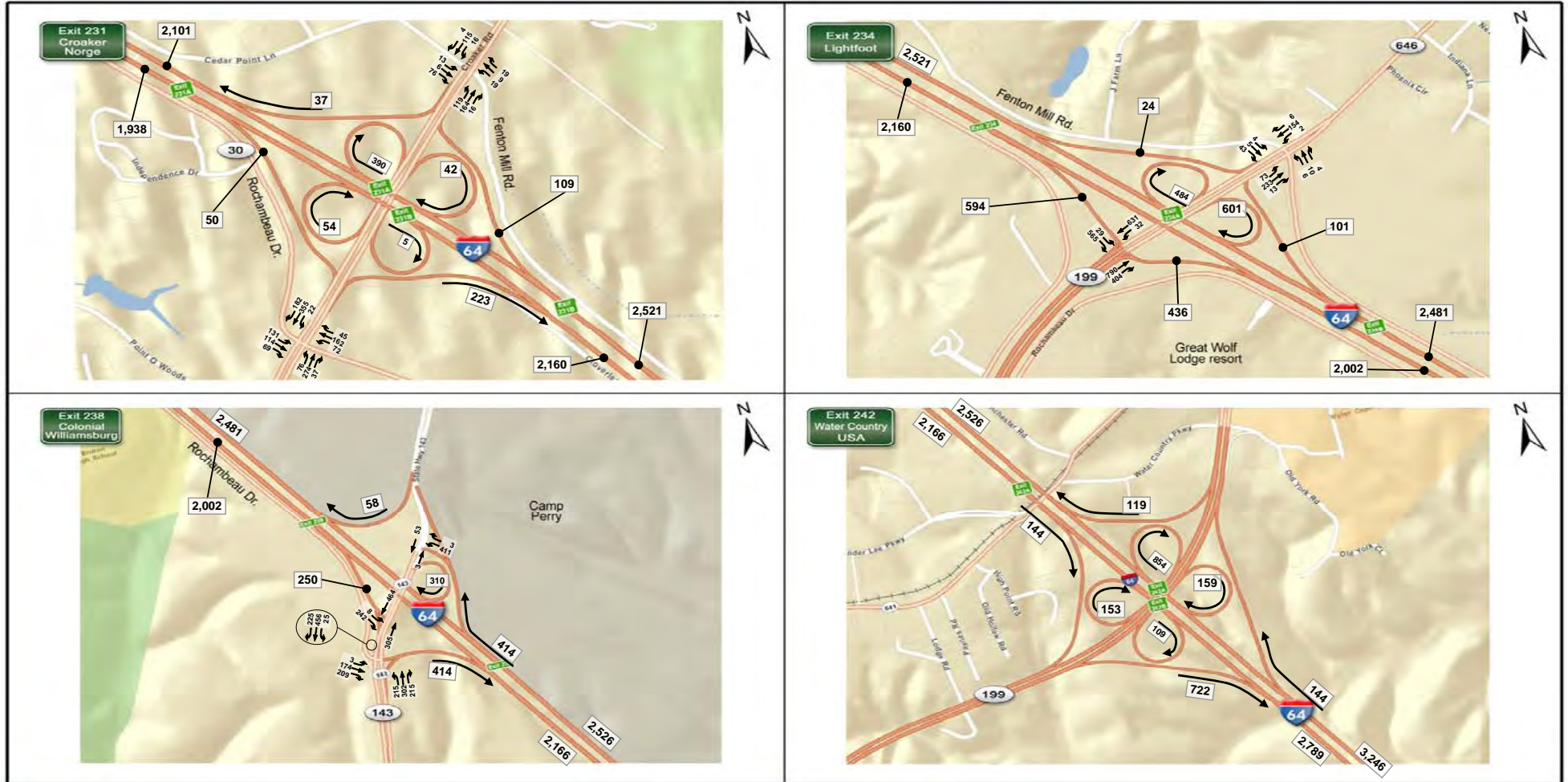


FIGURE 2: PM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 4 of 7

Note: Due to rounding, some volumes do not balance exactly.

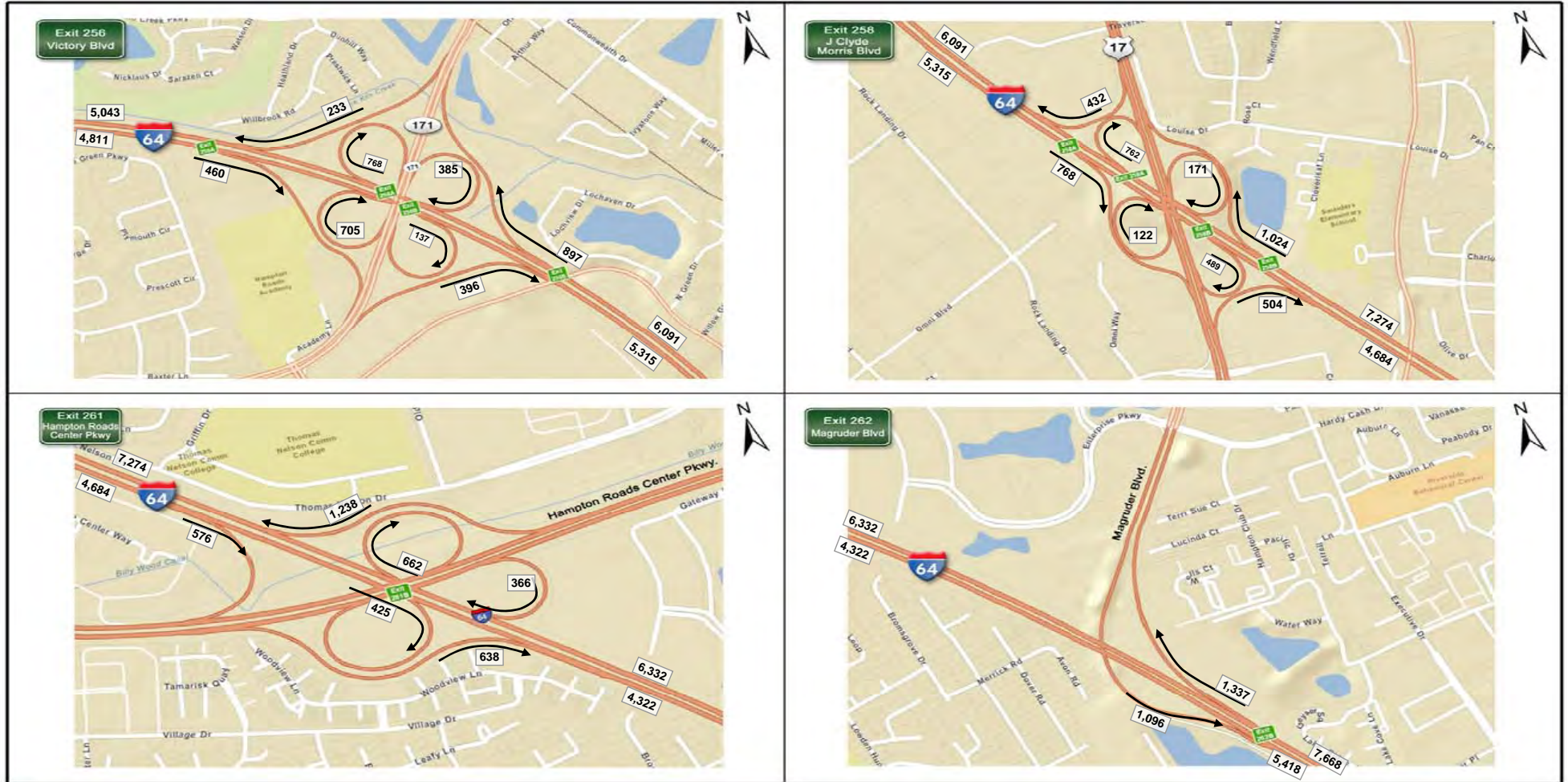


FIGURE 2: PM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 6 of 7

Note: Due to rounding, some volumes do not balance exactly.

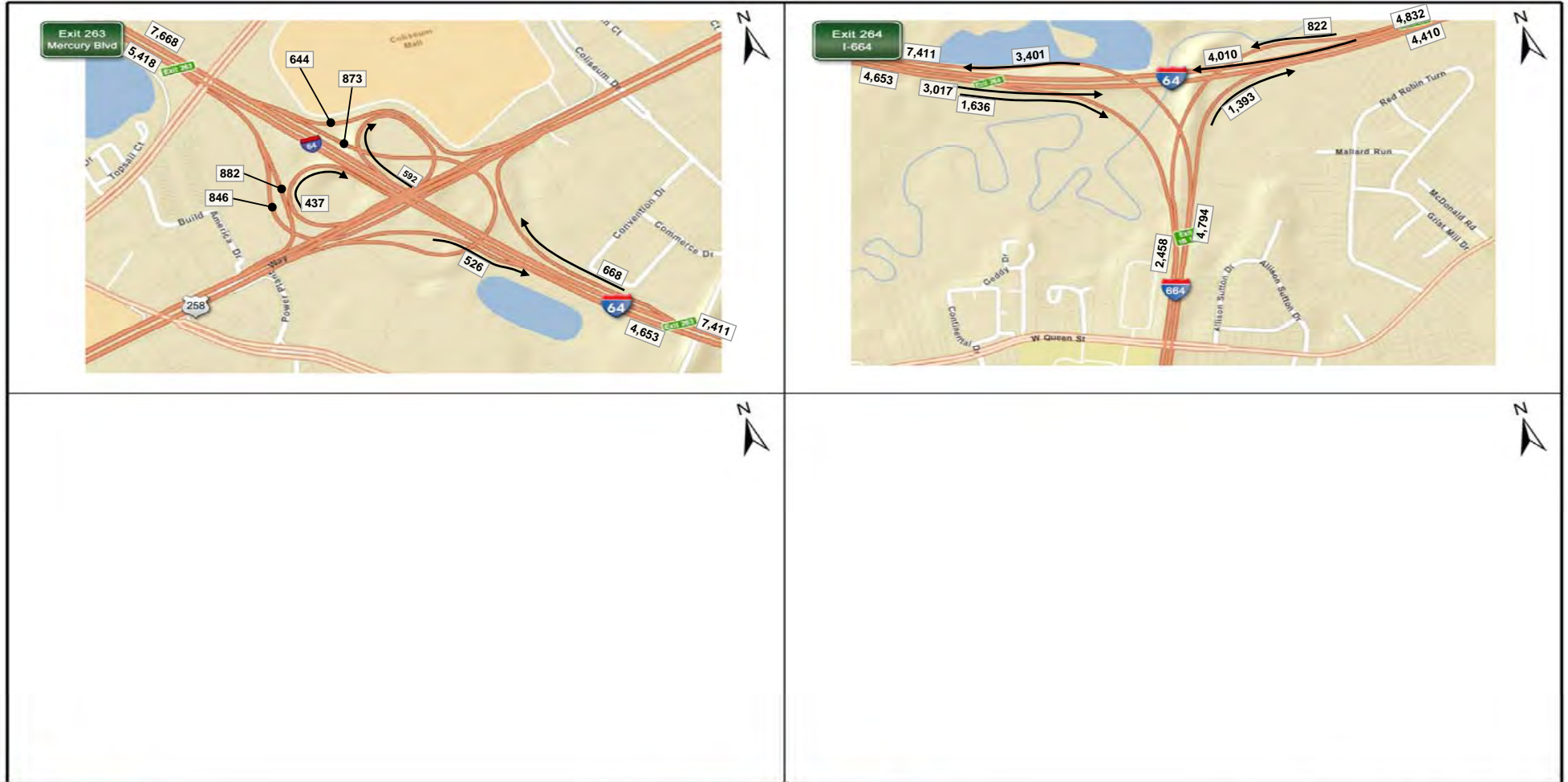


FIGURE 2: PM Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 7 of 7

Note: Due to rounding, some volumes do not balance exactly.

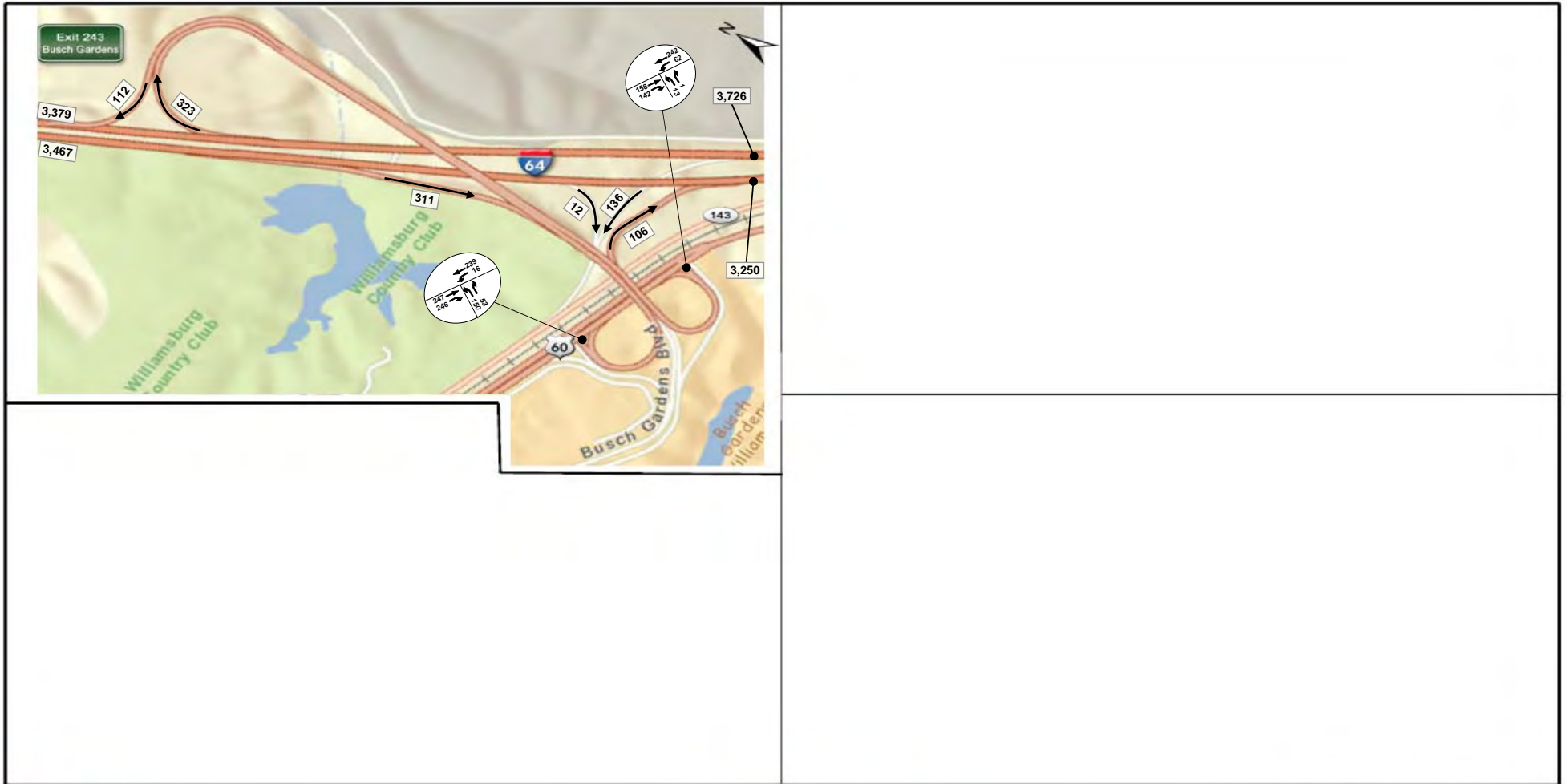


FIGURE 4: Summer SAT Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 2 of 2

Note: Due to rounding, some volumes do not balance exactly.

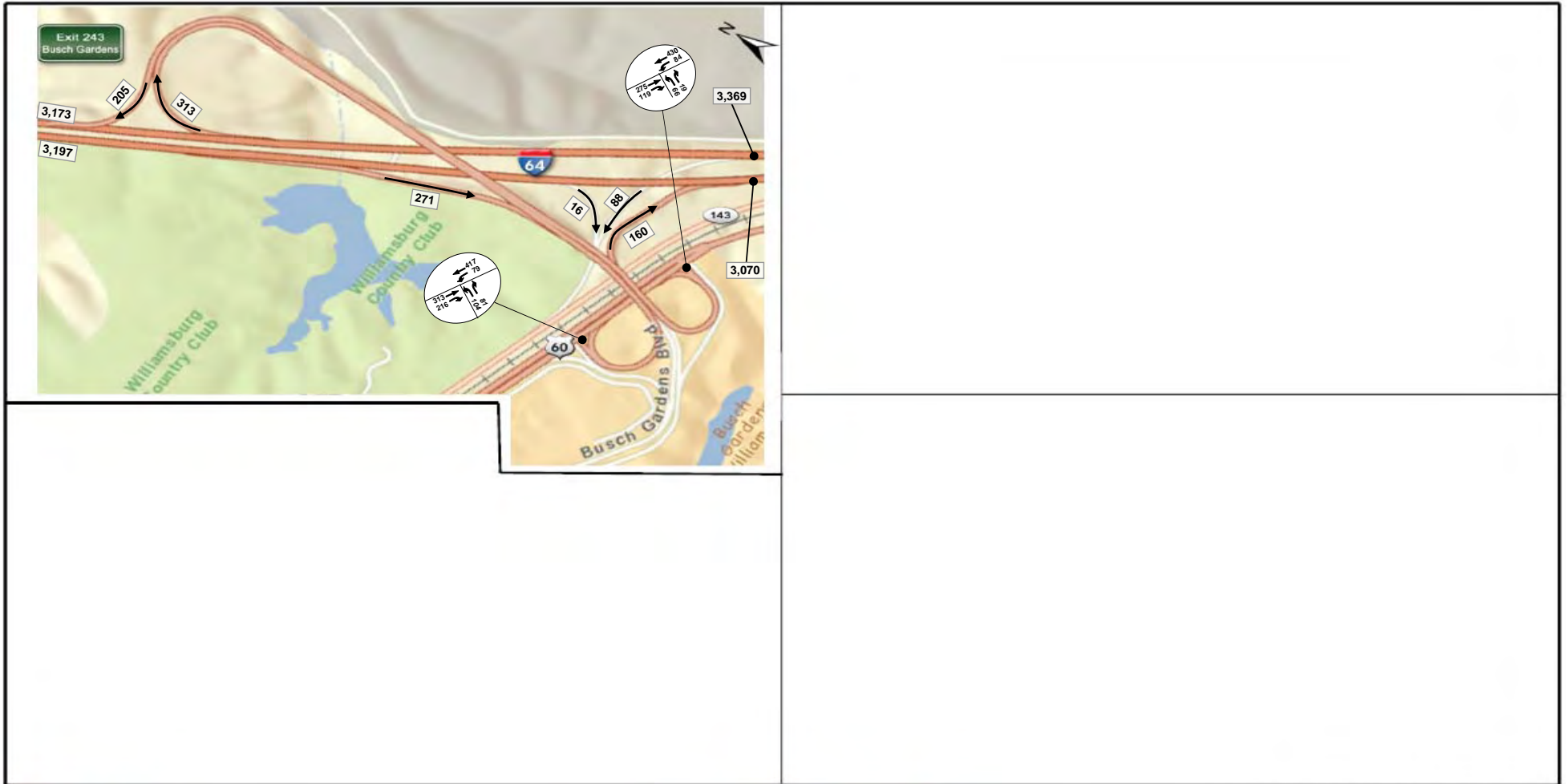


FIGURE 5: Summer SUN Peak Hour Volumes
Base Year (2011) Balanced Volumes
Sheet 2 of 2

Note: Due to rounding, some volumes do not balance exactly.

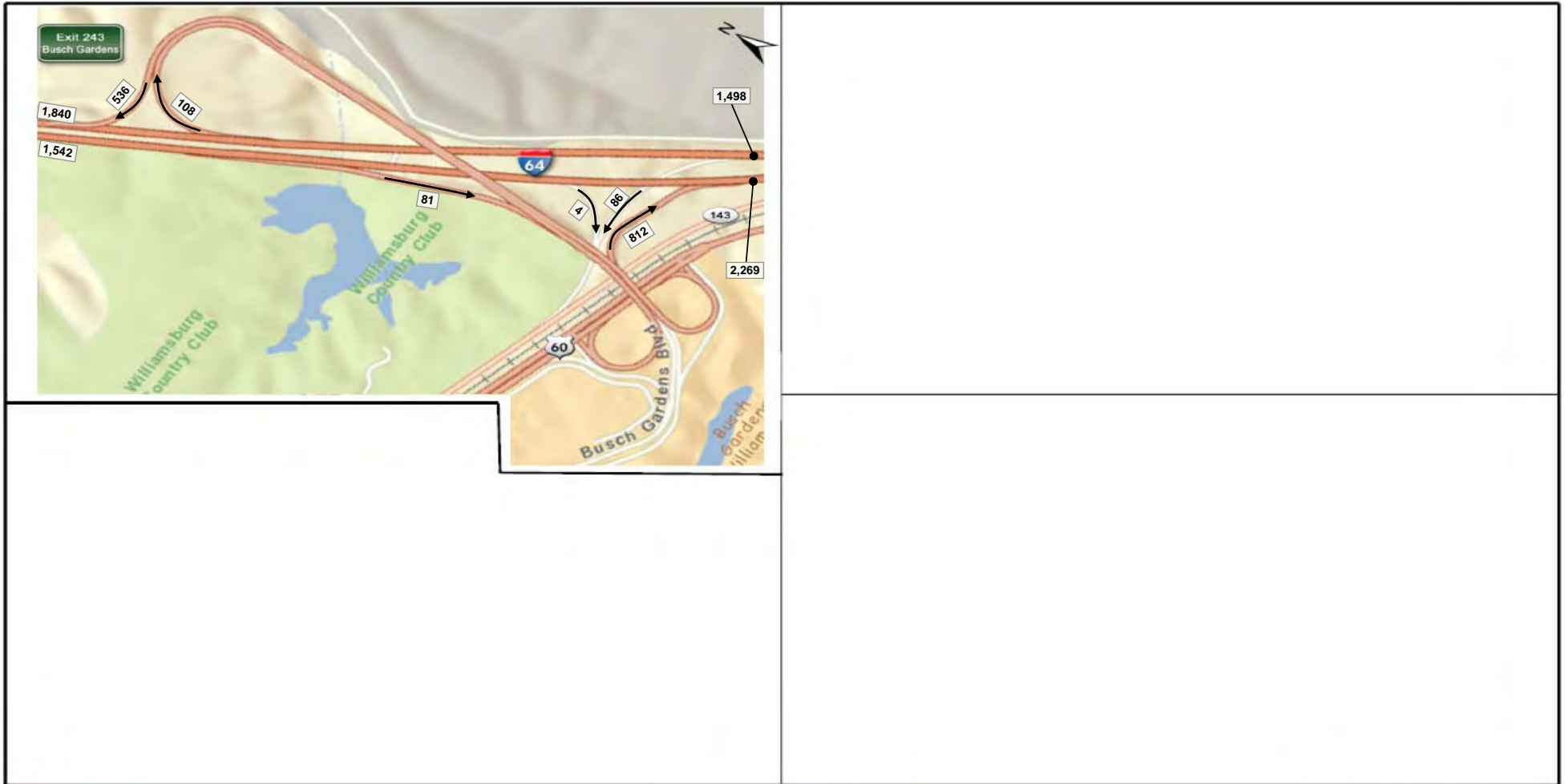


FIGURE 6: Summer SAT NIGHT Peak Hour Volumes

Note: Due to rounding, some volumes do not balance exactly.

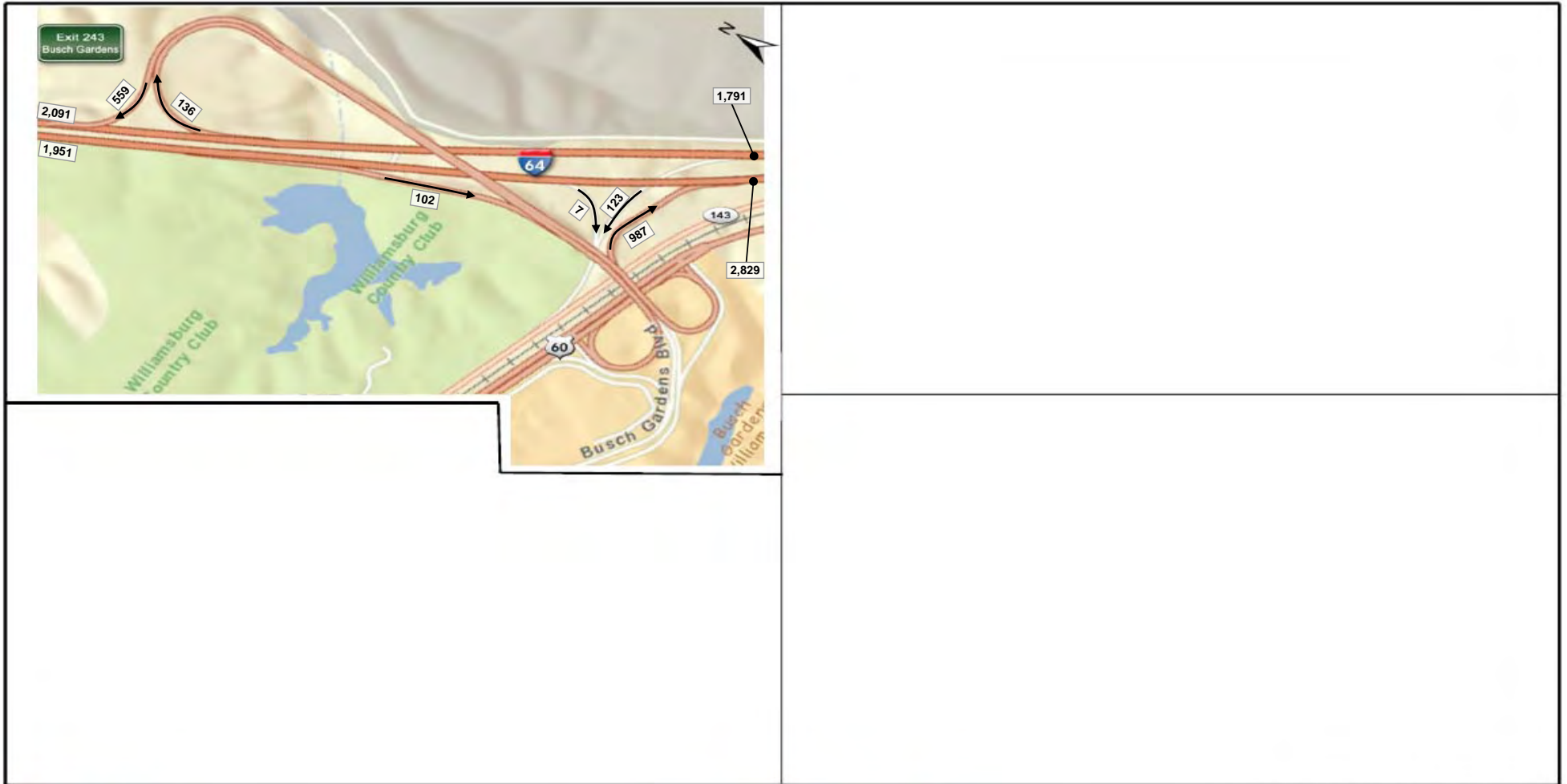
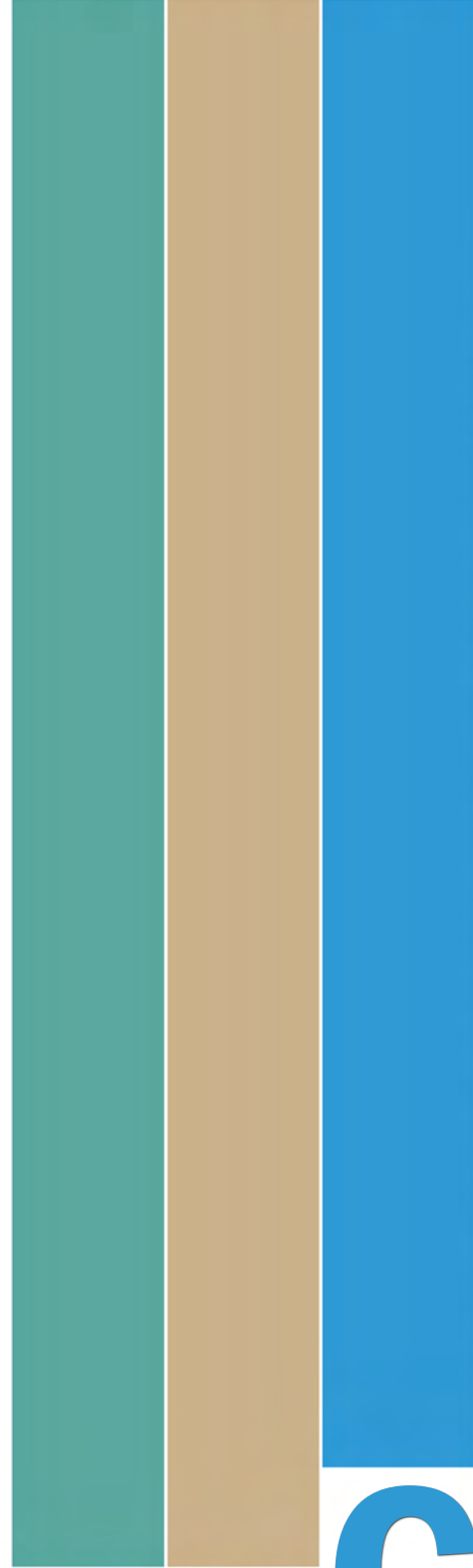


FIGURE 7: Summer SUN NIGHT Peak Hour Volumes

Note: Due to rounding, some volumes do not balance exactly.



Existing Conditions Capacity Analysis Methodology Technical Memo

MEMORANDUM

TO: FILE

FROM: Marc Lipschultz - McCormick Taylor, Inc.

DATE: 8/17/11
REVISED 10/17/11

SUBJECT: Existing Conditions Capacity Analysis Methodology

Level of Service (LOS) analyses for this study was conducted for both AM and PM peak hour conditions for the entire corridor between Exit 190 in Richmond and Exit 264 in Hampton. In addition, LOS analysis was conducted for Saturday and Sunday summer peak hour conditions at certain summer traffic-intensive interchanges near the major tourism interchanges along the corridor.

Analyses adhere to the methodology of the *2010 Highway Capacity Manual (HCM)*, and we utilized the companion software HCS 2010. These operational analyses include several types of facilities:

- Basic Freeway Segments
- Ramp Merges & Diverges
- Weaving Segments
- Signalized Intersections
- Unsignalized Intersections

Analyses for each of these types of facilities depend on numerous parameters relating to the configuration of the facility, the geometric and traffic control conditions, and the characteristics of the traffic stream. Inputs for many of the parameters are based on collected data, while others are assumed for the purpose of analysis. The purpose of this memo is to describe the inputs and assumptions used in the development of this capacity analysis.

Basic Freeway Segments

Geometric Inputs

- A Base Free Flow Speed of 75.4 mph was assumed (based on the default parameters of the HCM) and then adjusted using HCM procedures according to geometric factors including lane width, right lane lateral clearance, and interchange spacing.
- Number of Lanes
 - Note: There are HOV lanes at eastern end of the study limits, which lead to skewed lane utilization and reduced capacity that is not accounted for by traditional HCM methodology. To address this for the purpose of analysis, we assumed a certain percentage of through

traffic used the HOV lane, then we inputted one less freeway lane and removed that percentage of the volume.

- The percentages used were based on data provided by VDOT from counts done at the I-64 HOV lanes near the J Clyde Morris Blvd interchange in October 2010, as follows:
 - Eastbound during AM peak hour: 7%
 - Westbound during AM peak hour: 4%
 - Eastbound during PM peak hour: 5%
 - Westbound during PM peak hour: 8%
- LOS in the HOV lanes was estimated using the v/c ratio, with an assumed capacity of a single-lane HOV lane at 1800 pcph. Note that the existing volumes in the HOV lanes are well below that.
- Lateral Clearance: right-side lateral clearance varies from approx. 4 feet (between Exit 190 and Exit 192) to 6+ feet throughout the rest of the corridor
- Lane Width: is generally 12 feet throughout the entire corridor, with the exception of the section between Exit 190-192 (the Shockoe Valley Bridge) which is 11 feet
- Ramp Density: calculated separately for each segment
- Level terrain type through the entire corridor
- Driver population adjustment factor
 - For weekday AM and PM peak hour analysis, we used a 1.0 adjustment factor since the I-64 corridor serves a lot of commuter traffic, especially in the sections west of I-295 and east of Williamsburg.
 - For the summer Saturday and Sunday peak hour analysis, we used a 0.85 adjustment factor to account for the significant volumes of tourist traffic going to the Northern Neck, Williamsburg, and/or Virginia Beach.

Volume Inputs

- Peak Hour Volumes based on balanced 2011 Base Traffic Volumes
- Heavy Vehicle Percentages
 - Used actual data for mainline segments with available classification data, designating heavy vehicles as those in Class 6 and above.
 - To address segments where classification data was not available, we grouped the corridor into sections and applied the nearest known heavy vehicle percentage to all mainline segments with that section, as shown in the attached table.
 - Assumed all heavy vehicles are trucks and buses (0% recreational vehicles)
- Peak Hour Factor – based on the default assumptions of the 2010 HCM
 - 0.95 for urban areas (Exits 190-200 and 242-264)
 - 0.88 for rural areas (Exits 205-238)

Ramp Merge/Diverges and Weaving Segments

Geometric Inputs

- Ramp free-flow speeds:
 - C-D roads = 55 mph
 - Diamond interchange or other straight ramps = 45 mph
 - Loop ramps = 35 mph

- Adjacent freeway free-flow speeds:
 - Exit 190 through Exit 195 = 65 mph
 - Exit 197 through Exit 263 = 70 mph
 - Exit 264 = 65 mph
- Number of Lanes
 - Note: There are HOV lanes at eastern end of the study limits, which lead to skewed lane utilization and reduced capacity that is not accounted for by traditional HCM methodology. To analyze ramp merges/diverges/weaves within the sections of the corridor that have HOV lanes, we assumed a certain percentage of mainline through traffic used the HOV lane, then we inputted one less freeway lane and removed that percentage of the volume. Those percentages are listed above in the discussion on freeway segment analysis.
- Accel/decel and weaving segment lengths are based on base mapping assembled by McCormick Taylor
- Level terrain type through the entire corridor
- Driver population adjustment factor
 - For weekday AM and PM peak hour analysis, we used a 1.0 adjustment factor since the I-64 corridor serves a lot of commuter traffic, especially in the sections west of I-295 and east of Williamsburg.
 - For the summer Saturday and Sunday peak hour analysis, we used a 0.85 adjustment factor to account for the significant volumes of tourist traffic going to the Northern Neck, Williamsburg, and/or Virginia Beach.
- Minimum Weaving Segment Speed = 15 mph (HCS default)
- Interchange Density: calculated separately for each weaving segment
- Weaving segments on multilane Collector-Distributor (C-D) roads (for example, at Exit 200) are analyzed the same as weaving sections on freeways.
- There is one single-lane C-D road at Exit 192/Mechanicsville Turnpike that cannot be analyzed using traditional HCM methodology. We approximated the weaving capacity at this location by analyzing it as a weave onto a two lane freeway with 105% more volume than what is actually there. That percentage is based on the HCM default assumption that 52.5% of traffic uses any one lane where there are two lanes in that direction.
- In addition to the interchanges directly on I-64, merges/diverges/weaves were also analyzed at the US Route 60 & Busch Gardens Blvd interchange

Volume Inputs

- Peak Hour Volumes based on balanced 2011 Base Traffic Volumes
- For weaving segments within the same interchange, we assumed zero ramp-to-ramp volume
- For weaving segments between two closely-spaced interchanges, we assumed a ramp-to-ramp volume of roughly 10% of the on-ramp volume, except for the weaving section between Exits 263-264. The remaining 90% of the on-ramp volume would stay on the freeway. Those percentages are based on engineering judgment.
 - It is anticipated that there is considerably higher weaving volumes between Exit 263 (Mercury Blvd) and Exit 264 (I-664). We are in the

process of further investigating other sources of data as to what might be the weaving percentages at this location.

- **Heavy Vehicle Percentages**
 - Used actual data for any facilities (ramps and adjacent freeway segments) that had available heavy vehicle data. Sources of this data include VDOT ramp counts (Exits 205-231), manual ramp counts (Exits 200 and 264), ramp termini intersection counts, and mainline segments with available classification data.
 - To address any facility where actual heavy vehicle data was not available, we applied the previously developed section-by-section mainline heavy vehicle percentage to both the adjacent freeway segment and the ramp.
 - Assumed all heavy vehicles are trucks and buses (0% recreational vehicles)
- **Peak Hour Factor – based on the default assumptions of the 2010 HCM**
 - 0.95 for urban areas (Exits 190-200 and 242-264)
 - 0.88 for rural areas (Exits 205-238)

Unsignalized and Signalized Intersection Analyses

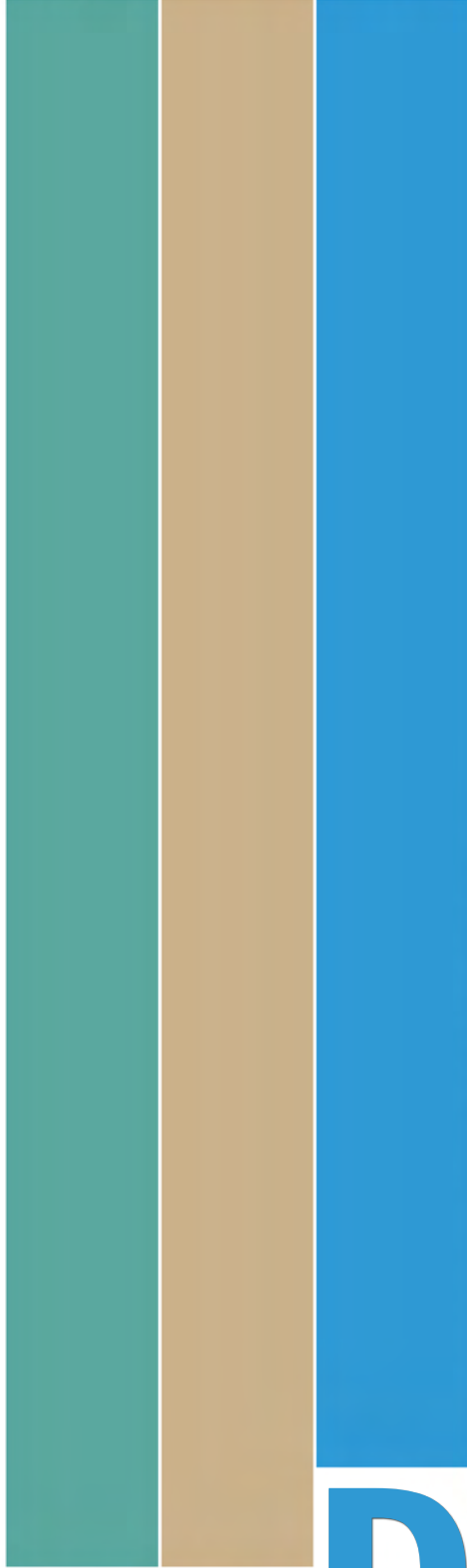
- A list of intersections included in the analysis is included with this memo. This list was assembled at the onset of the project. Generally, all intersections at the ramp termini were included in the study. At certain interchanges, intersections in close proximity to the interchange were also included since the operations at those intersections would likely affect operations at the interchanges itself.
- Peak Hour Volumes based on balanced 2011 Base Traffic Volumes
- PHF and truck %s are based on actual count data
- All lane widths = 12 feet
- Arrival Type 3 on all approaches
- No buses or parking activity
- No bicycle or pedestrian activity
- Upstream Filtering Adjustment Factor = 1.0
- In the absence of specific data, we generally assumed no right turns on red, except at specific locations with very high right-turn volumes. Right-turn overlap phases were coded where applicable.
- For unsignalized intersections, entered no upstream signal data
- Signal phasing/timing inputs based on data provided by VDOT and/or City of Newport News

TABLE 1 – EXISTING MAINLINE TRUCK PERCENTS

Exit	Eastbound I-64		Westbound I-64	
	AM peak	PM peak	AM peak	PM peak
190-200	5	2	2	5
200-227	13	4	5	11
227-250	9	4	5	8
250-264	3	3	4	3

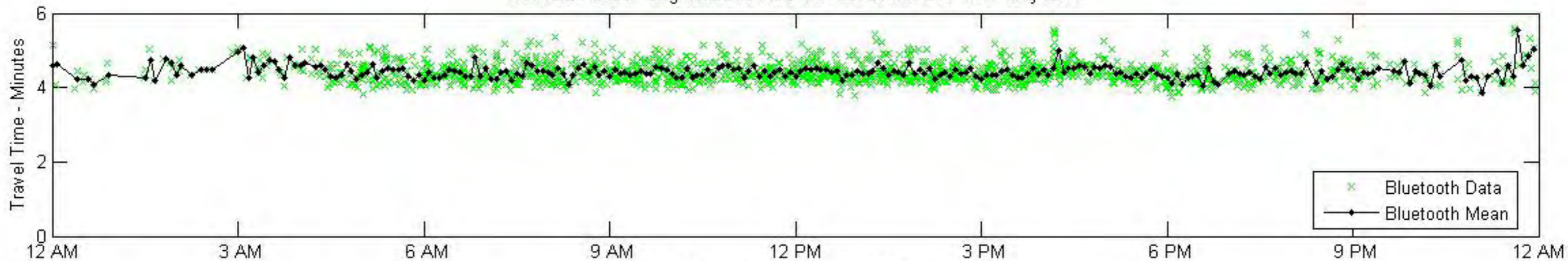
TABLE 2 – LIST OF INTERSECTIONS

Int.	Interchange	Locality	Intersection	Type
190-A	I-95	Richmond	5th Street & 95 N on-ramp	stop
190-B	I-95	Richmond	3rd Street & 95 S off-ramp	stop
192-A	US 360 Mech'ville Tpk	Richmond	I-64 WB off-ramp/Magnolia St & US 360	signal
193-A	VA 33 Nine Mile Road	Henrico	I-64 EB Ramps & Nine Mile Rd	stop
193-B	VA 33 Nine Mile Road	Henrico	Nine Mile Rd & Gordon's Lane	signal
193-C	VA 33 Nine Mile Road	Henrico	I-64 WB off-ramp & Nine Mile Rd	stop
195-A	Laburnum Ave	Henrico	I-64 EB Ramps & Laburnum Ave	signal
195-B	Laburnum Ave	Henrico	I-64 WB Ramps & Laburnum Ave	signal
205-A	Bottoms Bridge	New Kent	I-64 EB Ramps & New Kent Hwy	signal
205-B	Bottoms Bridge	New Kent	I-64 WB Ramps & New Kent Hwy	stop
211-A	VA 106 (Talleysville)	New Kent	I-64 EB Ramps & Emmans Church Road	future r'bout
211-B	VA 106 (Talleysville)	New Kent	I-64 WB Ramps & Emmans Church Road	future r'bout
214-A	VA 155 (Prov. Forge)	New Kent	I-64 EB Ramps & Courthouse Rd	stop
241-B	VA 155 (Prov. Forge)	New Kent	I-64 WB Ramps & Courthouse Rd	stop
227-A	VA 30 (Toano)	James City	I-64 EB Ramps & Old Stage Road	stop
227-B	VA 30 (Toano)	James City	I-64 WB Ramps & Old Stage Road	stop
231-A	Route 607 (Croaker)	James City	Croaker Road & Rochambeau Dr	signal
231-B	Route 607 (Croaker)	James City	Croaker Road & Fenton Mill Road	stop
234-A	VA 199 (Lightfoot)	York	I-64 EB Ramps & Newman Road	stop
234-B	VA 199 (Lightfoot)	York	Newman Road & Fenton Mill Rd	stop
238-A	VA 143 (Colonial Wbg)	York	I-64 EB off-ramp & Merrimac Trail	stop
238-B	VA 143 (Colonial Wbg)	York	I-64 EB on-ramp, Merrimac Trail, & Rochambeau Drive	signal
238-C	VA 143 (Colonial Wbg)	York	I-64 WB off-ramp & Merrimac Trail	stop
243-A	Busch Gardens	York/JC	Busch Gardens Blvd NB ramps & US 60	signal
243-B	Busch Gardens	York/JC	Busch Gardens Blvd SB ramps & US 60	signal
247-A	VA 238 (Yorktown)	N. News	I-64 EB off-ramp & Jefferson Ave	stop
247-B	VA 238 (Yorktown)	N. News	Jefferson Ave & Yorktown Road	signal
247-C	VA 238 (Yorktown)	N. News	I-64 EB on-ramp & Yorktown Rd	stop
247-D	VA 238 (Yorktown)	N. News	I-64 WB off-ramp & Yorktown Rd	stop
250-A	VA 105 (Ft Eustis)	N. News	I-64 WB off-ramp & Jefferson Ave	signal
250-B	VA 105 (Ft Eustis)	N. News	Jefferson Ave & Ft Eustis Blvd	signal
255-A	VA 143 (Jefferson Ave)	N. News	Jefferson Ave & Freedom Way/Clair Ln	signal
255-B	VA 143 (Jefferson Ave)	N. News	Jefferson Ave & Brick Kiln Blvd/Wal-Mart	signal

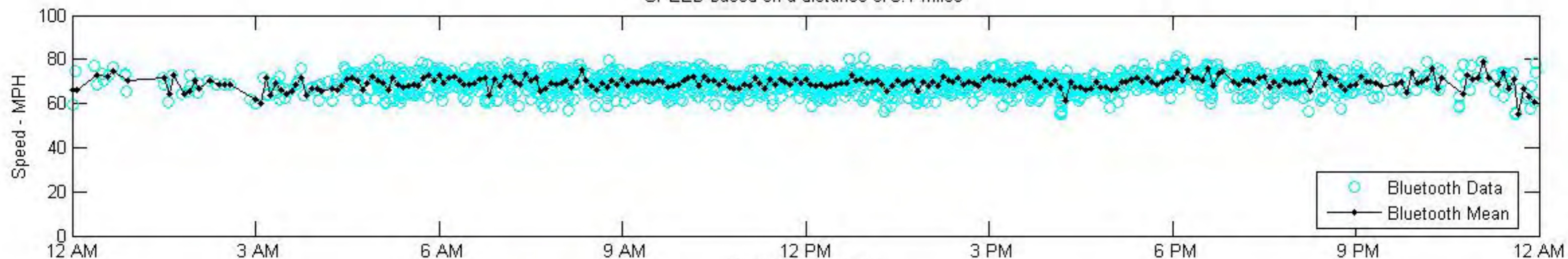


Bluetooth Travel Time Study Results

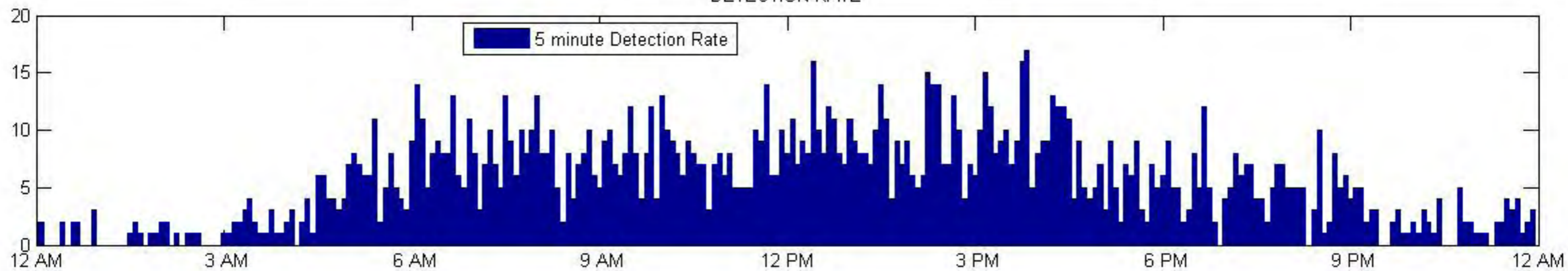
TRAVEL TIME :: Segment B86-AC0 MP 239 to MP 244 :: 17-May-2011



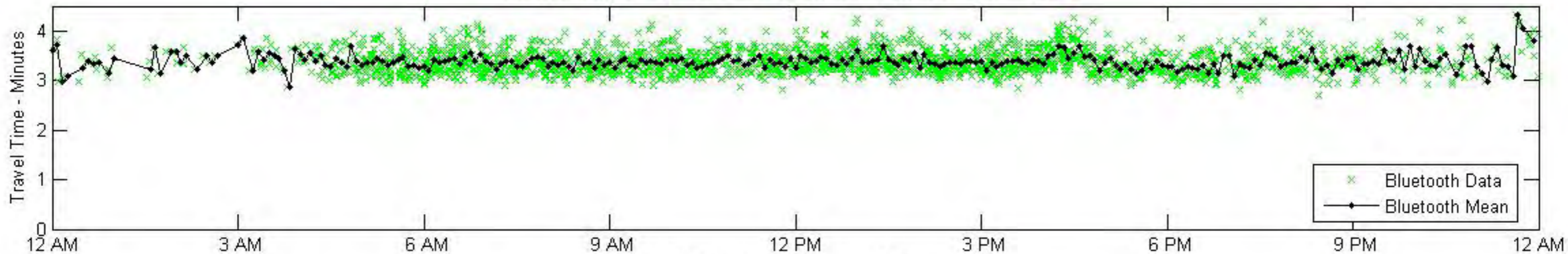
SPEED based on a distance of 5.1 miles



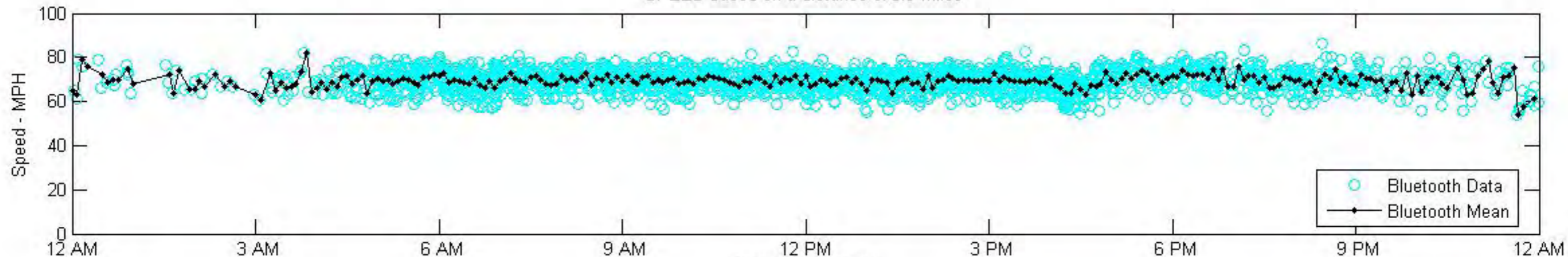
DETECTION RATE



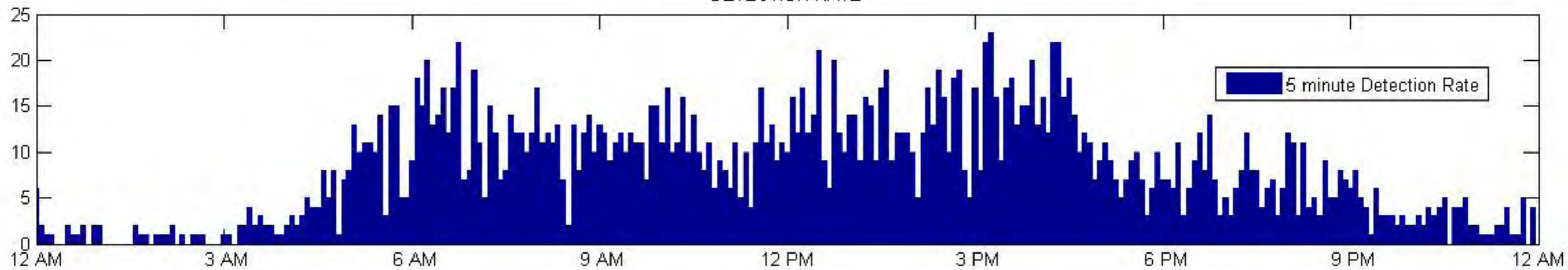
TRAVEL TIME :: Segment AC0-9CB MP 244 to MP 248 :: 17-May-2011



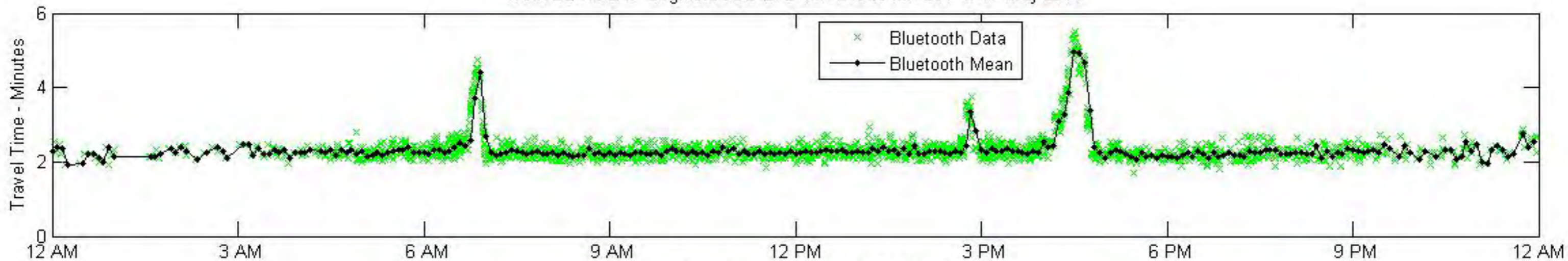
SPEED based on a distance of 3.9 miles



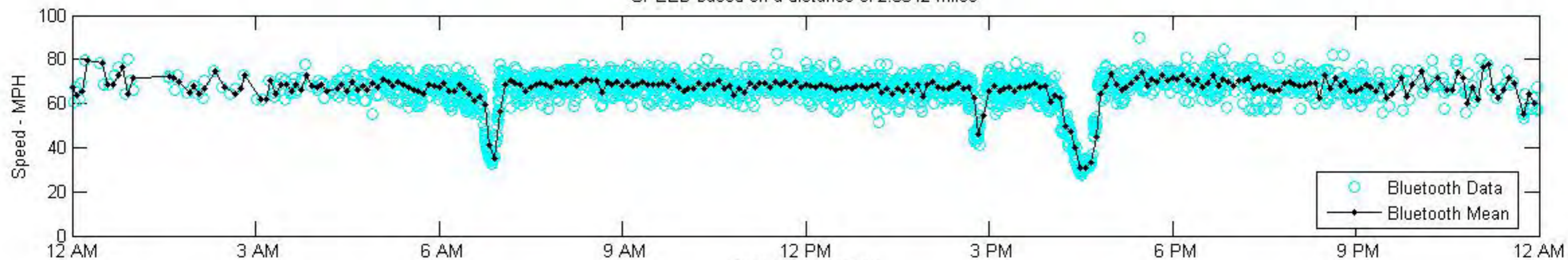
DETECTION RATE



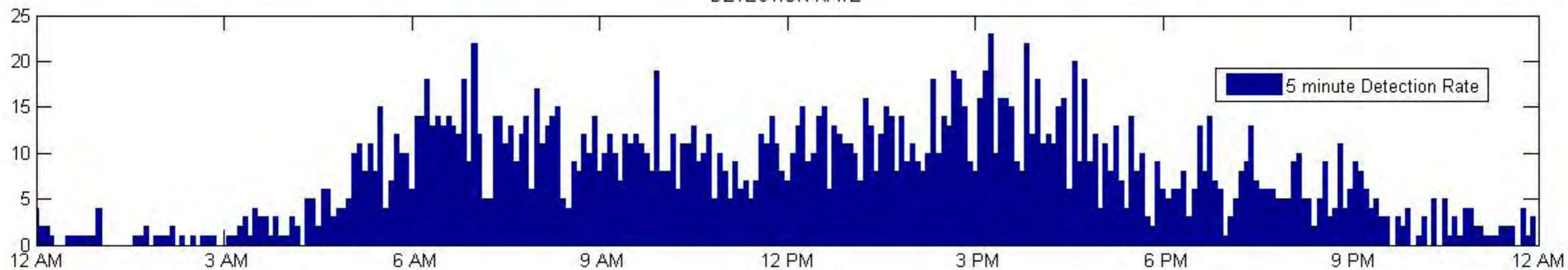
TRAVEL TIME :: Segment 9CB-B75 MP 248 to MP 251 :: 17-May-2011



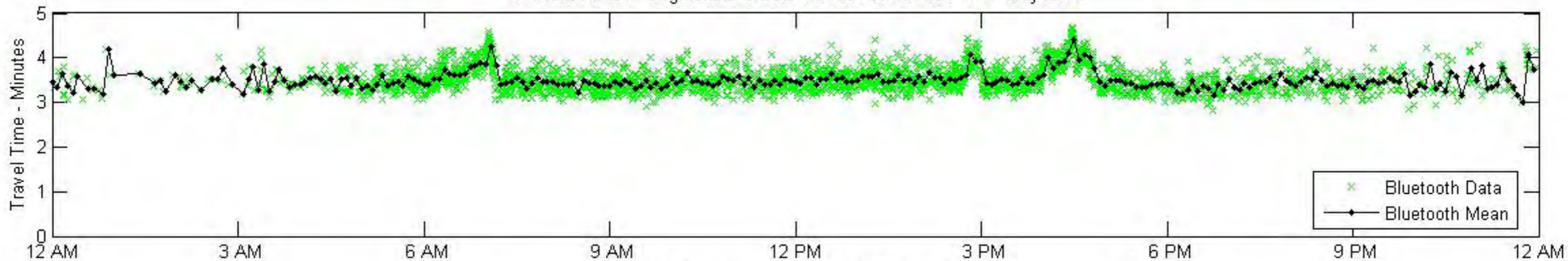
SPEED based on a distance of 2.5542 miles



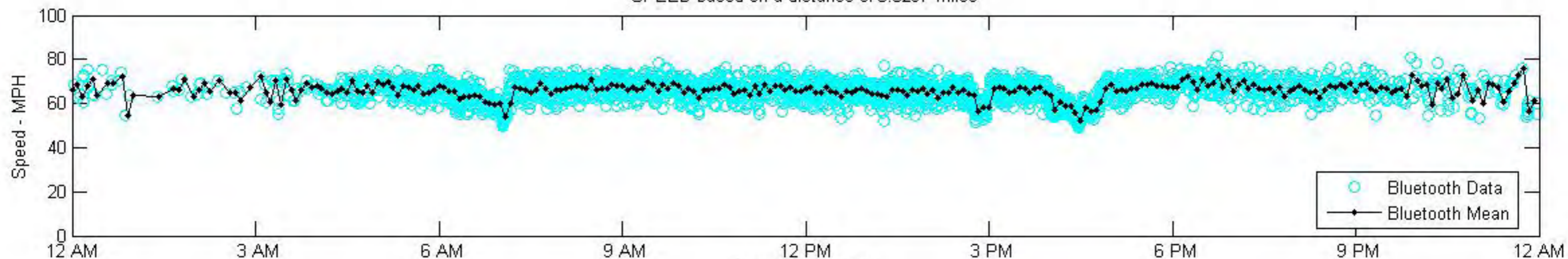
DETECTION RATE



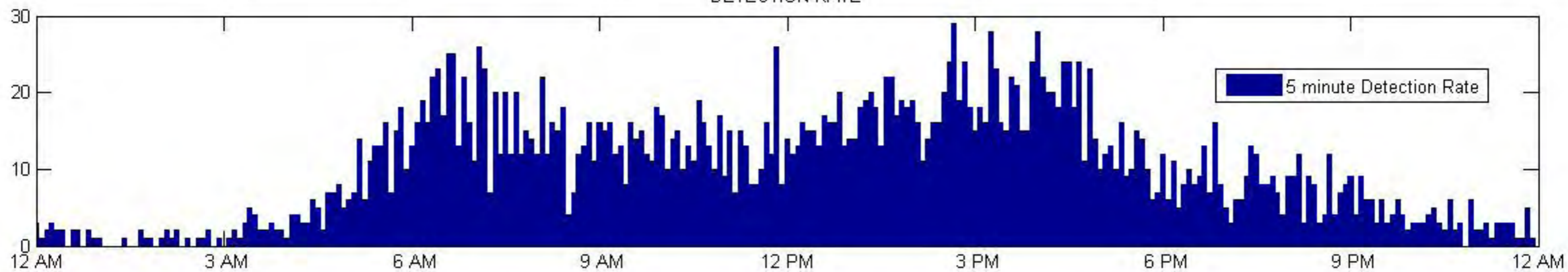
TRAVEL TIME :: Segment B75-B8E MP 251 to MP 254 :: 17-May-2011



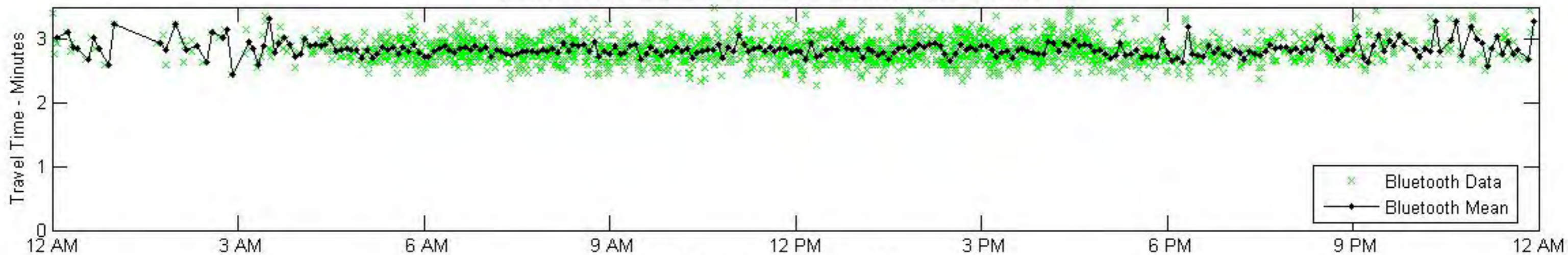
SPEED based on a distance of 3.8297 miles



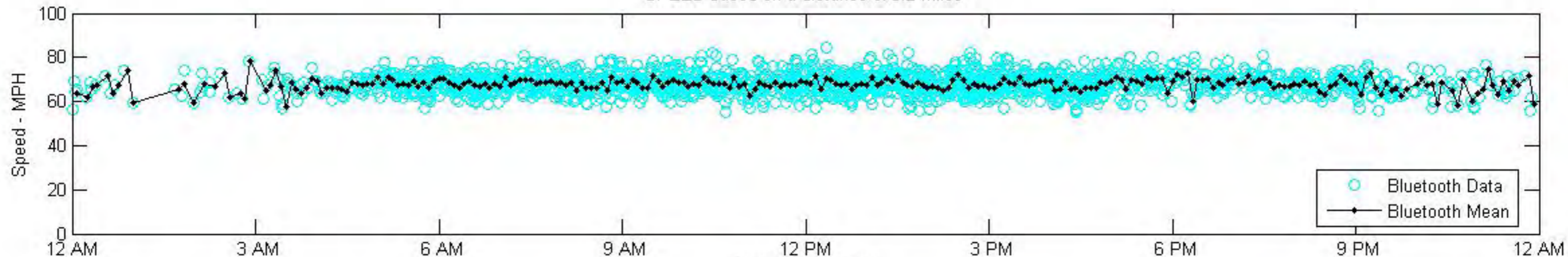
DETECTION RATE



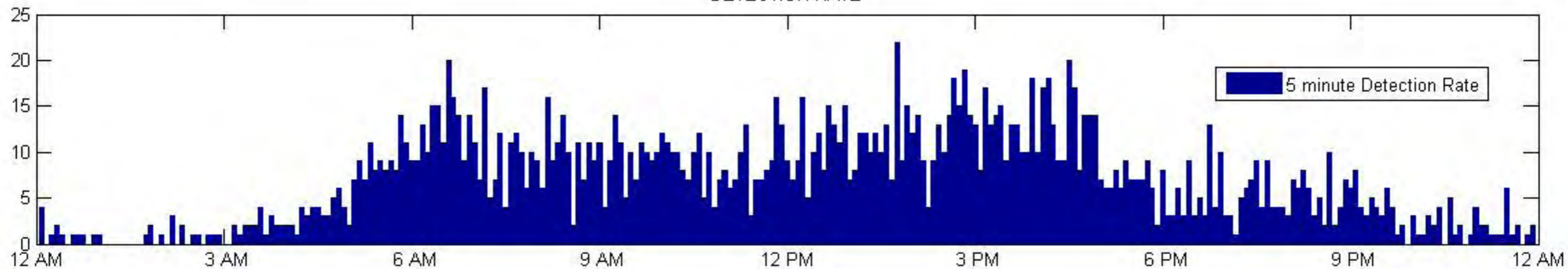
TRAVEL TIME :: Segment B8E-A06 MP 254 to MP 257E :: 17-May-2011



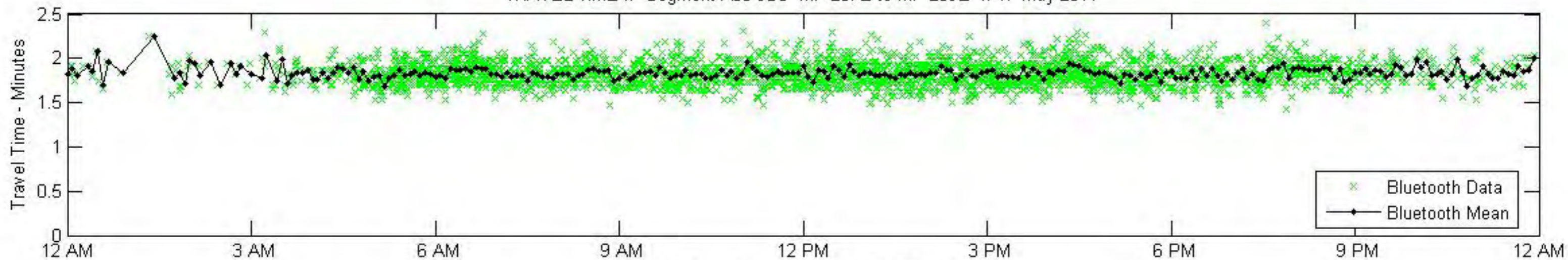
SPEED based on a distance of 3.2 miles



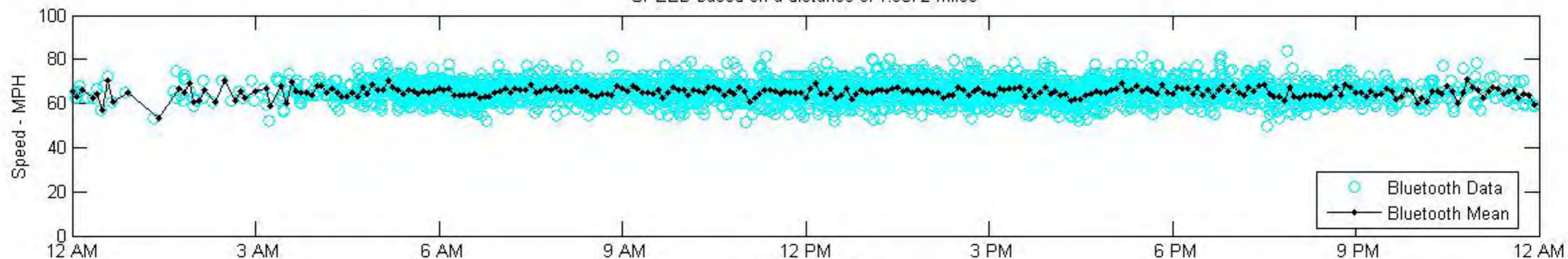
DETECTION RATE



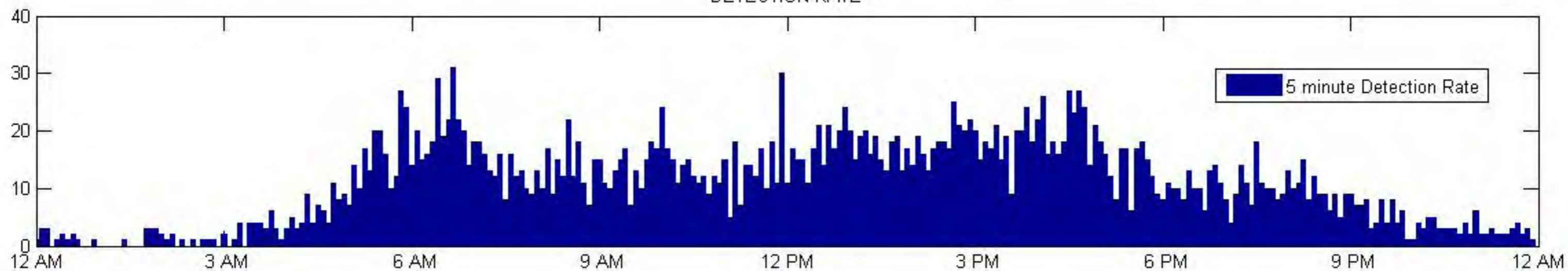
TRAVEL TIME :: Segment A06-9D0 MP 257E to MP 259E :: 17-May-2011



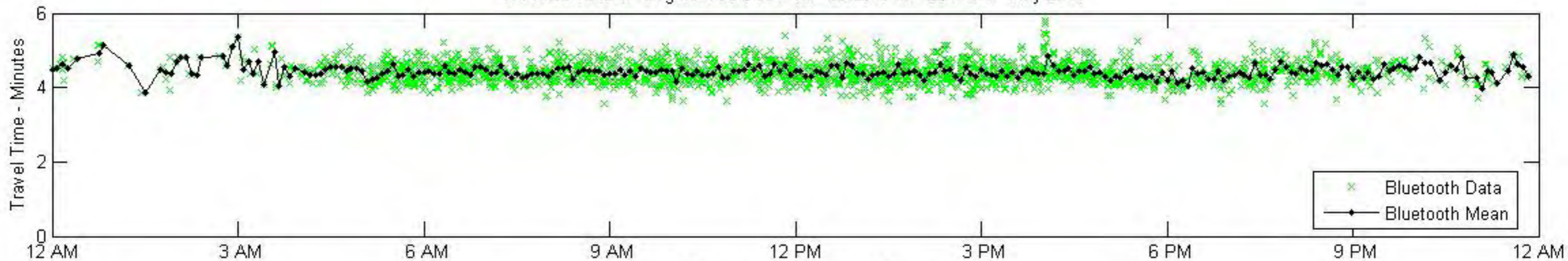
SPEED based on a distance of 1.9872 miles



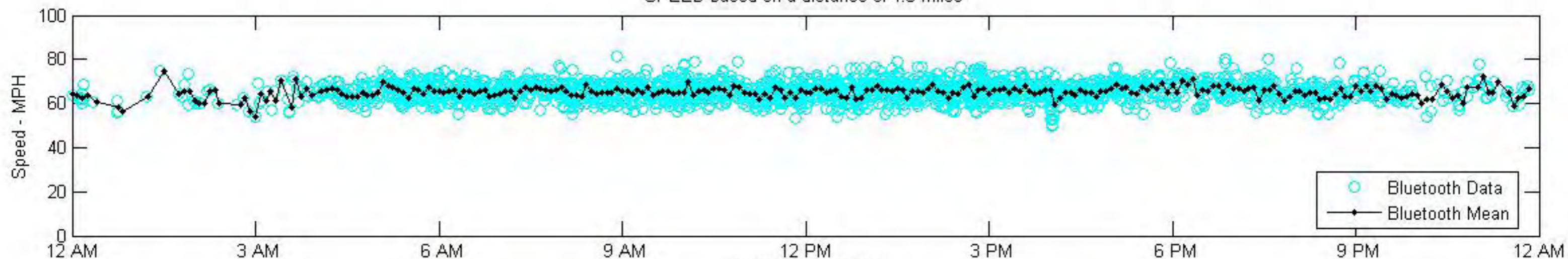
DETECTION RATE



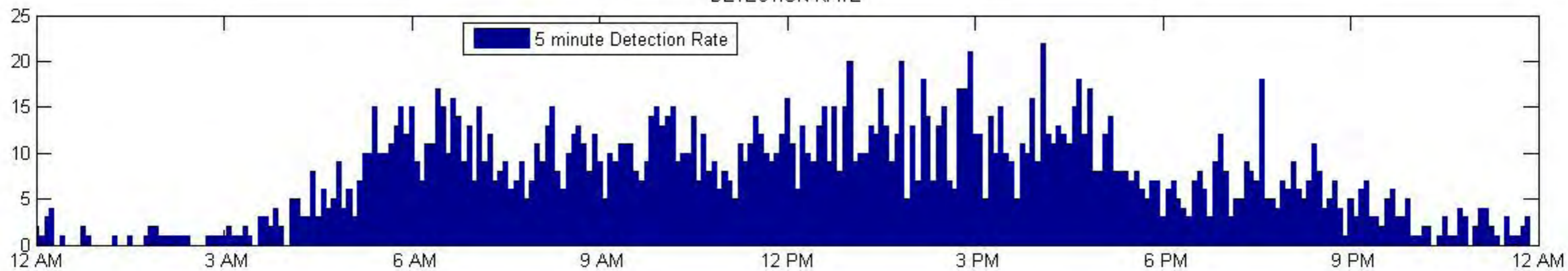
TRAVEL TIME :: Segment 9D0-051 MP 259E to MP 264 :: 17-May-2011



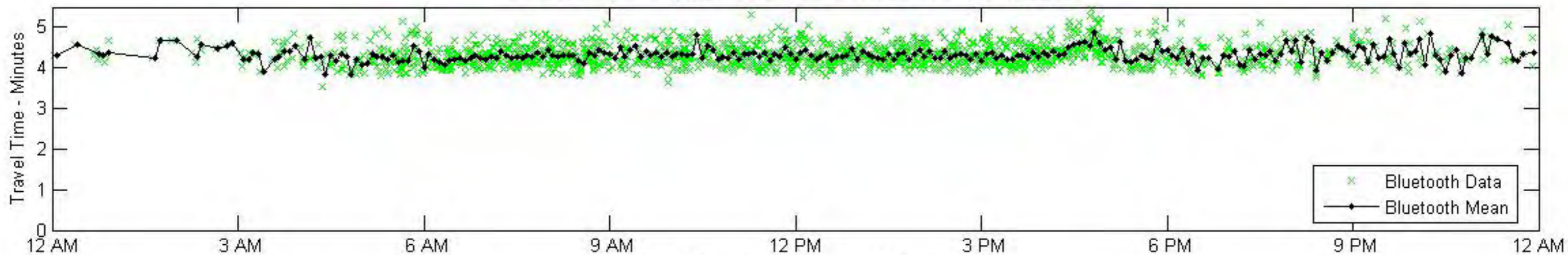
SPEED based on a distance of 4.8 miles



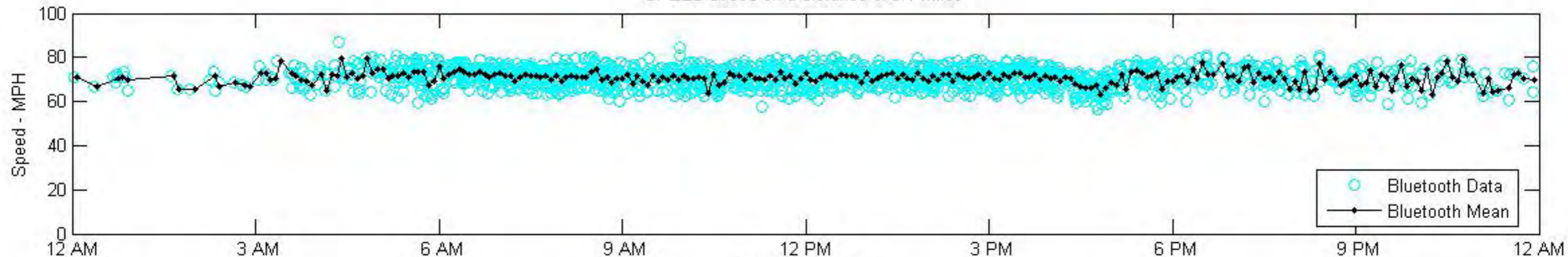
DETECTION RATE



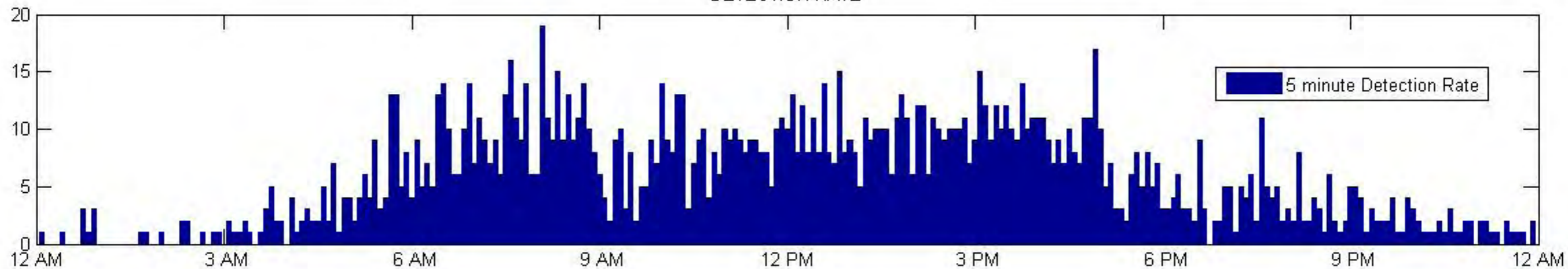
TRAVEL TIME :: Segment AC0-B86 MP 244 to MP 239 :: 17-May-2011



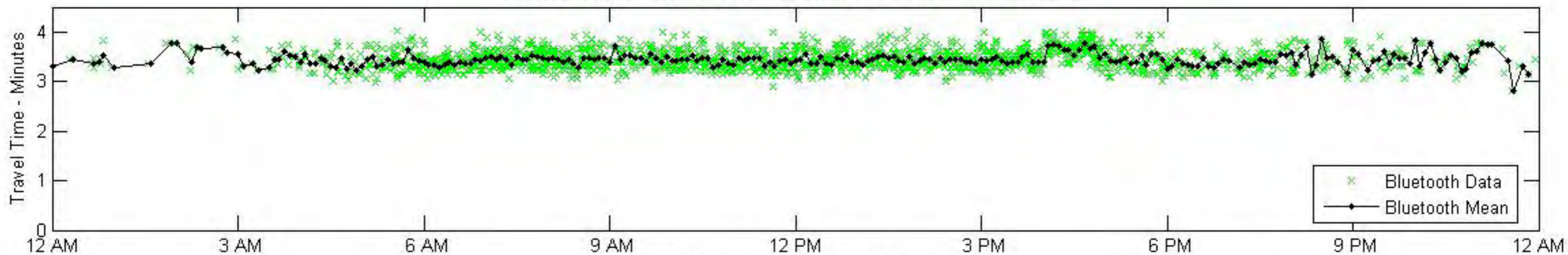
SPEED based on a distance of 5.1 miles



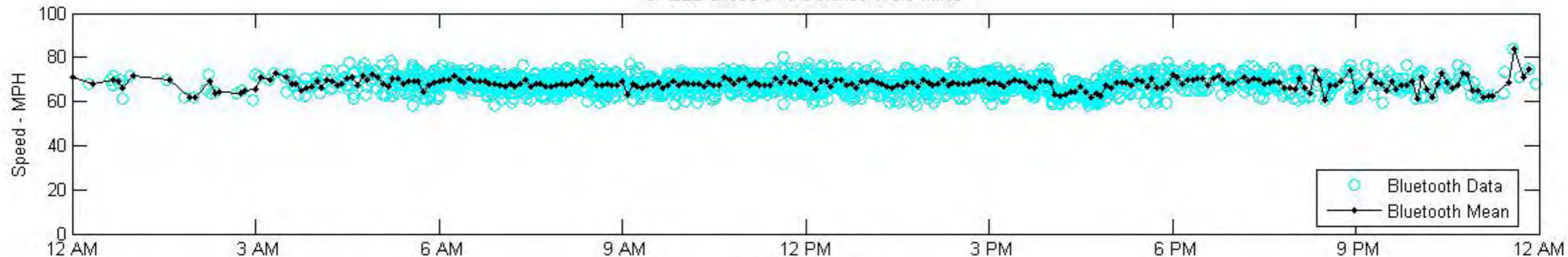
DETECTION RATE



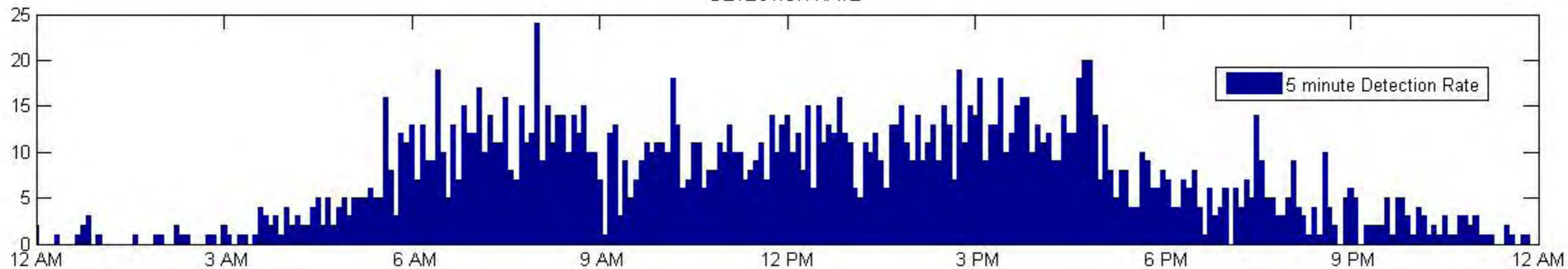
TRAVEL TIME :: Segment 9CB-AC0 MP 248 to MP 244 :: 17-May-2011



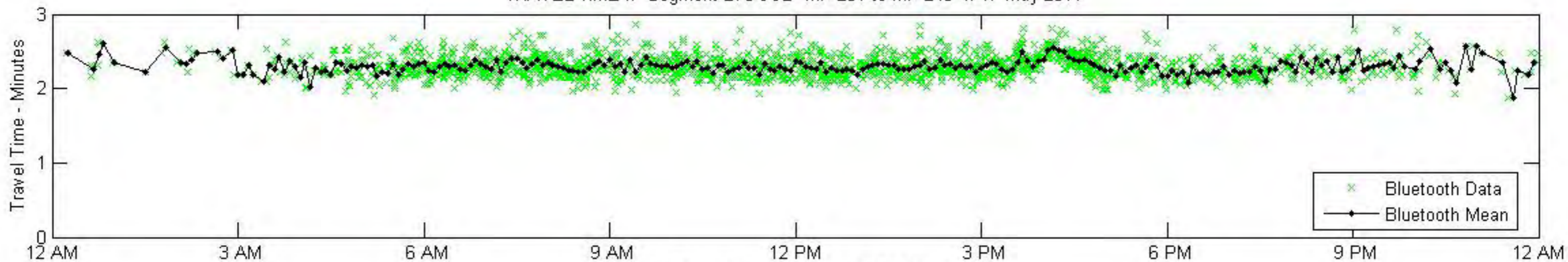
SPEED based on a distance of 3.9 miles



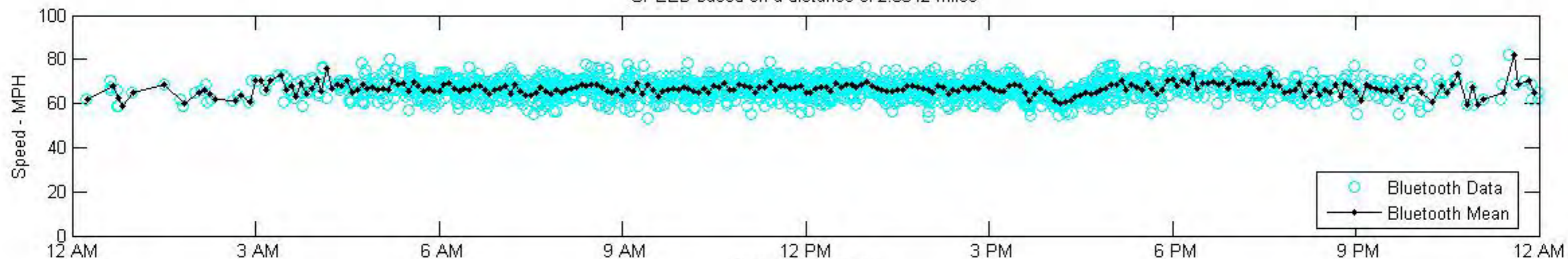
DETECTION RATE



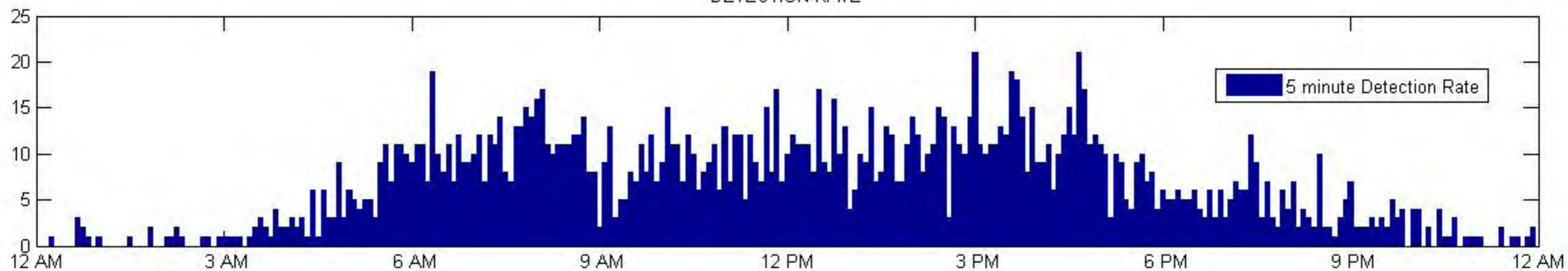
TRAVEL TIME :: Segment B75-9CB MP 251 to MP 248 :: 17-May-2011



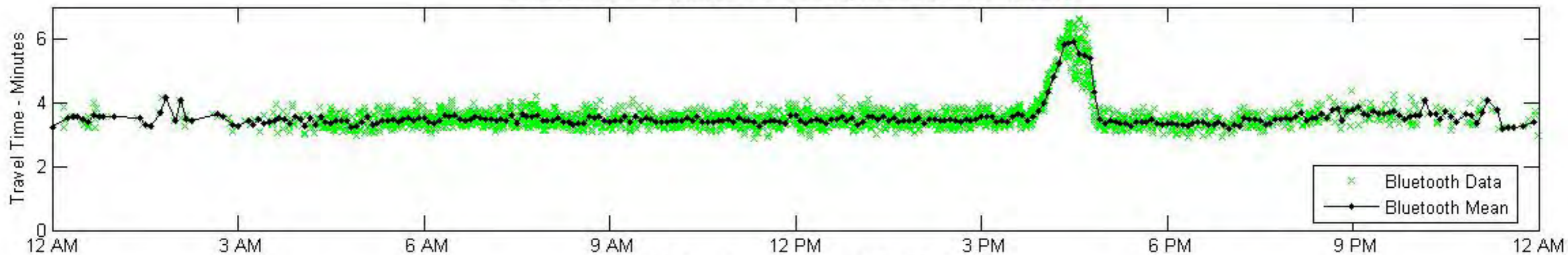
SPEED based on a distance of 2.5542 miles



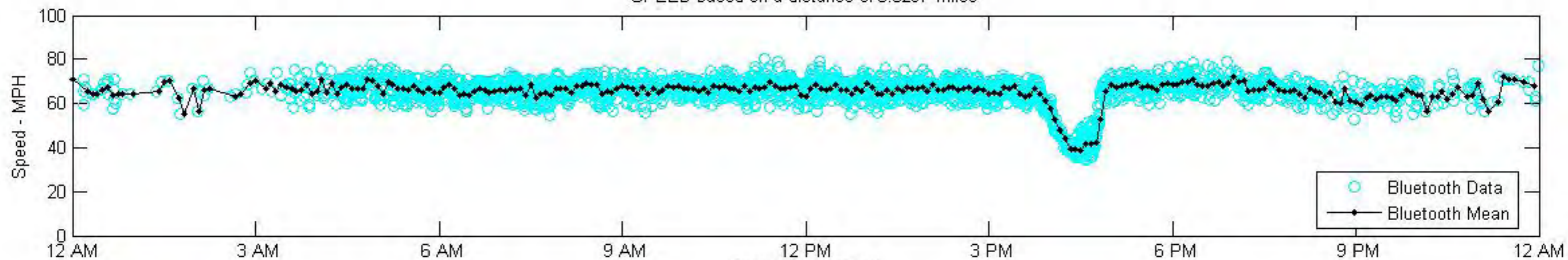
DETECTION RATE



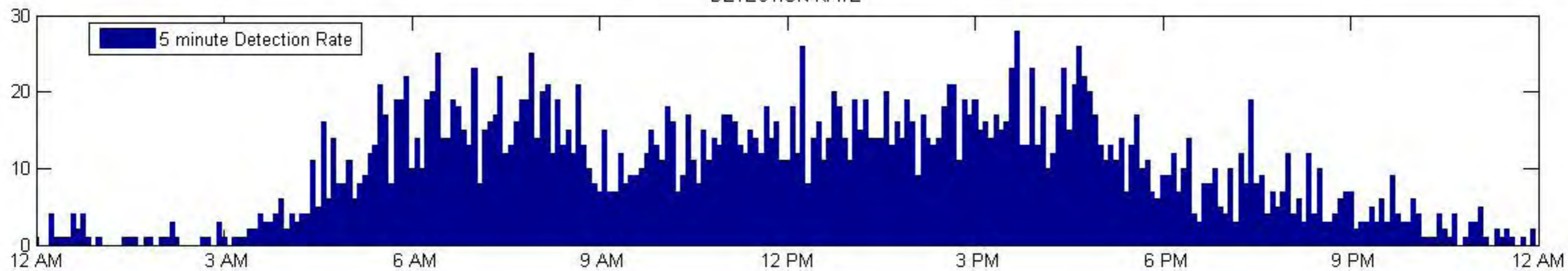
TRAVEL TIME :: Segment B8E-B75 MP 254 to MP 251 :: 17-May-2011



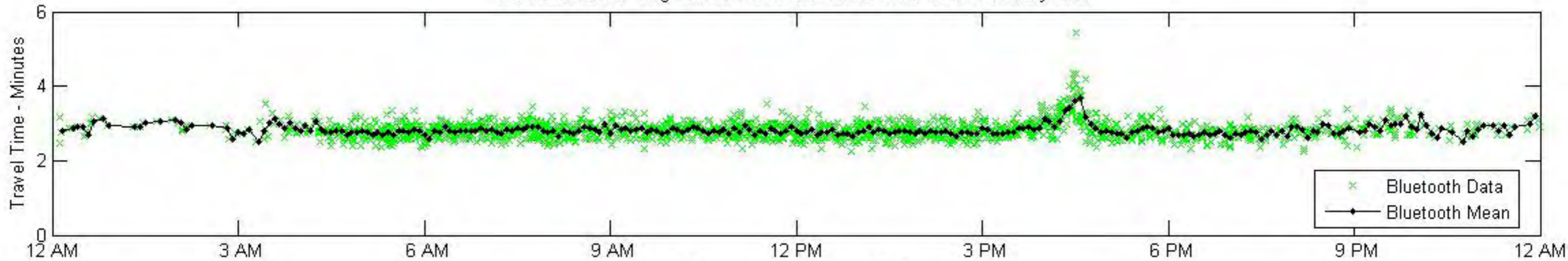
SPEED based on a distance of 3.8297 miles



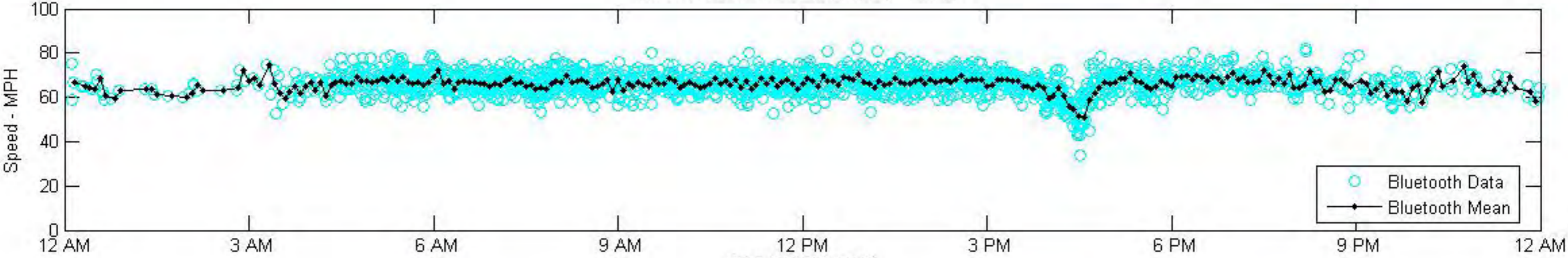
DETECTION RATE



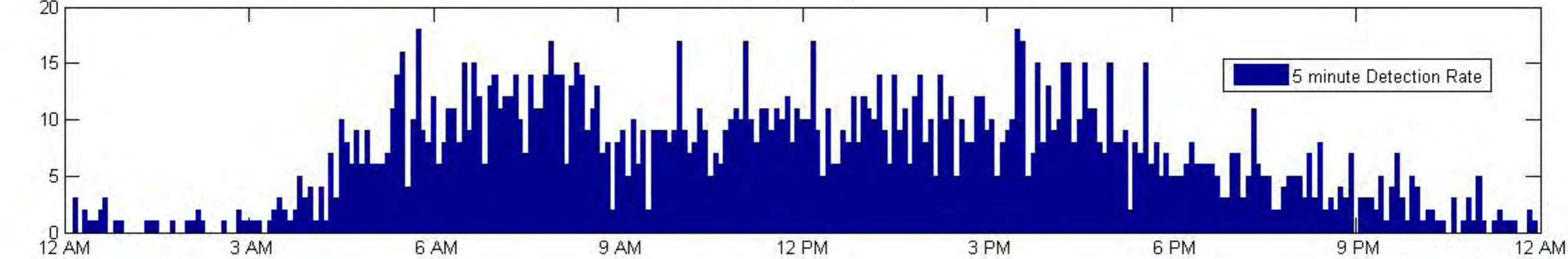
TRAVEL TIME :: Segment 9D1-B8E MP 257W to MP 254 :: 17-May-2011



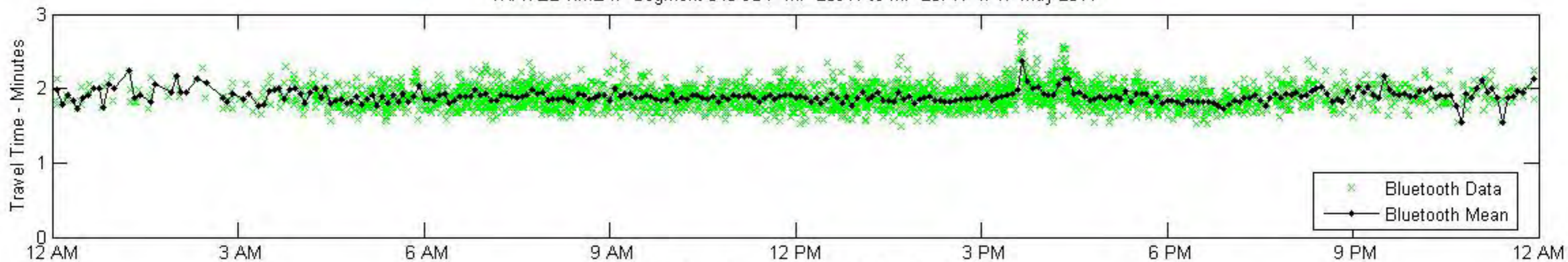
SPEED based on a distance of 3.1 miles



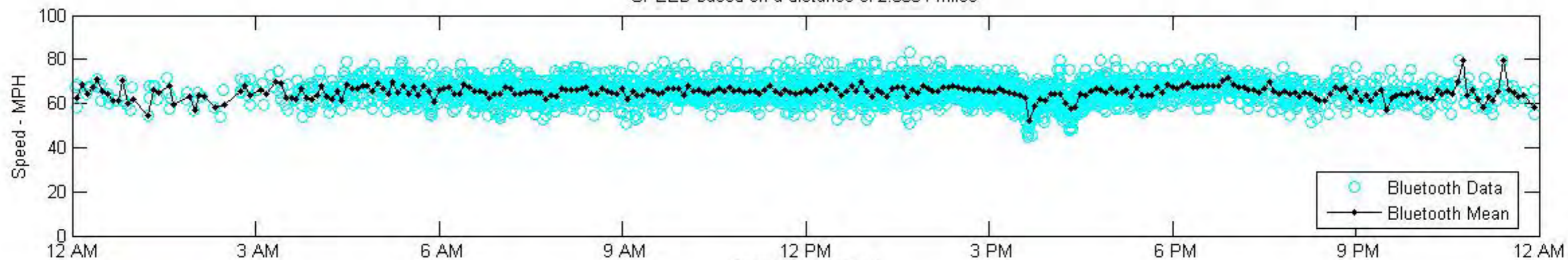
DETECTION RATE



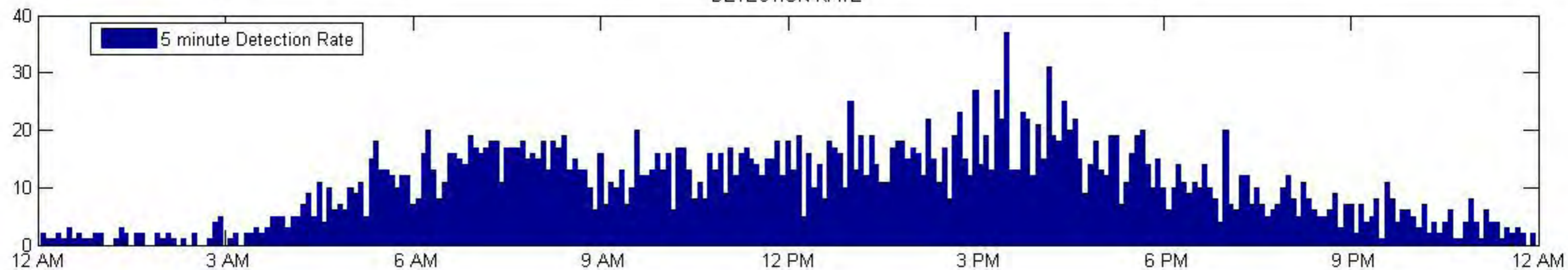
TRAVEL TIME :: Segment 040-9D1 MP 259W to MP 257W :: 17-May-2011



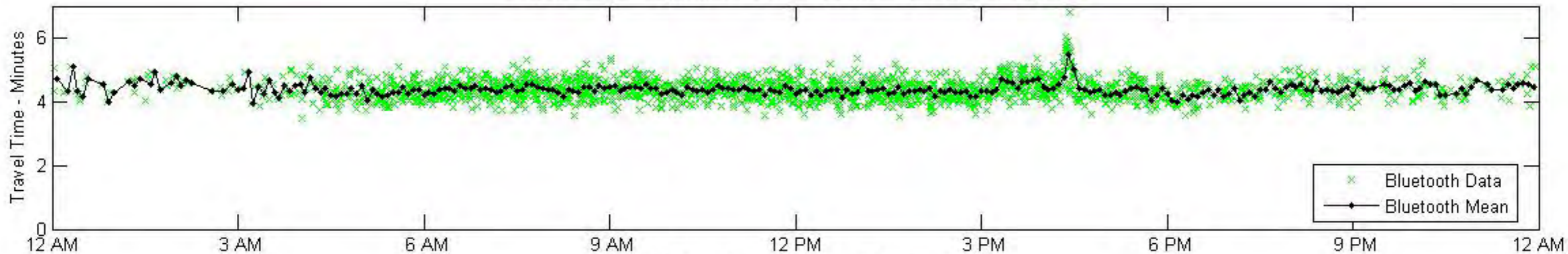
SPEED based on a distance of 2.0564 miles



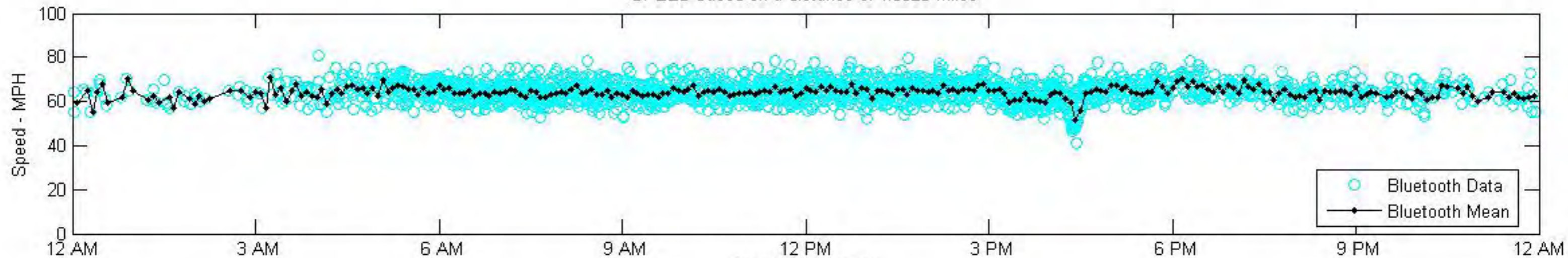
DETECTION RATE



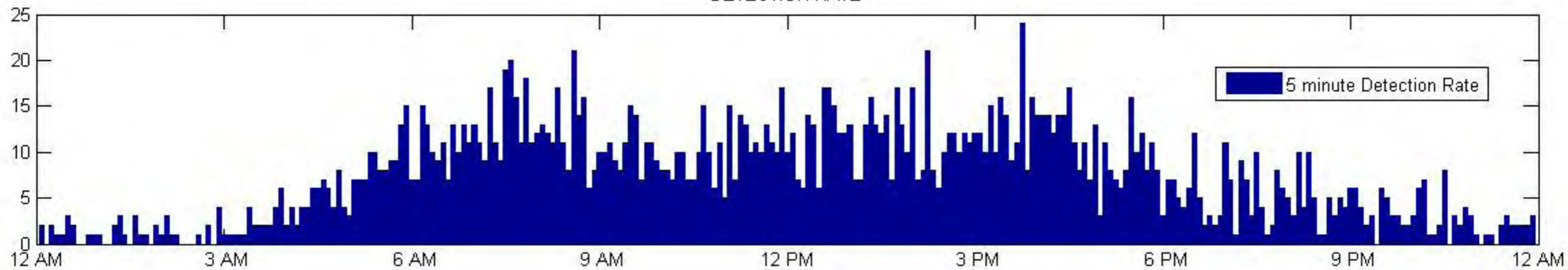
TRAVEL TIME :: Segment 051-040 MP 264 to MP 259W :: 17-May-2011



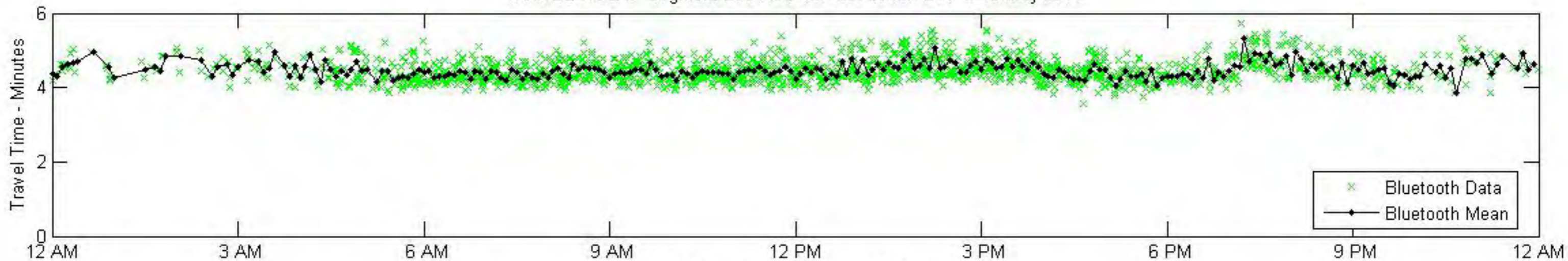
SPEED based on a distance of 4.6828 miles



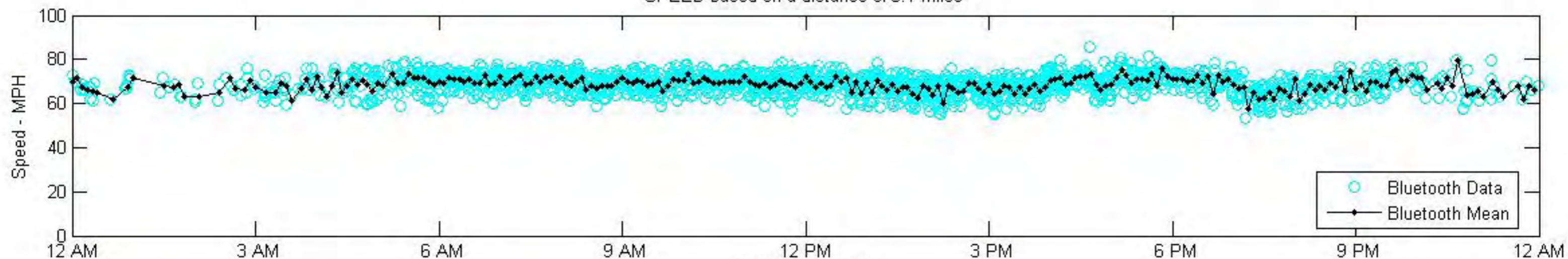
DETECTION RATE



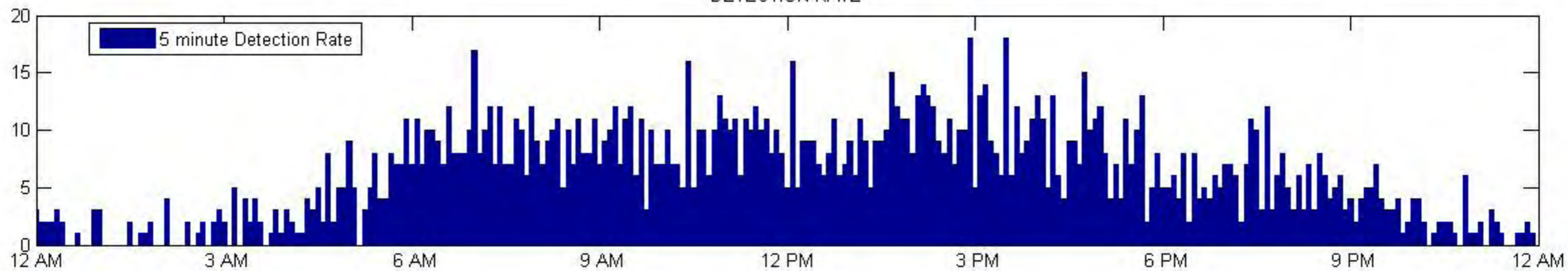
TRAVEL TIME :: Segment B86-AC0 MP 239 to MP 244 :: 18-May-2011



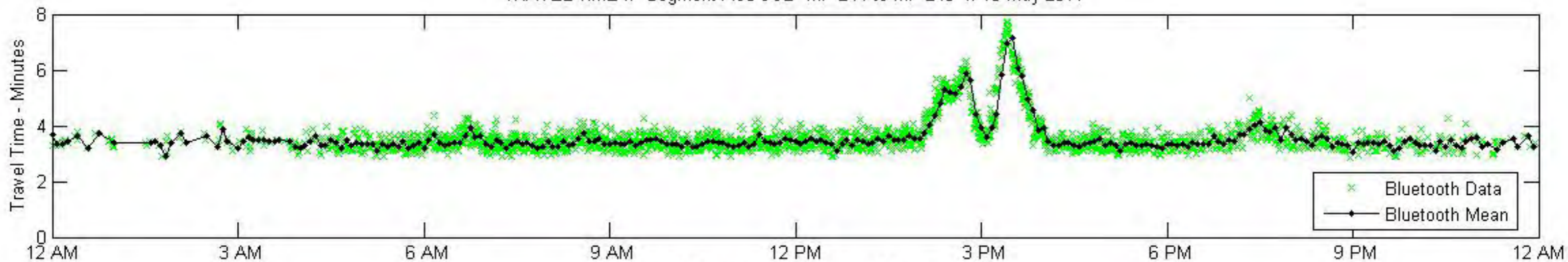
SPEED based on a distance of 5.1 miles



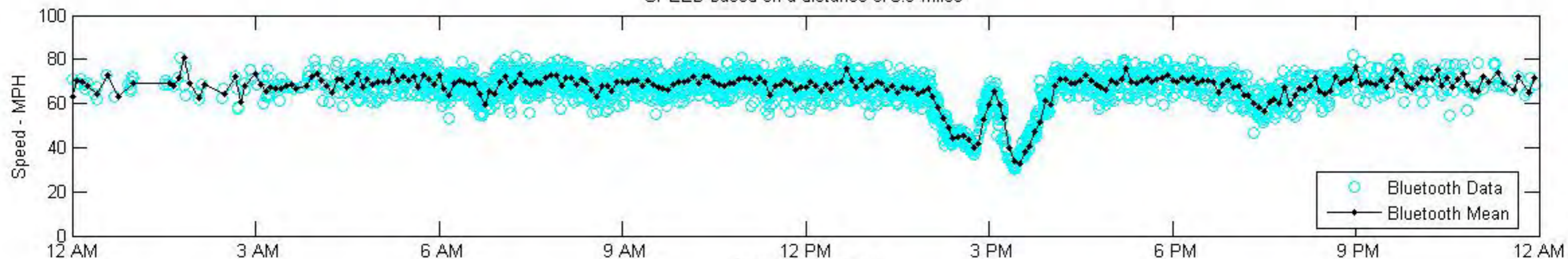
DETECTION RATE



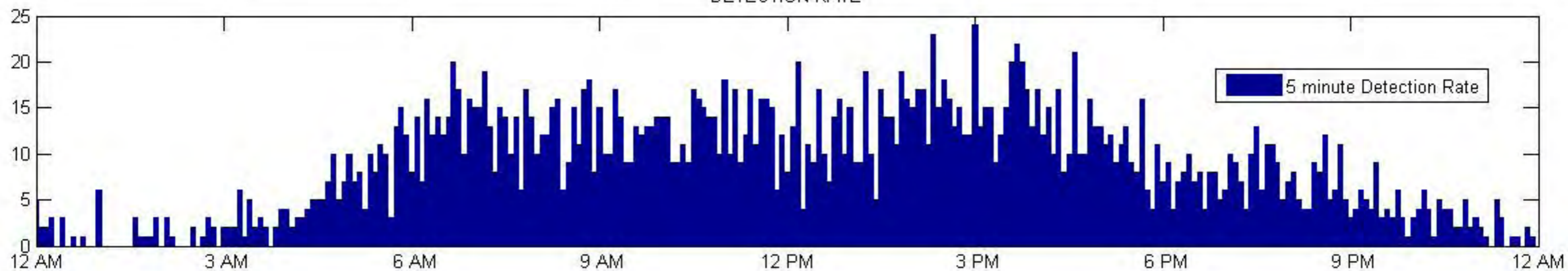
TRAVEL TIME :: Segment AC0-9CB MP 244 to MP 248 :: 18-May-2011



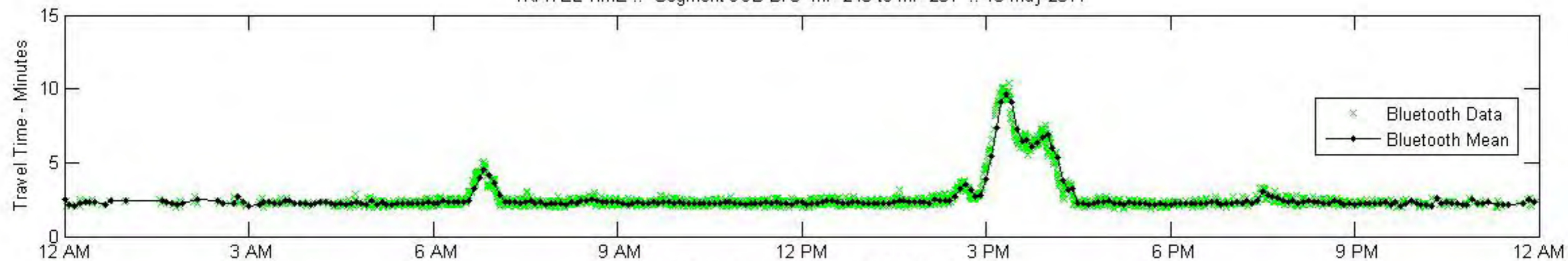
SPEED based on a distance of 3.9 miles



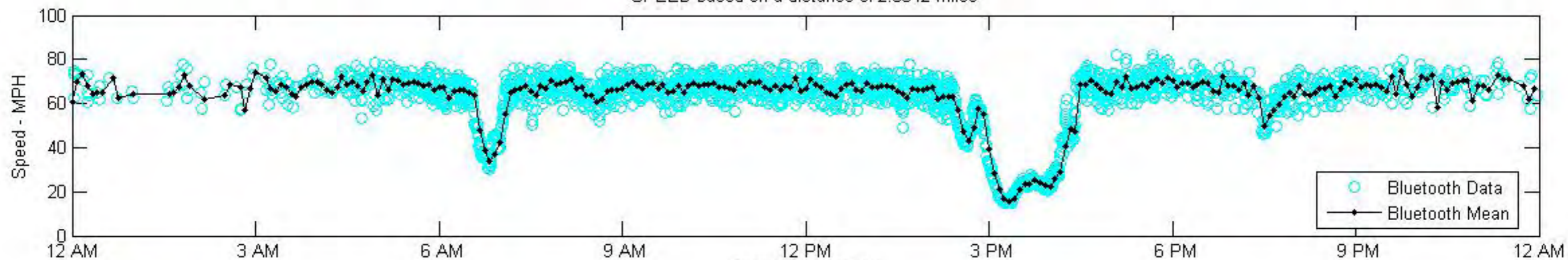
DETECTION RATE



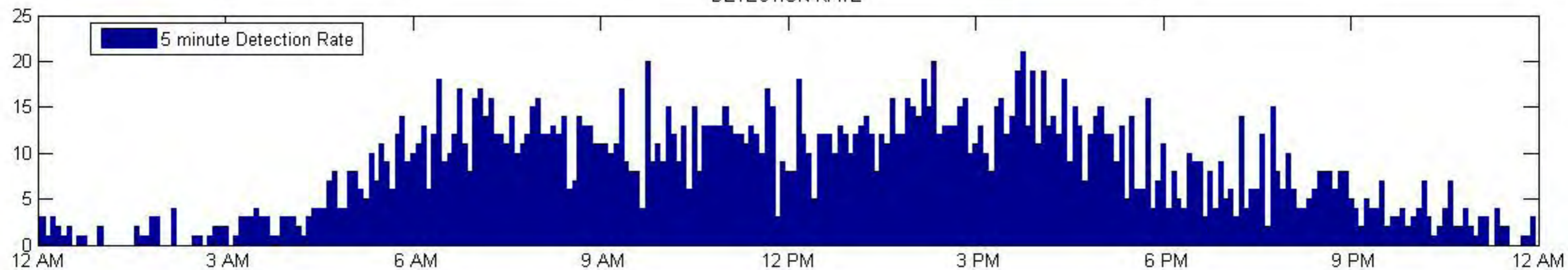
TRAVEL TIME :: Segment 9CB-B75 MP 248 to MP 251 :: 18-May-2011



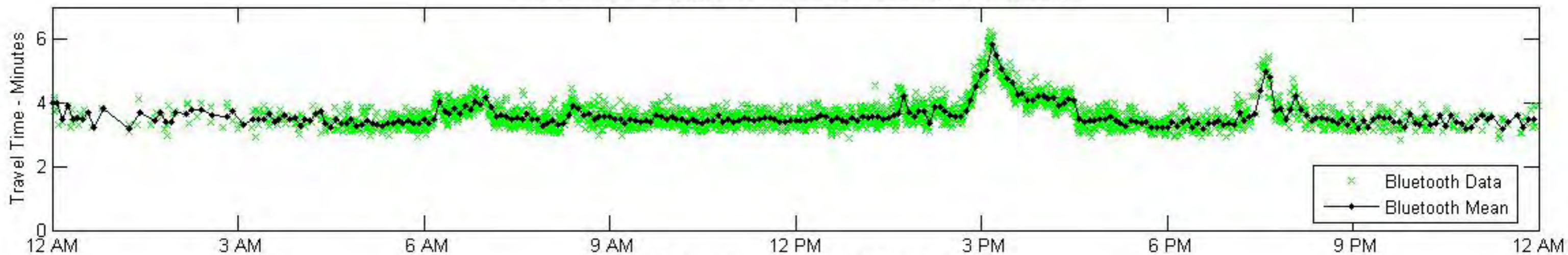
SPEED based on a distance of 2.5542 miles



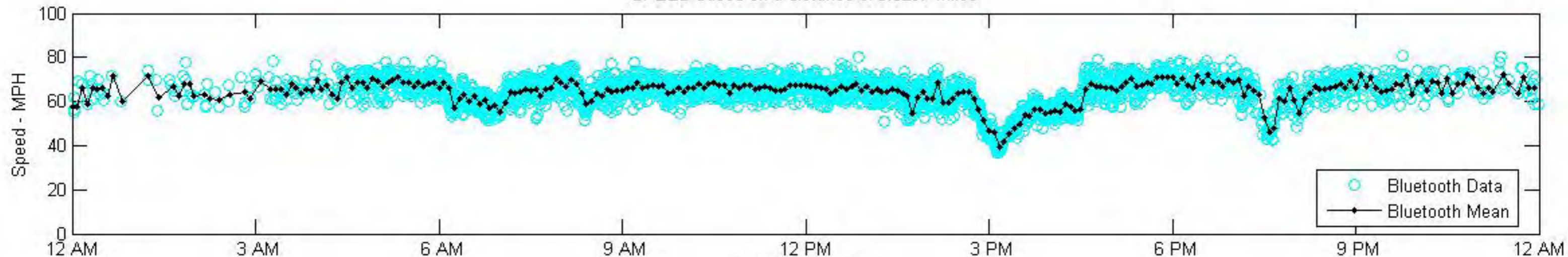
DETECTION RATE



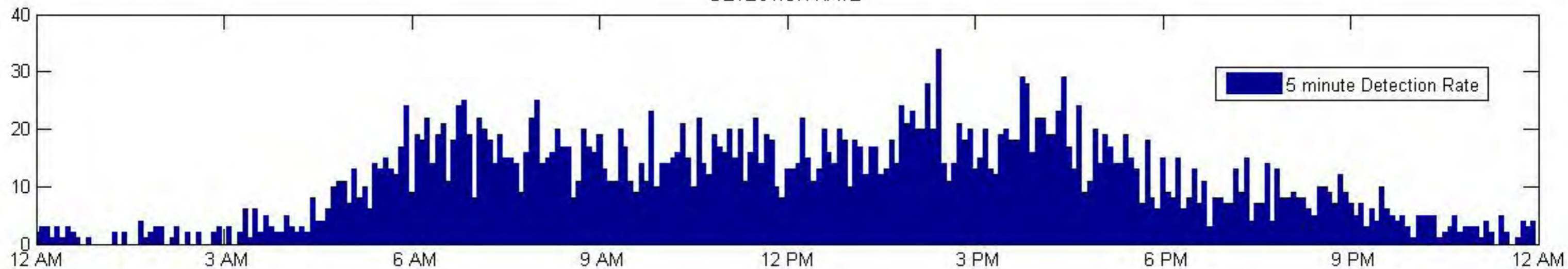
TRAVEL TIME :: Segment B75-B8E MP 251 to MP 254 :: 18-May-2011



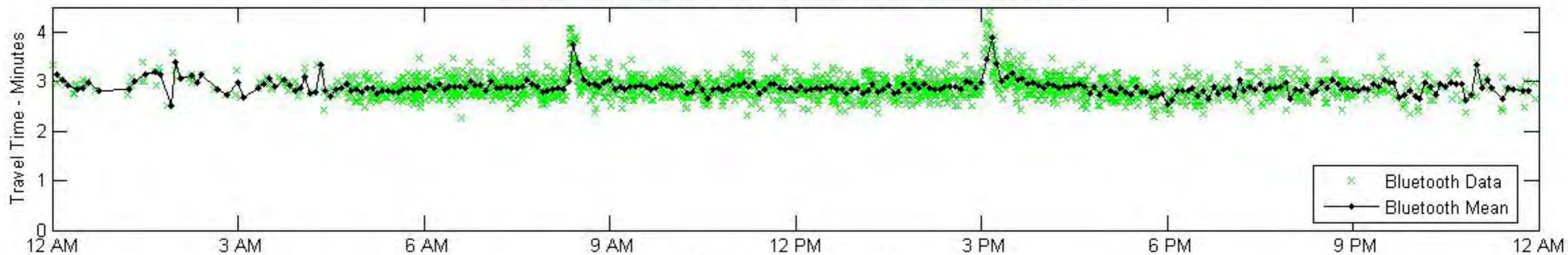
SPEED based on a distance of 3.8297 miles



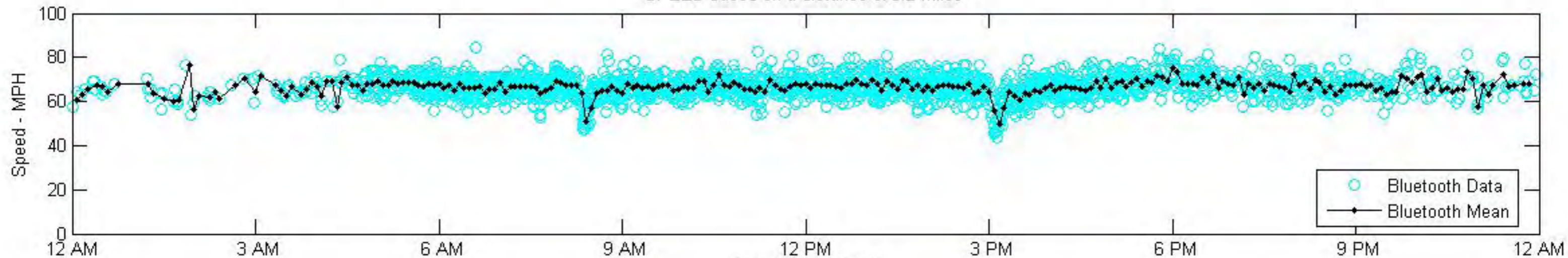
DETECTION RATE



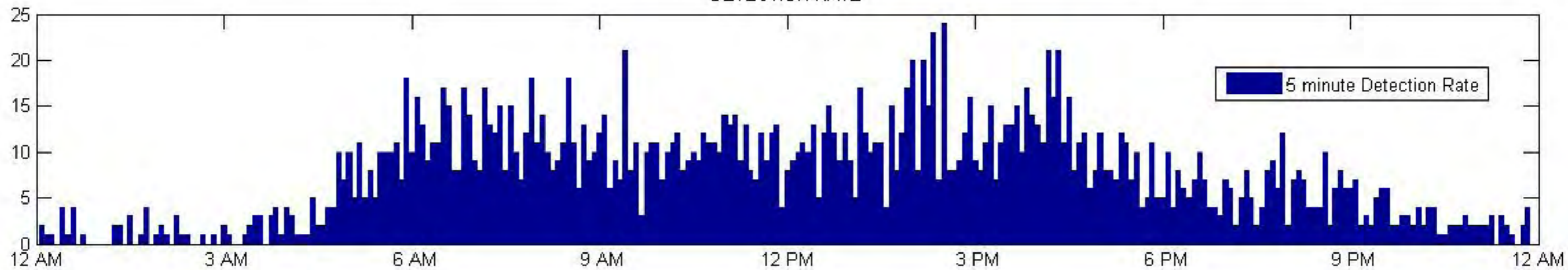
TRAVEL TIME :: Segment B8E-A06 MP 254 to MP 257E :: 18-May-2011



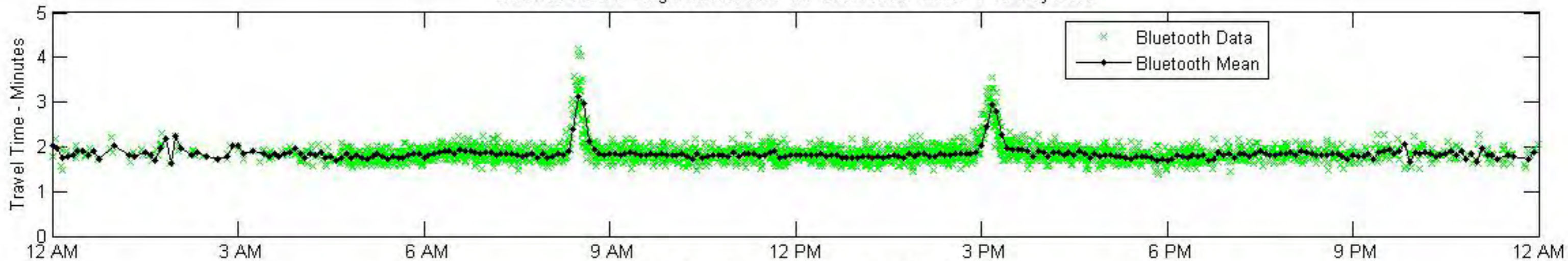
SPEED based on a distance of 3.2 miles



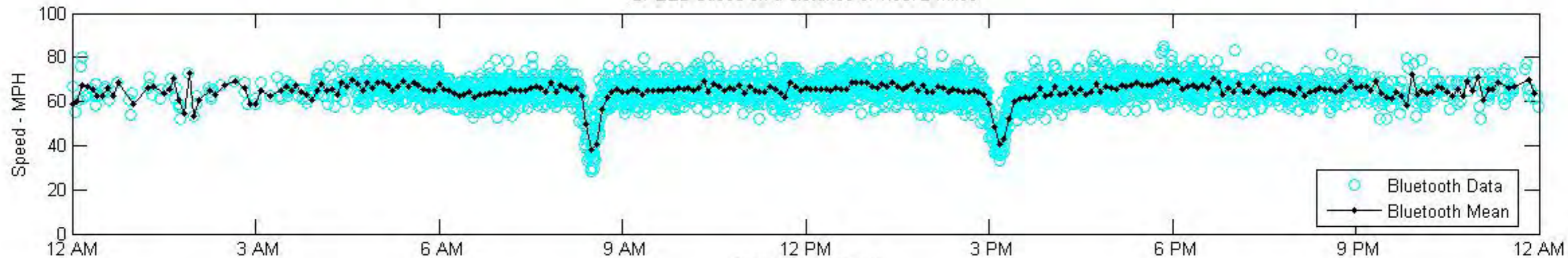
DETECTION RATE



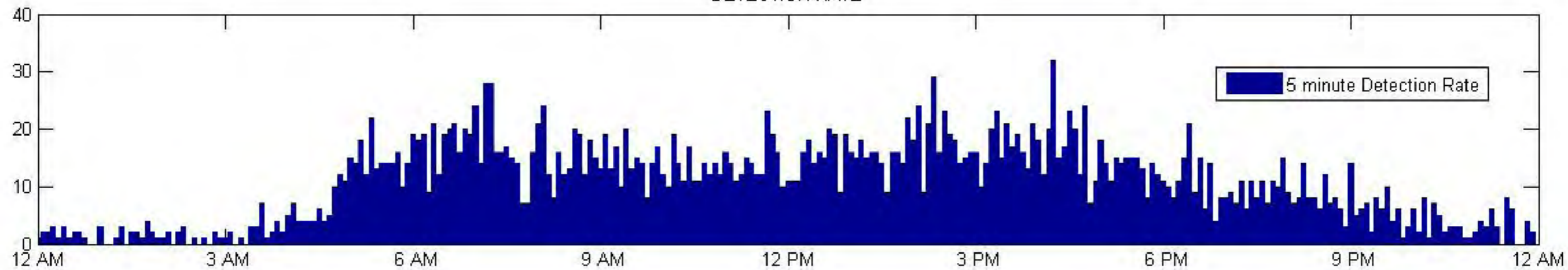
TRAVEL TIME :: Segment A06-9D0 MP 257E to MP 259E :: 18-May-2011



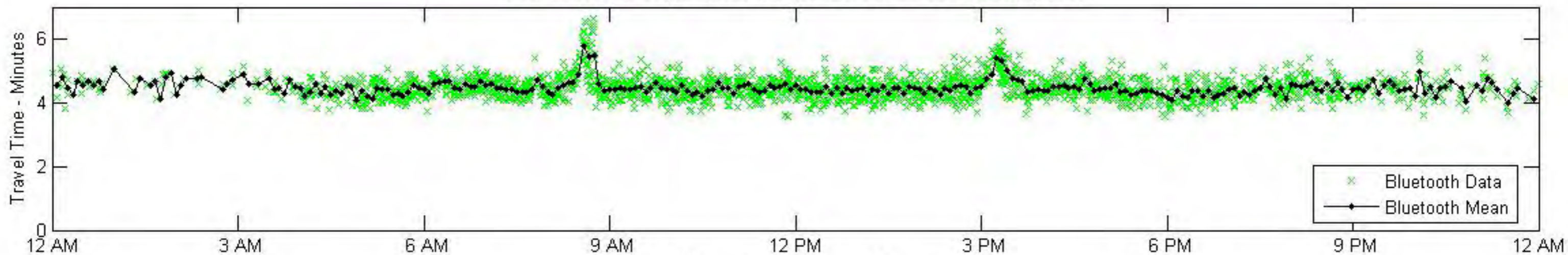
SPEED based on a distance of 1.9872 miles



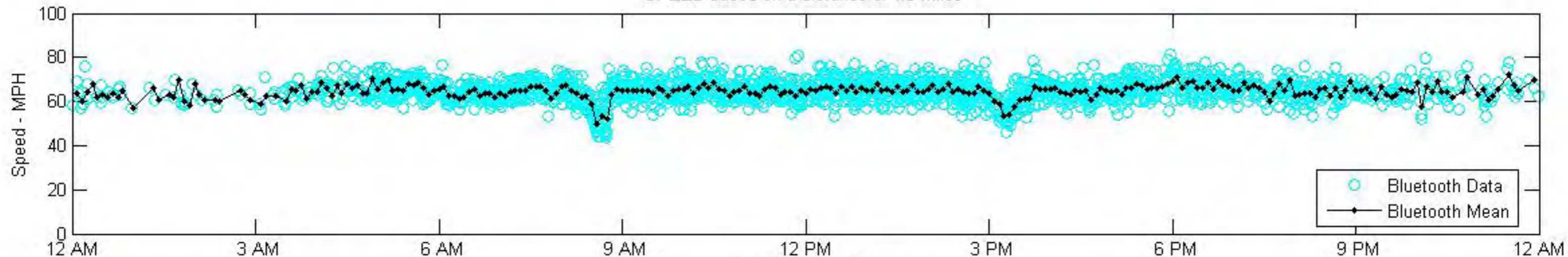
DETECTION RATE



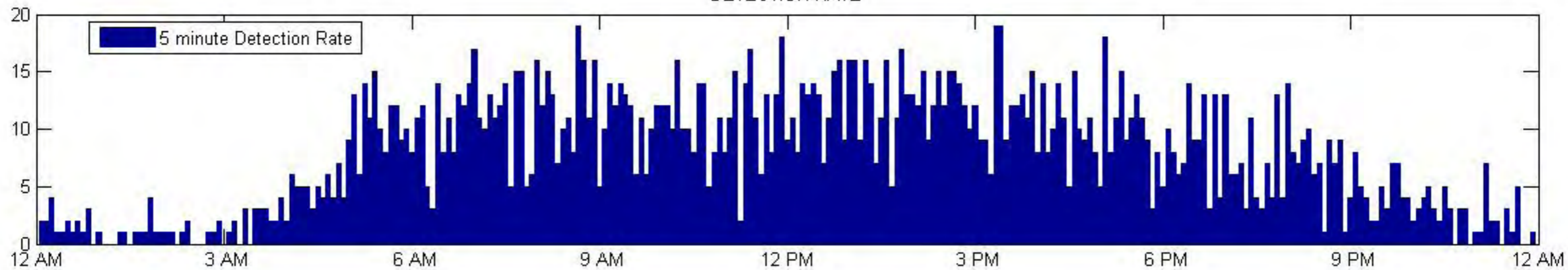
TRAVEL TIME :: Segment 9D0-051 MP 259E to MP 264 :: 18-May-2011



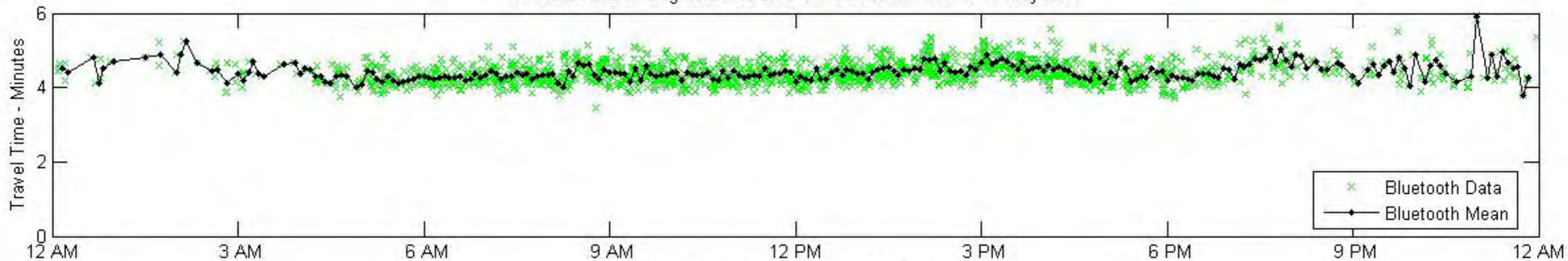
SPEED based on a distance of 4.8 miles



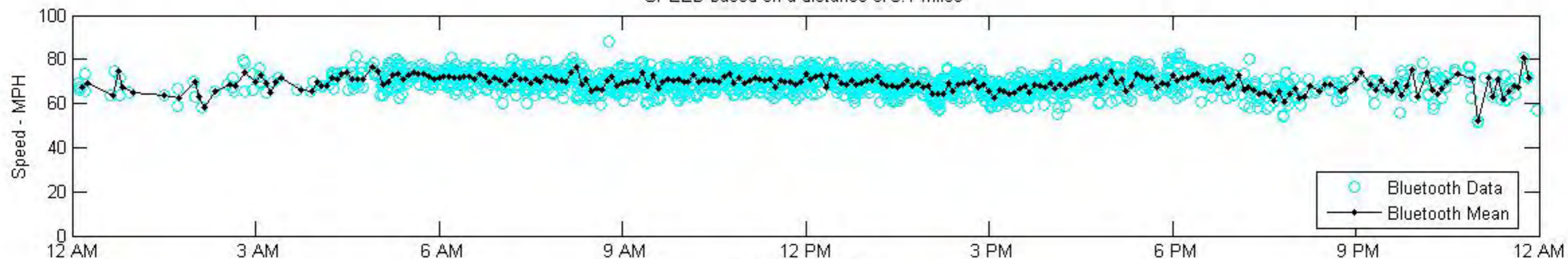
DETECTION RATE



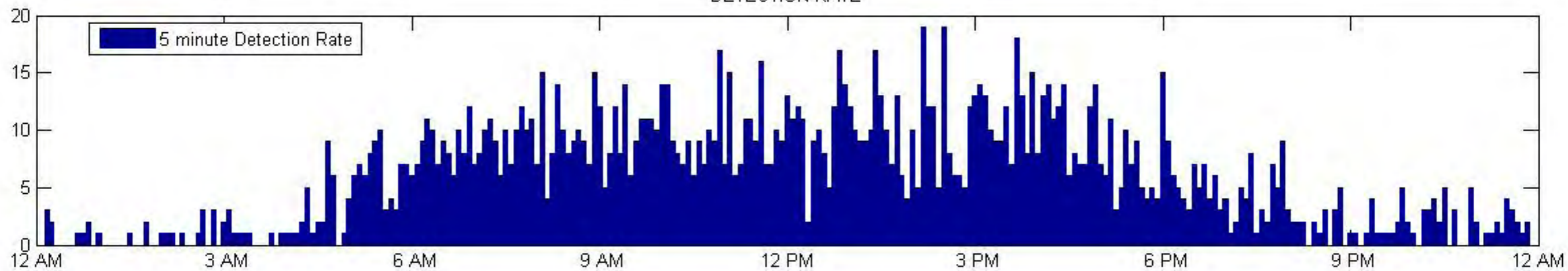
TRAVEL TIME :: Segment ACO-B86 MP 244 to MP 239 :: 18-May-2011



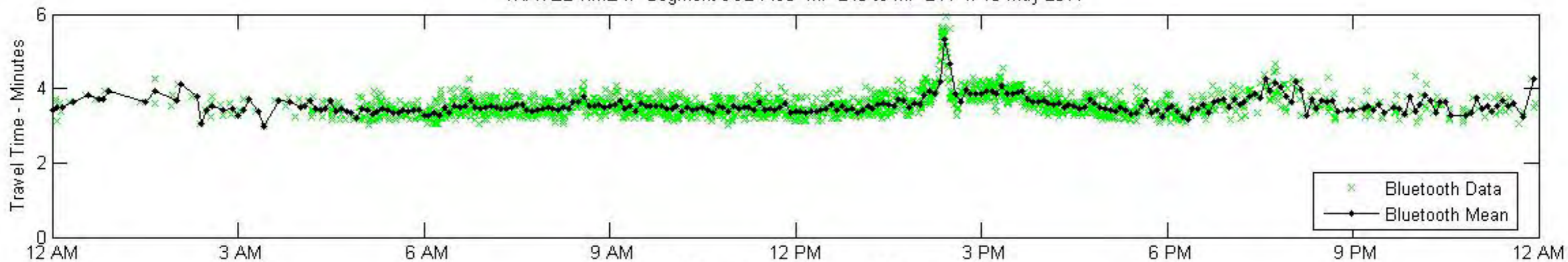
SPEED based on a distance of 5.1 miles



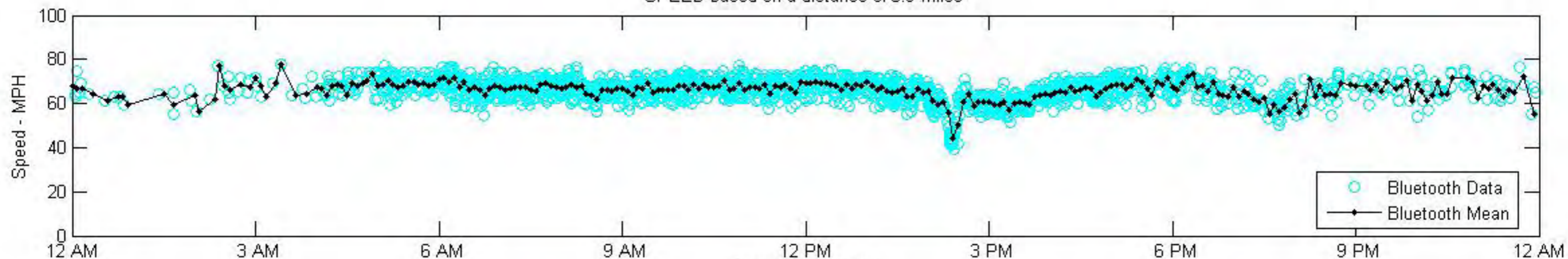
DETECTION RATE



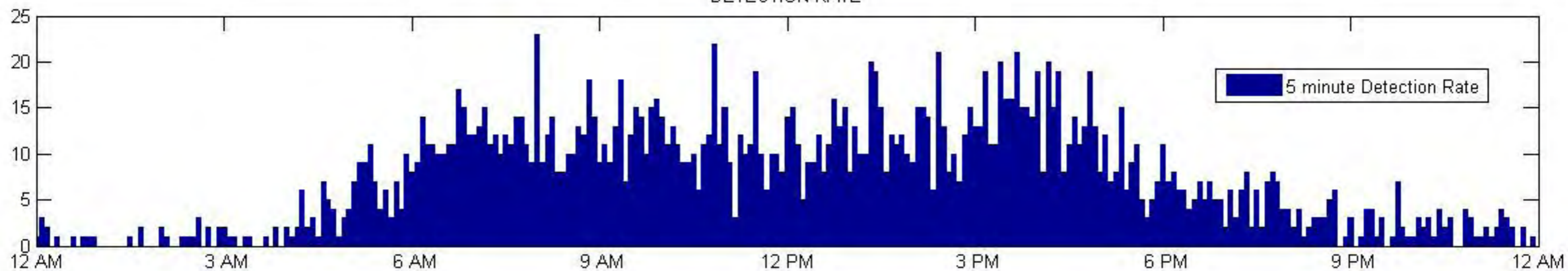
TRAVEL TIME :: Segment 9CB-AC0 MP 248 to MP 244 :: 18-May-2011



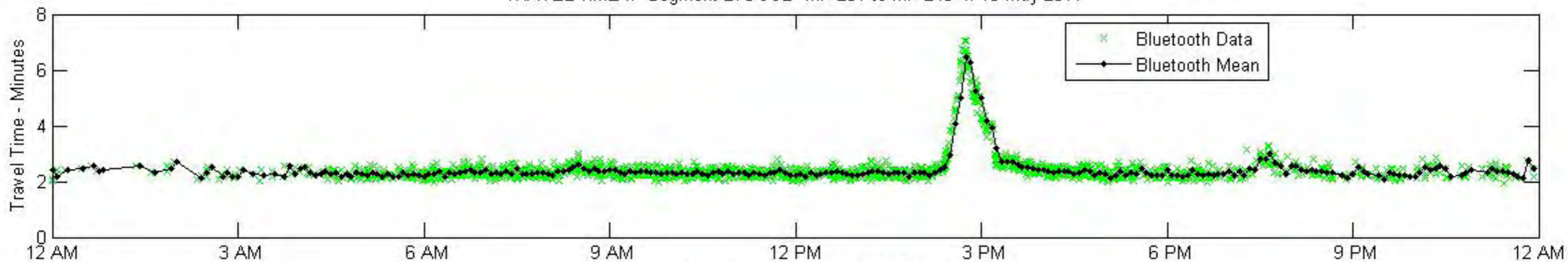
SPEED based on a distance of 3.9 miles



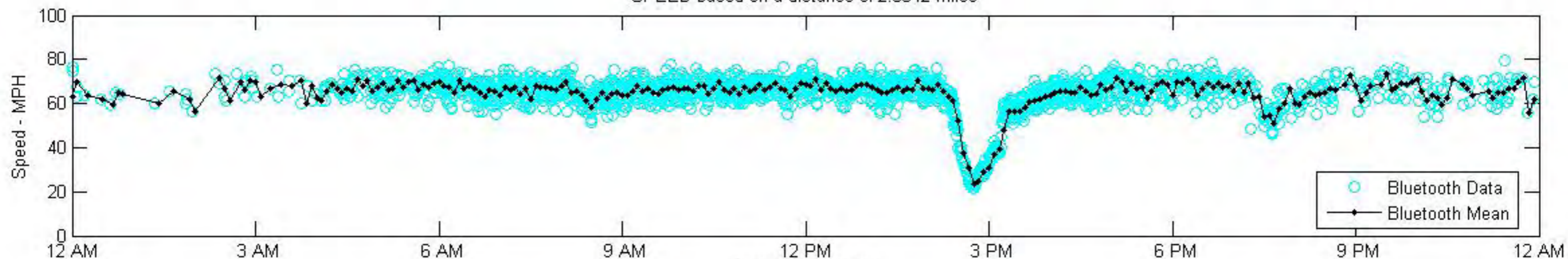
DETECTION RATE



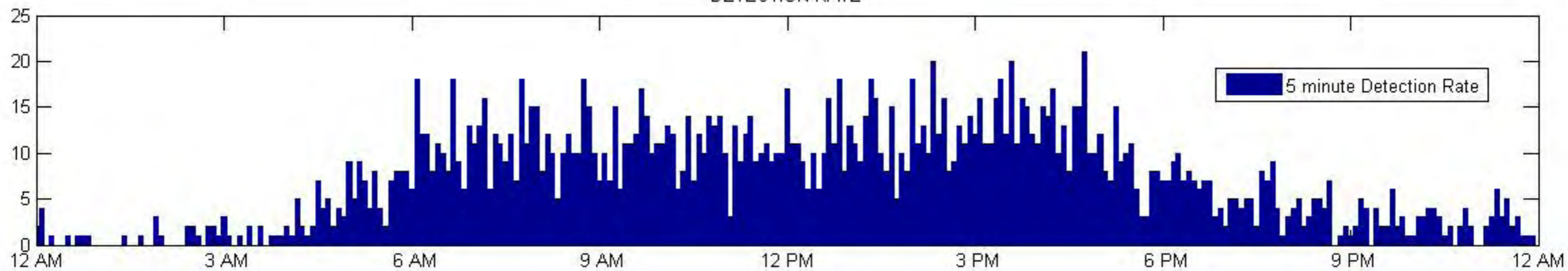
TRAVEL TIME :: Segment B75-9CB MP 251 to MP 248 :: 18-May-2011



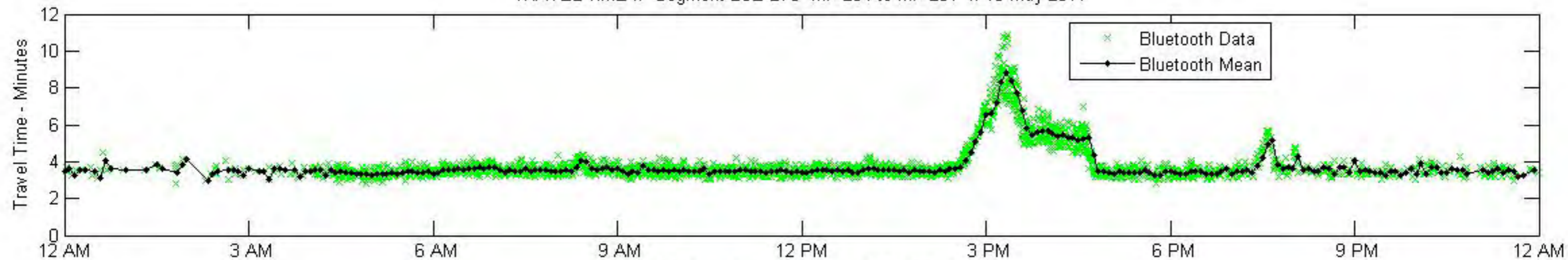
SPEED based on a distance of 2.5542 miles



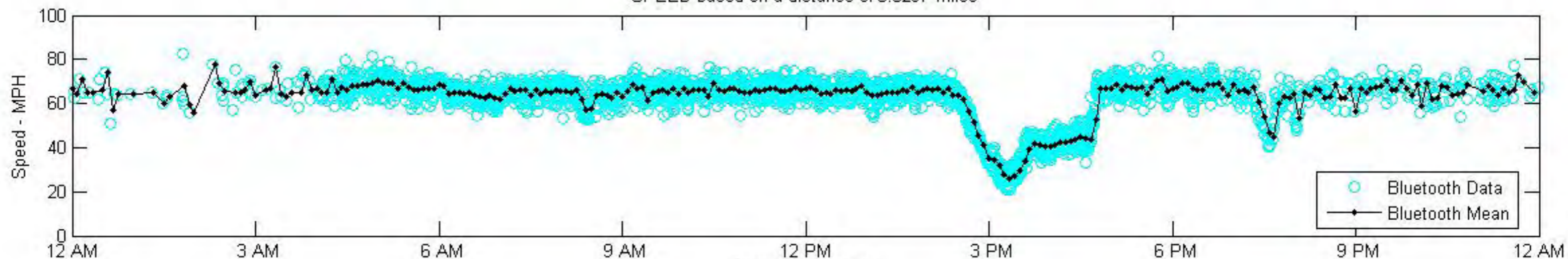
DETECTION RATE



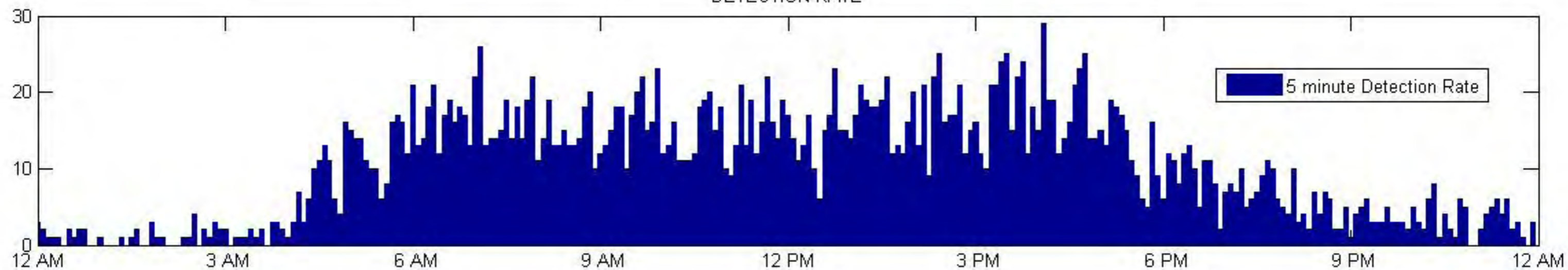
TRAVEL TIME :: Segment B8E-B75 MP 254 to MP 251 :: 18-May-2011



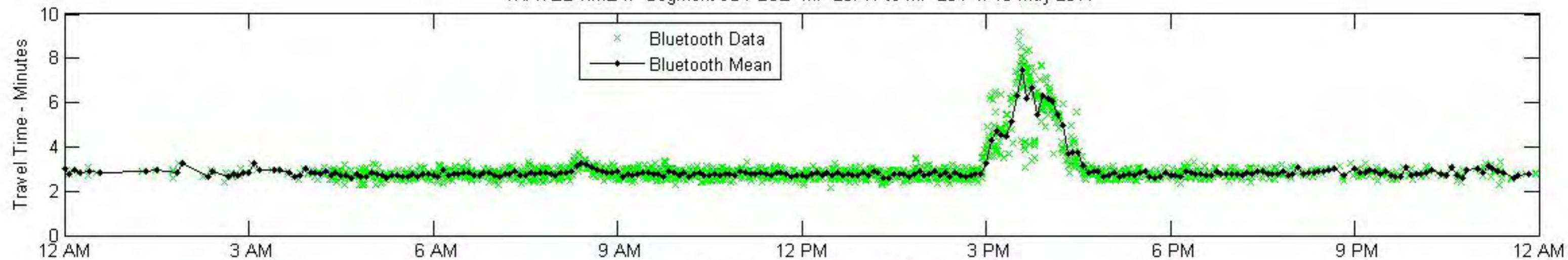
SPEED based on a distance of 3.8297 miles



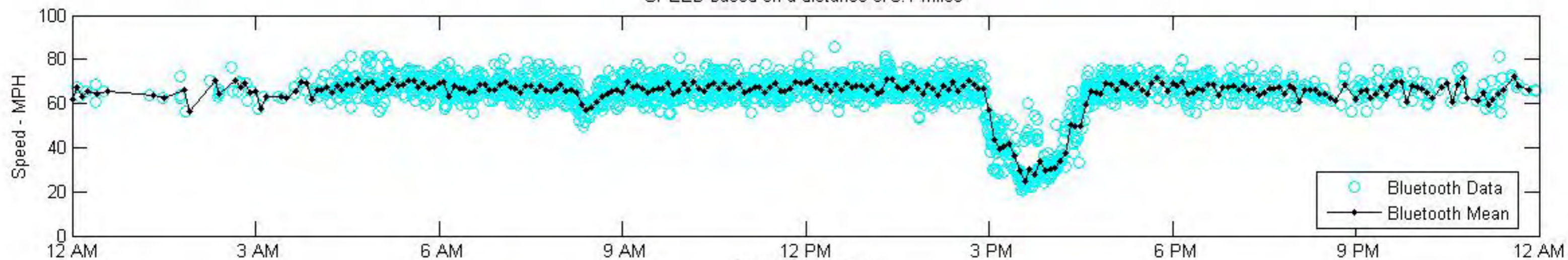
DETECTION RATE



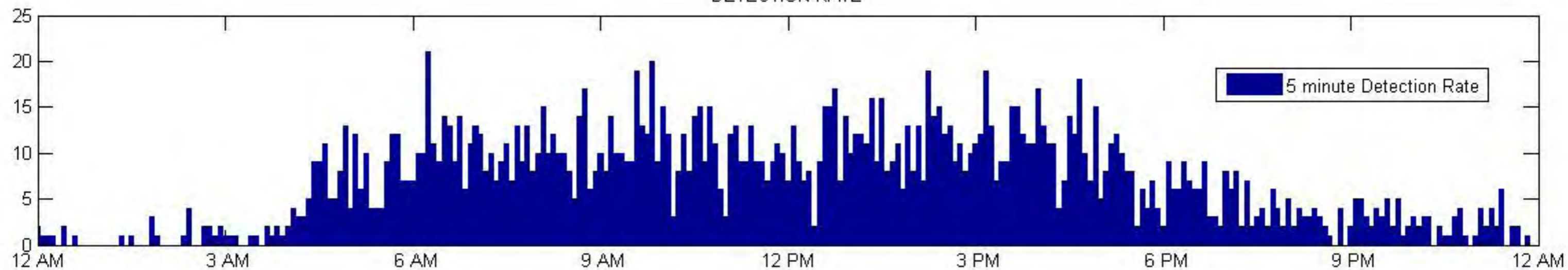
TRAVEL TIME :: Segment 9D1-B8E MP 257W to MP 254 :: 18-May-2011



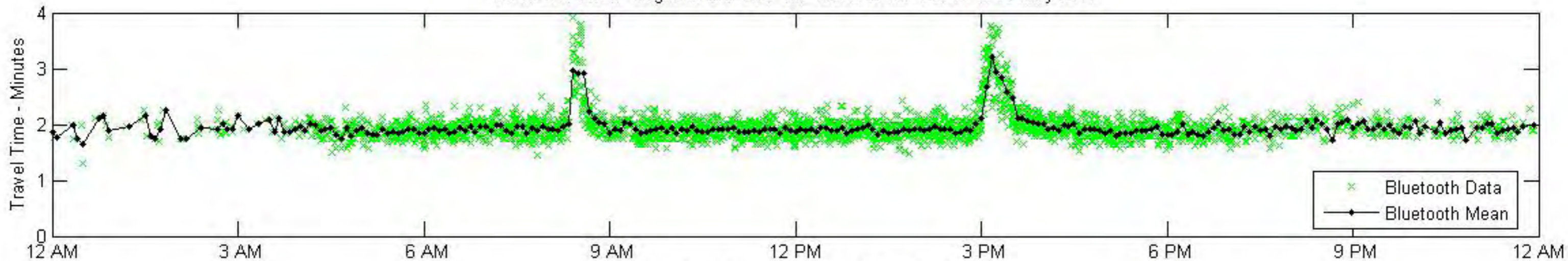
SPEED based on a distance of 3.1 miles



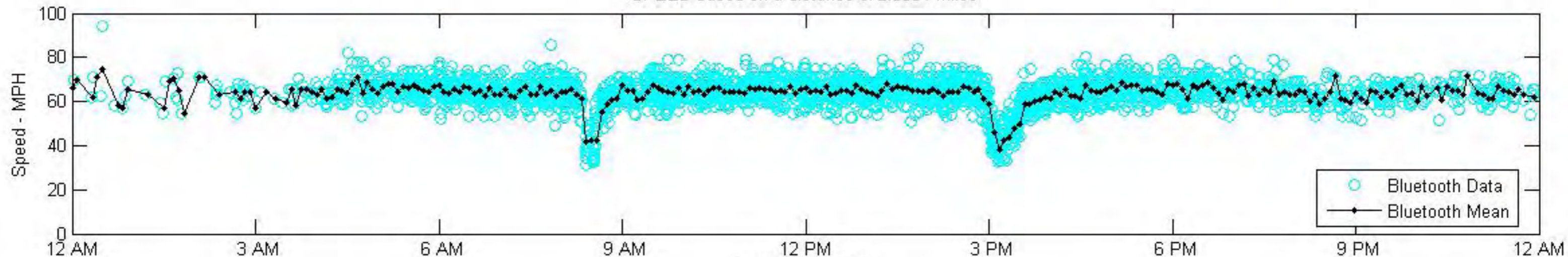
DETECTION RATE



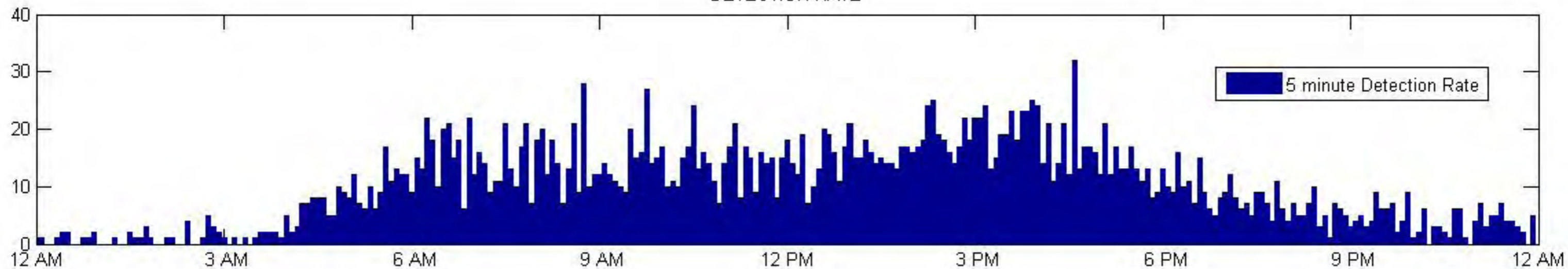
TRAVEL TIME :: Segment 040-9D1 MP 259W to MP 257W :: 18-May-2011



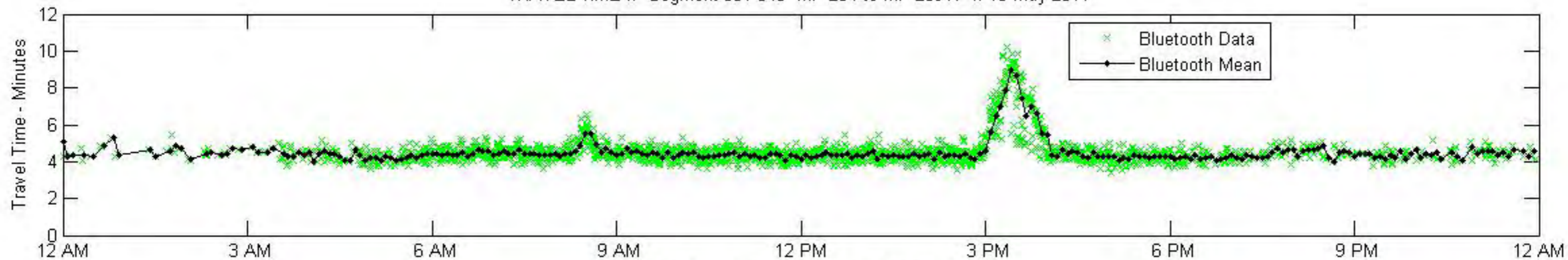
SPEED based on a distance of 2.0564 miles



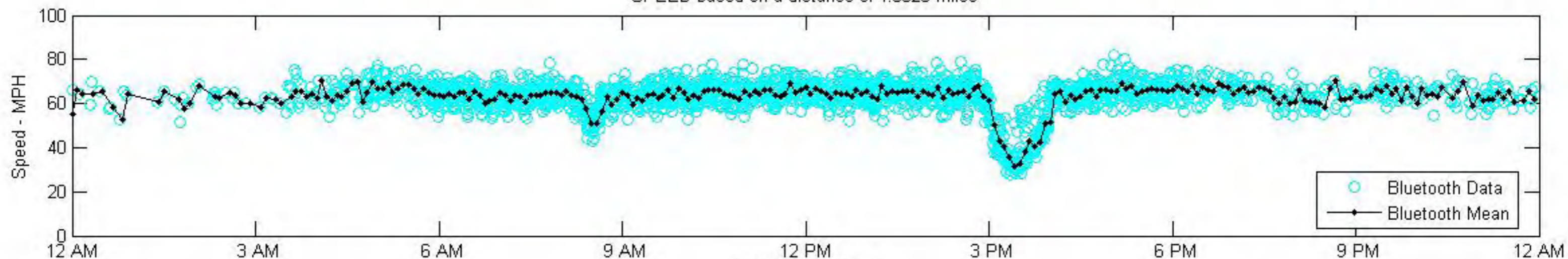
DETECTION RATE



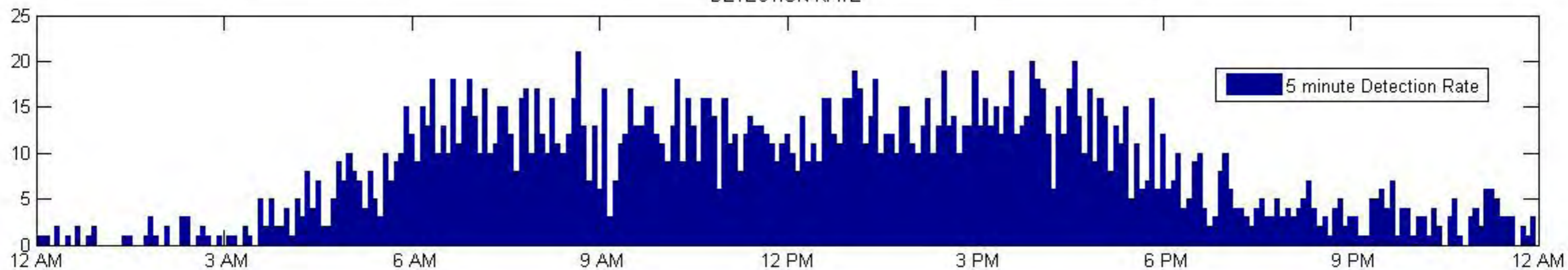
TRAVEL TIME :: Segment 051-040 MP 264 to MP 259W :: 18-May-2011



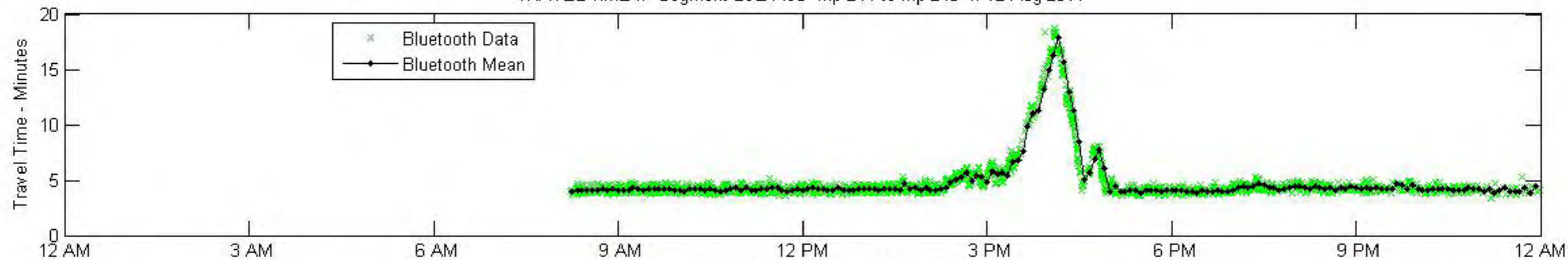
SPEED based on a distance of 4.6828 miles



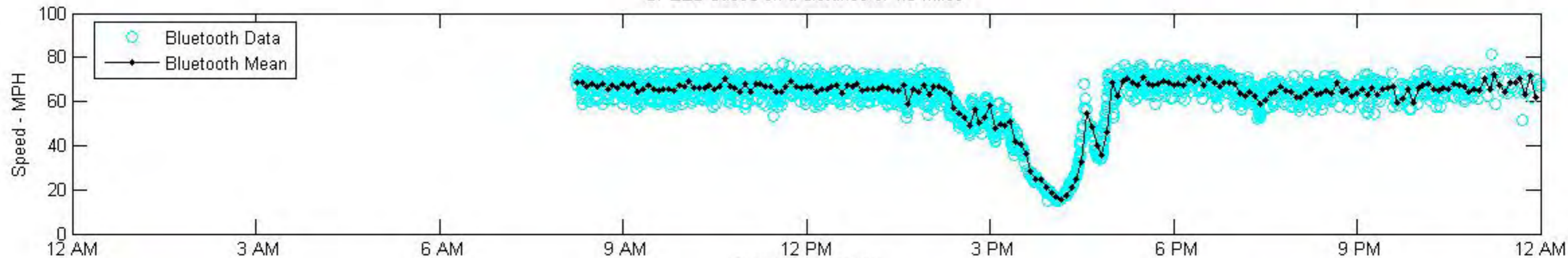
DETECTION RATE



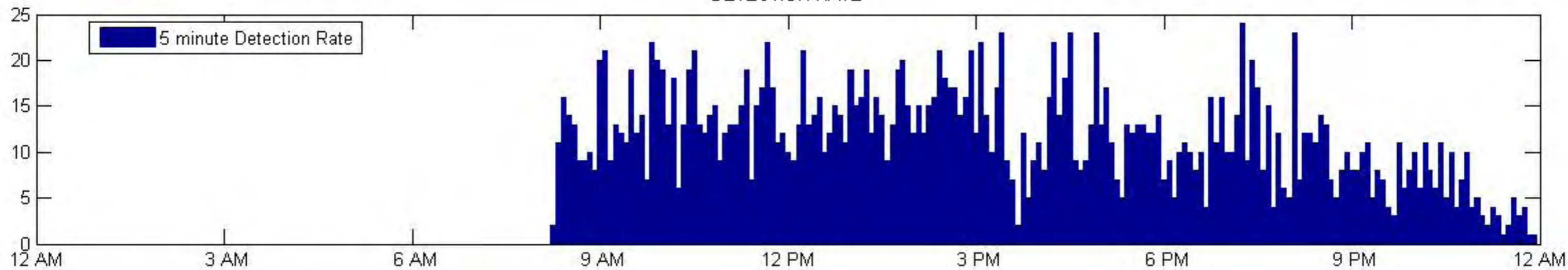
TRAVEL TIME :: Segment B9E-AC0 mp 244 to mp 248 :: 12-Aug-2011



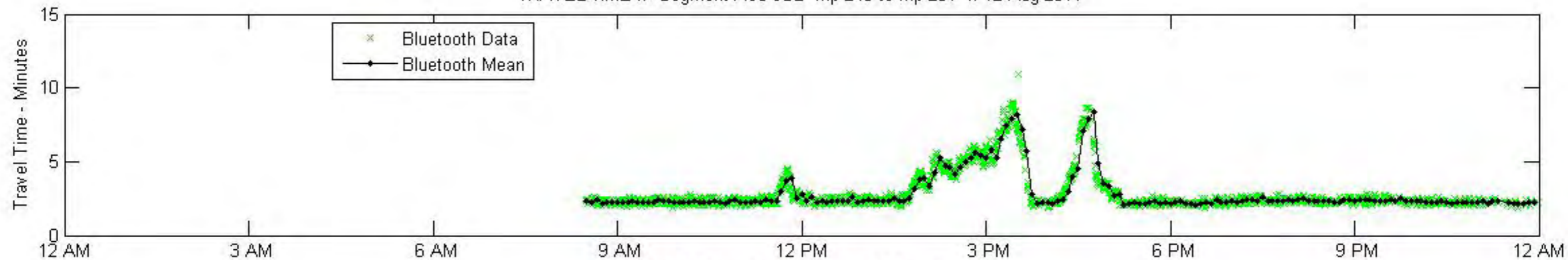
SPEED based on a distance of 4.6 miles



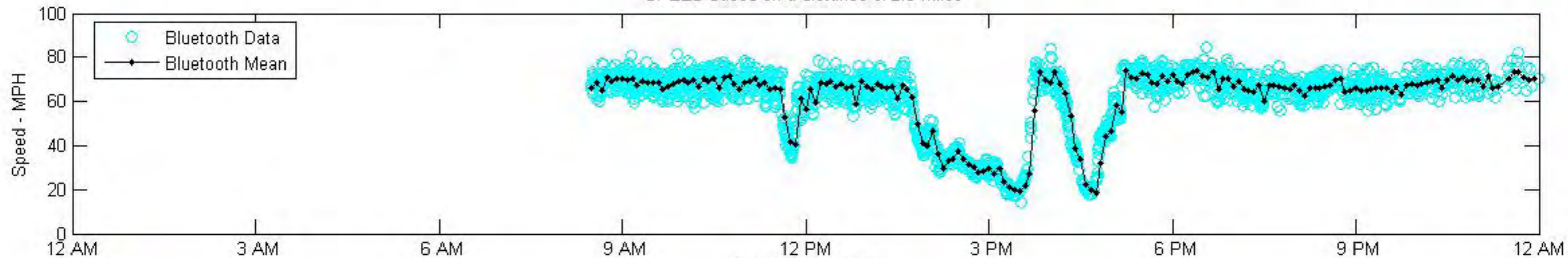
DETECTION RATE



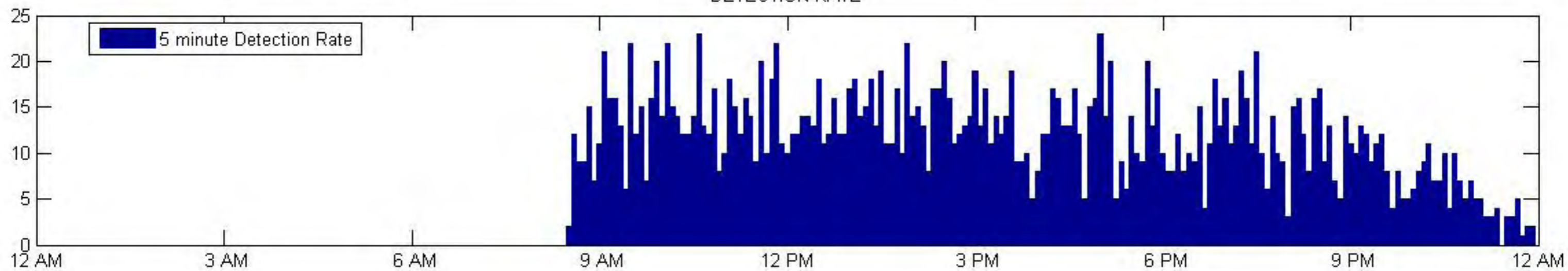
TRAVEL TIME :: Segment ACO-9D2 mp 248 to mp 251 :: 12-Aug-2011



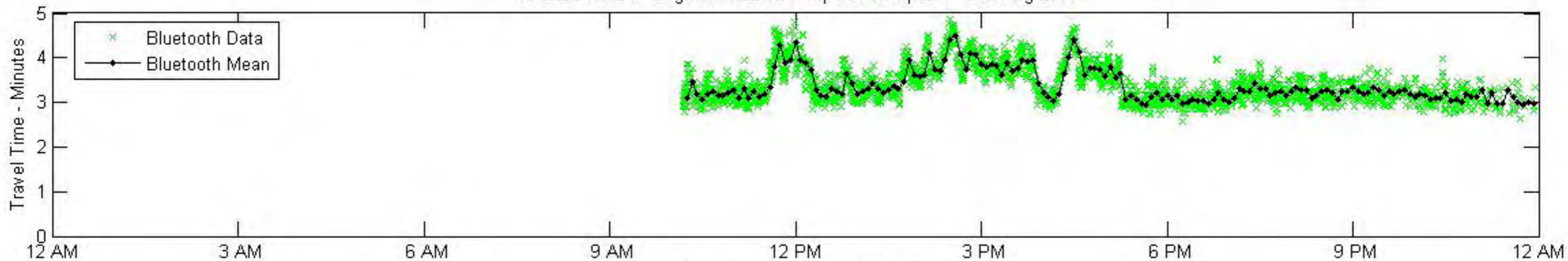
SPEED based on a distance of 2.6 miles



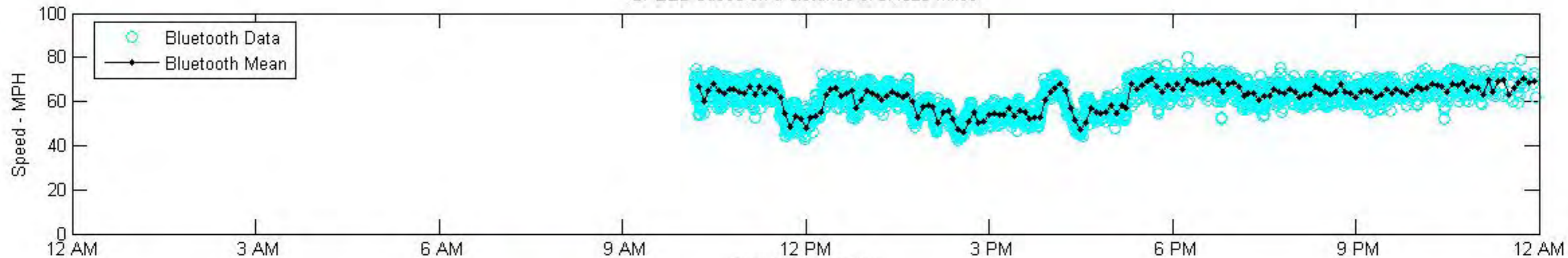
DETECTION RATE



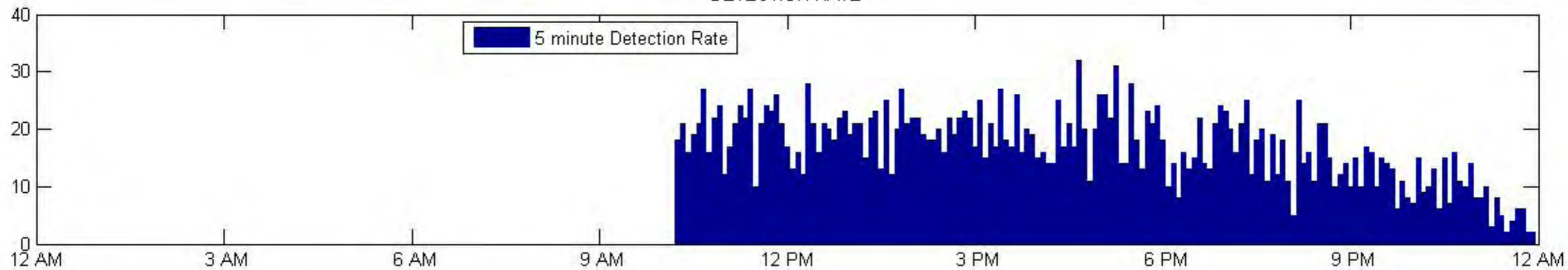
TRAVEL TIME :: Segment 9D2-9D1 mp 251 to mp 254 :: 12-Aug-2011



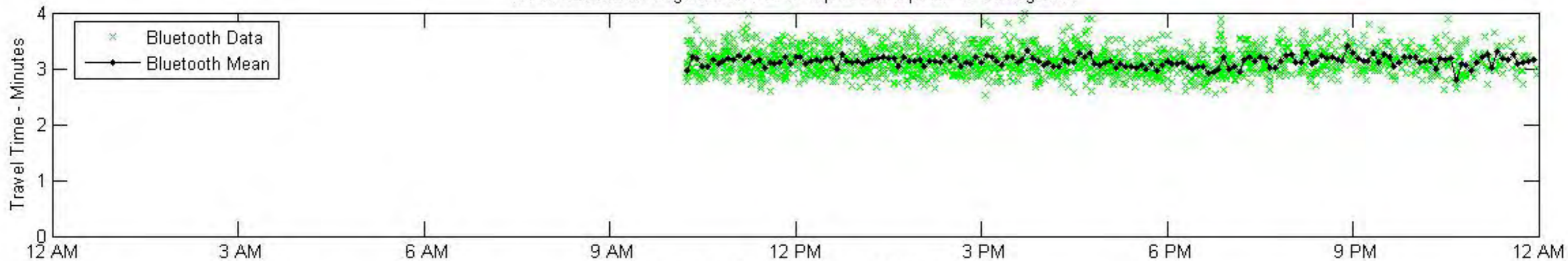
SPEED based on a distance of 3.4525 miles



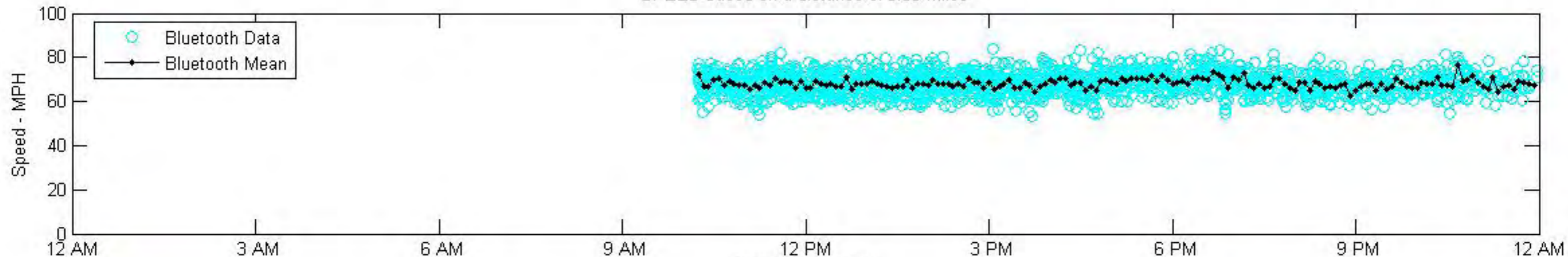
DETECTION RATE



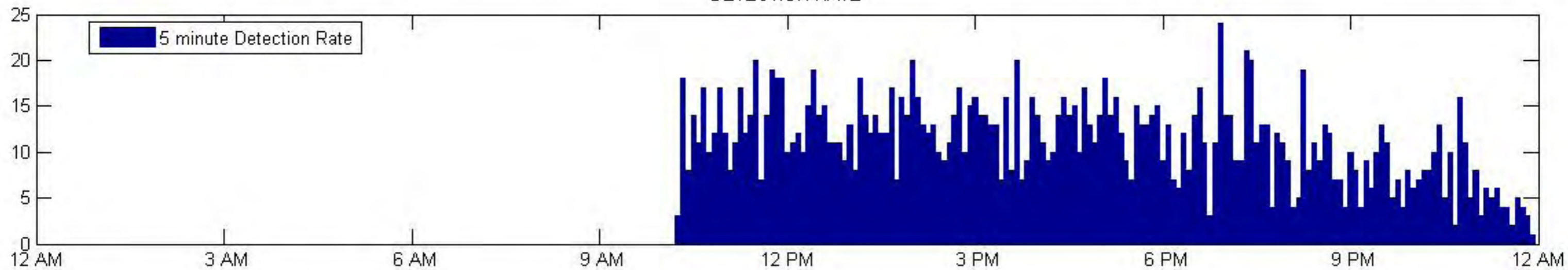
TRAVEL TIME :: Segment 9D1-BA0 mp 254 to mp 257 :: 12-Aug-2011



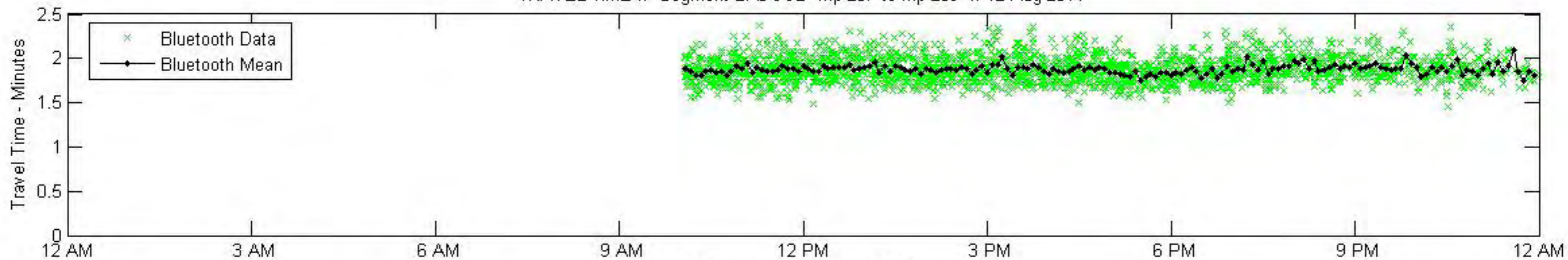
SPEED based on a distance of 3.55 miles



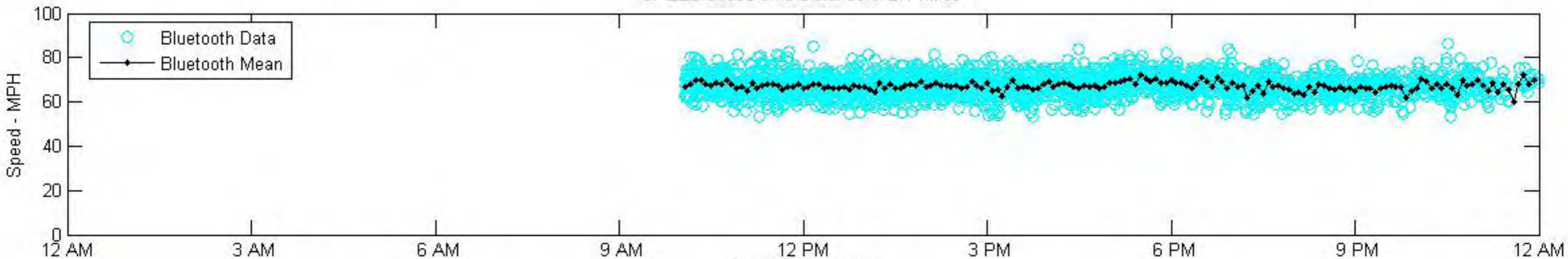
DETECTION RATE



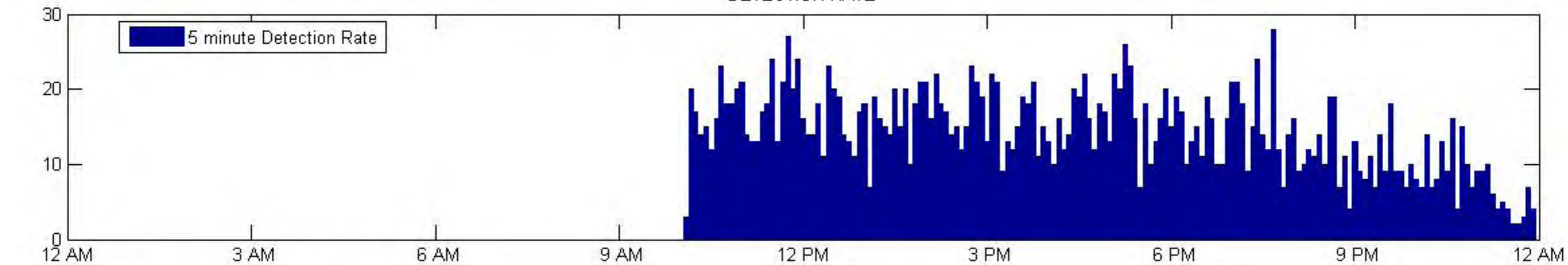
TRAVEL TIME :: Segment BA0-9CB mp 257 to mp 259 :: 12-Aug-2011



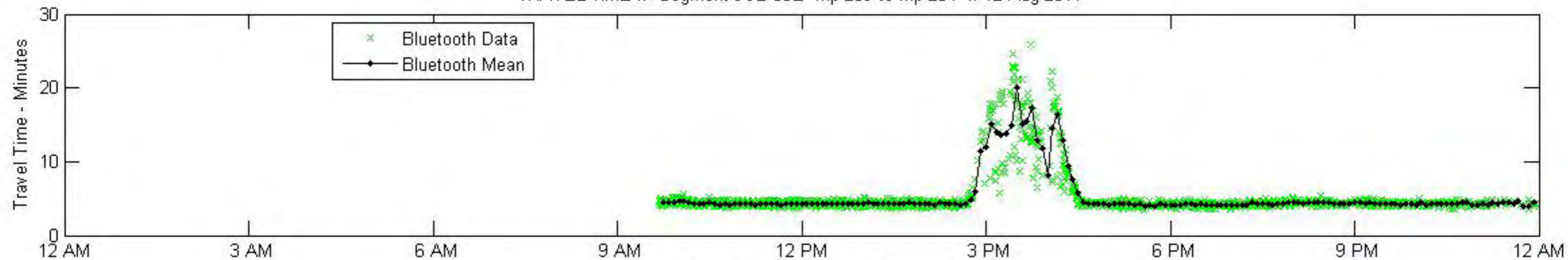
SPEED based on a distance of 2.1 miles



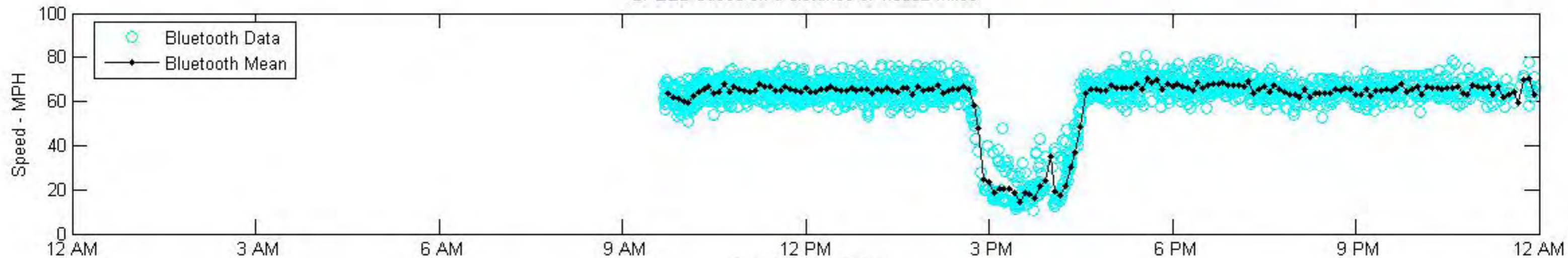
DETECTION RATE



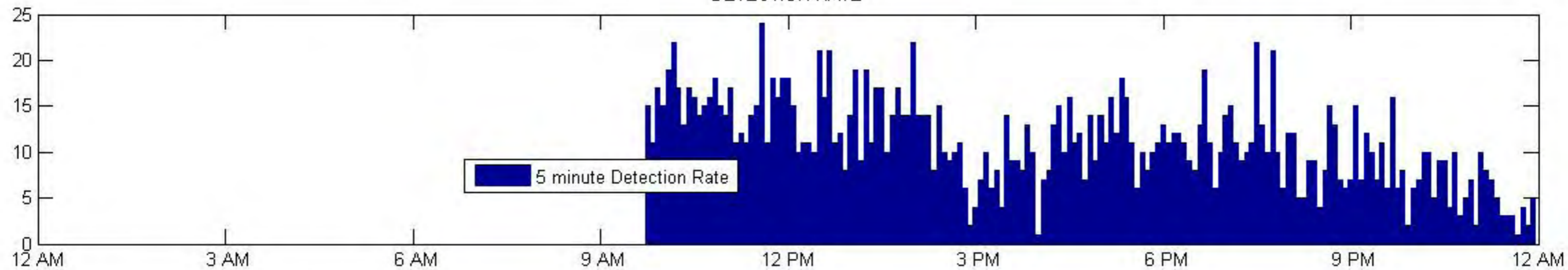
TRAVEL TIME :: Segment 9CB-58E mp 259 to mp 264 :: 12-Aug-2011



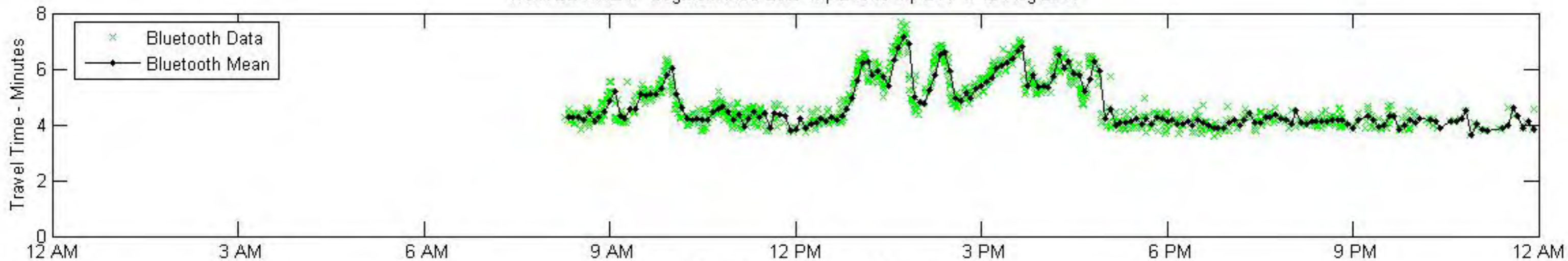
SPEED based on a distance of 4.6882 miles



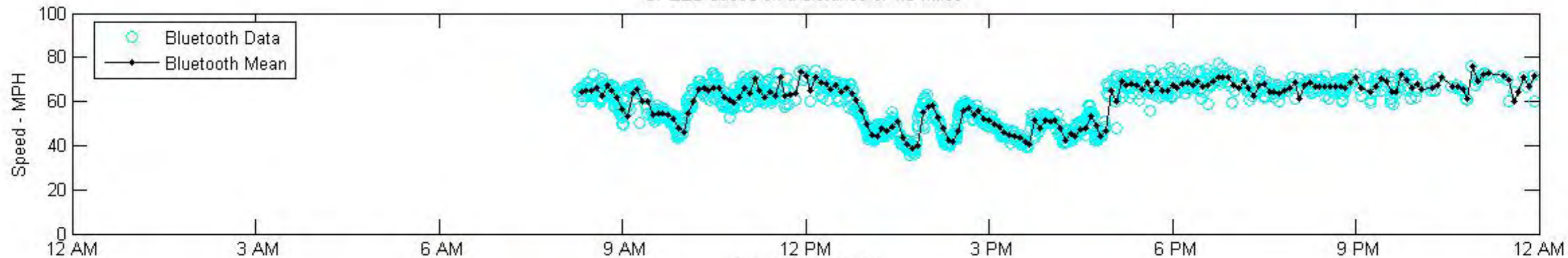
DETECTION RATE



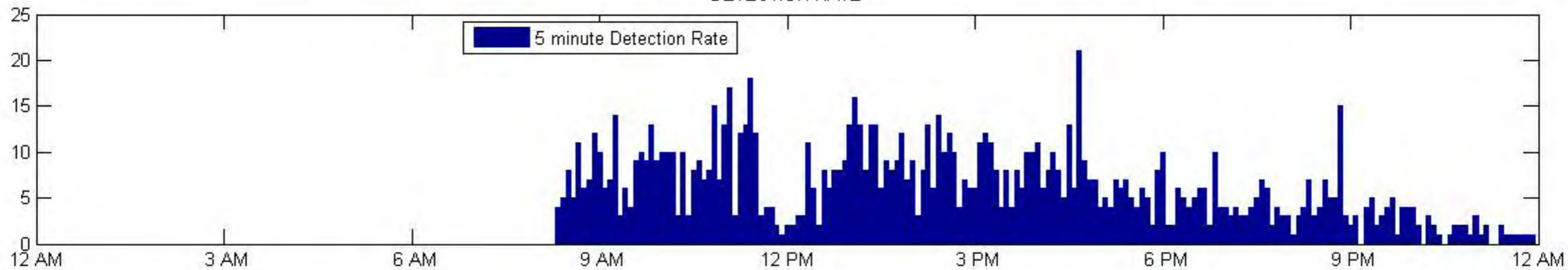
TRAVEL TIME :: Segment ACO-B9E mp 248 to mp 244 :: 12-Aug-2011



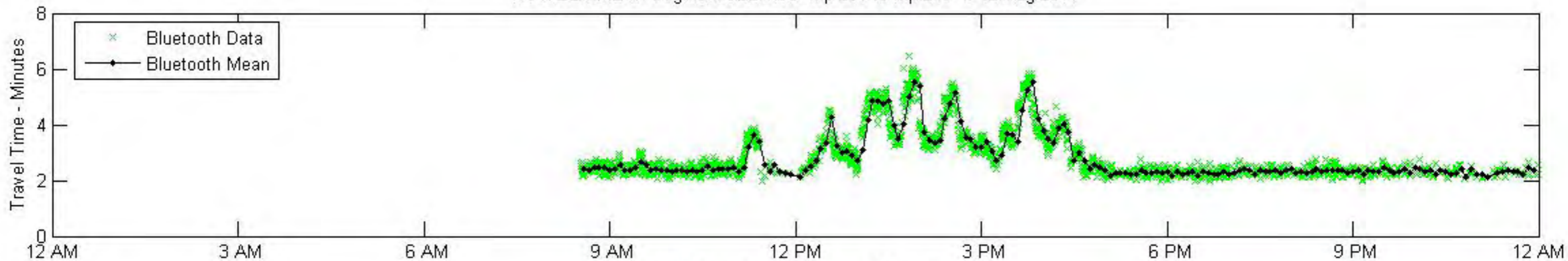
SPEED based on a distance of 4.6 miles



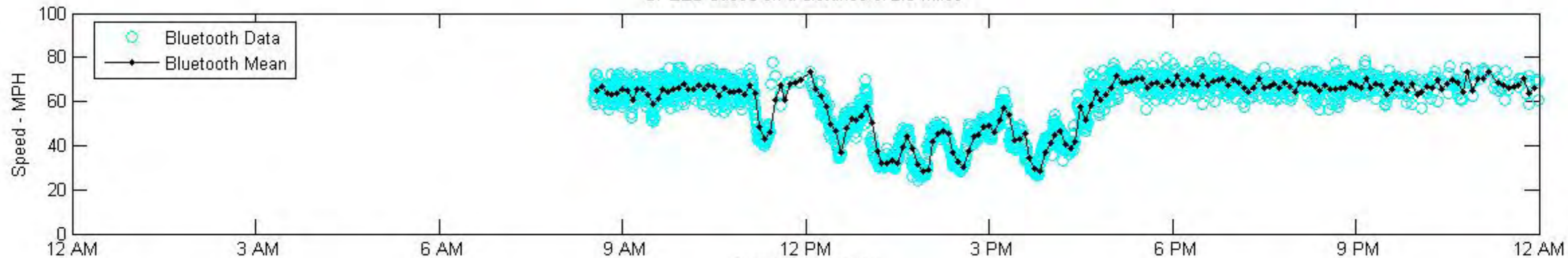
DETECTION RATE



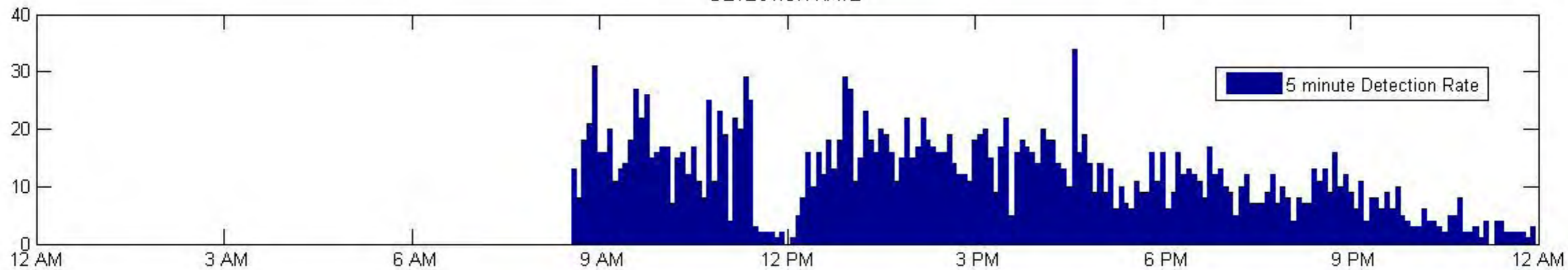
TRAVEL TIME :: Segment 9D2-AC0 mp 251 to mp 248 :: 12-Aug-2011



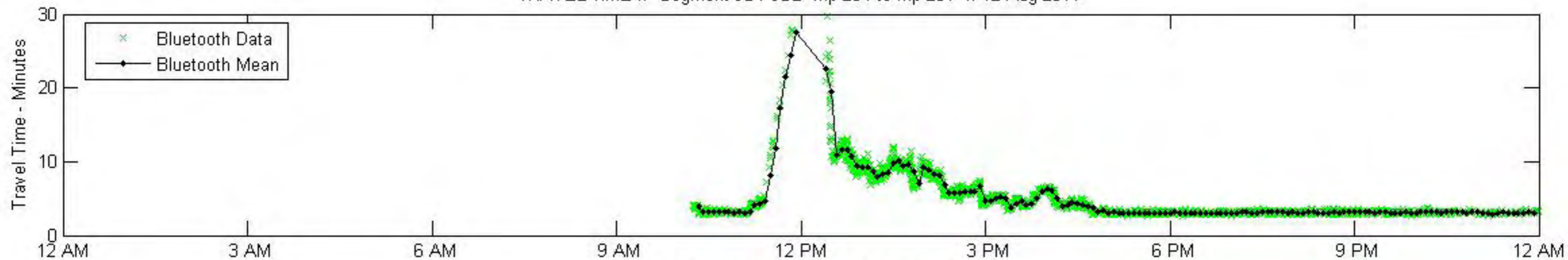
SPEED based on a distance of 2.6 miles



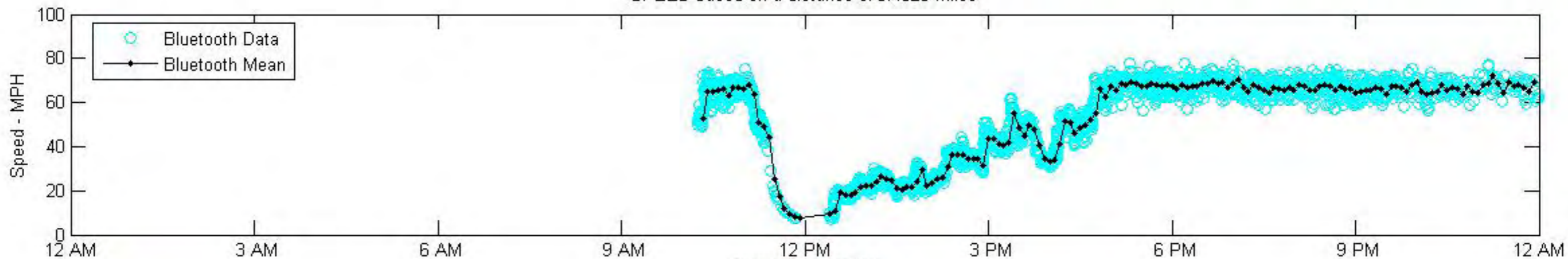
DETECTION RATE



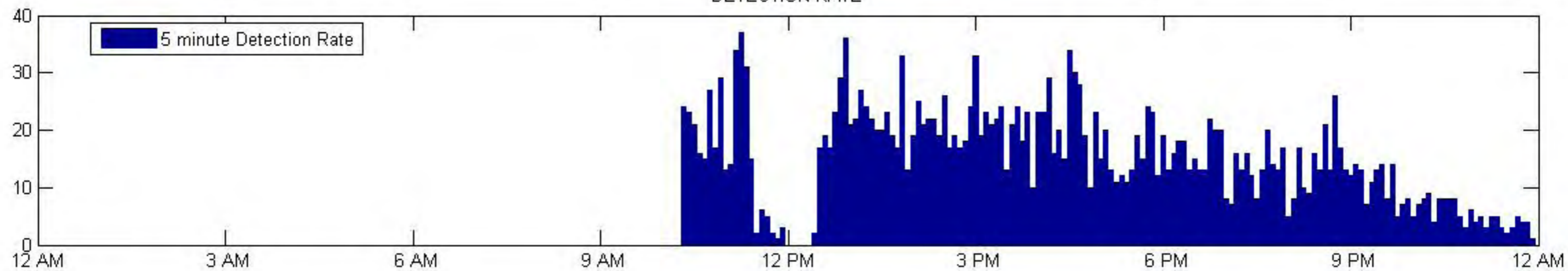
TRAVEL TIME :: Segment 9D1-9D2 mp 254 to mp 251 :: 12-Aug-2011



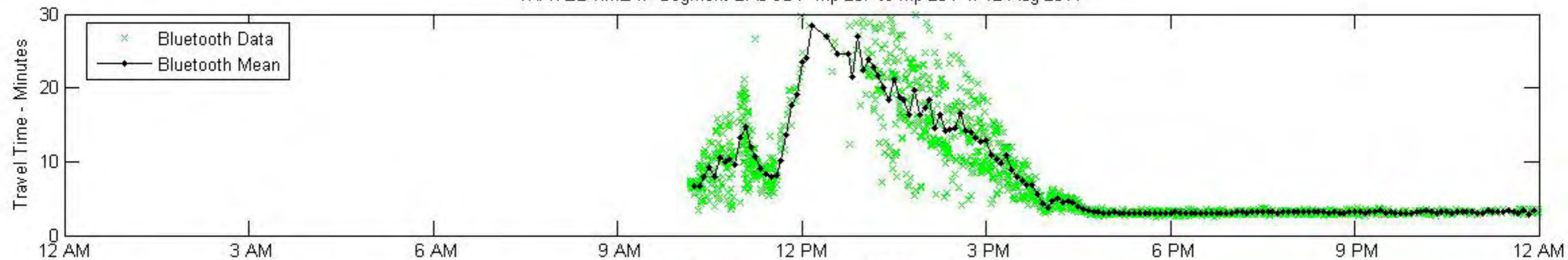
SPEED based on a distance of 3.4525 miles



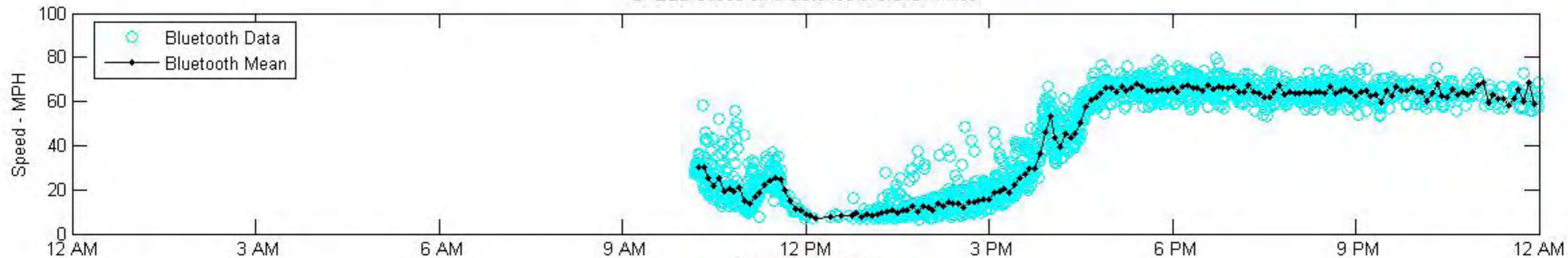
DETECTION RATE



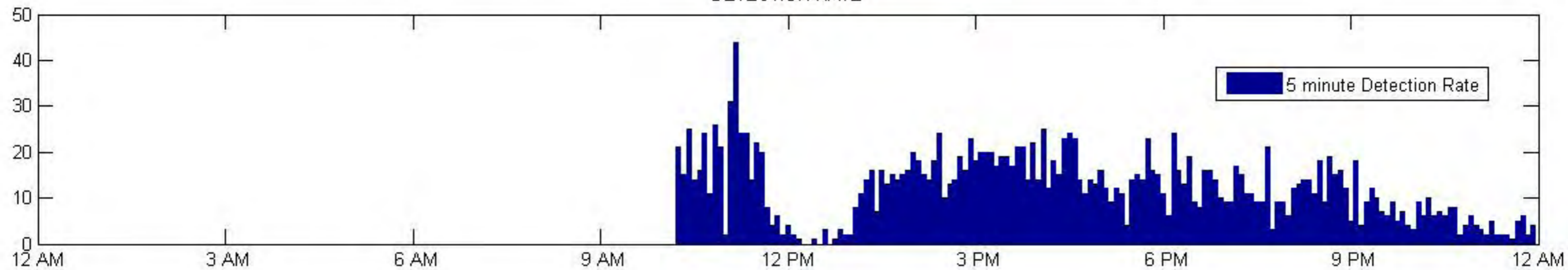
TRAVEL TIME :: Segment BA0-9D1 mp 257 to mp 254 :: 12-Aug-2011



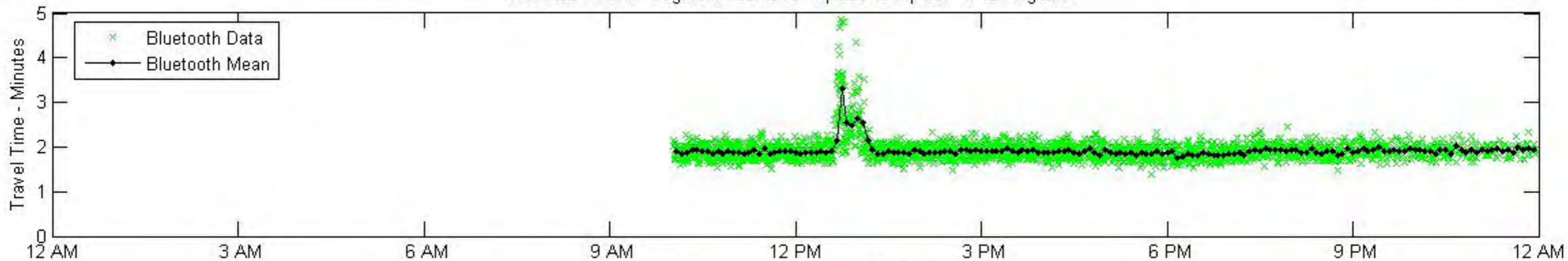
SPEED based on a distance of 3.3481 miles



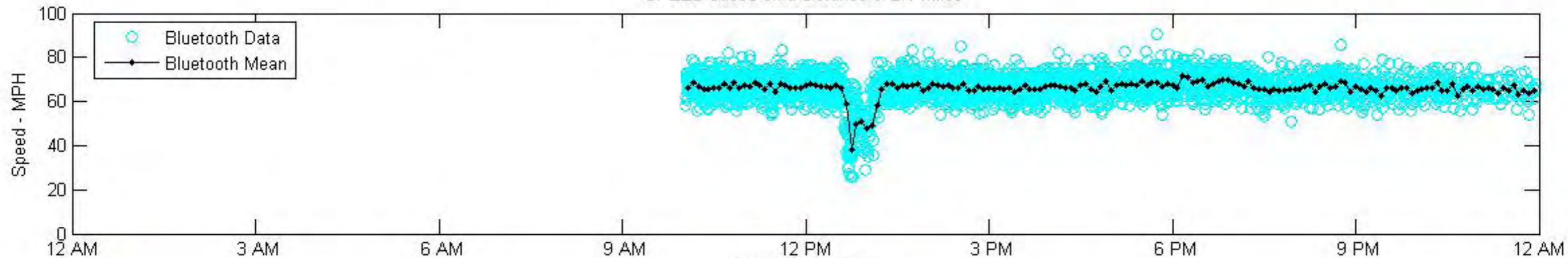
DETECTION RATE



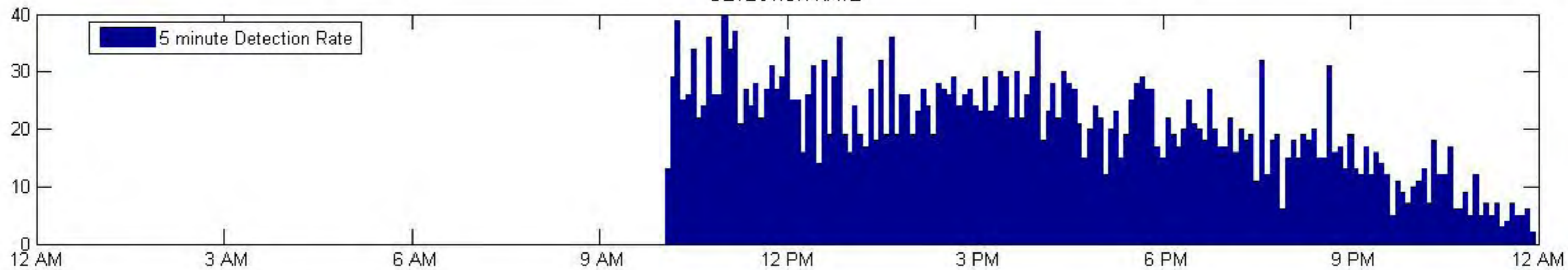
TRAVEL TIME :: Segment 9CB-BA0 mp 259 to mp 257 :: 12-Aug-2011



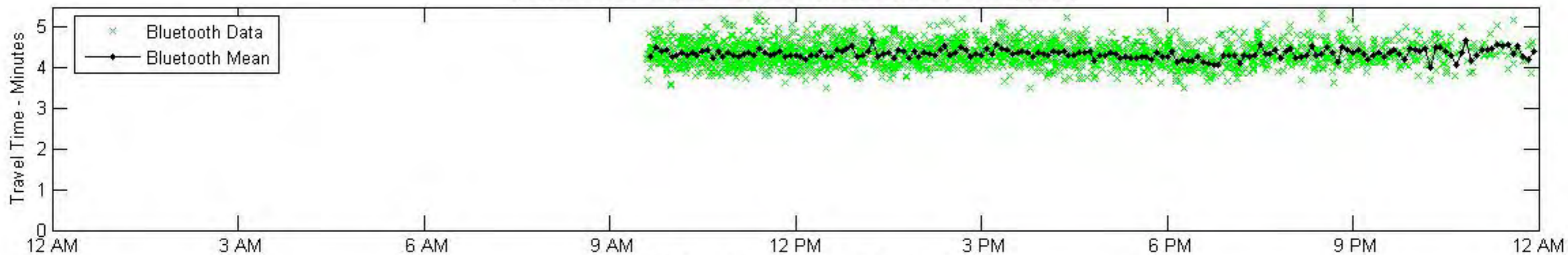
SPEED based on a distance of 2.1 miles



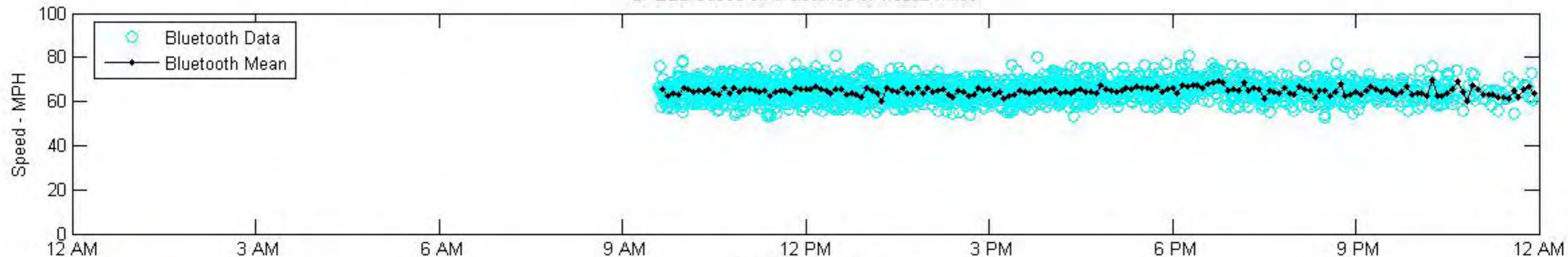
DETECTION RATE



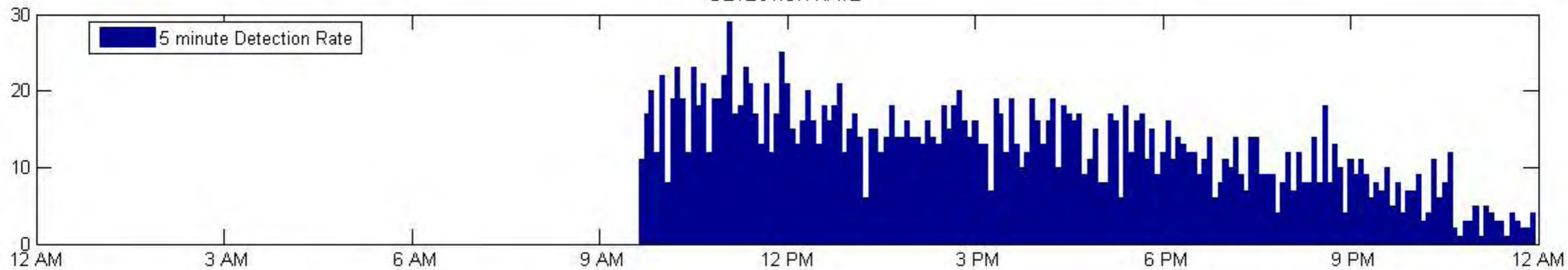
TRAVEL TIME :: Segment 58E-9CB mp 264 to mp 259 :: 12-Aug-2011



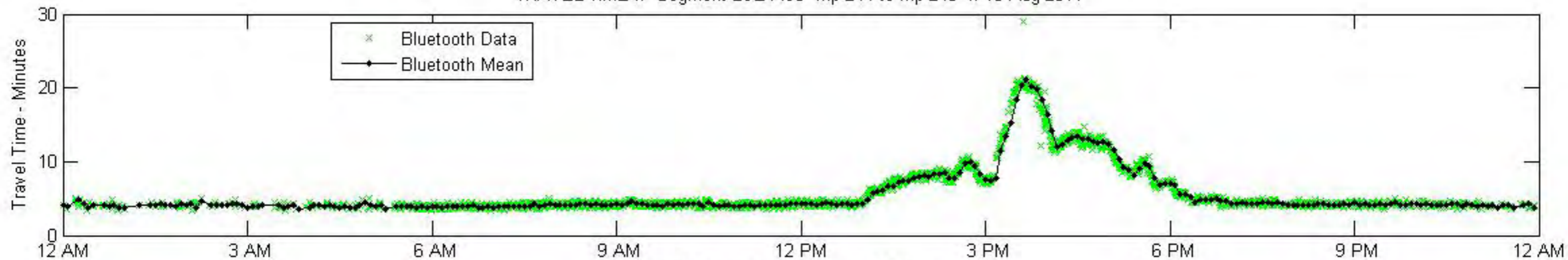
SPEED based on a distance of 4.6882 miles



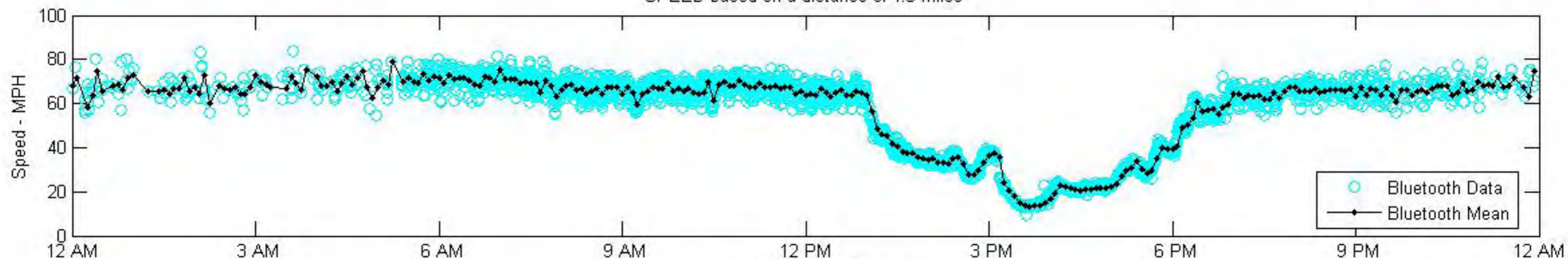
DETECTION RATE



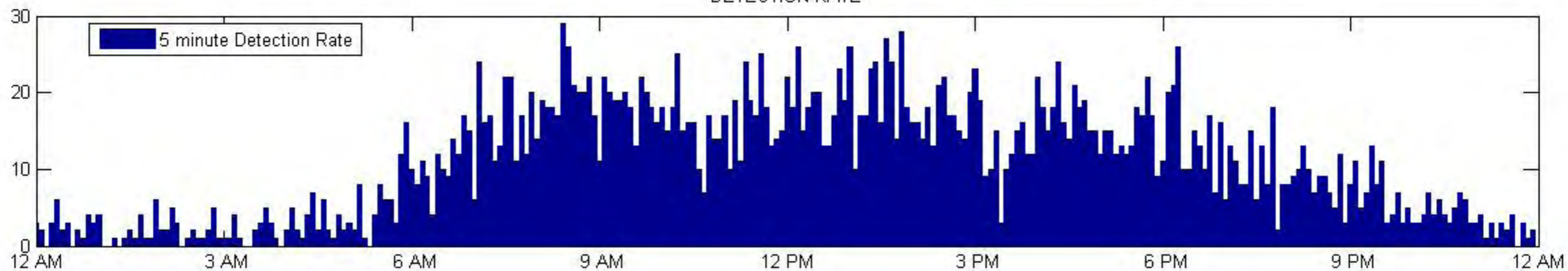
TRAVEL TIME :: Segment B9E-AC0 mp 244 to mp 248 :: 13-Aug-2011



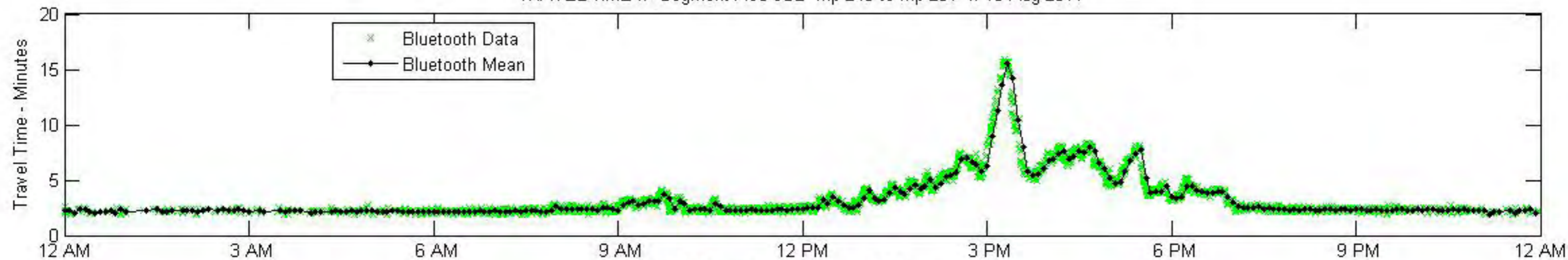
SPEED based on a distance of 4.6 miles



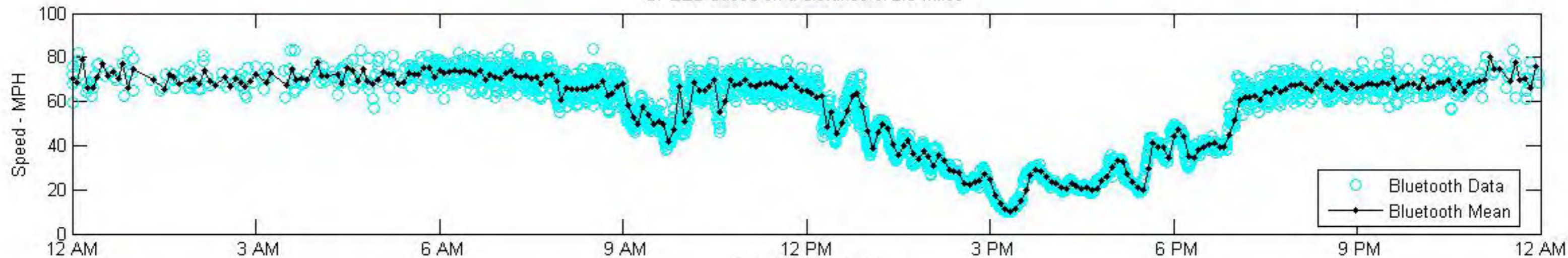
DETECTION RATE



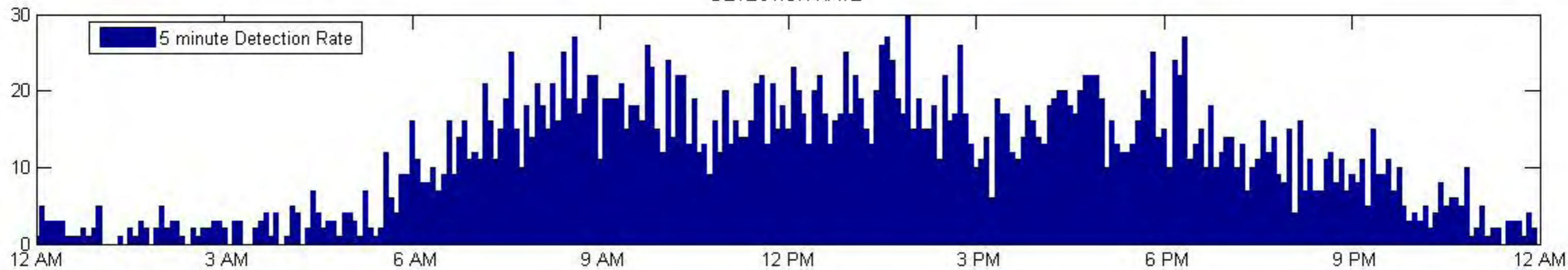
TRAVEL TIME :: Segment AC0-9D2 mp 248 to mp 251 :: 13-Aug-2011



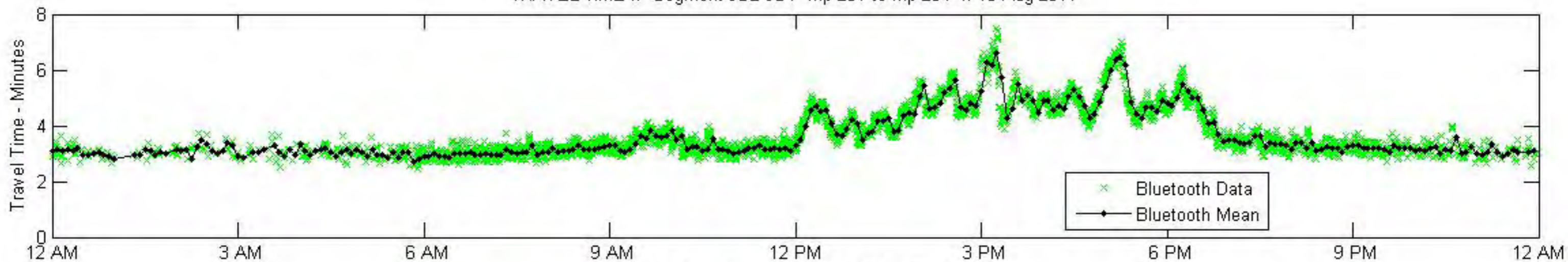
SPEED based on a distance of 2.6 miles



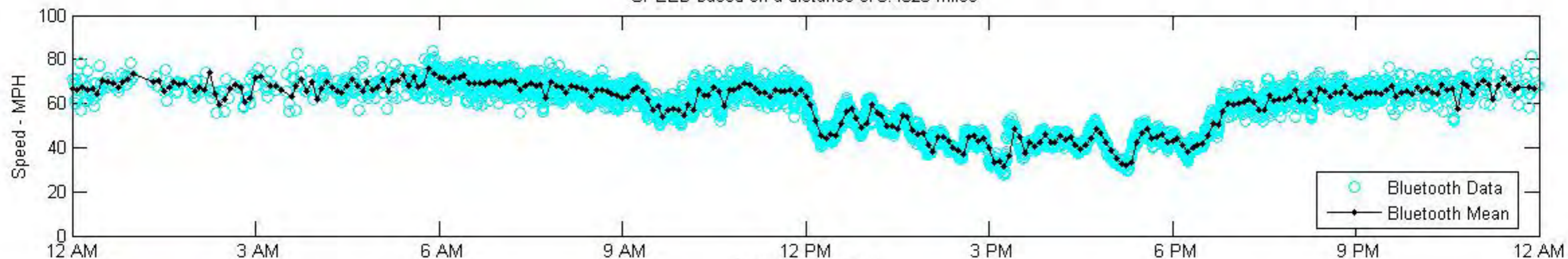
DETECTION RATE



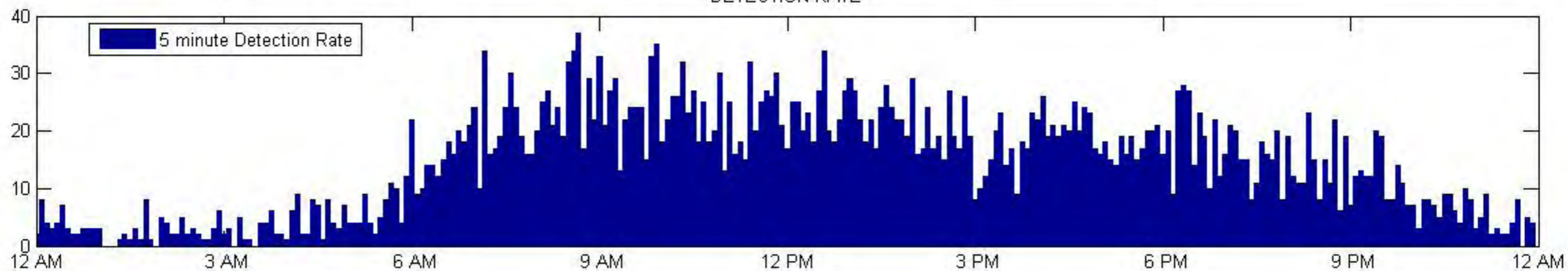
TRAVEL TIME :: Segment 9D2-9D1 mp 251 to mp 254 :: 13-Aug-2011



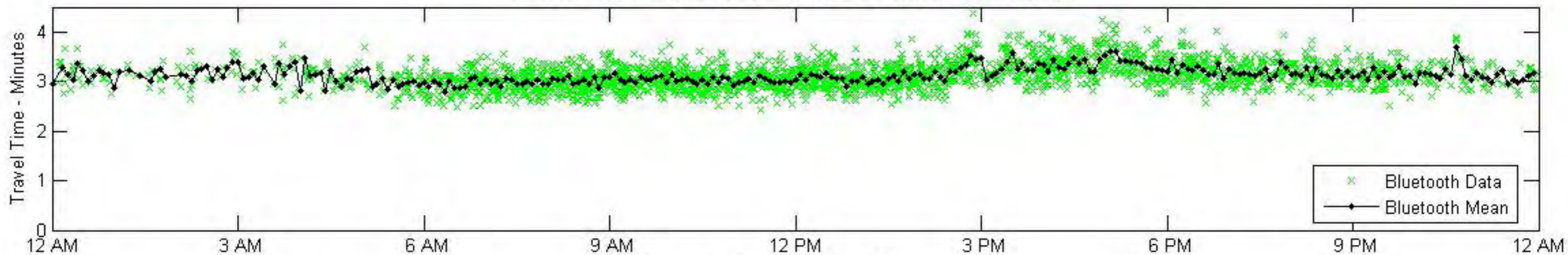
SPEED based on a distance of 3.4525 miles



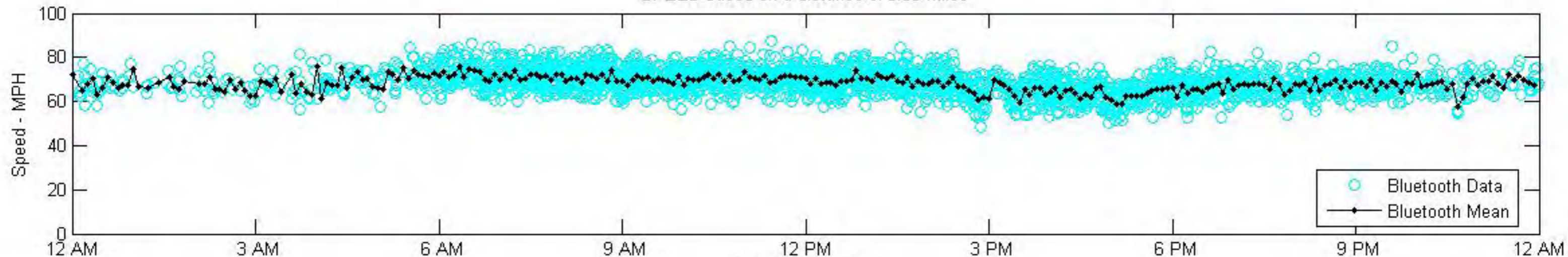
DETECTION RATE



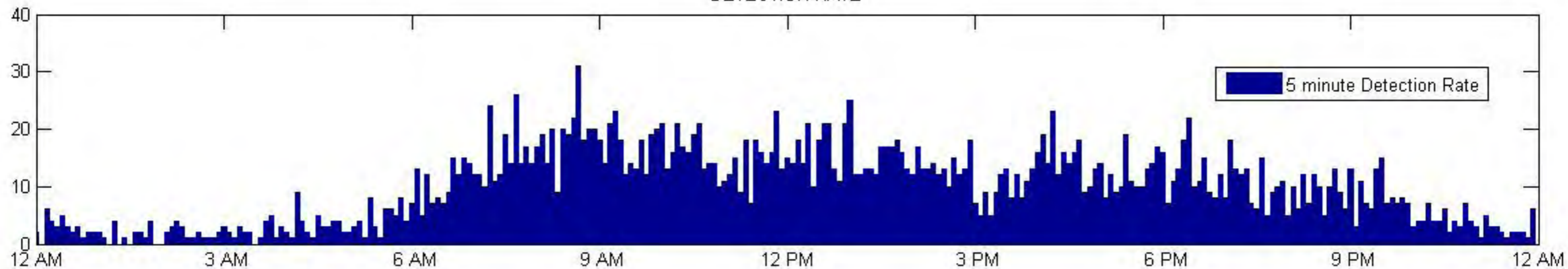
TRAVEL TIME :: Segment 9D1-BA0 mp 254 to mp 257 :: 13-Aug-2011



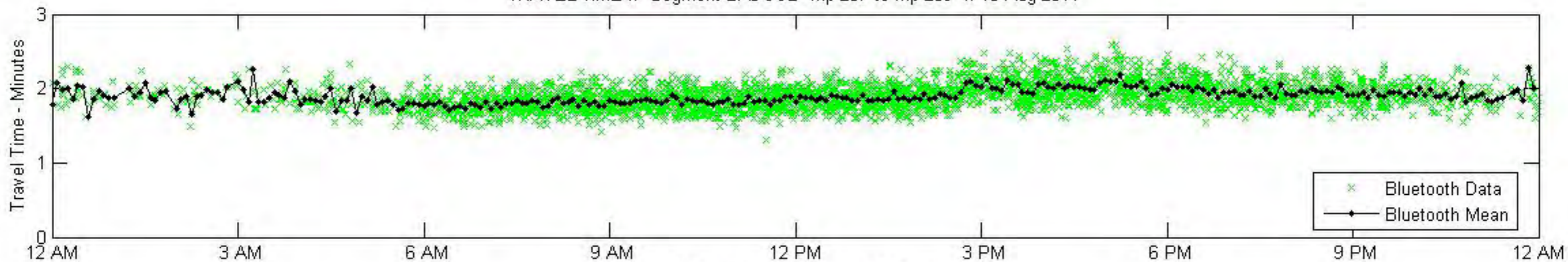
SPEED based on a distance of 3.55 miles



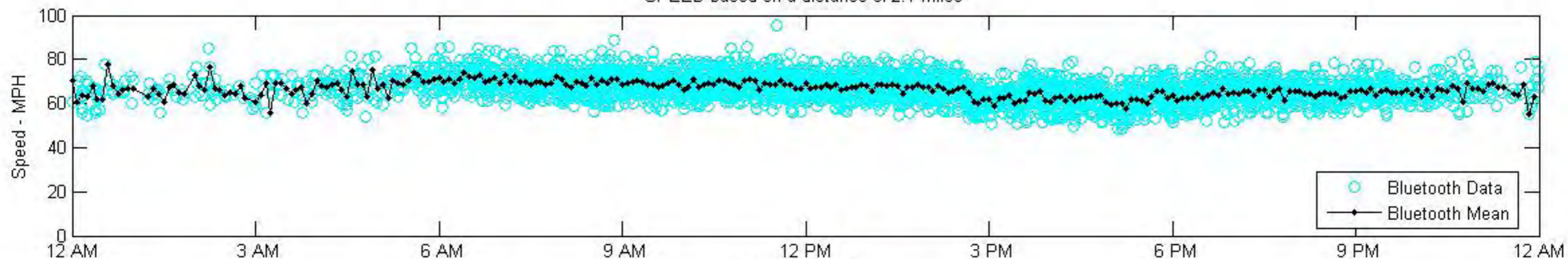
DETECTION RATE



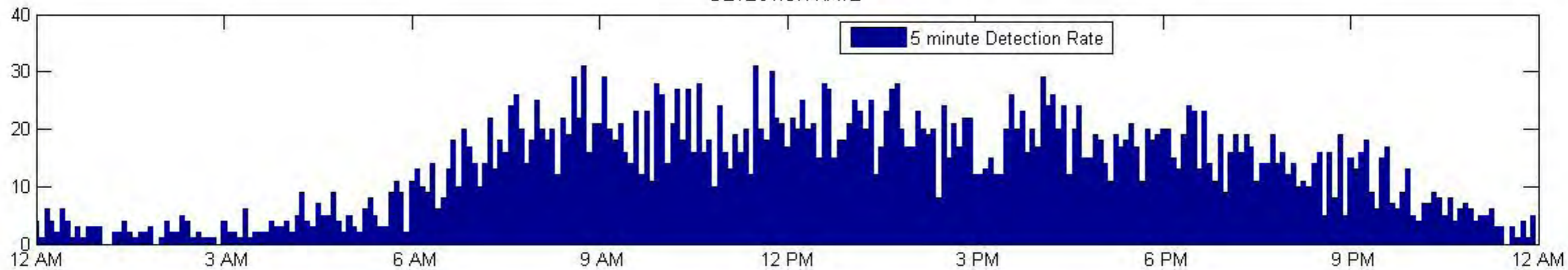
TRAVEL TIME :: Segment BA0-9CB mp 257 to mp 259 :: 13-Aug-2011



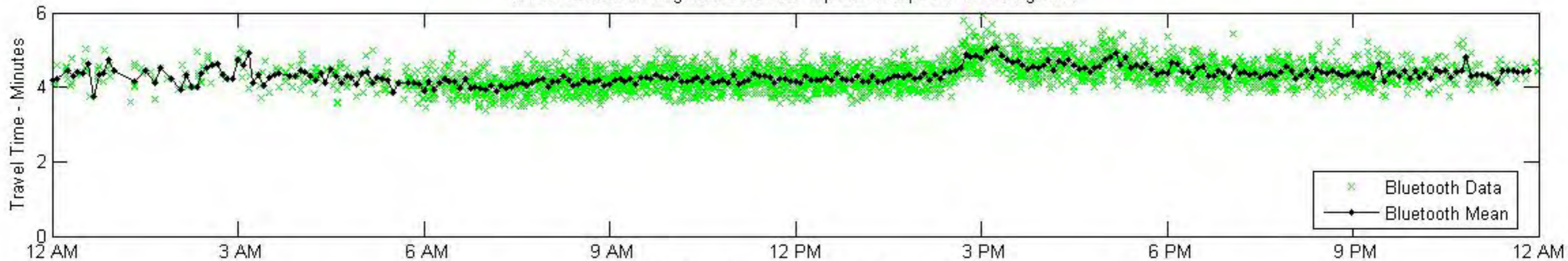
SPEED based on a distance of 2.1 miles



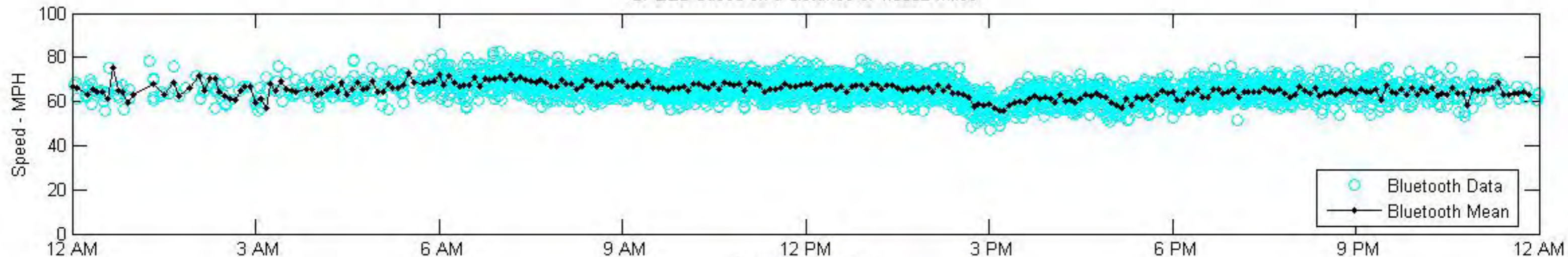
DETECTION RATE



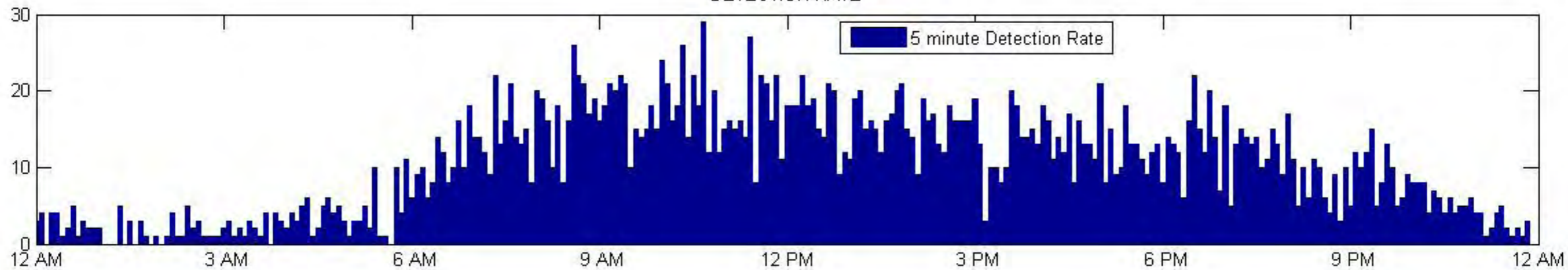
TRAVEL TIME :: Segment 9CB-58E mp 259 to mp 264 :: 13-Aug-2011



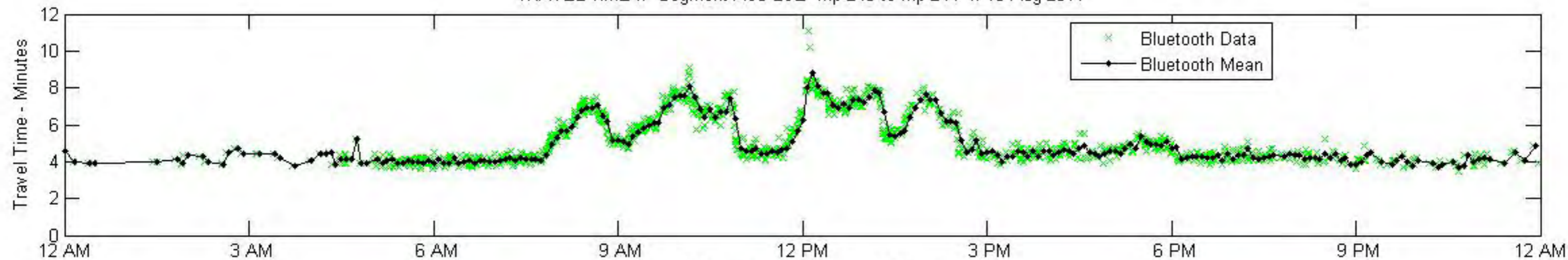
SPEED based on a distance of 4.6882 miles



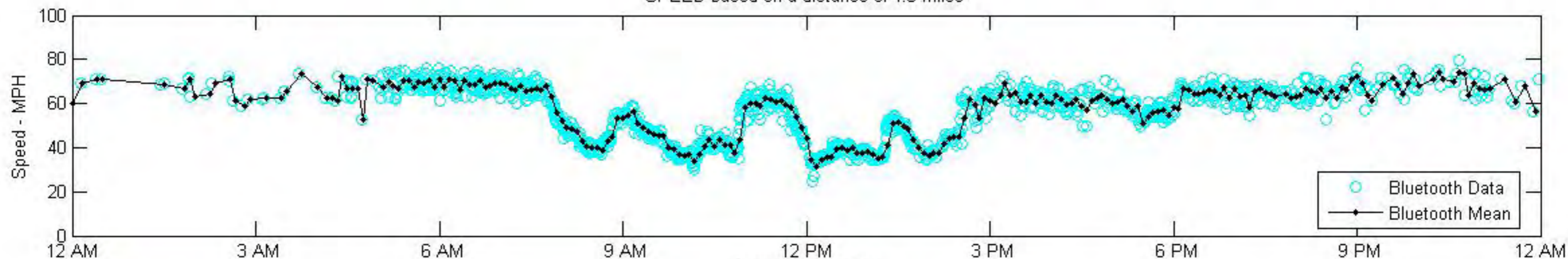
DETECTION RATE



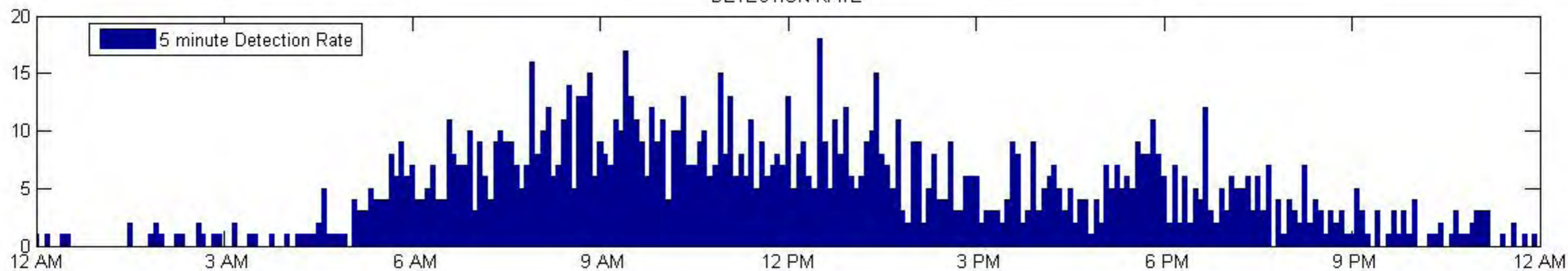
TRAVEL TIME :: Segment ACO-B9E mp 248 to mp 244 :: 13-Aug-2011



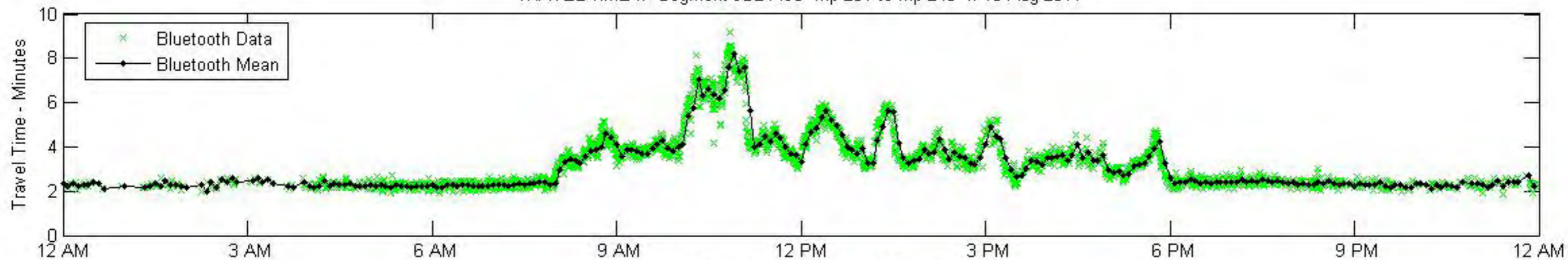
SPEED based on a distance of 4.6 miles



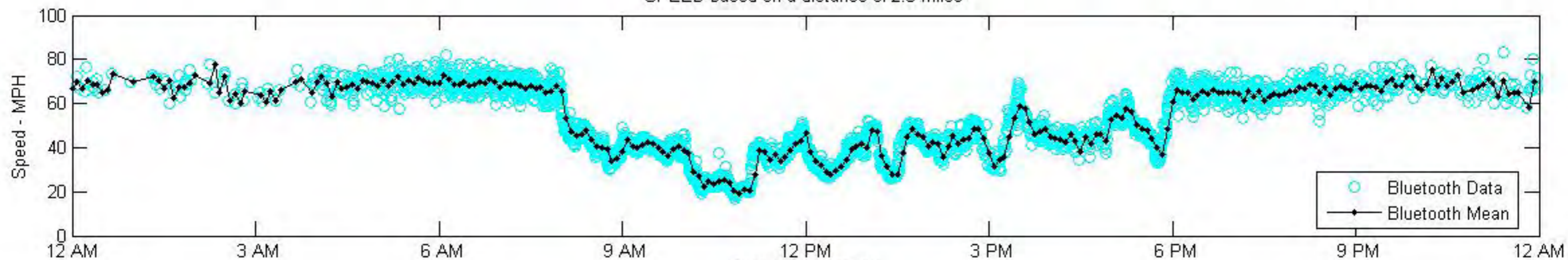
DETECTION RATE



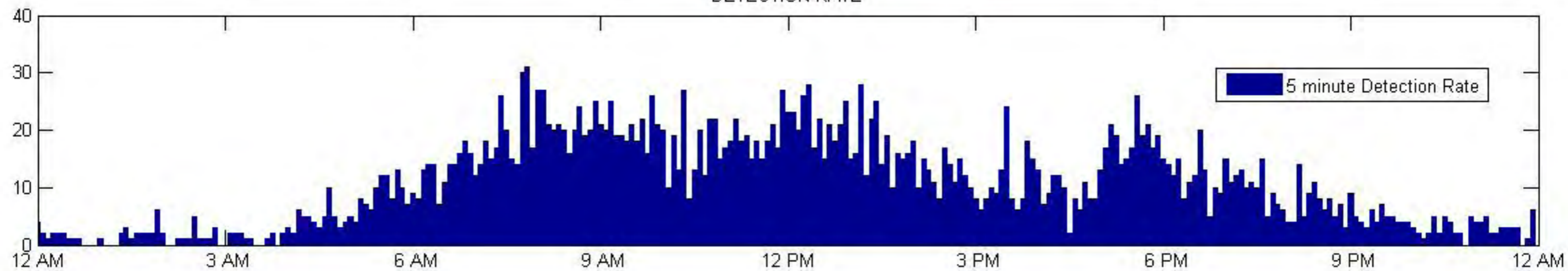
TRAVEL TIME :: Segment 9D2-AC0 mp 251 to mp 248 :: 13-Aug-2011



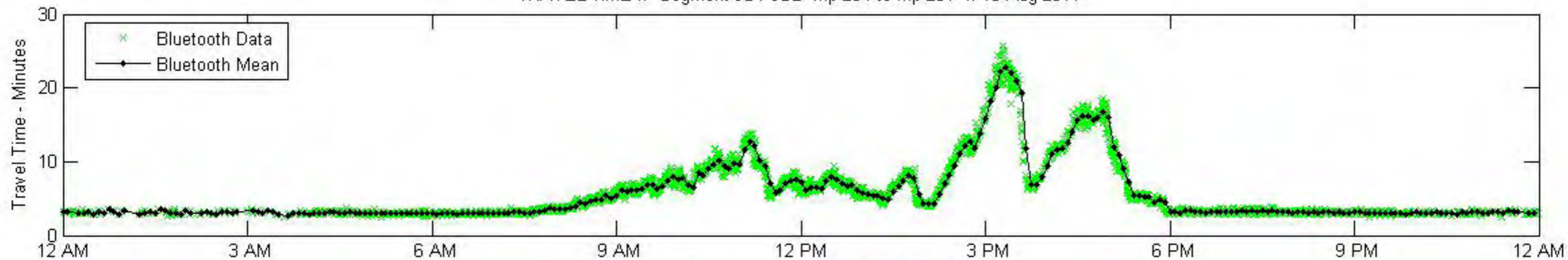
SPEED based on a distance of 2.6 miles



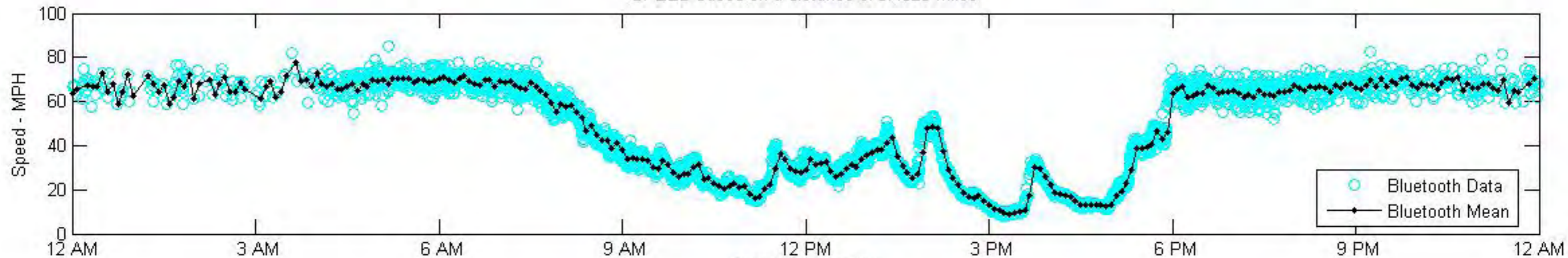
DETECTION RATE



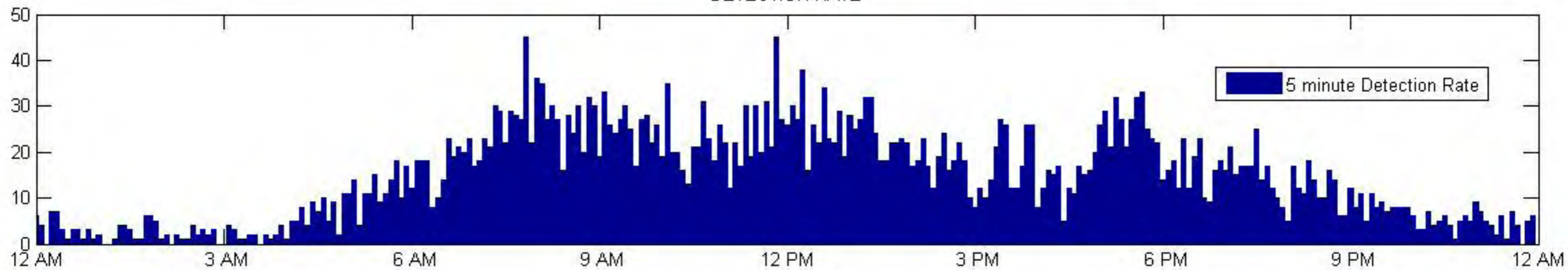
TRAVEL TIME :: Segment 9D1-9D2 mp 254 to mp 251 :: 13-Aug-2011



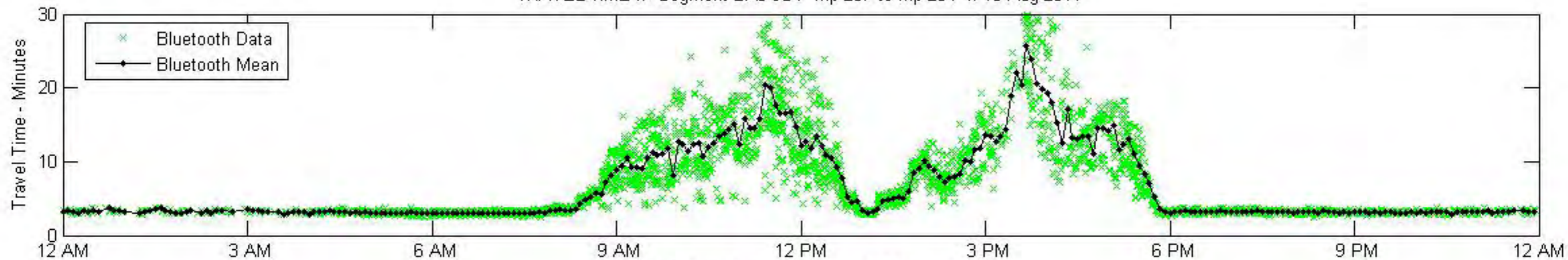
SPEED based on a distance of 3.4525 miles



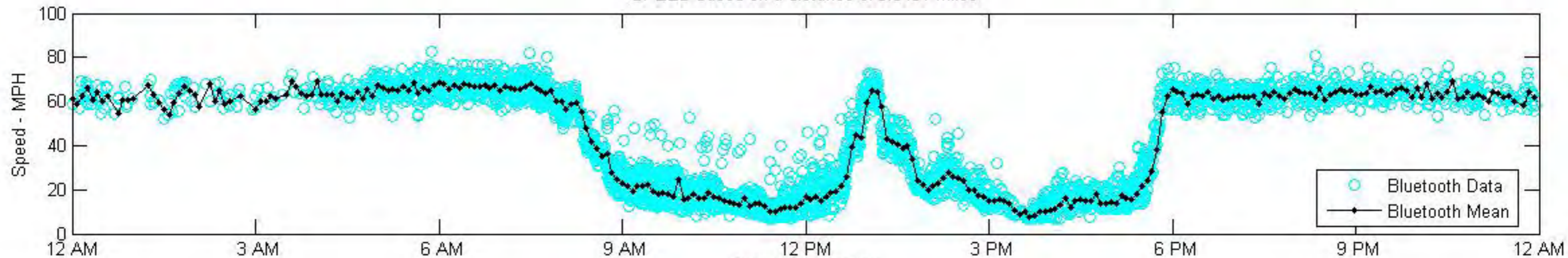
DETECTION RATE



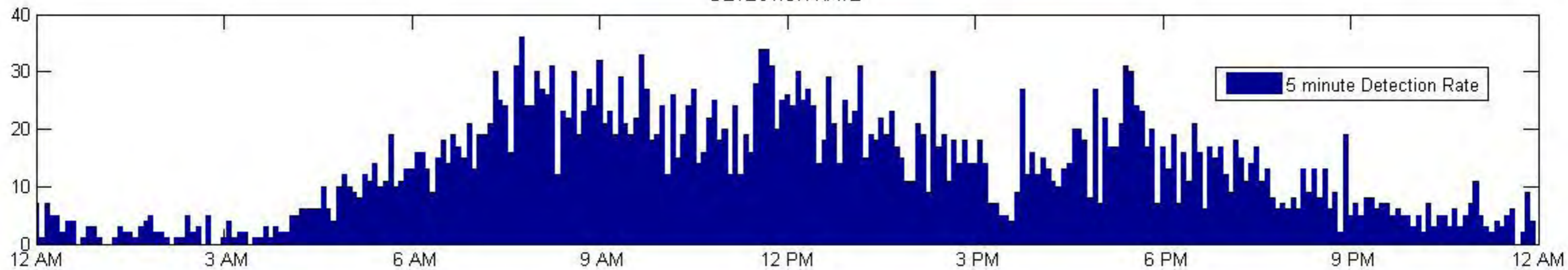
TRAVEL TIME :: Segment BA0-9D1 mp 257 to mp 254 :: 13-Aug-2011



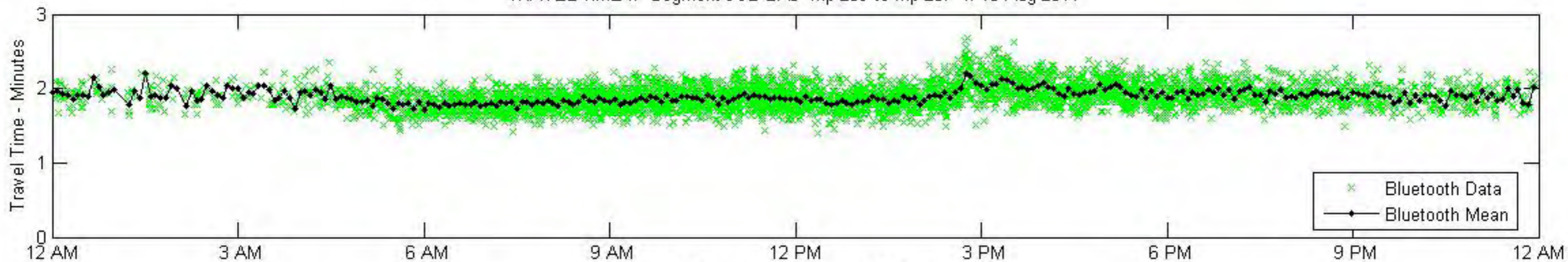
SPEED based on a distance of 3.3481 miles



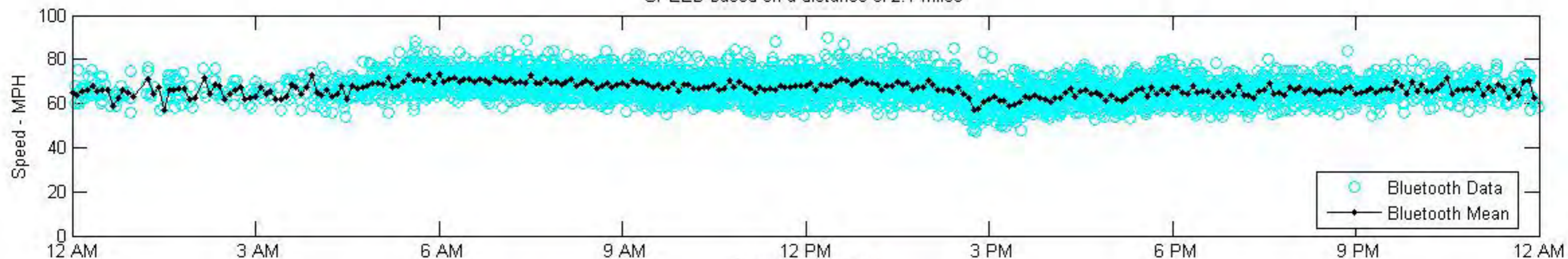
DETECTION RATE



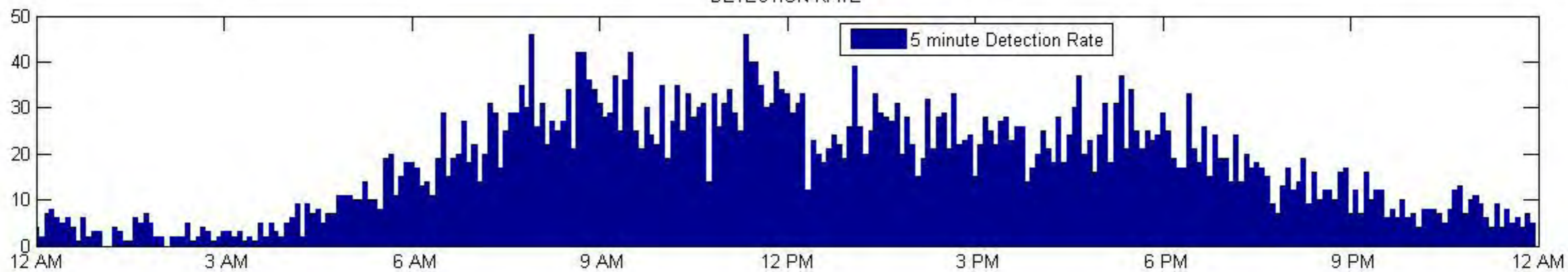
TRAVEL TIME :: Segment 9CB-BA0 mp 259 to mp 257 :: 13-Aug-2011



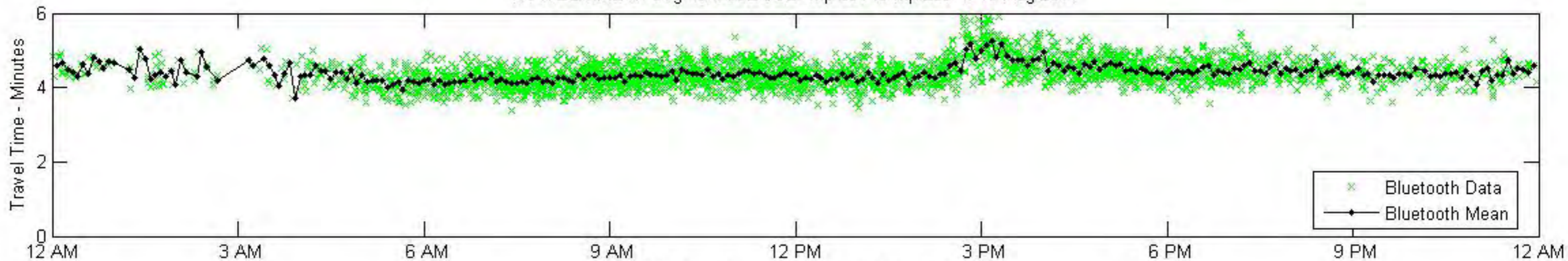
SPEED based on a distance of 2.1 miles



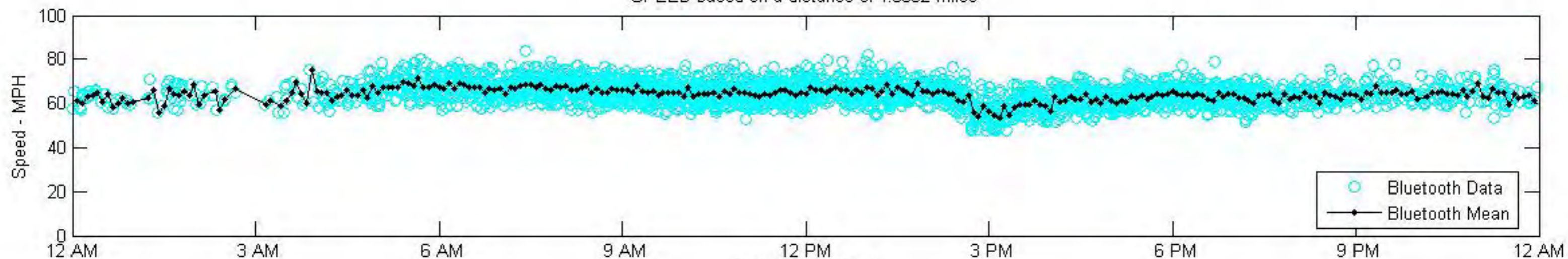
DETECTION RATE



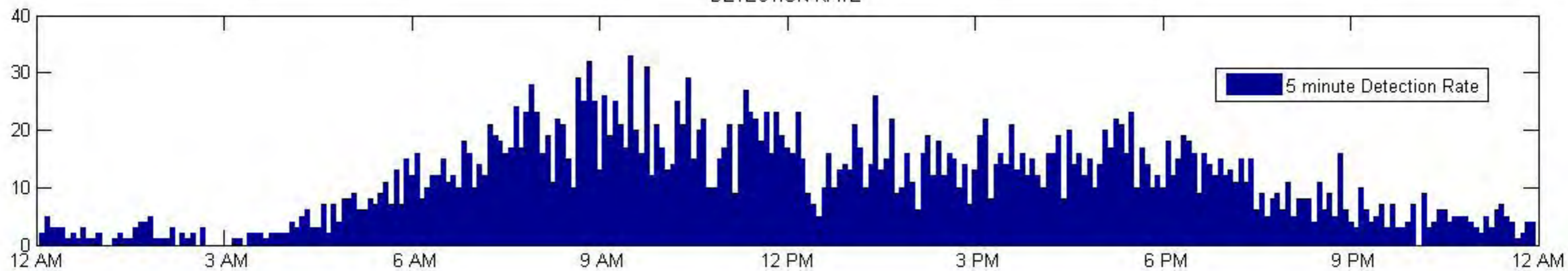
TRAVEL TIME :: Segment 58E-9CB mp 264 to mp 259 :: 13-Aug-2011



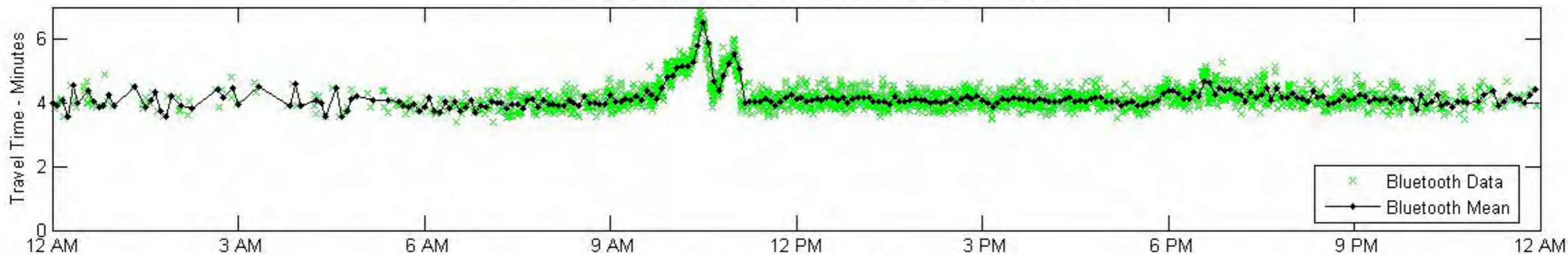
SPEED based on a distance of 4.6882 miles



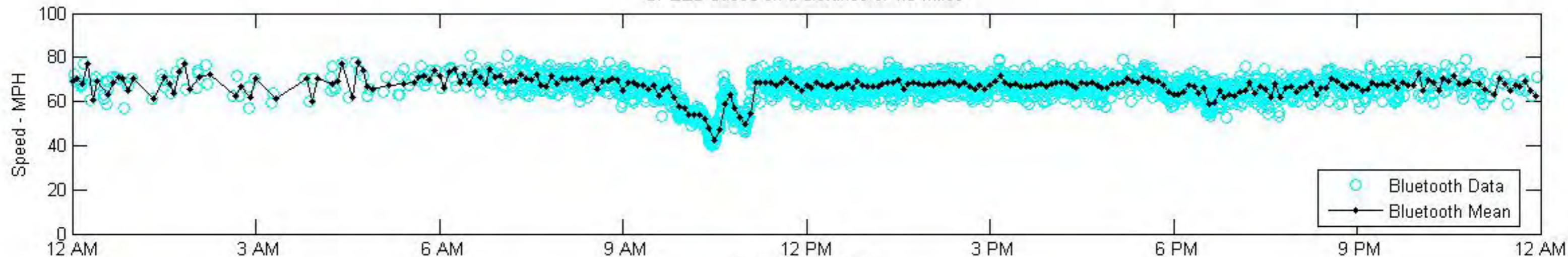
DETECTION RATE



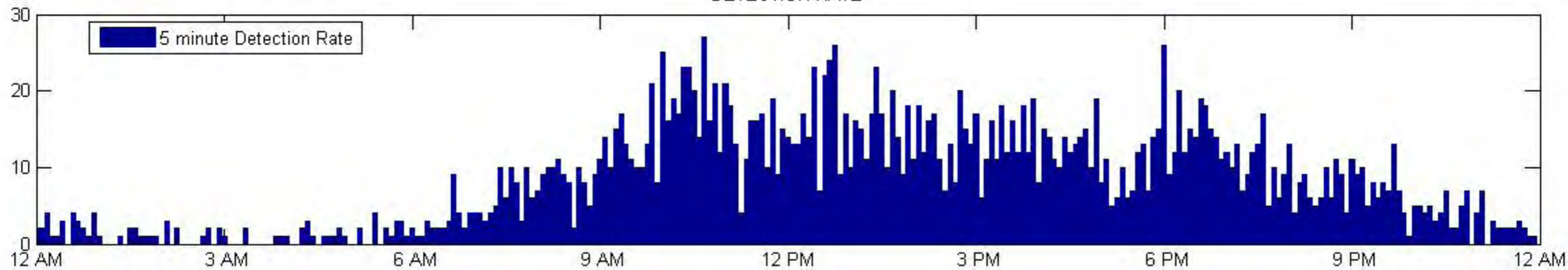
TRAVEL TIME :: Segment B9E-AC0 mp 244 to mp 248 :: 14-Aug-2011



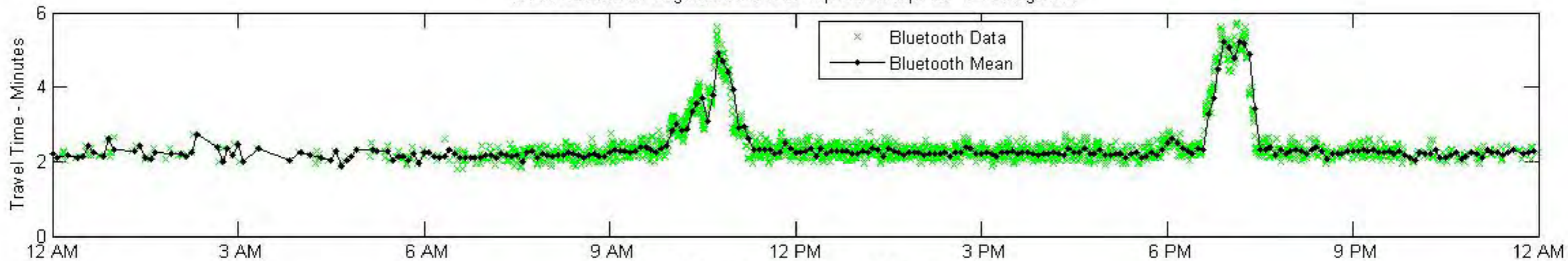
SPEED based on a distance of 4.6 miles



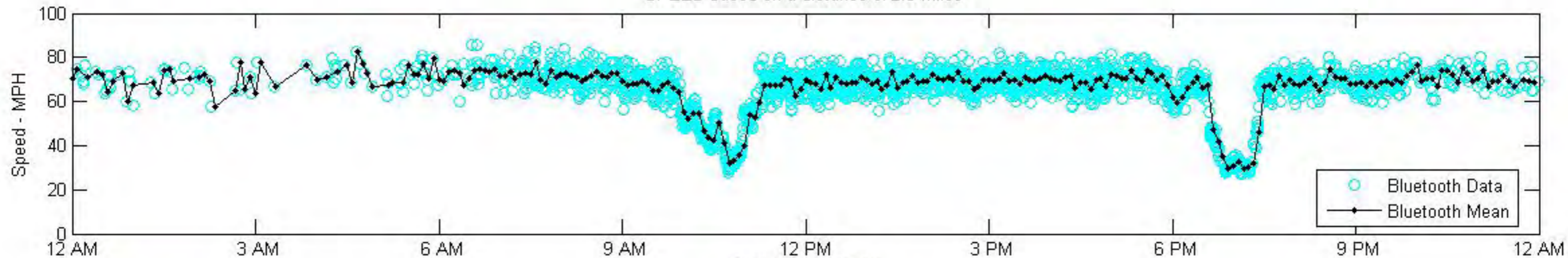
DETECTION RATE



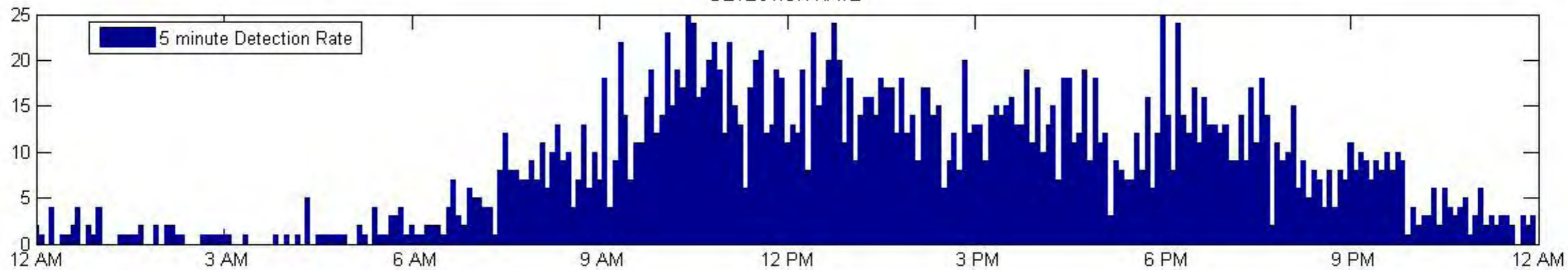
TRAVEL TIME :: Segment ACO-9D2 mp 248 to mp 251 :: 14-Aug-2011



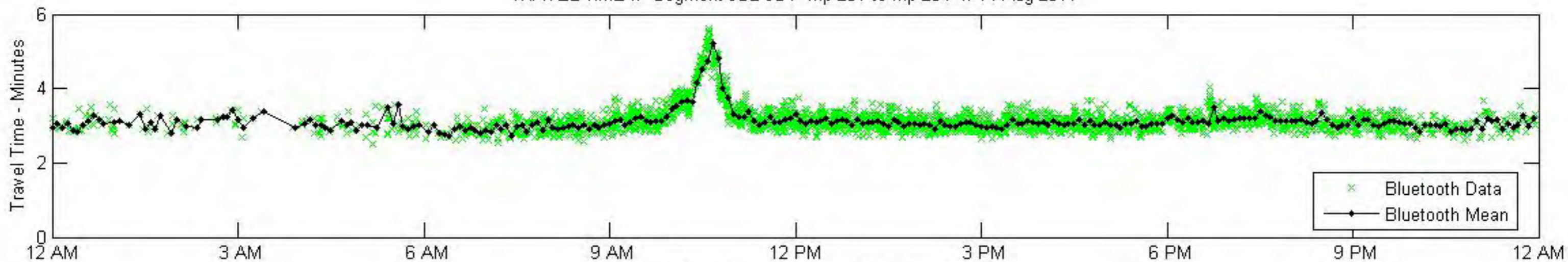
SPEED based on a distance of 2.6 miles



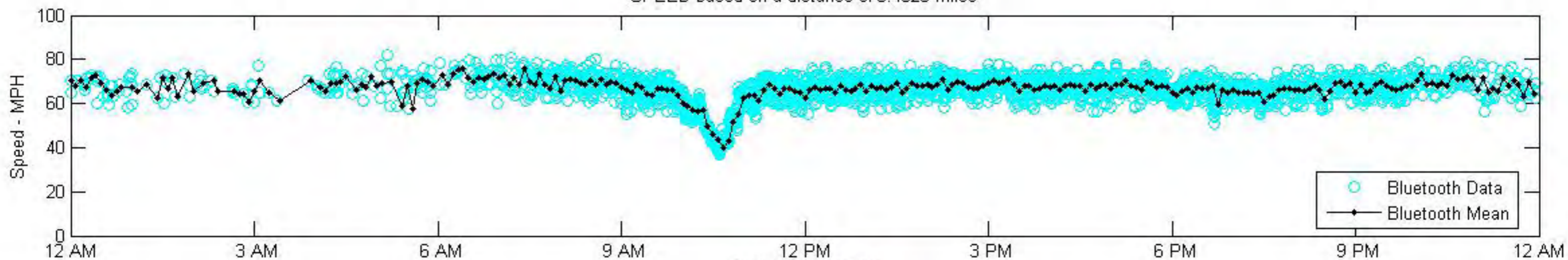
DETECTION RATE



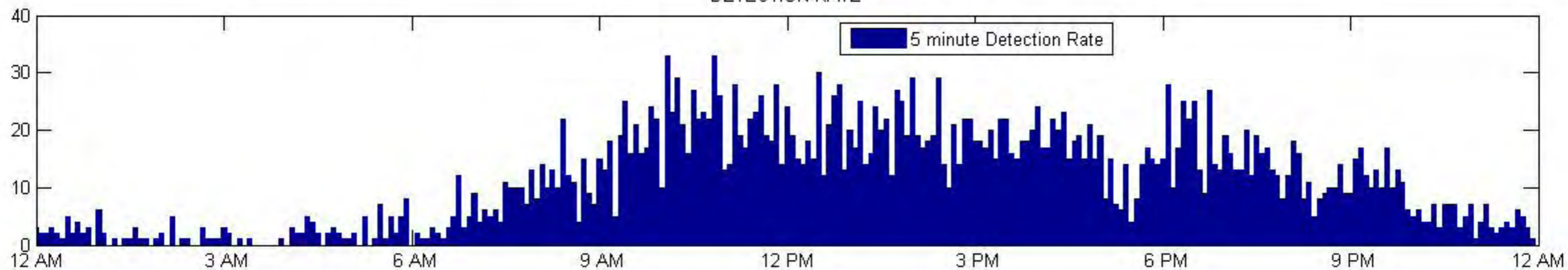
TRAVEL TIME :: Segment 9D2-9D1 mp 251 to mp 254 :: 14-Aug-2011



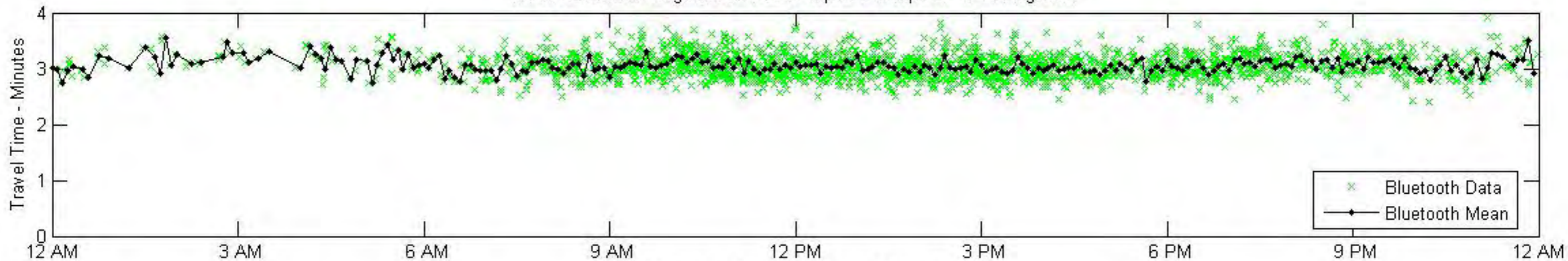
SPEED based on a distance of 3.4525 miles



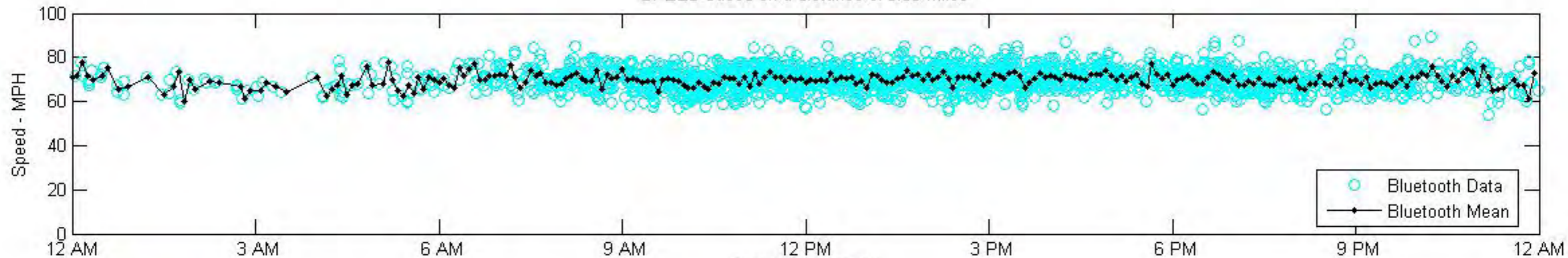
DETECTION RATE



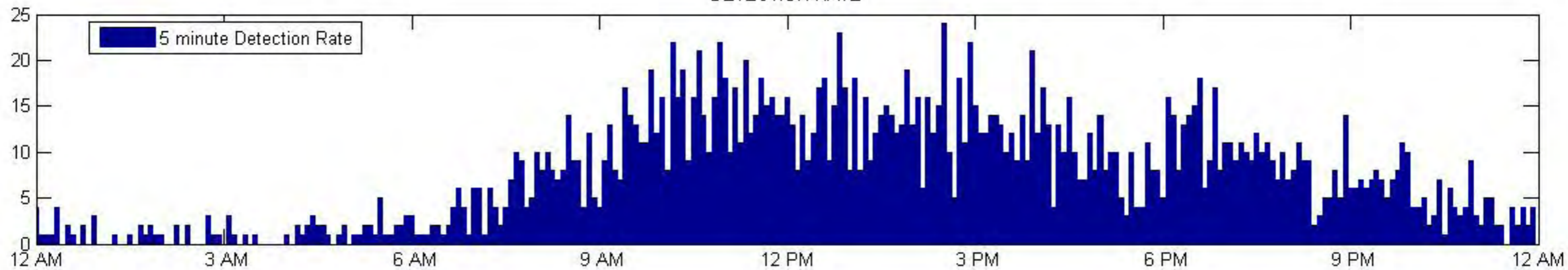
TRAVEL TIME :: Segment 9D1-BA0 mp 254 to mp 257 :: 14-Aug-2011



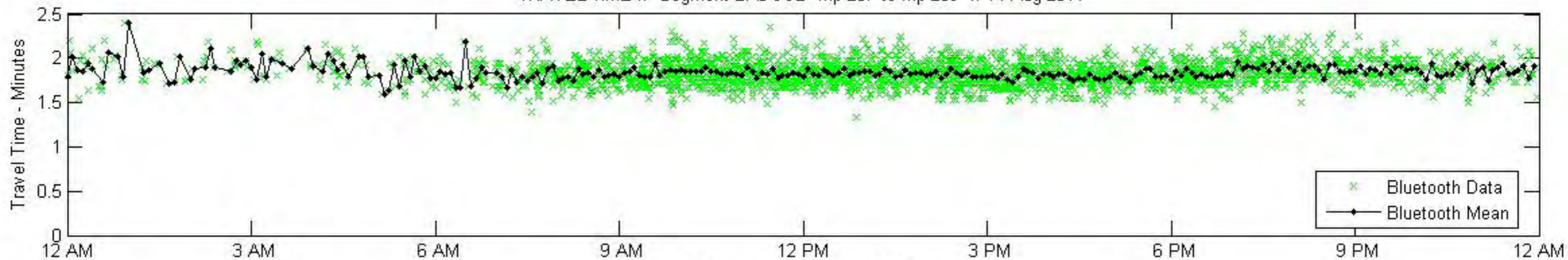
SPEED based on a distance of 3.55 miles



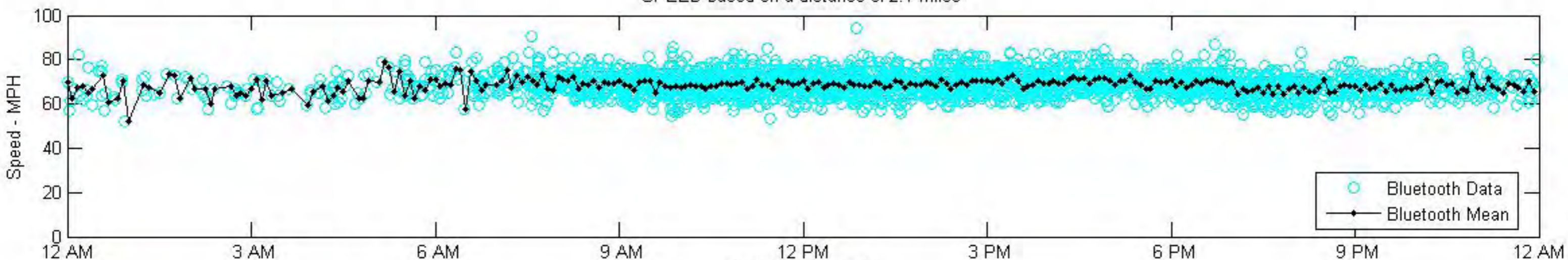
DETECTION RATE



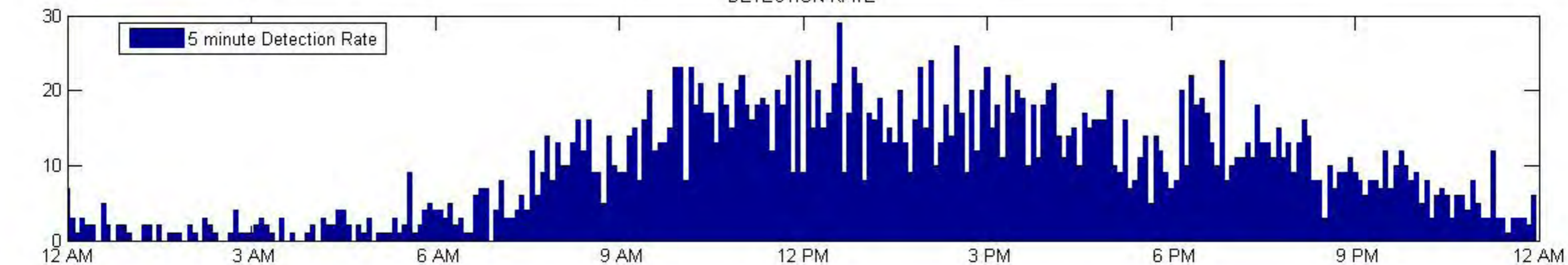
TRAVEL TIME :: Segment BA0-9CB mp 257 to mp 259 :: 14-Aug-2011



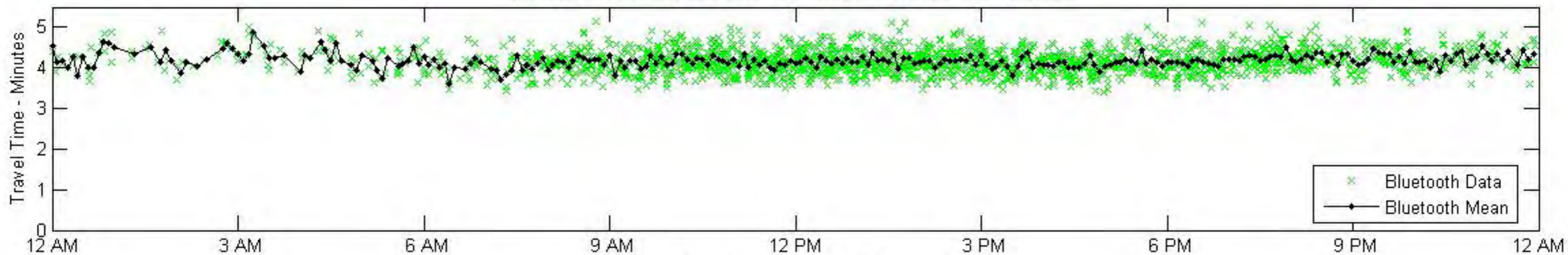
SPEED based on a distance of 2.1 miles



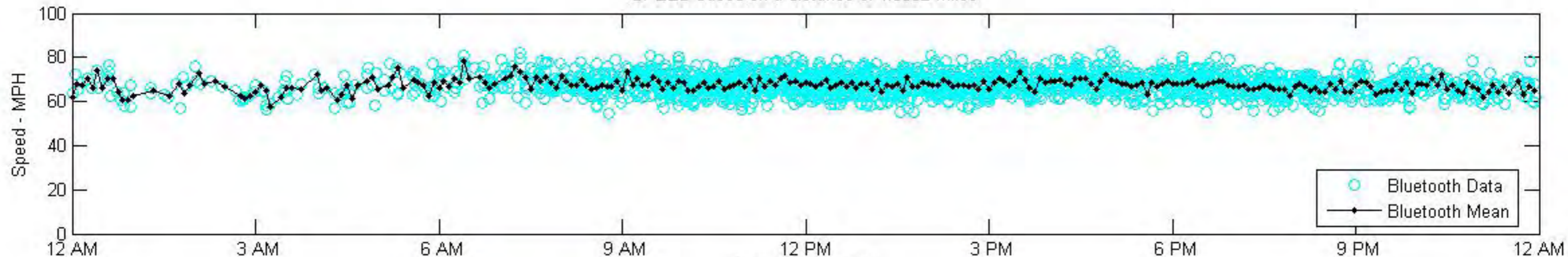
DETECTION RATE



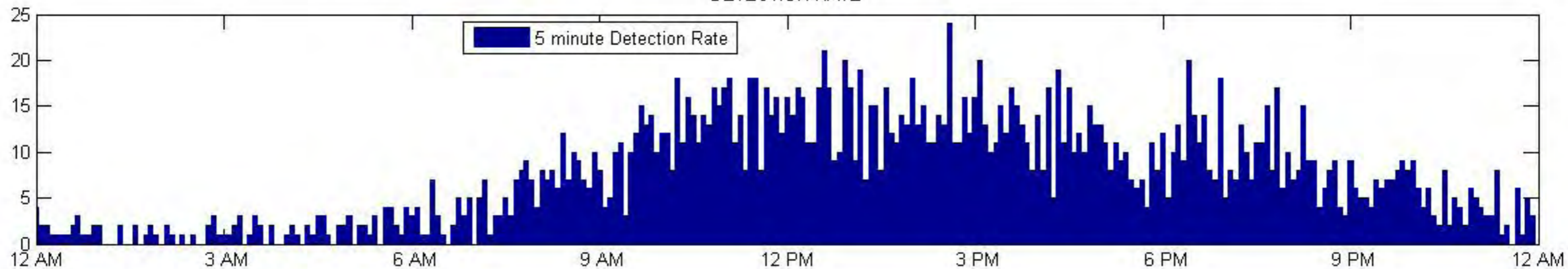
TRAVEL TIME :: Segment 9CB-58E mp 259 to mp 264 :: 14-Aug-2011



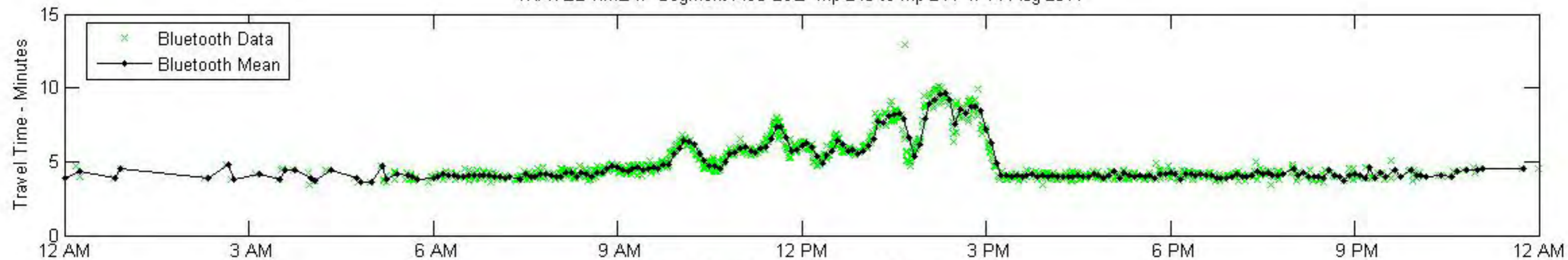
SPEED based on a distance of 4.6882 miles



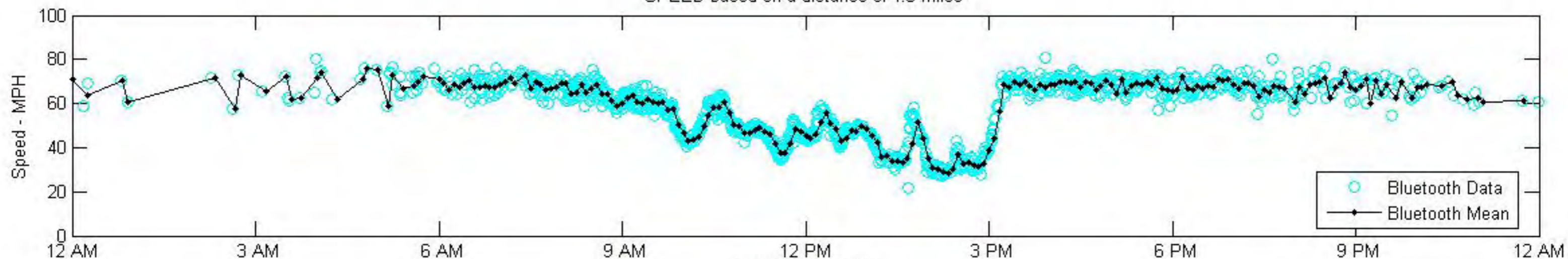
DETECTION RATE



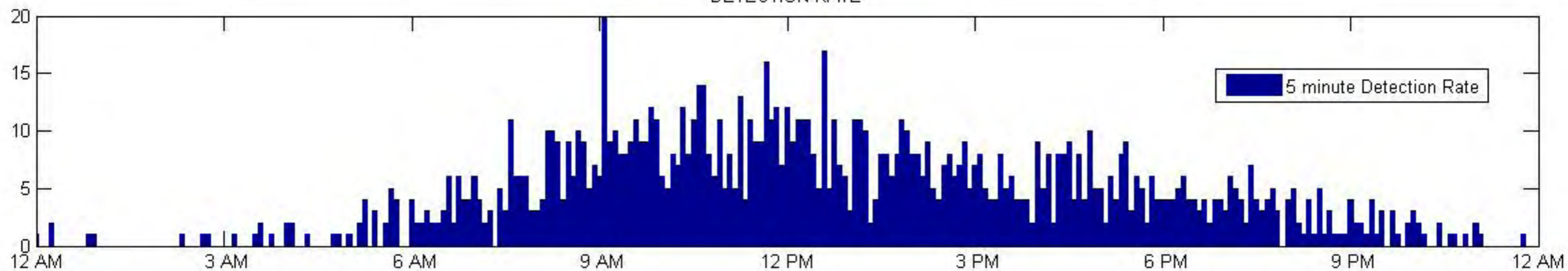
TRAVEL TIME :: Segment ACO-B9E mp 248 to mp 244 :: 14-Aug-2011



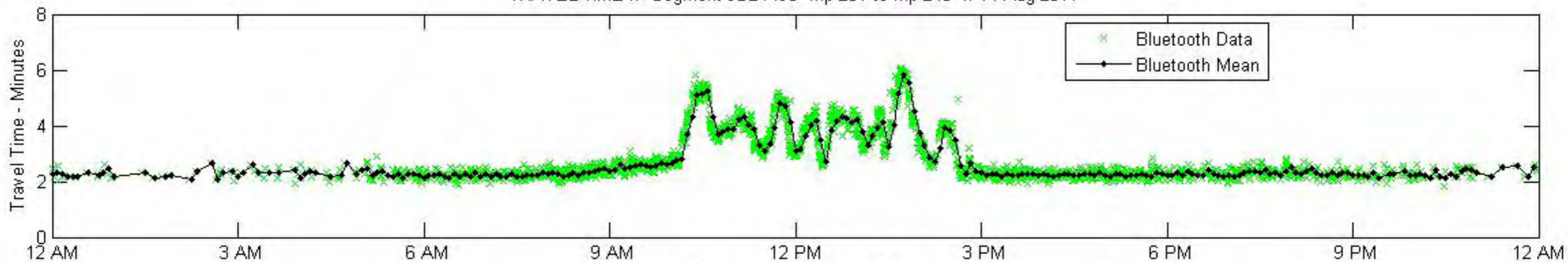
SPEED based on a distance of 4.6 miles



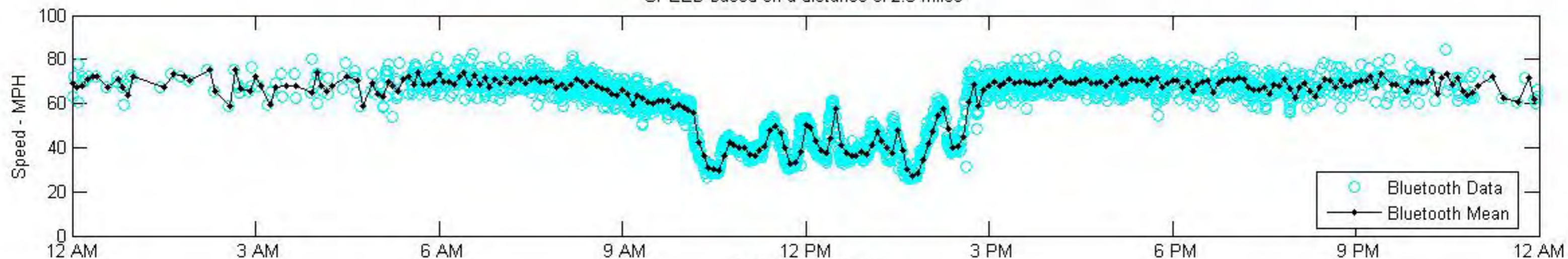
DETECTION RATE



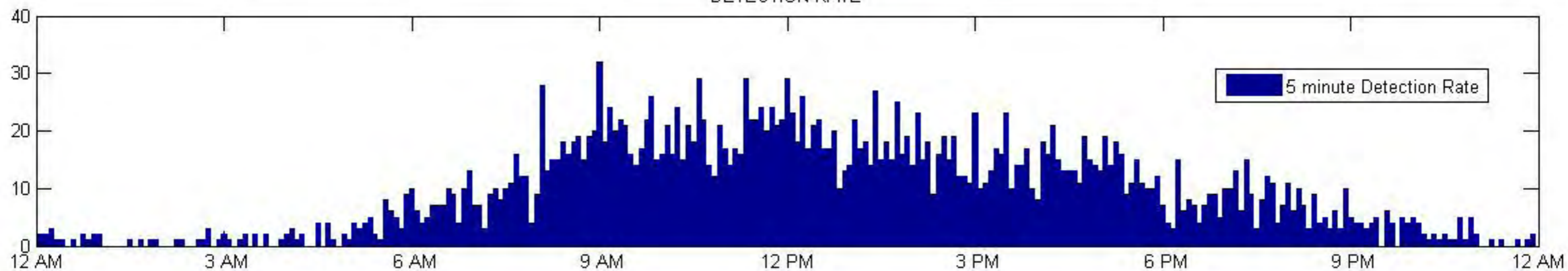
TRAVEL TIME :: Segment 9D2-AC0 mp 251 to mp 248 :: 14-Aug-2011



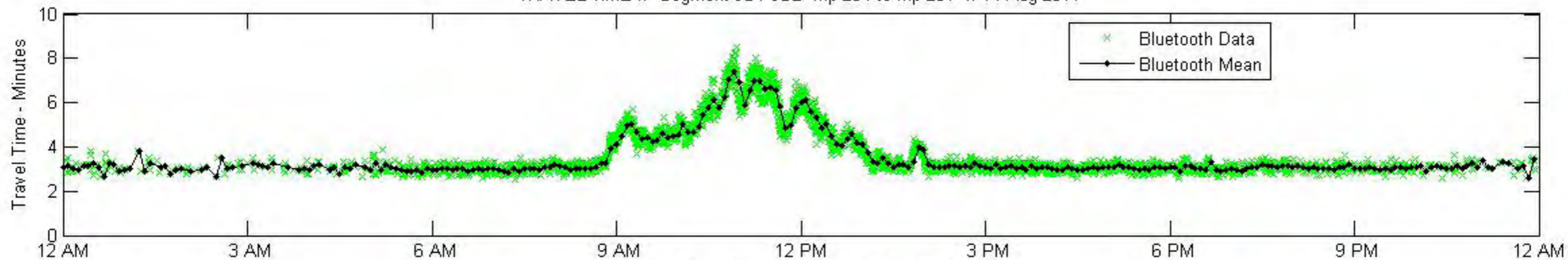
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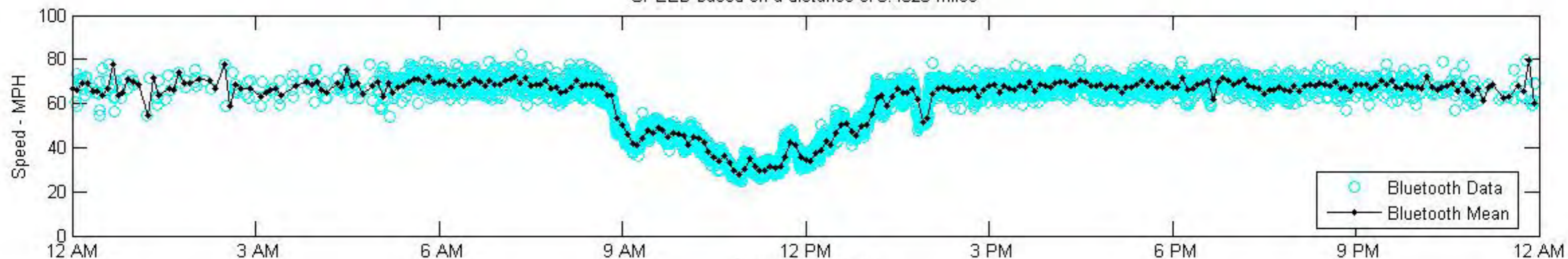
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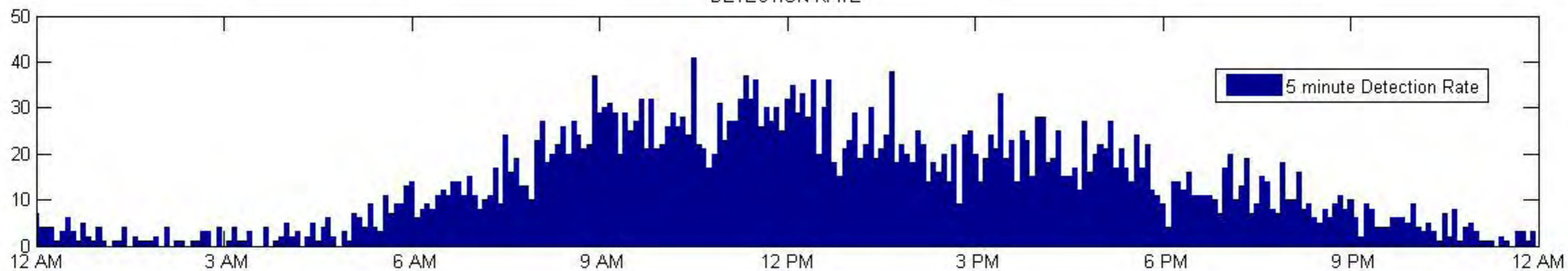
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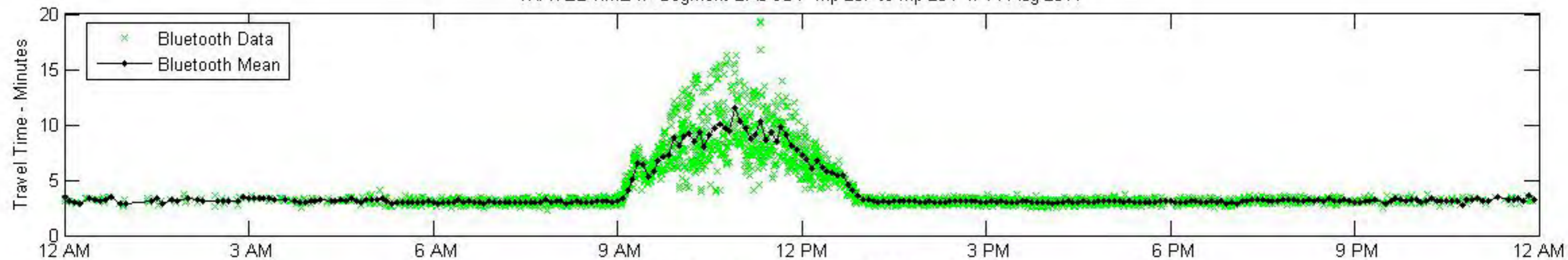
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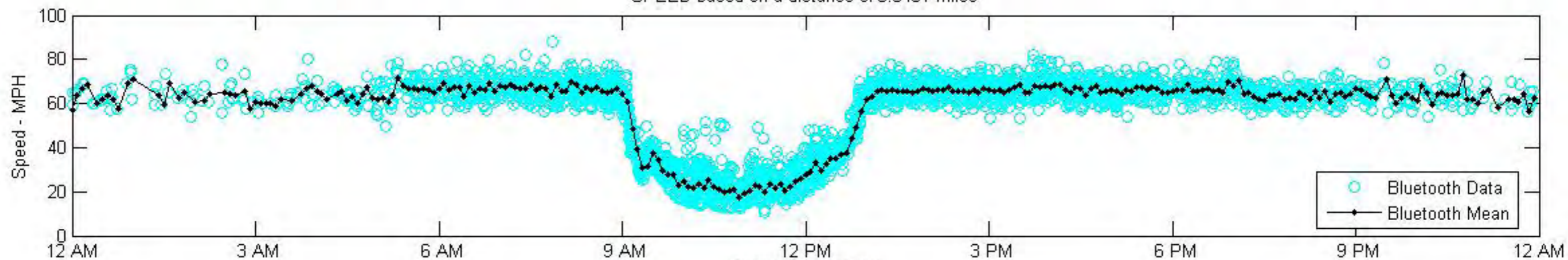
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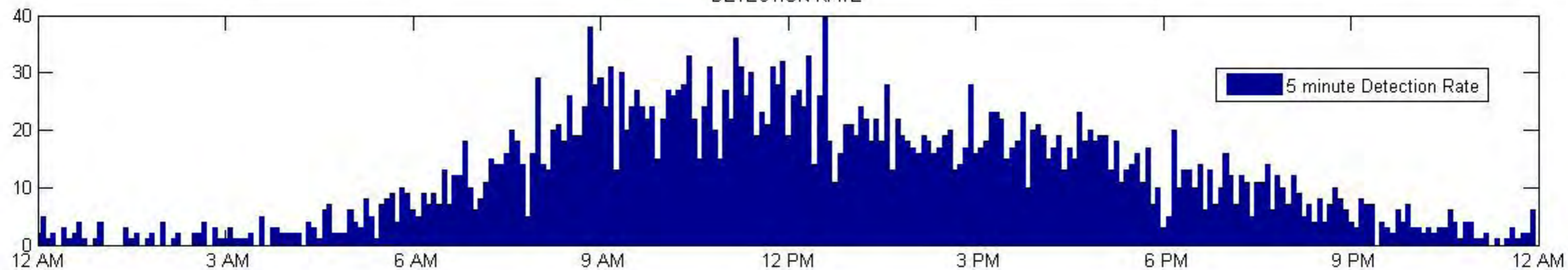
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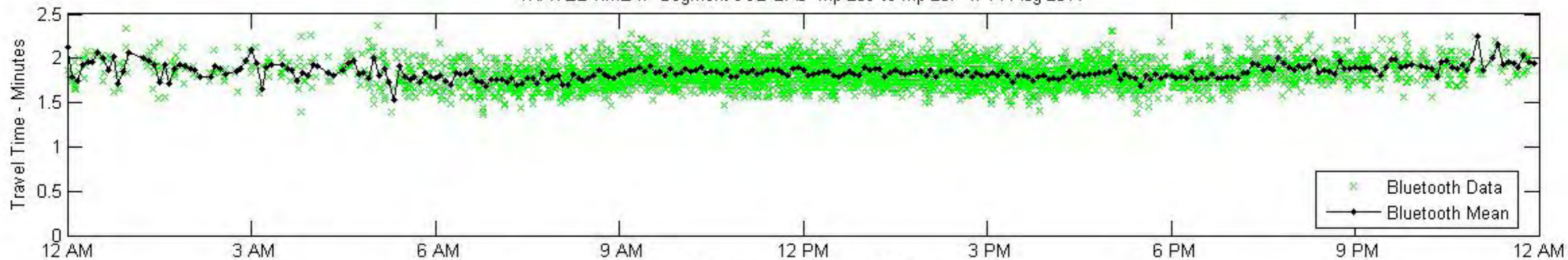
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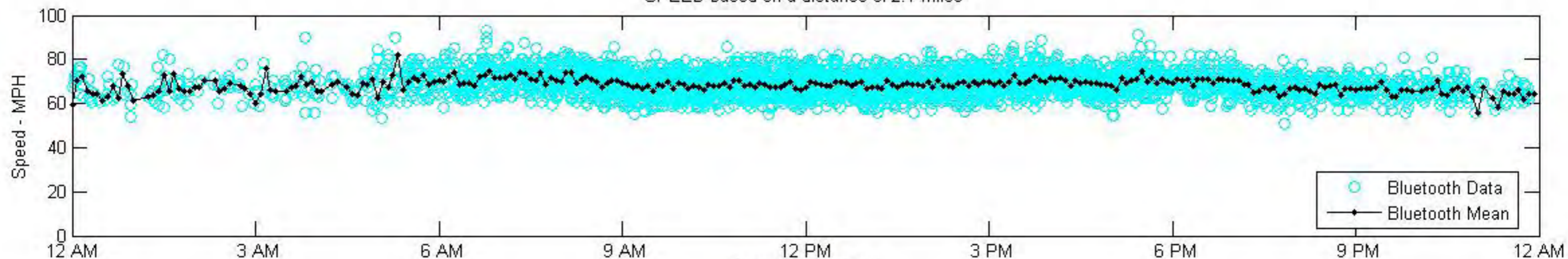
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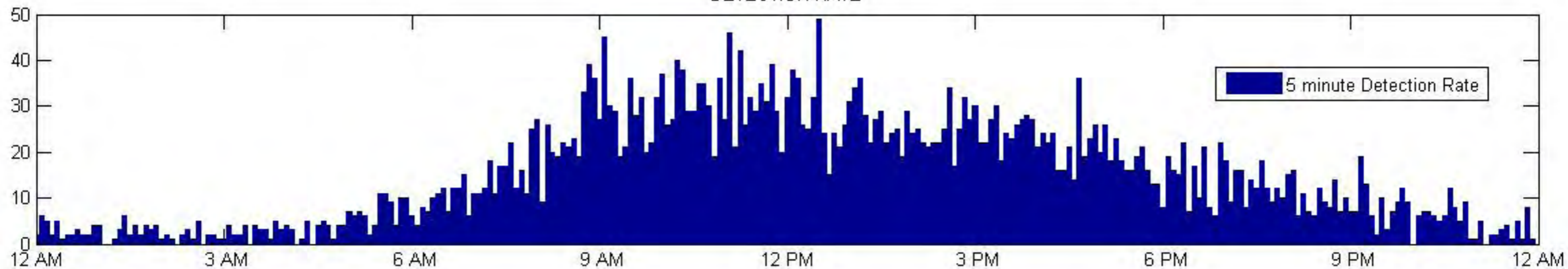
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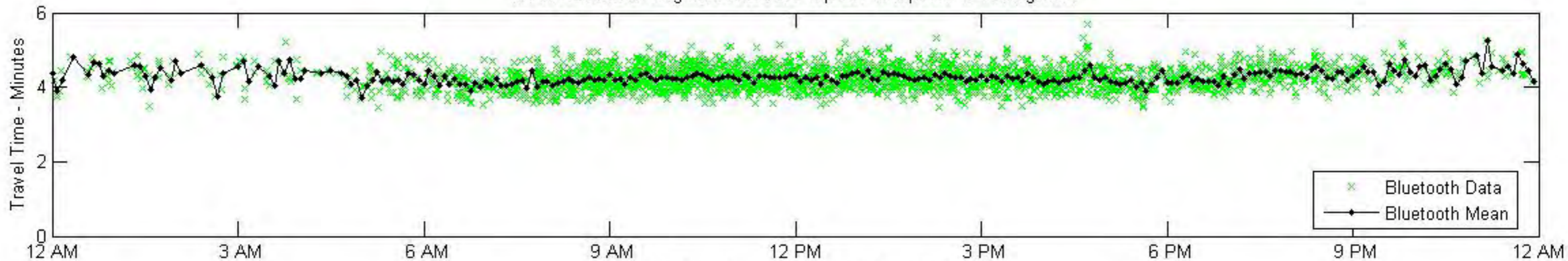
SPEED based on a distance of 2.1 miles



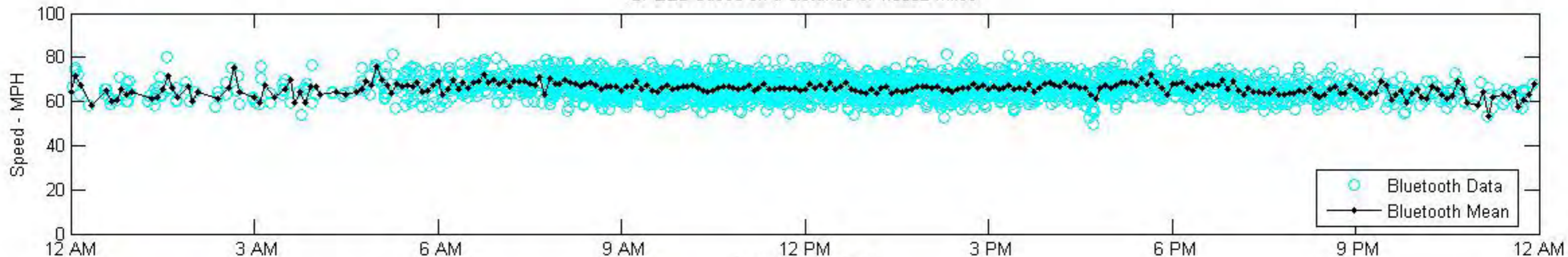
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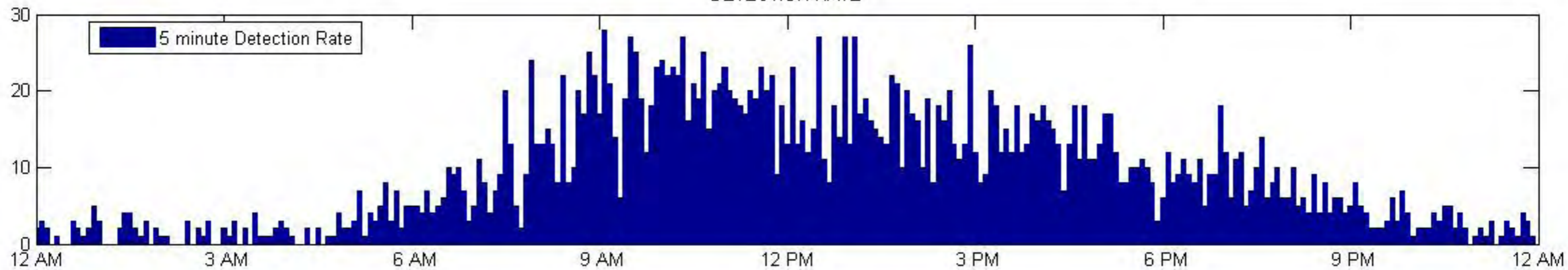
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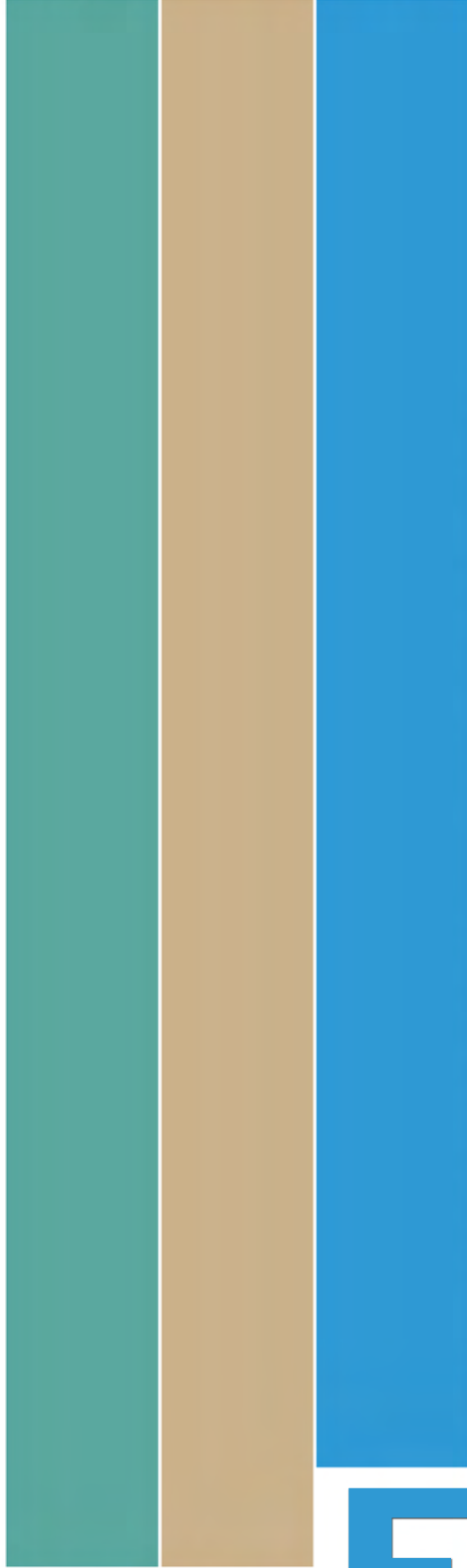


SPEED based on a distance of 4.6882 miles



DETECTION RATE







MEMORANDUM

To: Nick Nies, VDOT

FROM: Marcel Klik, RK&K
Rich Butala, McCormick Taylor

DATE: October 21, 2011
Revised November 11, 2011

SUBJECT: I-64 Peninsula Study
Growth Rate Determination

As documented in our August 12, 2011 Memorandum, the guidance from VDOT to produce 2040 forecasts from the Super Regional Tidewater model is to develop growth rates, and apply those growth rates to the 2011 balanced volumes. In accordance with this proposed methodology, the project team reviewed historic growth rates along the corridor and reviewed the projected growth along I-64 in the travel demand model.

To determine historic growth rates, the Annual Average Daily Traffic (AADT) along the corridor for the 27 segments from I-95 to the Hampton Roads Bridge Tunnel (HRBT) was obtained from the Virginia Department of Transportation for the years 1975 – 2010 (at five-year intervals). These data are available on the Virginia Department of Transportation website. The results are provided in Table 1.

Table 1 also presents the the computed annual growth rate for the 1975 – 2010 and 2000 – 2010 timeframes. For the 1975 – 2010 timeframe, growth ranges from 0.4 to 4.9 percent per year, with the lowest growth occurring in the western area of the project (near Richmond), and the highest growth (more than 4 percent per year) occurring in the rural and eastern sections of the study area. This trend generally holds when only the last 10 years are examined (2000 – 2010), although urban areas (Richmond and Hampton Roads) have seen decreases in Average Daily Traffic Volumes. The slight decreases and lower growth rates may be attributed to recent economic conditions, as well as certain facilities reaching capacity.

Similarly, link volumes from the Super Regional Tidewater Super Regional model for the 2000 Base and 2034 No Build scenarios were compared, and an annual growth rate computed. The results are provided in Table 2. Results in Table 2 show annual link volume growth ranging from 0.4 to 2.1 percent. These projections are somewhat lower than historic growth trends, and indicate a combination of bottlenecks reaching capacity (such as the HRBT) and urban areas reaching full development. The Super Regional Model projects the largest traffic volume increases in the rural areas of the project, between I-295 and US 17 (Victory Boulevard).

Table 1 – Historic Traffic Volume Growth

Link Description		AADT By Year								Annual Growth Rate	
		1975	1980	1985	1990	1995	2000	2005	2010	1975 - 2010	2000 - 2010
1	I-95 - Route 360	58,730	62,430	68,560	88,250	86,000	97,000	94,000	95,000	1.4%	-0.2%
2	Route 360 - Route 33 (Nine Mile Rd)	46,600	48,560	53,235	66,570	84,000	75,000	74,000	75,000	1.4%	0.0%
3	Route 33 (Nine Mile Rd) - Laburnum Ave	36,250	42,370	43,260	53,690	62,000	68,000	58,000	60,000	1.5%	-1.2%
4	Laburnum Ave - Route 156	29,310	34,880	34,830	43,850	52,000	50,000	47,000	47,000	1.4%	-0.6%
5	Route 156 - I-295	29,310	24,420	24,840	31,690	52,000	31,000	32,000	34,000	0.4%	0.9%
6	I-295 - Routes 33 & 249	18,965	25,810	30,195	39,850	47,000	62,000	68,000	68,000	3.7%	0.9%
7	Route 33 & 249 - Route 106	15,400	22,360	25,470	33,520	45,000	40,000	55,000	61,000	4.0%	4.3%
8	Route 106 - Route 155	15,400	22,360	25,470	32,380	44,000	41,000	51,000	61,000	4.0%	4.1%
9	Route 155 - Route 33 (East)	15,480	19,810	24,350	31,145	44,000	40,000	57,000	60,000	3.9%	4.1%
10	Route 33 (East) - Route 30 (West)	12,480	15,445	20,300	27,130	37,000	39,000	47,000	53,000	4.2%	3.1%
11	Route 30 (West) - Route 30 (East)/Route 607	12,480	15,375	20,680	28,625	40,000	41,000	52,000	58,000	4.5%	3.5%
12	Route 30 (East)/Route 607 - Route 199 (West)	12,850	19,270	24,335	34,930	44,000	48,000	58,000	64,000	4.7%	2.9%
13	Route 199 (North) - Route 143 (Camp Peary)	13,390	19,270	24,335	34,930	44,000	54,000	58,000	61,000	4.4%	1.2%
14	Route 143 - Route 199 (East)	15,000	18,405	26,925	40,920	49,000	56,000	57,000	63,000	4.2%	1.2%
15	Route 199 (South) - Exit 243A (Busch Gardens)	15,000	19,870	29,895	51,475	54,000	60,000	80,000	81,000	4.9%	3.0%
16	Exit 243A (Busch Gardens) - Route 238 (Yorktown)	17,060	23,990	32,990	54,825	66,000	70,000	80,000	81,000	4.6%	1.5%
17	Route 238 (Yorktown) - Route 105 (Ft. Eustis)	18,905	23,990	32,990	56,975	71,000	71,000	86,000	88,000	4.5%	2.2%
18	Route 105 (Ft. Eustis) - Route 143 (Jefferson Ave)	24,520	27,950	38,220	61,890	78,000	77,000	96,000	96,000	4.0%	2.2%
19	Route 143 (Jefferson Ave) - Route 171 (Victory Blvd)	26,545	38,110	48,500	74,970	90,000	91,000	113,000	118,000	4.4%	2.6%
20	Route 171 (Victory Blvd) - Route 17	26,545	38,110	48,500	74,970	90,000	122,000	124,000	132,000	4.7%	0.8%
21	Route 17 - Hampton Roads Center Pkwy	34,455	47,150	58,720	86,440	91,000	135,000	131,000	154,000	4.4%	1.3%
22	Hampton Roads Center Pkwy - Route 258 (Mercury Blvd)	39,095	60,810	75,120	101,730	91,000	132,000	146,000	160,000	4.1%	1.9%
23	Route 258 (Mercury Blvd) - I-664	36,445	50,870	66,390	83,780	90,000	131,000	138,000	152,000	4.2%	1.5%
24	I-664 - LaSalle Avenue	37,880	50,630	63,890	80,160	92,000	104,000	110,000	112,000	3.1%	0.7%
25	LaSalle Ave - Route 60 (Settlers Ldg Rd)	33,970	47,010	56,300	80,890	90,000	102,000	97,000	89,000	2.8%	-1.4%
26	Route 60 (Settlers Ldg Rd) - Route 169 (Mallory St)	21,710	42,795	54,890	82,160	91,000	101,000	98,000	87,000	4.0%	-1.5%
27	Route 169 (Mallory St) - HRBT	24,040	44,850	65,990	77,140	91,000	91,000	91,000	85,000	3.7%	-0.7%

Table 2 – Tidewater Super Regional Model Results, Mainline Links

Link Description		2000 Daily Volume		2034 Daily Volume		Annual Growth Rate	
		EB	WB	EB	WB	EB	WB
1	I-95 - Route 360	33,788	36,932	47,511	48,701	1.0%	0.8%
2	Route 360 - Route 33 (Nine Mile Rd)	41,487	40,699	48,503	49,345	0.5%	0.6%
3	Route 33 (Nine Mile Rd) - Laburnum Ave	39,202	36,579	44,804	43,523	0.4%	0.5%
4	Laburnum Ave - Route 156	35,481	33,304	42,618	40,063	0.5%	0.5%
5	Route 156 - I-295	29,485	26,662	39,768	38,816	0.9%	1.1%
6	I-295 - Routes 33 & 249	33,381	33,315	52,205	55,488	1.3%	1.5%
7	Route 33 & 249 - Route 106	28,032	28,365	45,001	49,018	1.4%	1.6%
8	Route 106 - Route 155	28,980	29,419	45,342	48,935	1.3%	1.5%
9	Route 155 - Route 33 (East)	28,882	28,923	44,527	47,400	1.3%	1.5%
10	Route 33 (East) - Route 30 (West)	23,522	23,540	35,874	38,755	1.2%	1.5%
11	Route 30 (West) - Route 30 (East)/Route 607	24,078	24,087	38,445	39,496	1.4%	1.5%
12	Route 30 (East)/Route 607 - Route 199 (West)	27,143	27,159	52,770	55,394	2.0%	2.1%
13	Route 199 (North) - Route 143 (Camp Peary)	27,351	27,293	48,512	50,679	1.7%	1.8%
14	Route 143 - Route 199 (East)	26,316	26,211	45,393	46,818	1.6%	1.7%
15	Route 199 (South) - Exit 243A (Busch Gardens)	37,693	37,741	58,835	56,147	1.3%	1.2%
16	Exit 243A (Busch Gardens) - Route 238 (Yorktown)	42,627	42,660	60,310	63,670	1.0%	1.2%
17	Route 238 (Yorktown) - Route 105 (Ft. Eustis)	42,729	42,689	62,162	64,905	1.1%	1.2%
18	Route 105 (Ft. Eustis) - Route 143 (Jefferson Ave)	45,329	45,029	80,029	81,377	1.7%	1.8%
19	Route 143 (Jefferson Ave) - Route 171 (Victory Blvd)	52,960	52,775	79,152	81,423	1.2%	1.3%
20	Route 171 (Victory Blvd) - Route 17	54,890	54,677	82,509	84,975	1.2%	1.3%
21	Route 17 - Hampton Roads Center Pkwy	64,513	64,165	86,291	87,983	0.9%	0.9%
22	Hampton Roads Center Pkwy - Route 258 (Mercury Blvd)	51,539	50,313	79,586	79,820	1.3%	1.4%
23	Route 258 (Mercury Blvd) - I-664	54,624	55,676	96,255	99,050	1.7%	1.7%
24	I-664 - LaSalle Avenue	48,777	46,941	60,877	60,802	0.7%	0.8%
25	LaSalle Ave - Route 60 (Settlers Ldg Rd)	49,131	43,057	62,766	59,959	0.7%	1.0%
26	Route 60 (Settlers Ldg Rd) - Route 169 (Mallory St)	38,835	38,921	54,265	55,951	1.0%	1.1%
27	Route 169 (Mallory St) – HRBT	39,330	39,394	54,716	56,552	1.0%	1.1%

Table 3 – Tidewater Super Regional Model Results, Cross Street Links

Exit	Cross Street	2000 Daily Volume		2034 Daily Volume		Annual Growth Rate	
		North	South	North	South	North	South
190	I-95	101,563	83,853	114,809	95,588	0.4%	0.4%
192	Route 360	33,448	33,601	51,353	41,405	1.3%	0.6%
193	Route 33 (Nine Mile Rd)	20,570	9,602	22,451	10,832	0.3%	0.4%
195	Laburnum Ave	8,445	15,777	18,390	26,197	2.3%	1.5%
197	Route 156	23,441	21,969	30,098	31,217	0.7%	1.0%
200	I-295	68,419	64,557	97,976	93,302	1.1%	1.1%
205	Route 33 & 249	6,405	9,891	7,692	11,907	0.5%	0.5%
211	Route 106	2,378	1,566	7,434	4,097	3.4%	2.9%
214	Route 155	100	1,096	2,791	6,077	10.3%	5.2%
220	Route 33 (East)	10,743	-	17,298	-	1.4%	-
227	Route 30 (West)	1,966	831	20,002	15,889	7.1%	9.1%
231	Route 30 (East)/Route 607	2,811	6,000	18,695	21,299	5.7%	3.8%
234	Route 199 (North)	6,720	12,008	16,244	35,196	2.6%	3.2%
238	Route 143	1,364	3,244	1,874	15,283	0.9%	4.7%
242	Route 199 (South)	3,421	28,349	21,423	55,048	5.5%	2.0%
243	Exit 243A (Busch Gardens)	-	12,015	-	37,174	-	3.4%
247	Route 238 (Yorktown)	13,795	12,771	19,551	20,416	1.0%	1.4%
250	Route 105 (Ft. Eustis)	14,859	31,988	28,307	66,573	1.9%	2.2%
255	Route 143 (Jefferson Ave)	57,832	41,442	76,685	70,360	0.8%	1.6%
256	Route 171 (Victory Blvd)	40,670	28,007	63,511	48,703	1.3%	1.6%
258	Route 17 (J. Clyde Morris Boulevard)	36,975	45,827	47,859	58,048	0.8%	0.7%
261	Hampton Roads Center Pkwy	31,482	26,862	60,304	74,459	1.9%	3.0%
262	Magruder Boulevard	21,818	-	33,812	-	1.3%	-
263	Route 258 (Mercury Blvd)	30,871	45,429	43,573	63,602	1.0%	1.0%
264	I-664	-	46,163	-	93,290	-	2.1%

Table 3 provides model output for the cross streets. This table provides the combined daily volume for links immediately to the north and south of each interchange. The growth rates for the cross street are generally slightly higher than the mainline growth rates, which is due in part to the lower starting volumes on the cross streets. The highest cross street growth rates are found on links that represent the edges of the Richmond and Hampton Roads models (Exits 214 – 231). Travel Demand Model performance at the edges of a network tends to be unreliable due to the sparseness of the modeled roadway network and the proximity of external zones, so these volume increases must be examined closely during post processing.

In addition, the growth rate along Hampton Roads Center Parkway is artificially high because the base model (year 2000) did not include the now-constructed extension to Harpersville Road.

As an additional check on growth, changes in land use information (population and total employment) provided in the Tidewater Super Regional Model was plotted for each Transportation Analysis Zone (TAZ) within the study area. This allowed for a check of the changes in land use against the model-projected growth. These plots showed generally similar population and employment trends, with population generally increasing along the I-64 corridor. The highest percentage population increases were generally found in the rural areas of the corridor. Population decreases are projected mostly in the Hampton Roads area along sections of the waterfront that are home to military facilities.

Employment follows somewhat similar trends, with employment projected to decline in urban areas, but showing modest increases in rural areas of the corridor.

These land use plots were used to validate the boundaries between “urban” and “rural” growth areas.

The plots are included in Attachment A.

As denoted in Table 2 by the heavy borders, approximate boundaries of urban and rural areas were identified. The urban areas were selected from I-95 to I-295 in the Richmond area, and from US 17 (Victory Boulevard) to the HRBT in the Hampton Roads area. These areas were also selected as the threshold for urban and rural growth areas.

After the three areas were selected, the growth rates projected by the Tidewater model were averaged and rounded to the nearest 0.1 percent. The model was selected as the primary source for the overall growth rates, because it is a forward-looking tool (unlike the historic growth rates), and incorporates approved land use forecasts and accepted modeling protocols. Historic growth rates should be used with caution, in particular along extended projects such as the I-64 Peninsula EIS, because they are less able to factor in future development patterns, capacity constraints and diversion to other facilities, new roadway projects, and other factors that influence traffic patterns (such as tolls). However, they serve as a reasonableness check on growth rates developed from other sources.

The procedure outlined above yielded the following proposed annual growth rates for the mainline links:

Richmond urban area:	0.7%/year
Peninsula rural area:	1.5%/year
Hampton Roads urban area:	1.1%/year

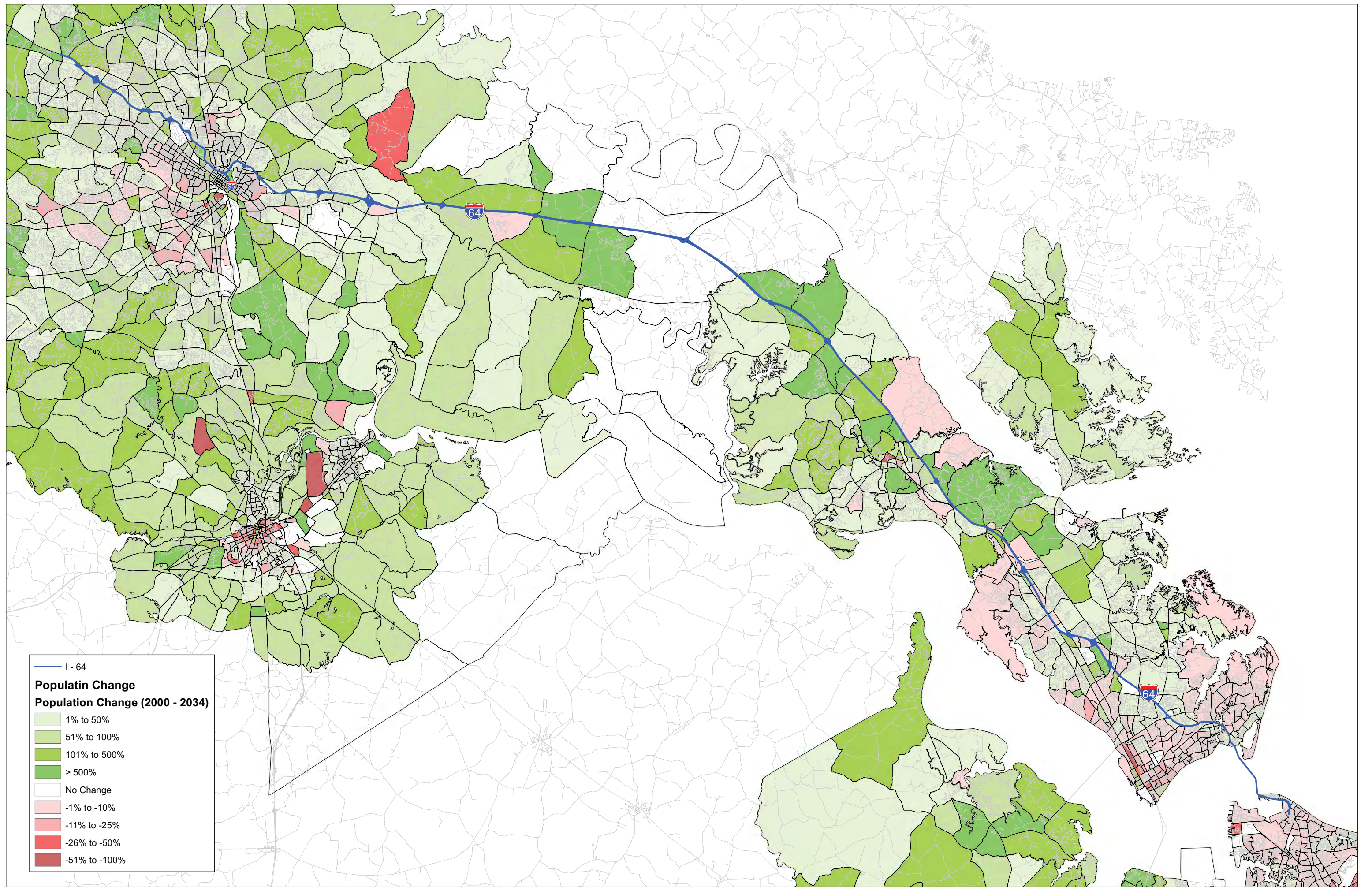
These growth rates are higher in the Richmond and Hampton Roads urban areas, compared to average growth since 2000 (which were -0.2% and 0.6%, respectively). However, the past 10 years included the effects of the 2008 economic recession which resulted in nationwide declines in traffic volumes. It is not realistic to expect these slow growth trends to continue over the next 30 years.

The proposed growth rate for the rural area is lower than the average growth rate for the past 10 years (2.6%); however, growth of such magnitude is unlikely to be sustained over the next 30 years.

DRAFT

ATTACHMENT A

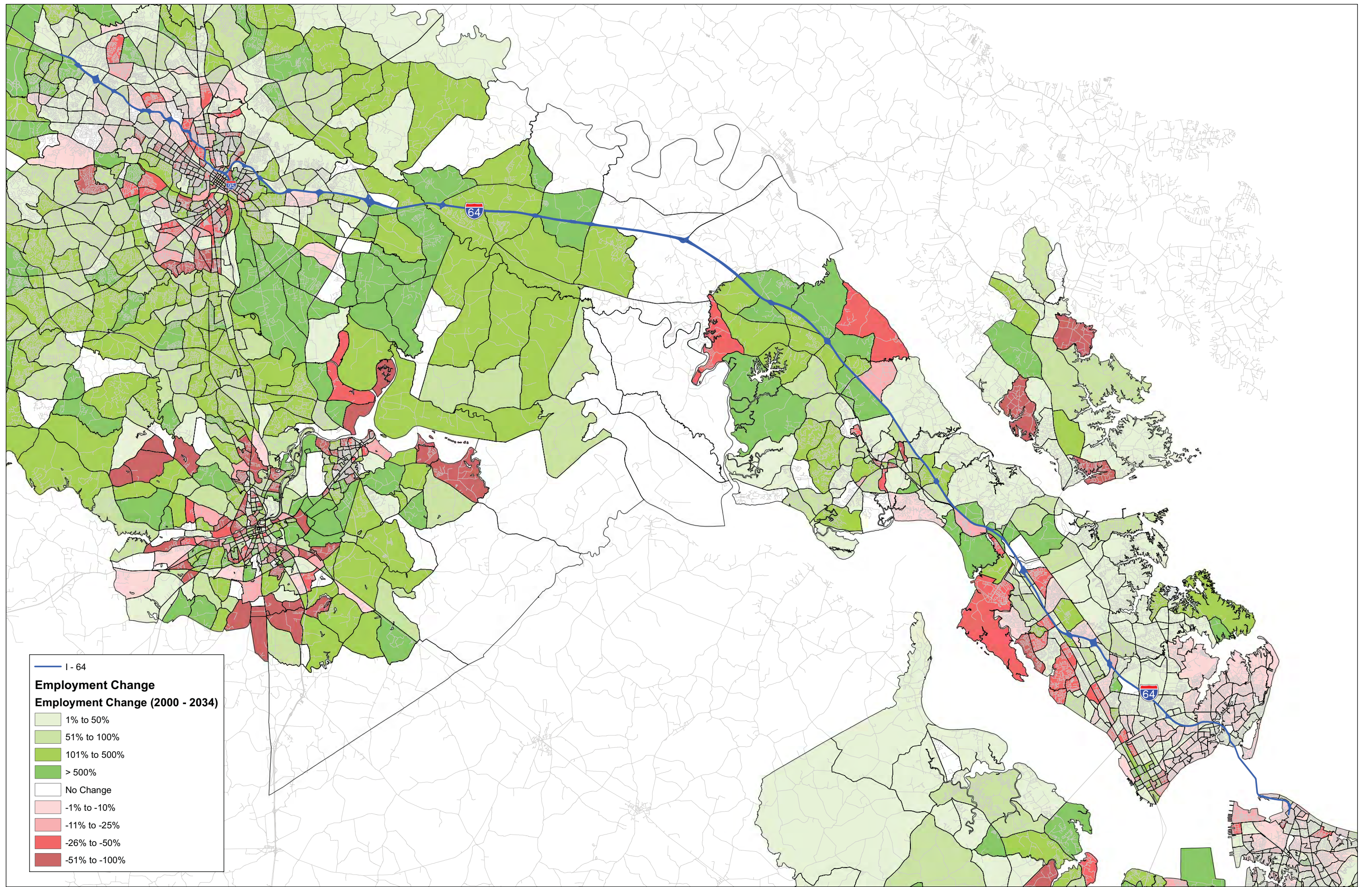
LAND USE PLOTS



I - 64

Populatin Change
Population Change (2000 - 2034)

- 1% to 50%
- 51% to 100%
- 101% to 500%
- > 500%
- No Change
- 1% to -10%
- 11% to -25%
- 26% to -50%
- 51% to -100%

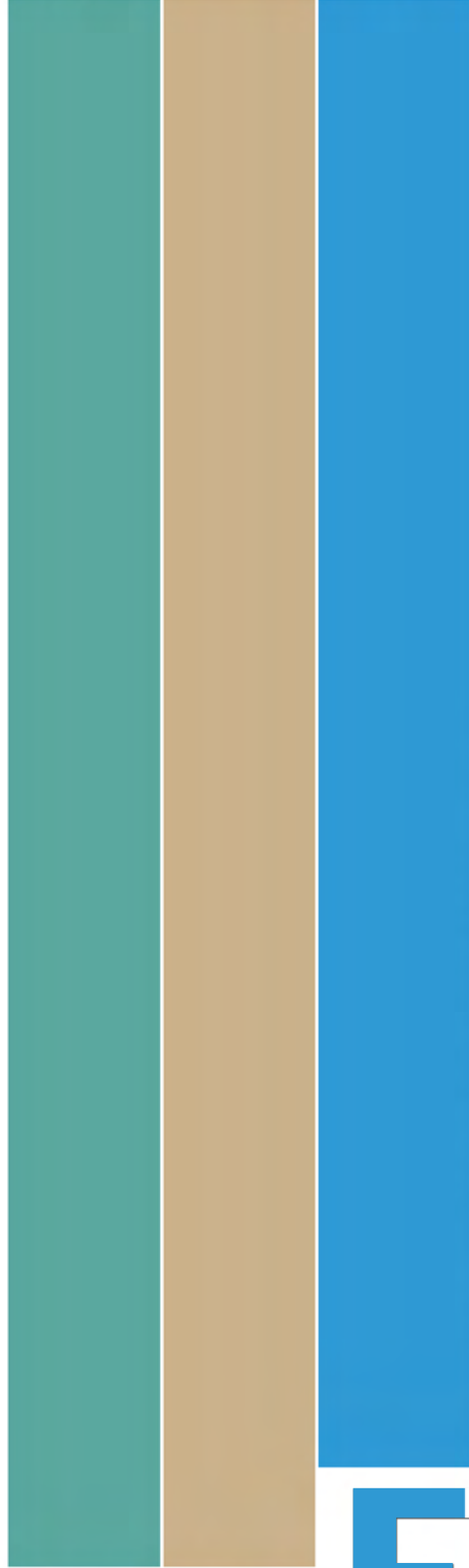


I - 64

Employment Change
Employment Change (2000 - 2034)

- 1% to 50%
- 51% to 100%
- 101% to 500%
- > 500%
- No Change
- 1% to -10%
- 11% to -25%
- 26% to -50%
- 51% to -100%

INTERSTATE 64 PENINSULA STUDY



Balanced 2040 No-Build Traffic Volumes

APPENDIX

F

FINAL

Updated 6/7/2012

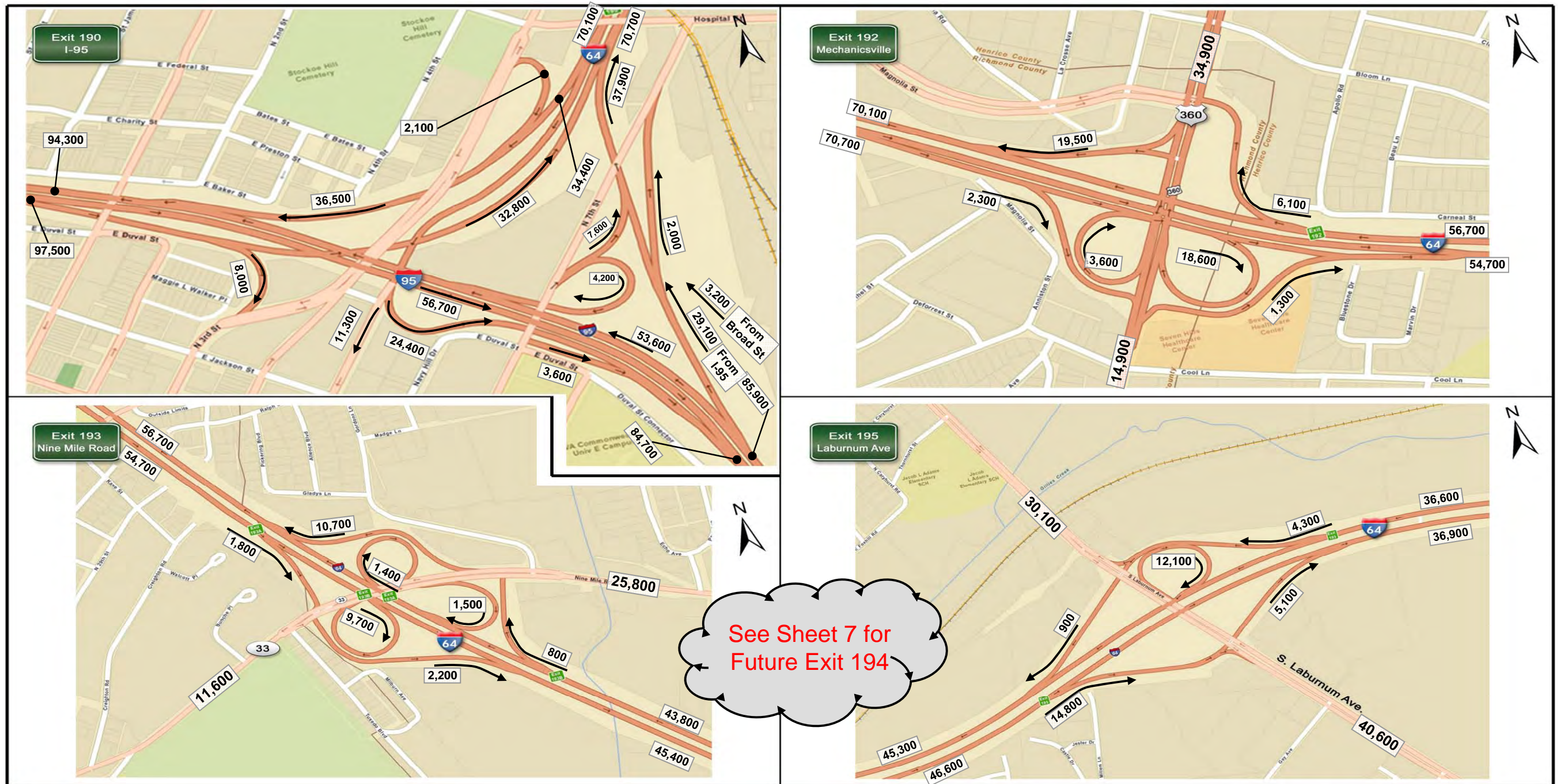


FIGURE 3: ADT Volumes
No Build 2040 Balanced Volumes
Sheet 1 of 7

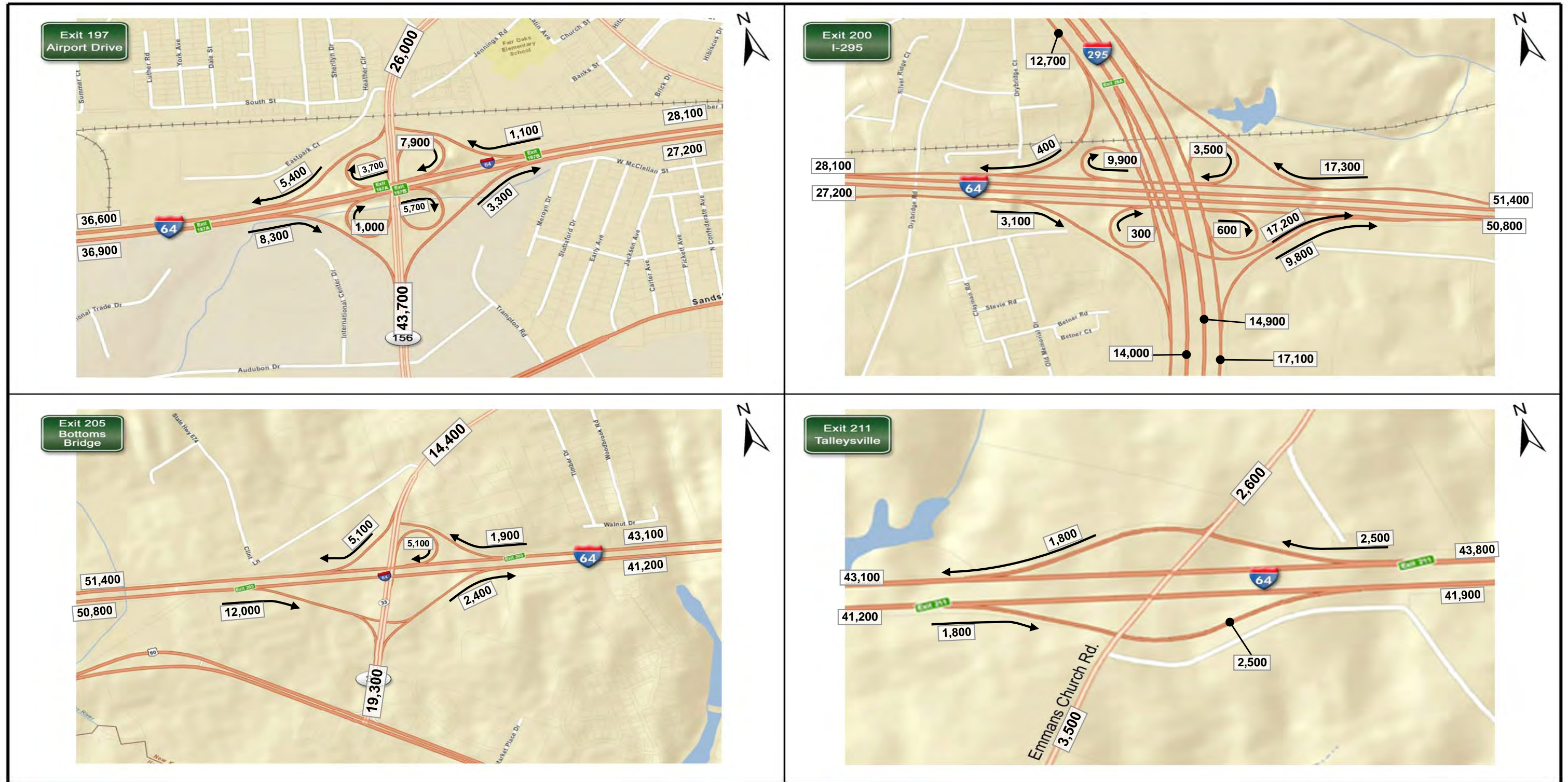


FIGURE 3: ADT Volumes
No Build 2040 Balanced Volumes
Sheet 2 of 7

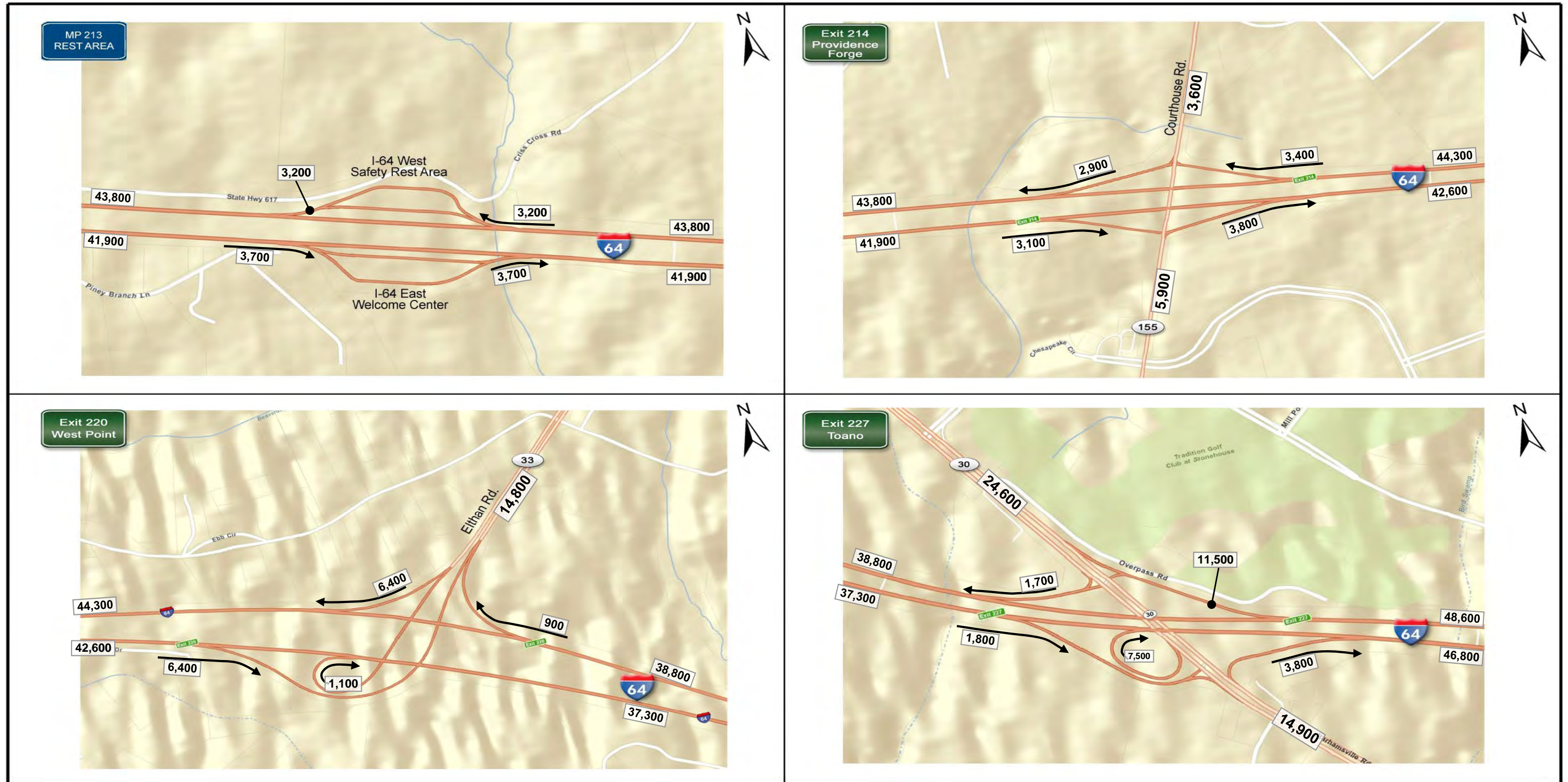


FIGURE 3: ADT Volumes
No Build 2040 Balanced Volumes
Sheet 3 of 7

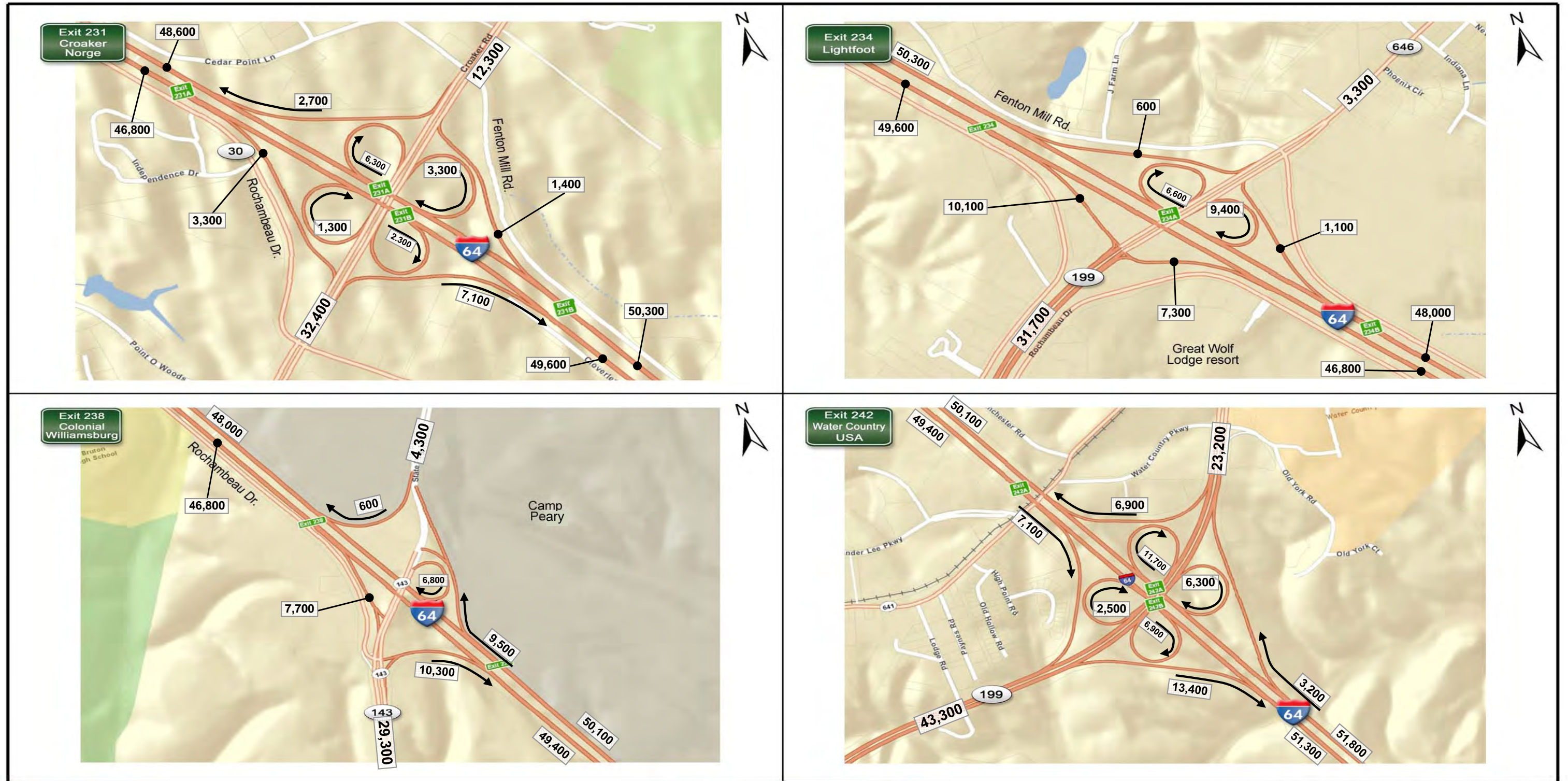


FIGURE 3: ADT Volumes
No Build 2040 Balanced Volumes
Sheet 4 of 7

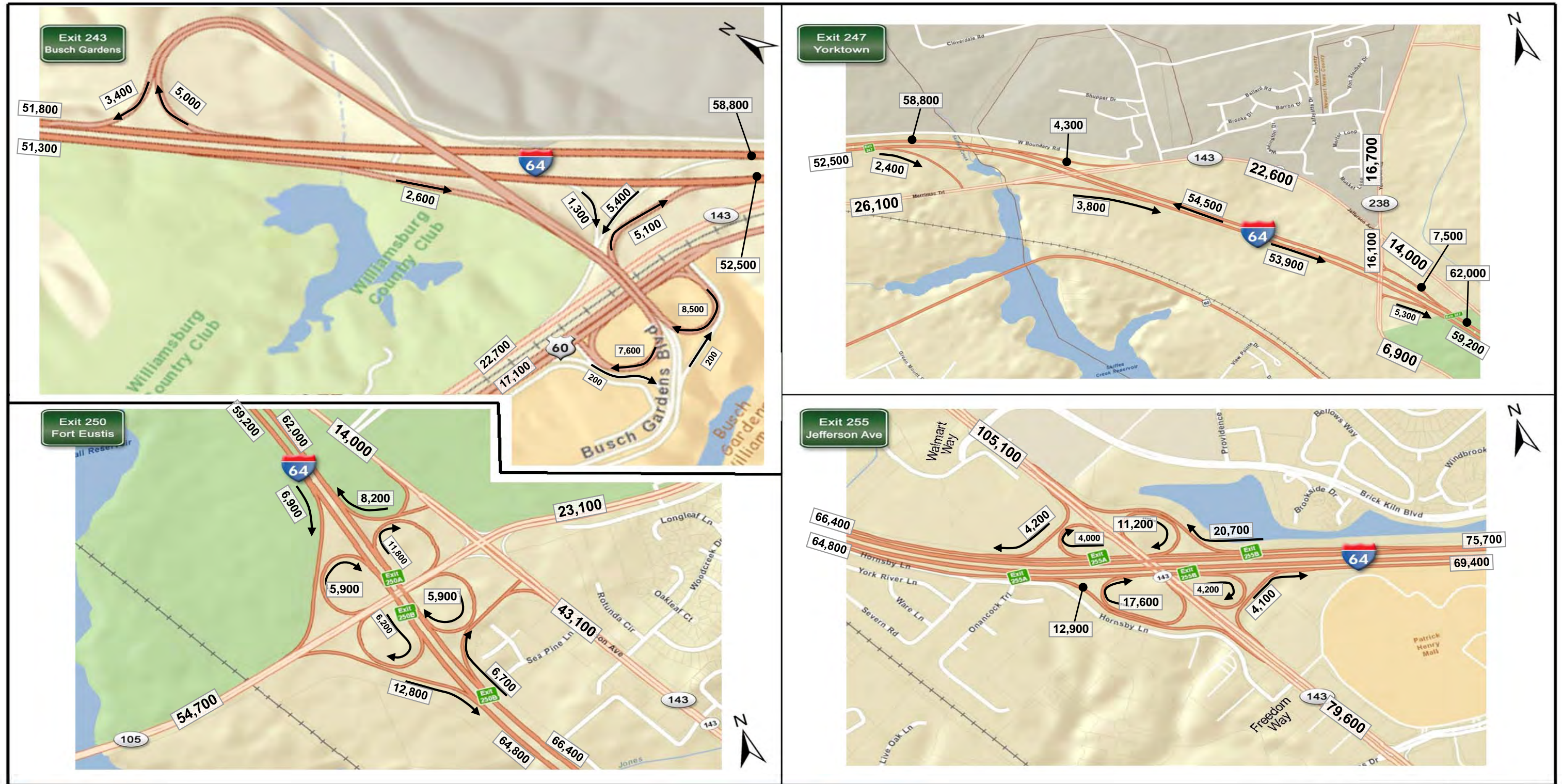


FIGURE 3: ADT Volumes
No Build 2040 Balanced Volumes
Sheet 5 of 7

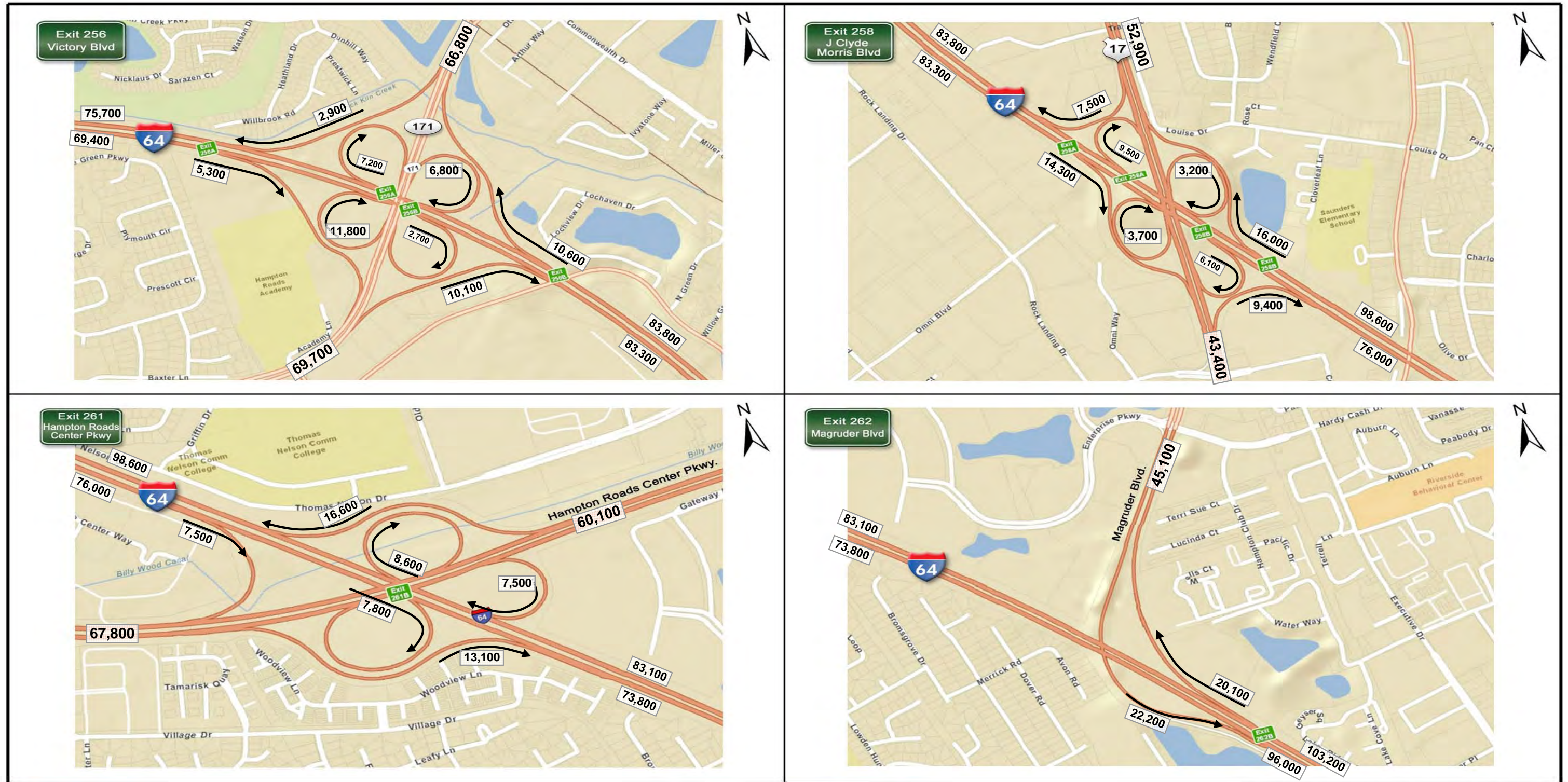


FIGURE 3: ADT Volumes
No Build 2040 Balanced Volumes
Sheet 6 of 7

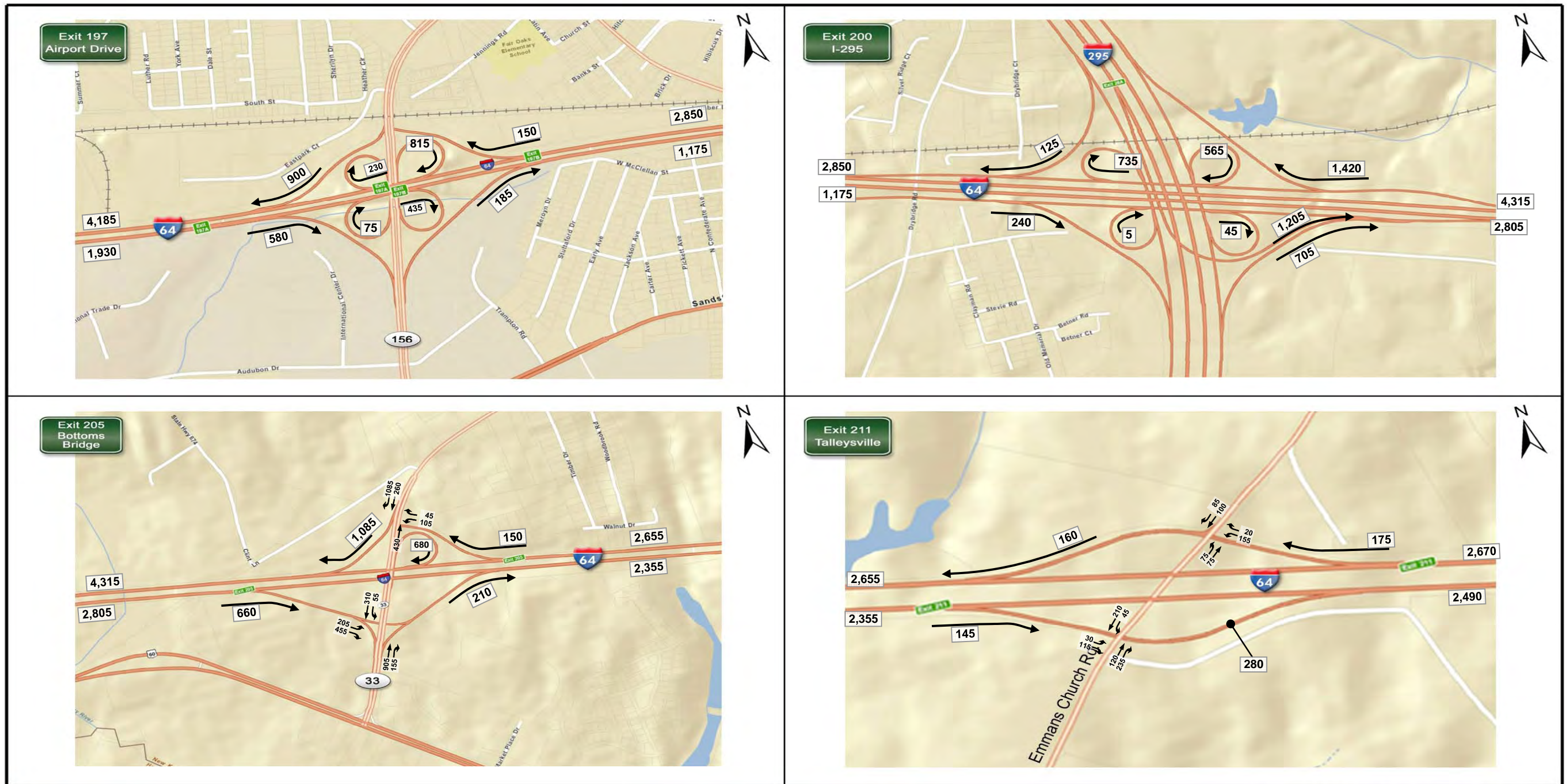


FIGURE 1: AM Peak Hour Volumes
2040 No Build Balanced Volumes
Sheet 2 of 7

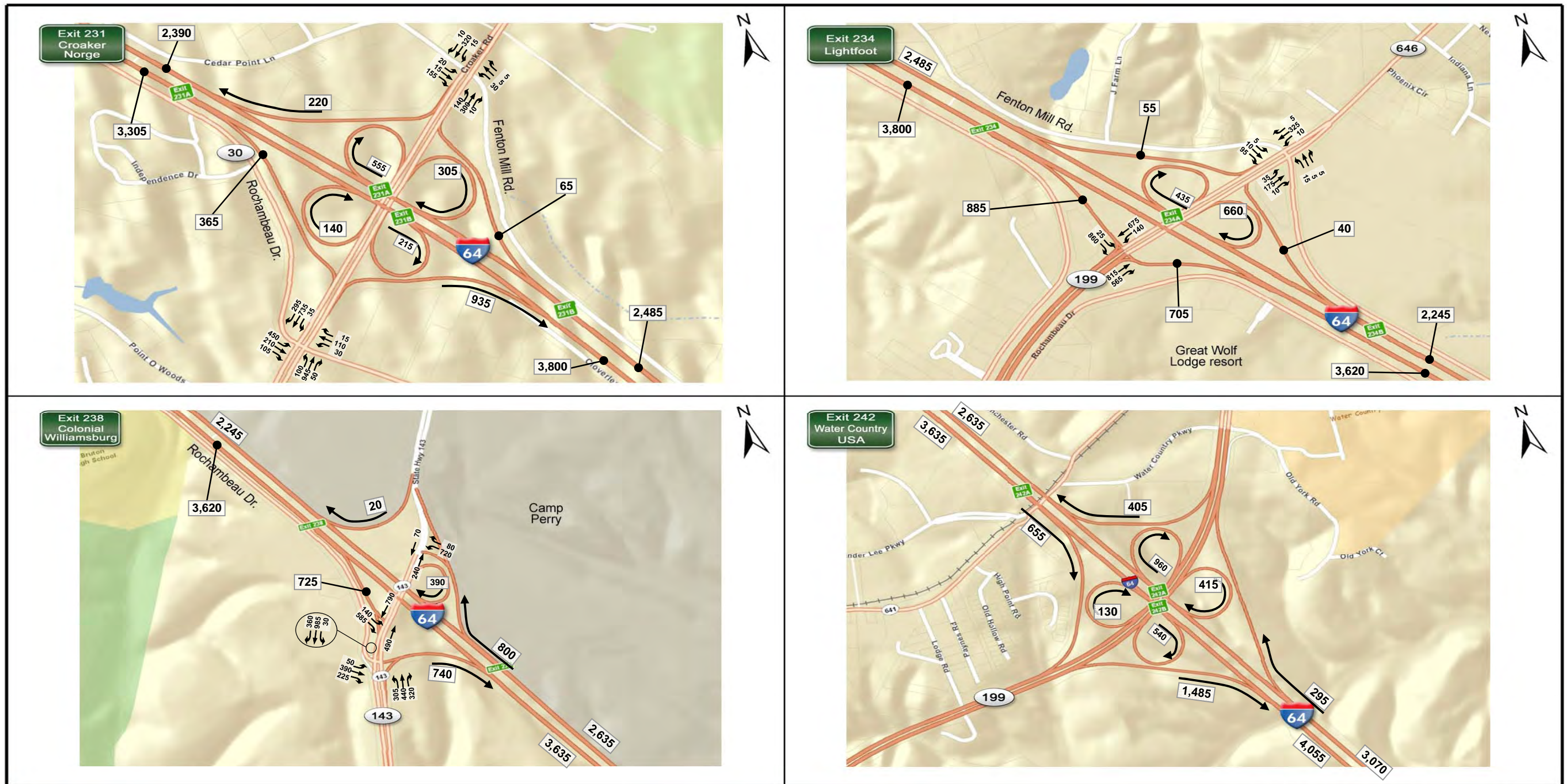


FIGURE 1: AM Peak Hour Volumes
2040 No Build Balanced Volumes
Sheet 4 of 7

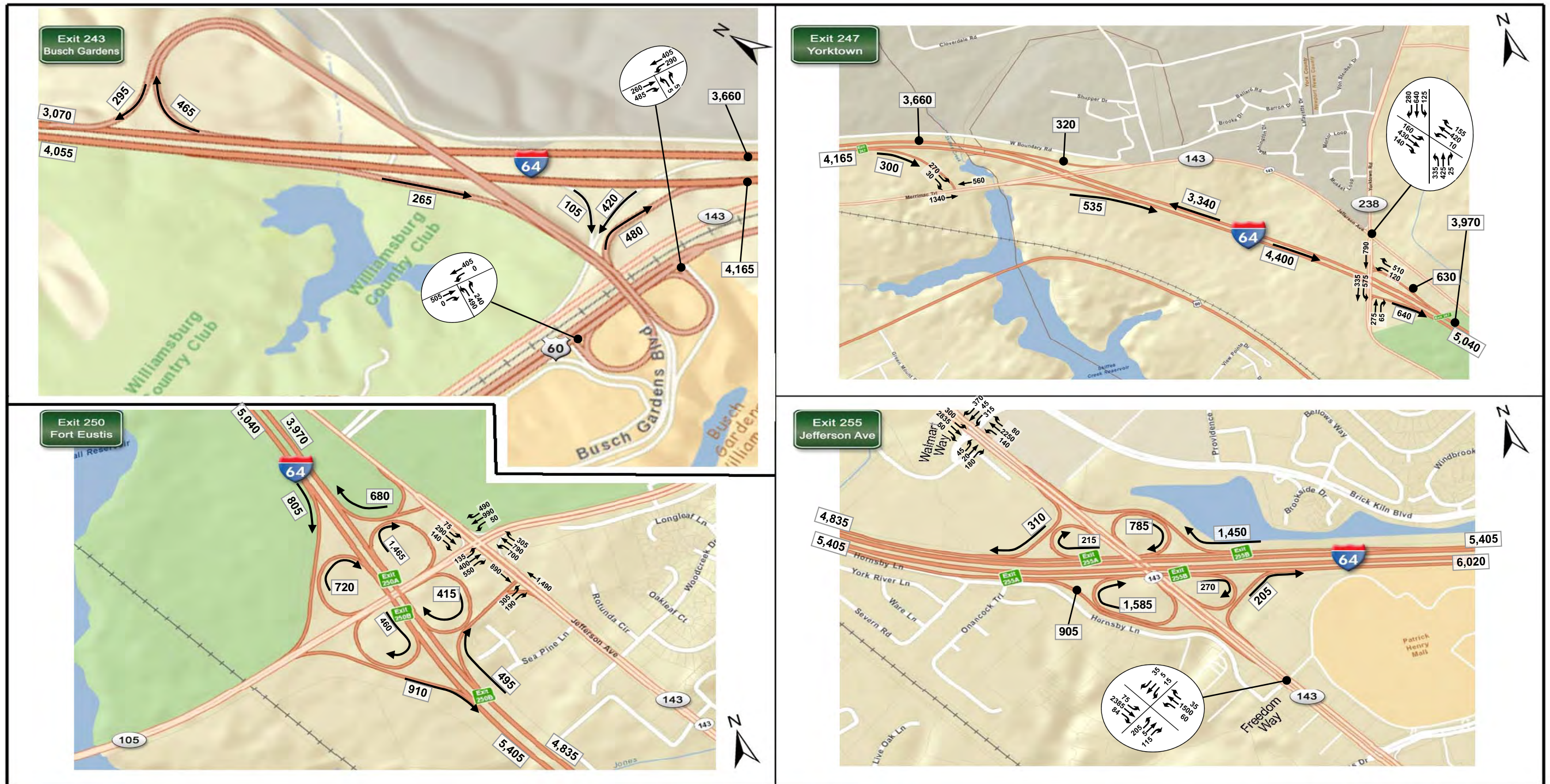


FIGURE 1: AM Peak Hour Volumes
2040 No Build Balanced Volumes
Sheet 5 of 7

FINAL

Updated 1/12/12

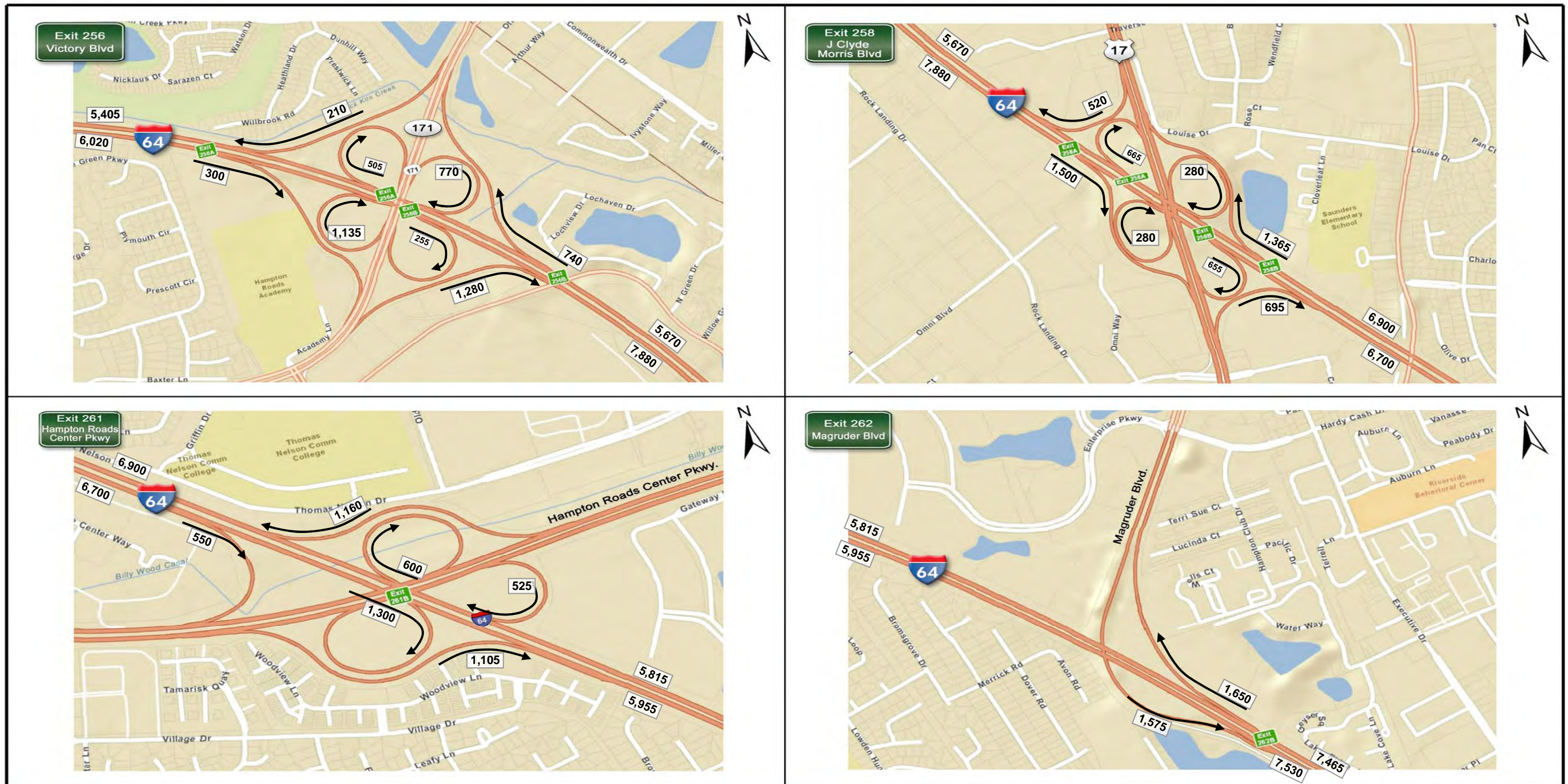


FIGURE 1: AM Peak Hour Volumes
 2040 No Build Balanced Volumes
 Sheet 6 of 7

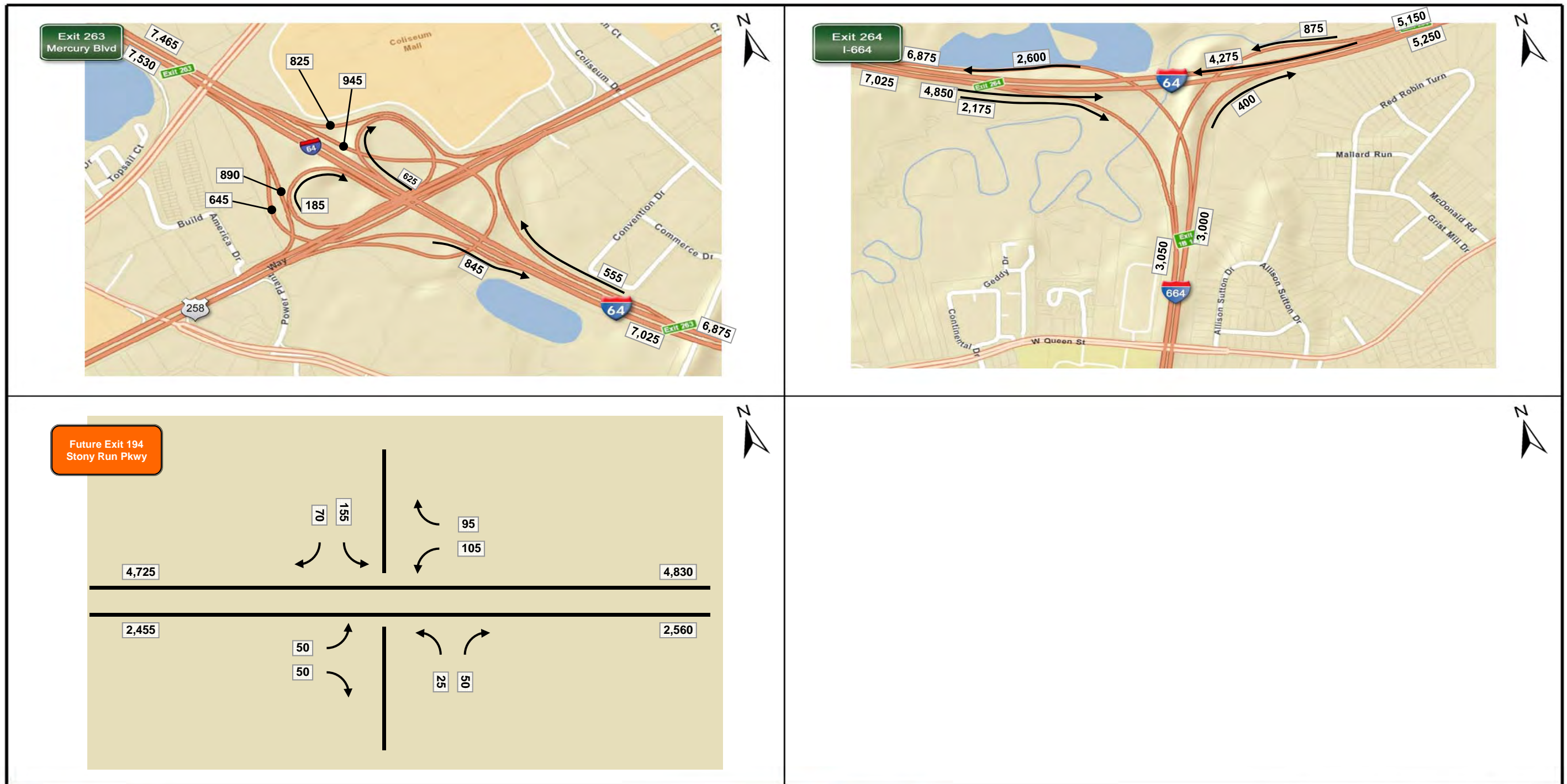


FIGURE 1: AM Peak Hour Volumes
2040 No Build Balanced Volumes
Sheet 7 of 7

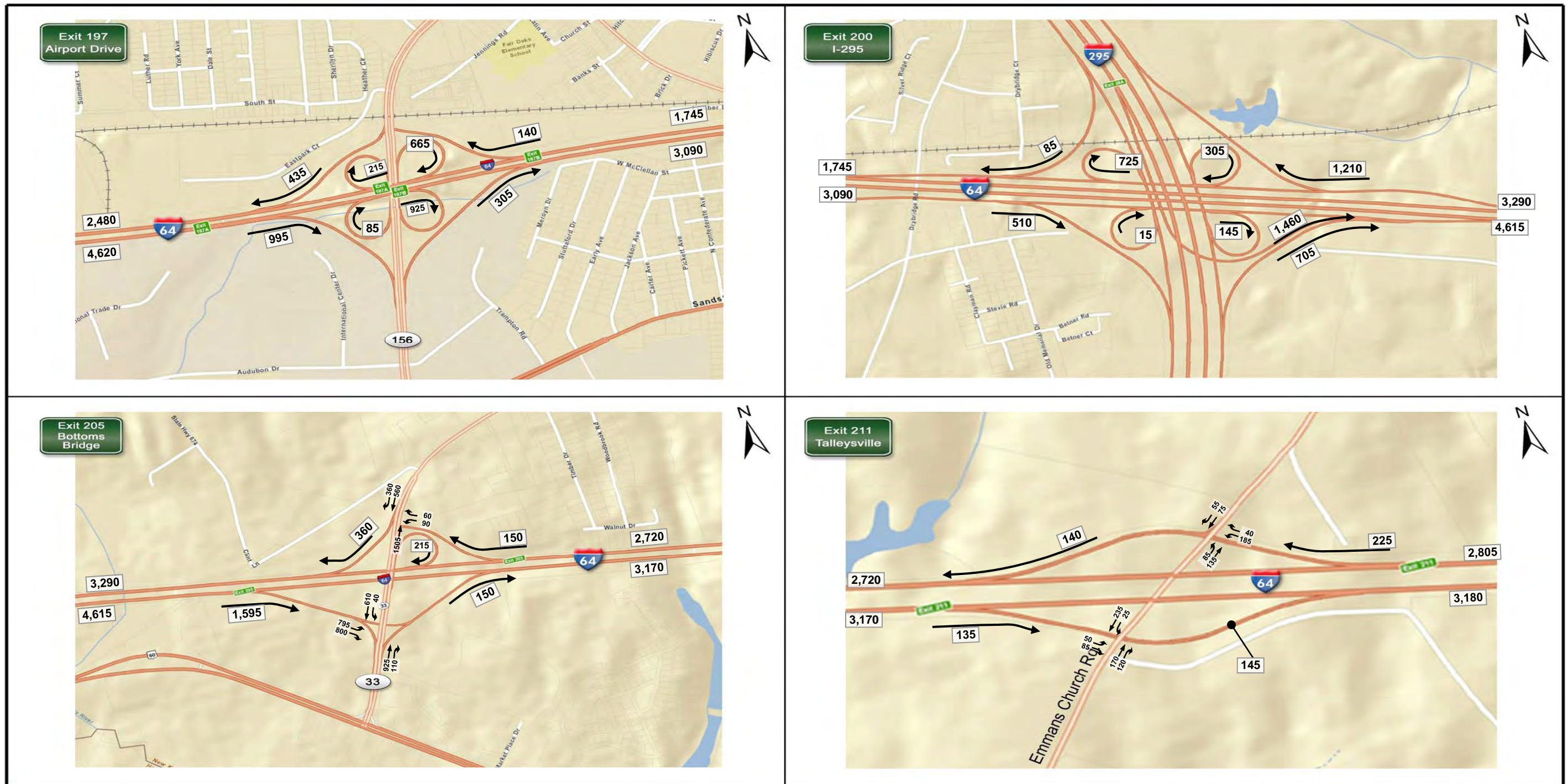


FIGURE 2: PM Peak Hour Volumes
2040 No Build Balanced Volumes
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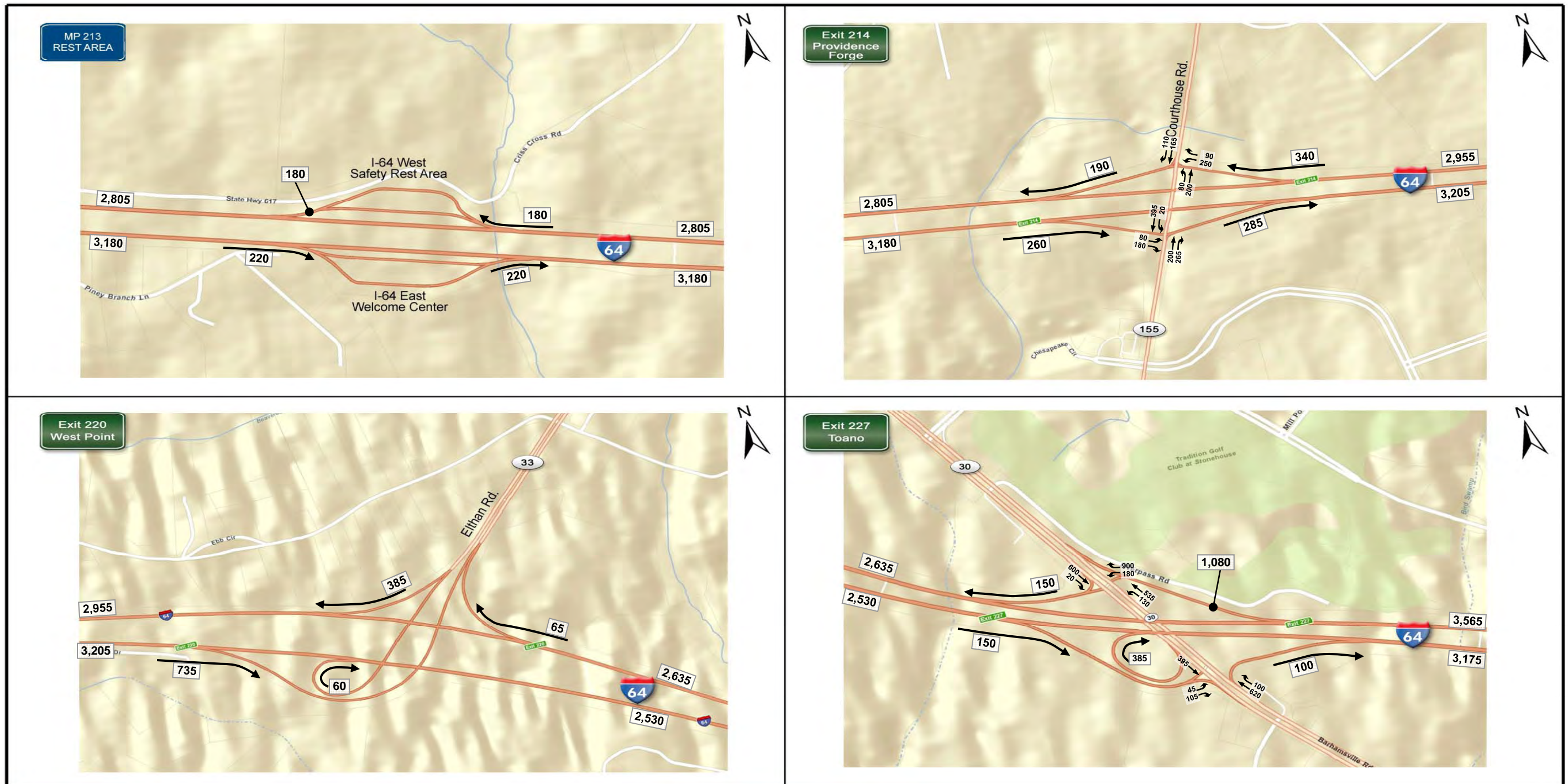


FIGURE 2: PM Peak Hour Volumes
 2040 No Build Balanced Volumes
 Sheet 3 of 7

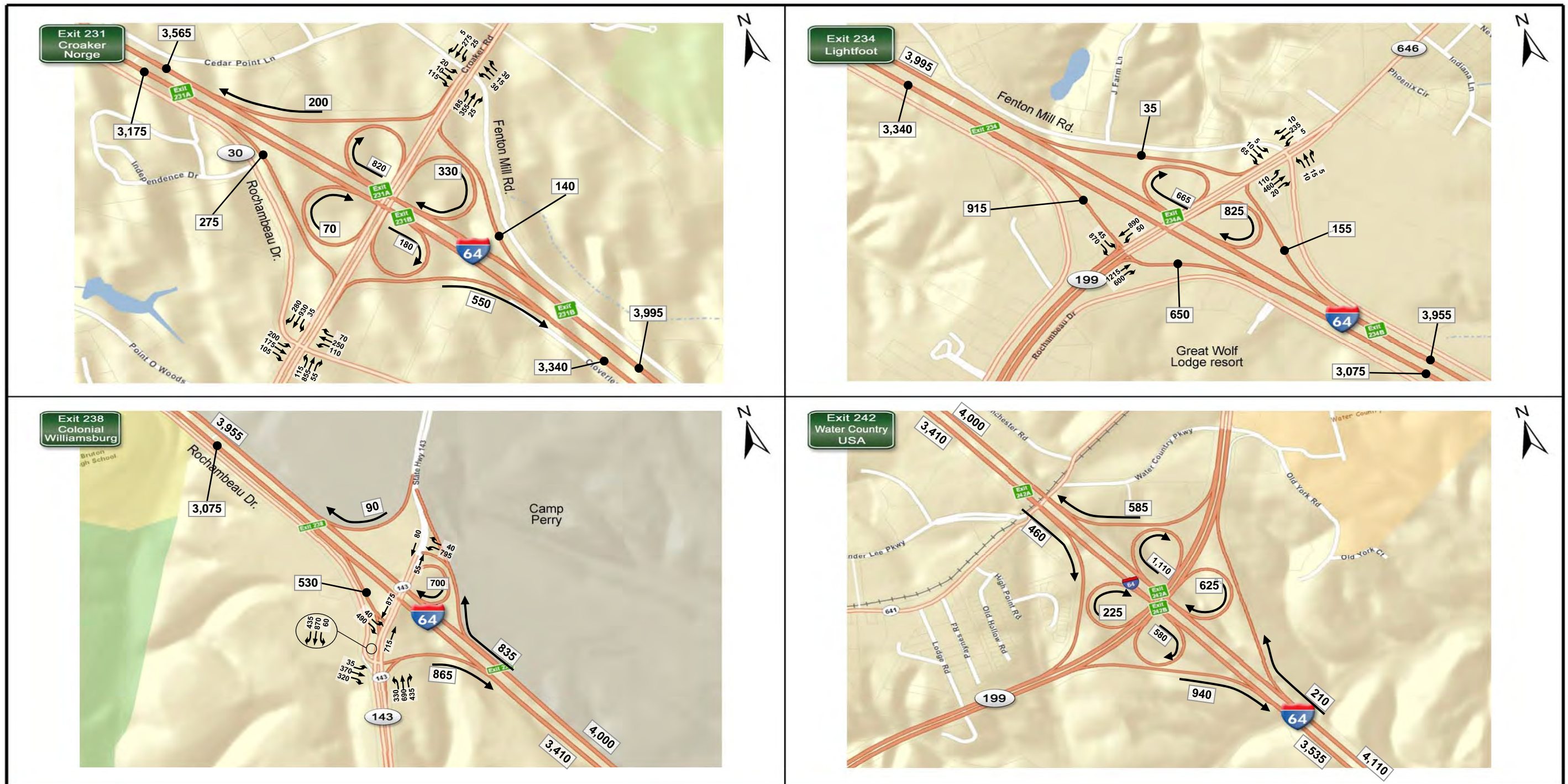


FIGURE 2: PM Peak Hour Volumes
2040 No Build Balanced Volumes
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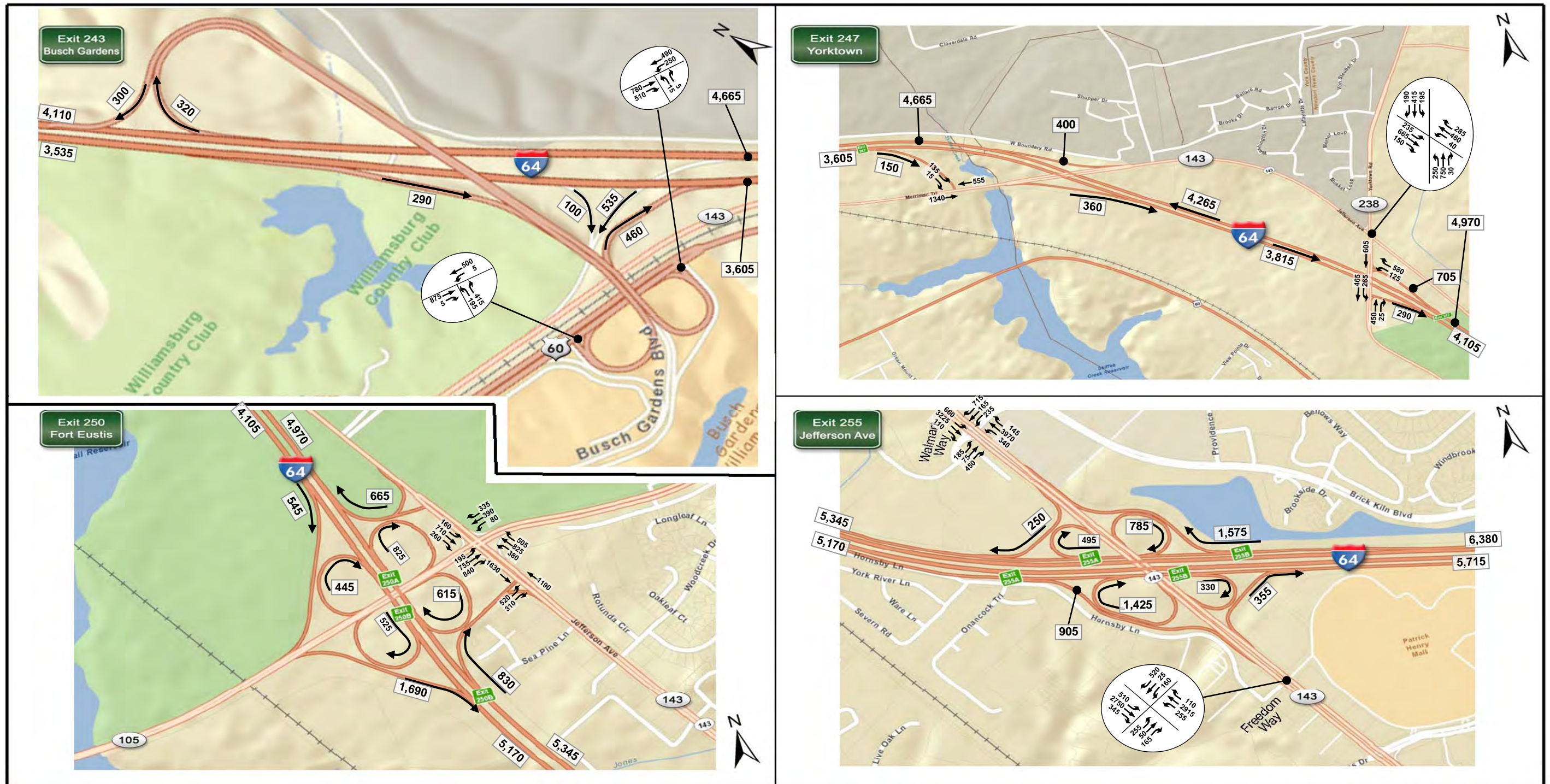


FIGURE 2: PM Peak Hour Volumes
2040 No Build Balanced Volumes
Sheet 5 of 7

FINAL

Updated 1/12/12

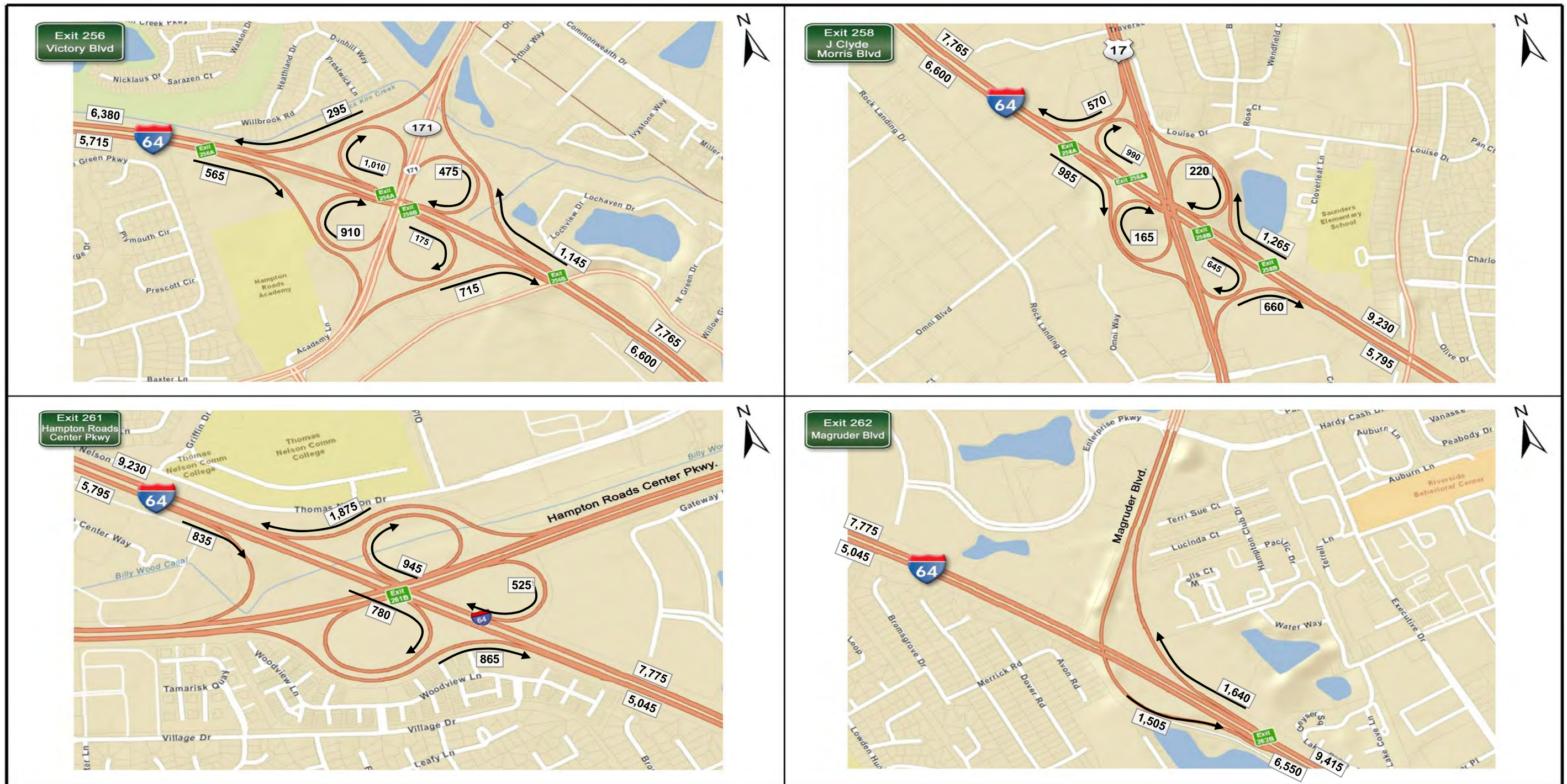


FIGURE 2: PM Peak Hour Volumes
2040 No Build Balanced Volumes
Sheet 6 of 7

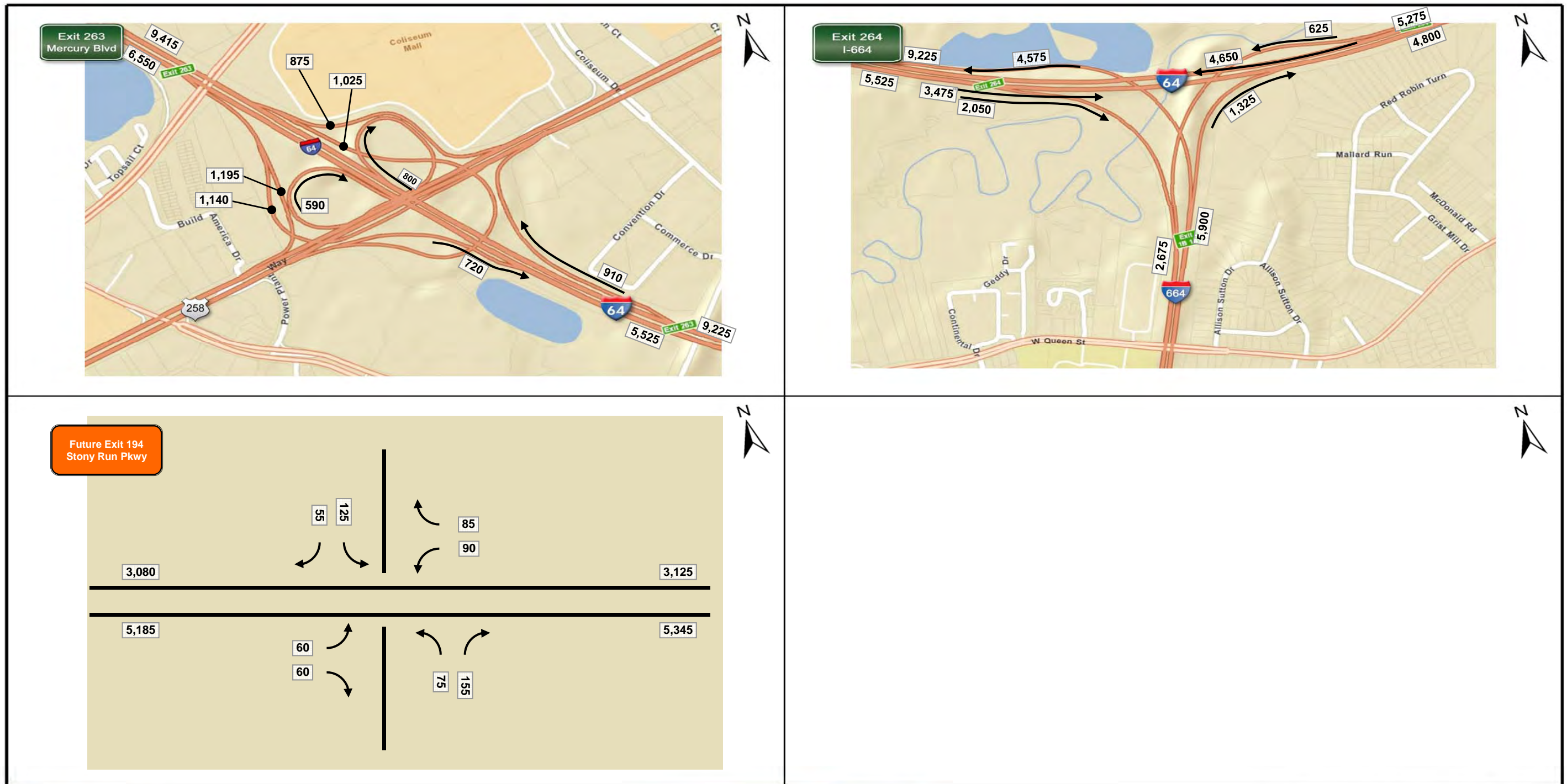


FIGURE 2: PM Peak Hour Volumes
2040 No Build Balanced Volumes
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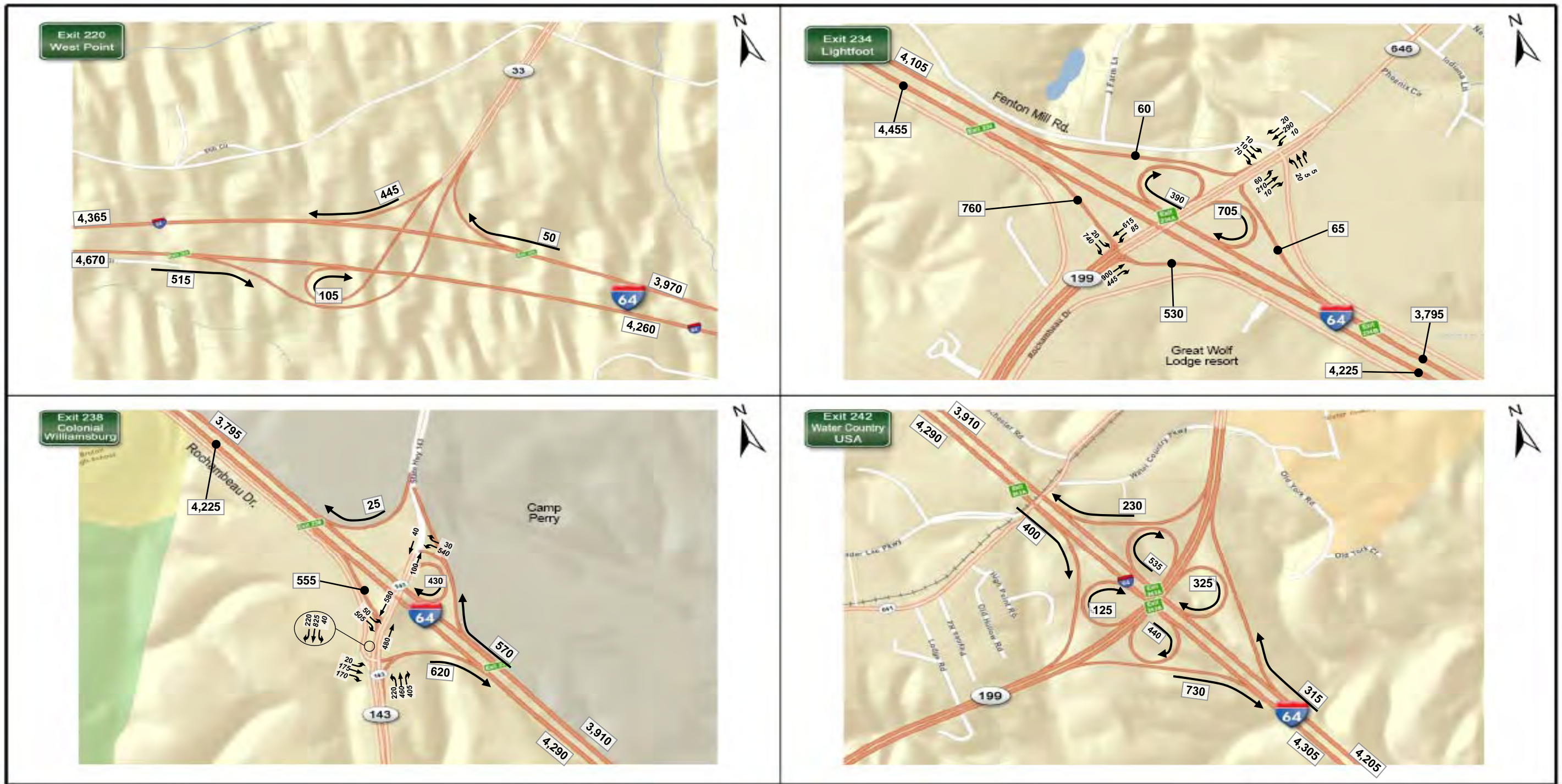


FIGURE 4: Summer SAT Peak Hour Volumes 2040 No Build Balanced Volumes Sheet 1 of 2

Note: Due to rounding, some volumes do not balance exactly.

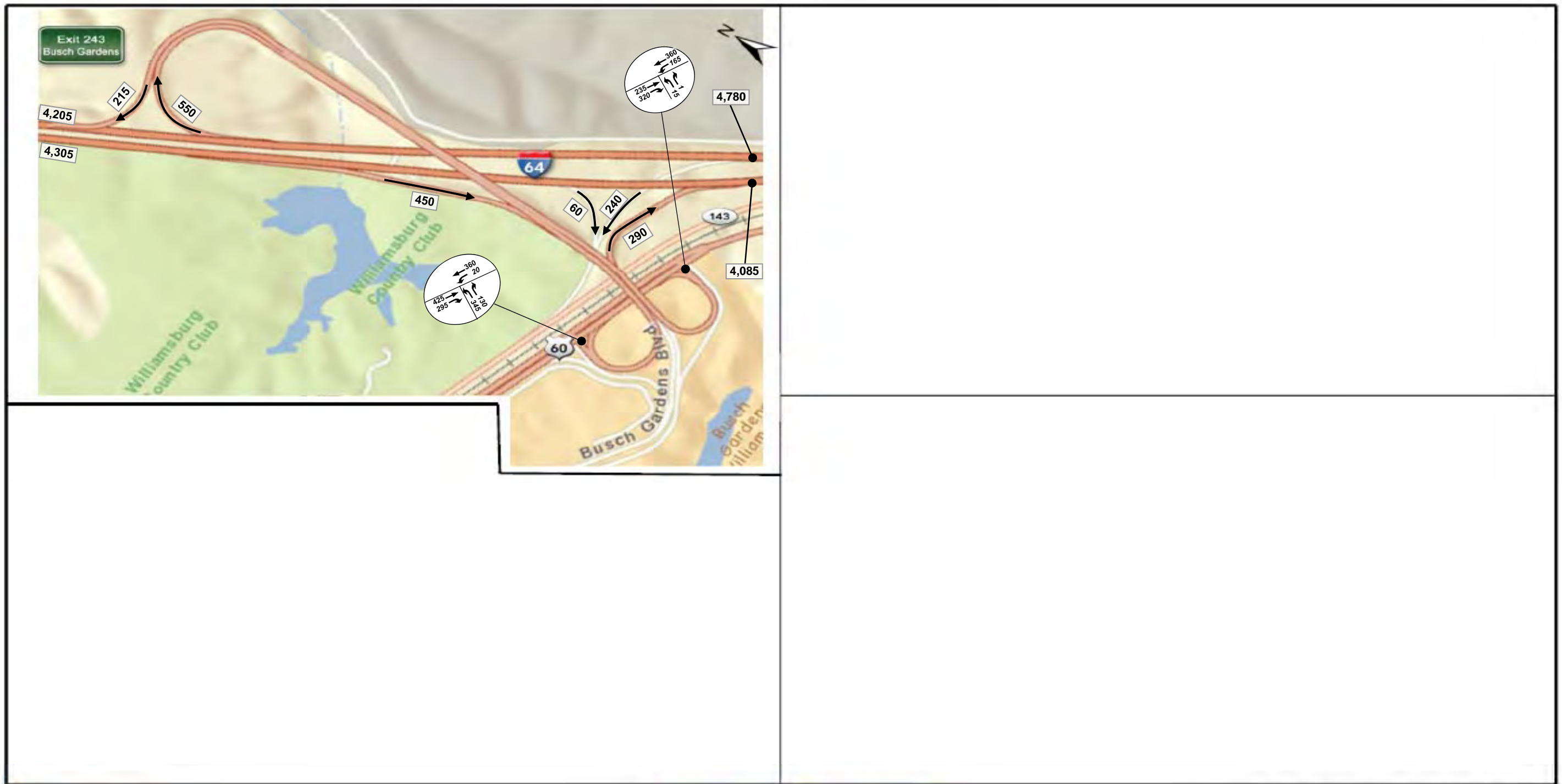


FIGURE 4: Summer SAT Peak Hour Volumes
2040 No Build Balanced Volumes
Sheet 2 of 2

Note: Due to rounding, some volumes do not balance exactly.

DRAFT

Updated 3/16/12

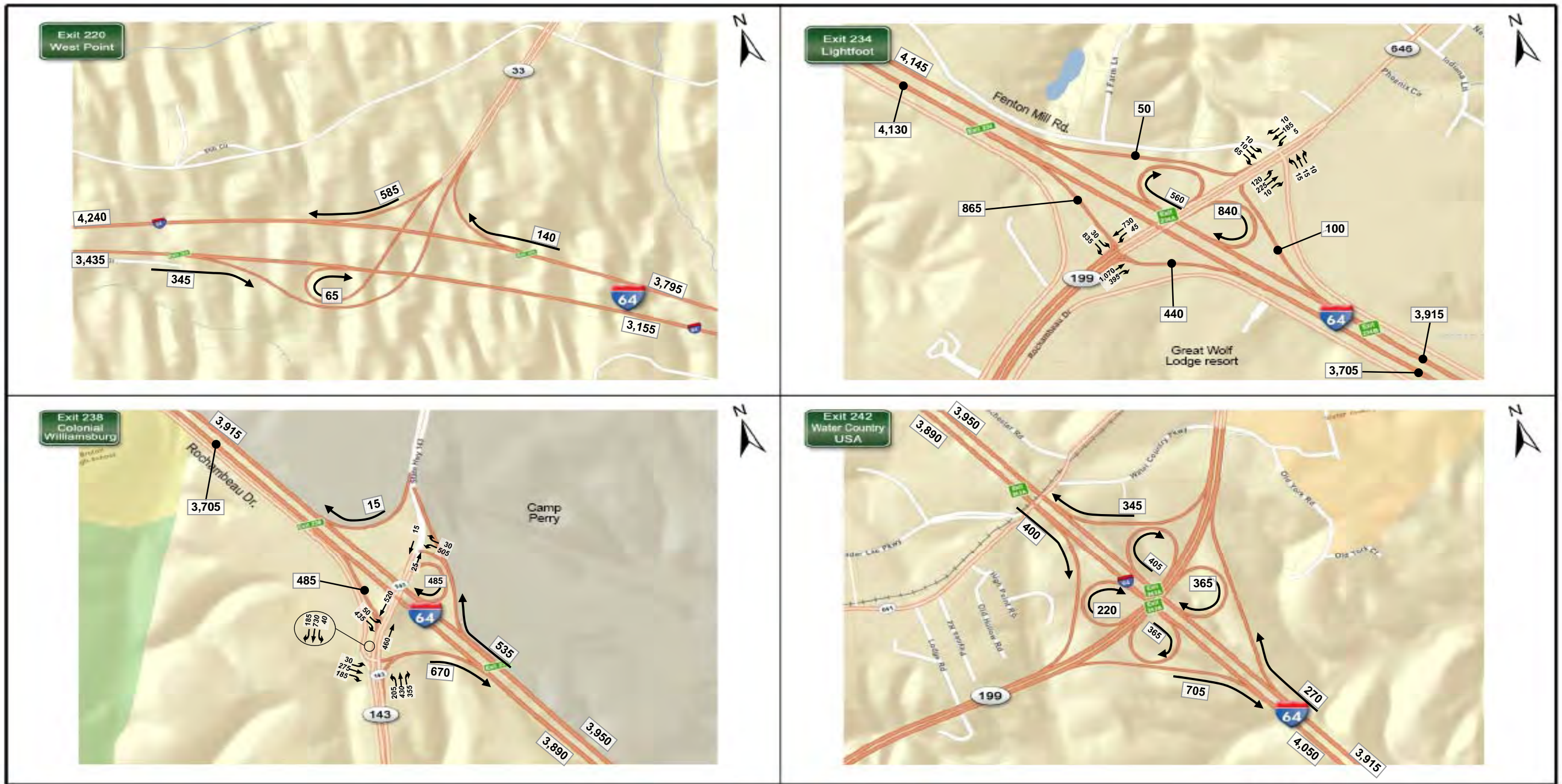


FIGURE 5: Summer SUN Peak Hour Volumes 2040 No Build Balanced Volumes Sheet 1 of 2

Note: Due to rounding, some volumes do not balance exactly.

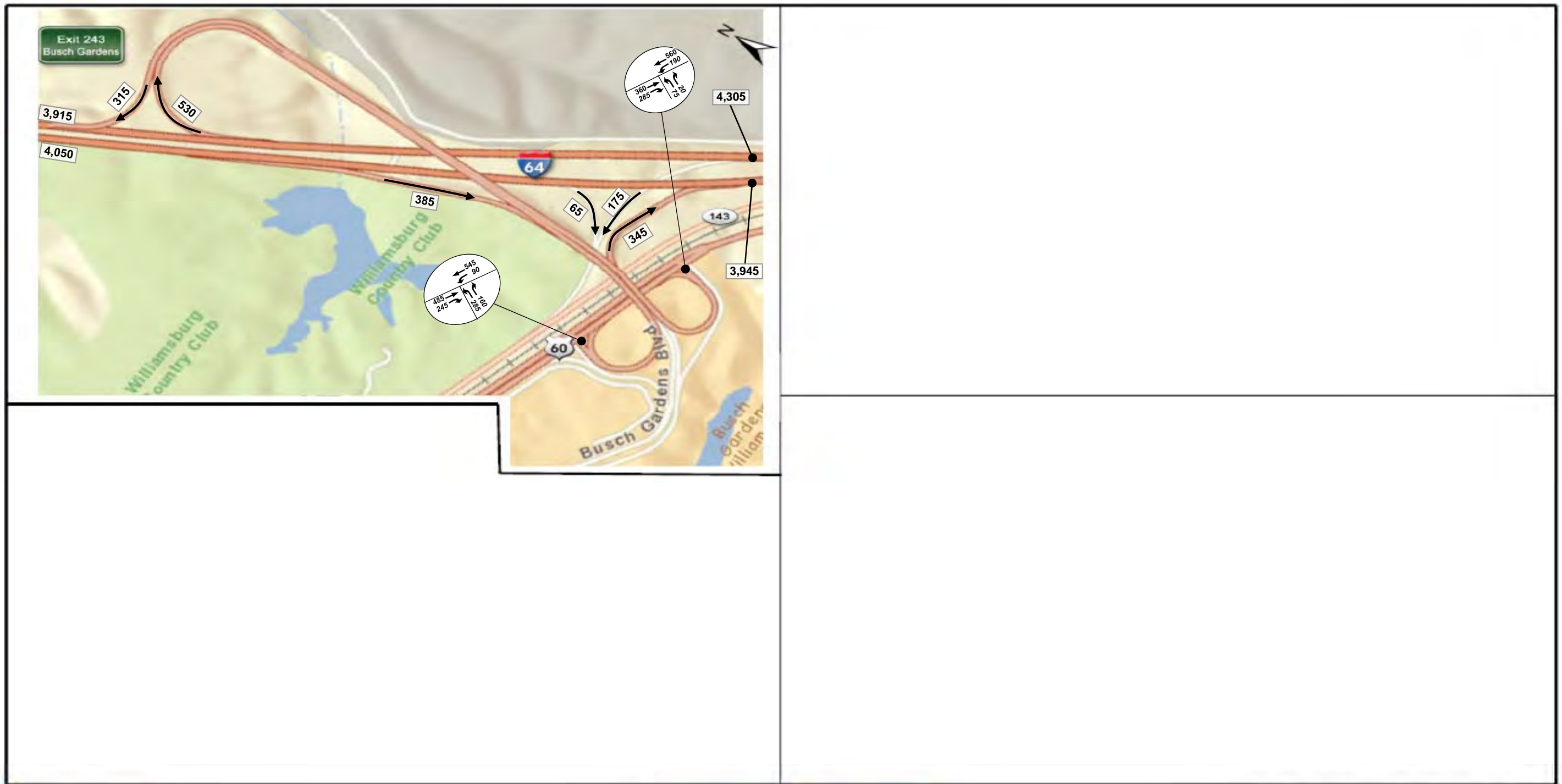


FIGURE 5: Summer SUN Peak Hour Volumes
2040 No Build Balanced Volumes
Sheet 2 of 2

Note: Due to rounding, some volumes do not balance exactly.

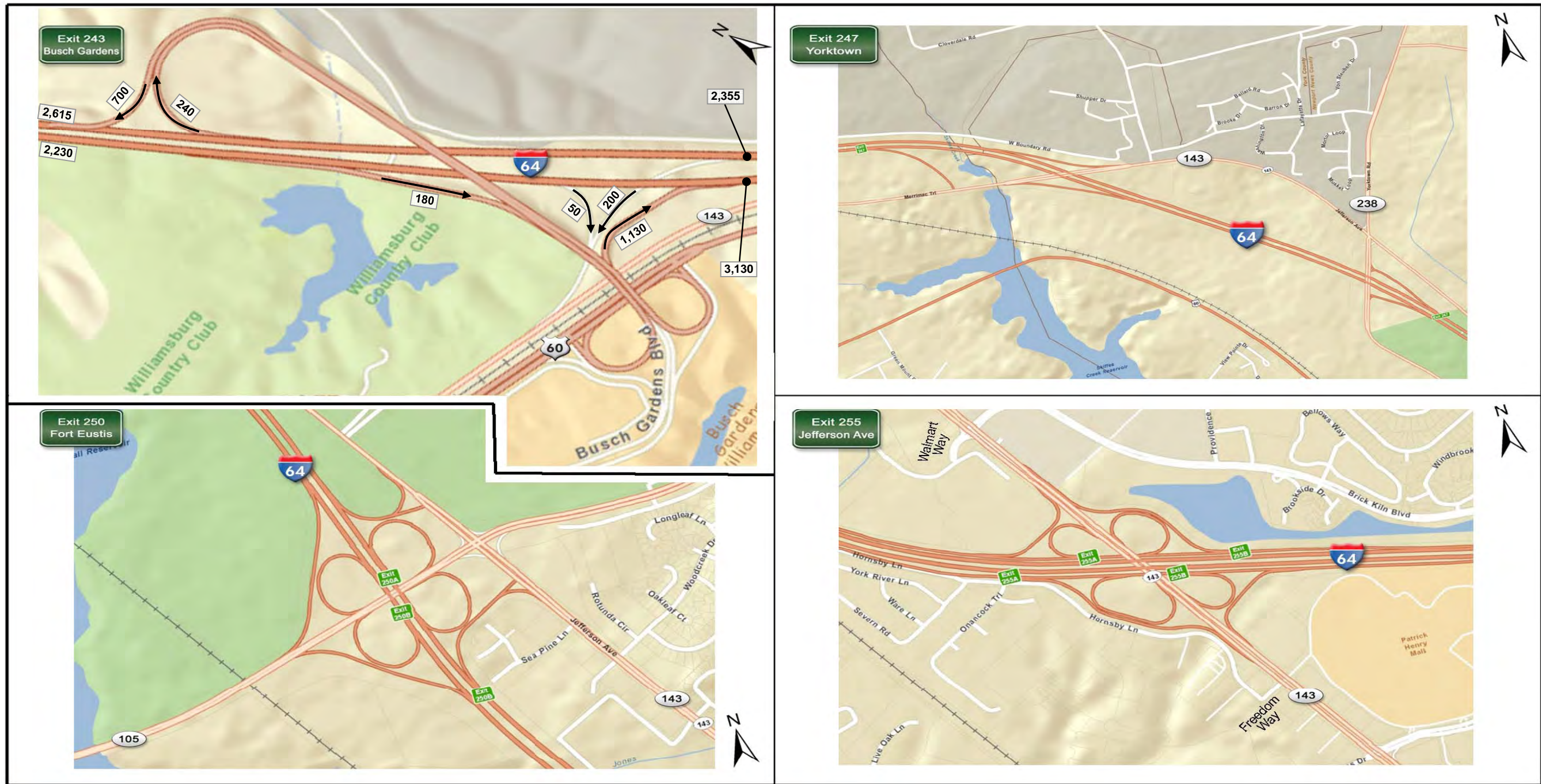


FIGURE 6: Summer SAT NIGHT Peak Hour Volumes
2040 No Build Balanced Volumes
Sheet 1 of 1

Note: Due to rounding, some volumes do not balance exactly.

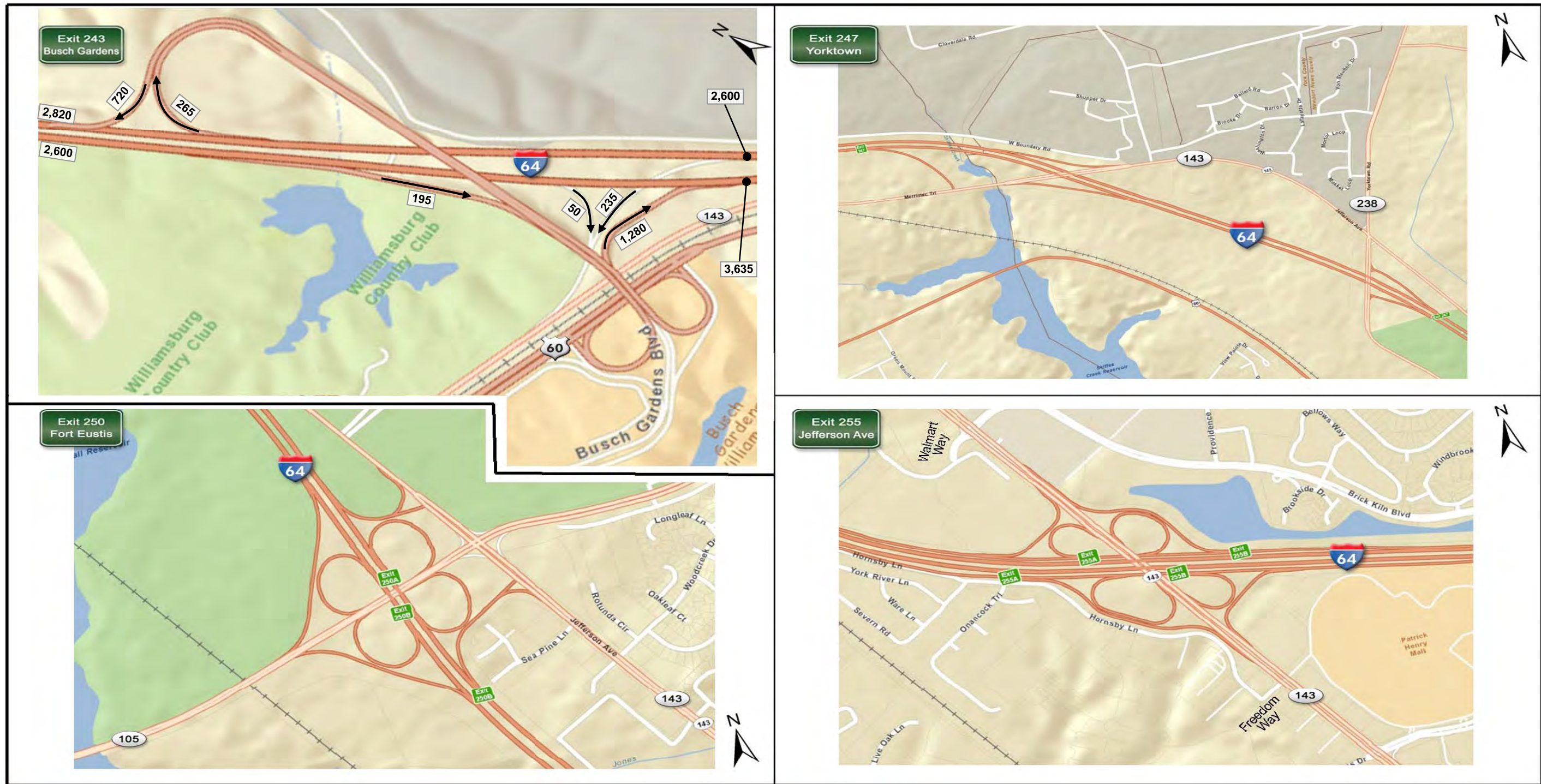
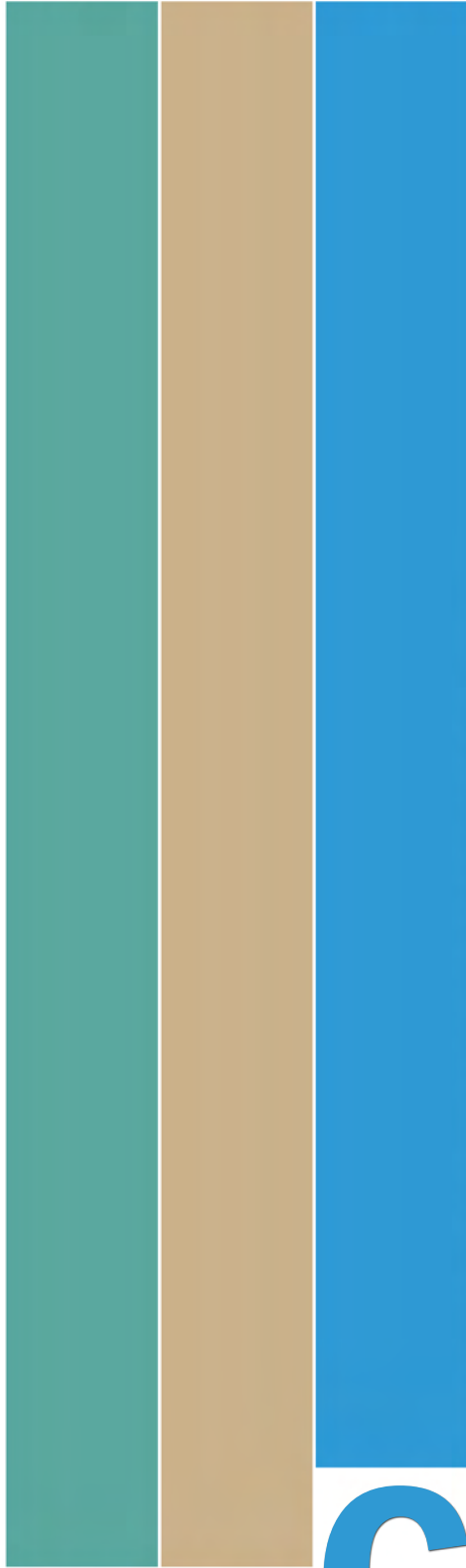
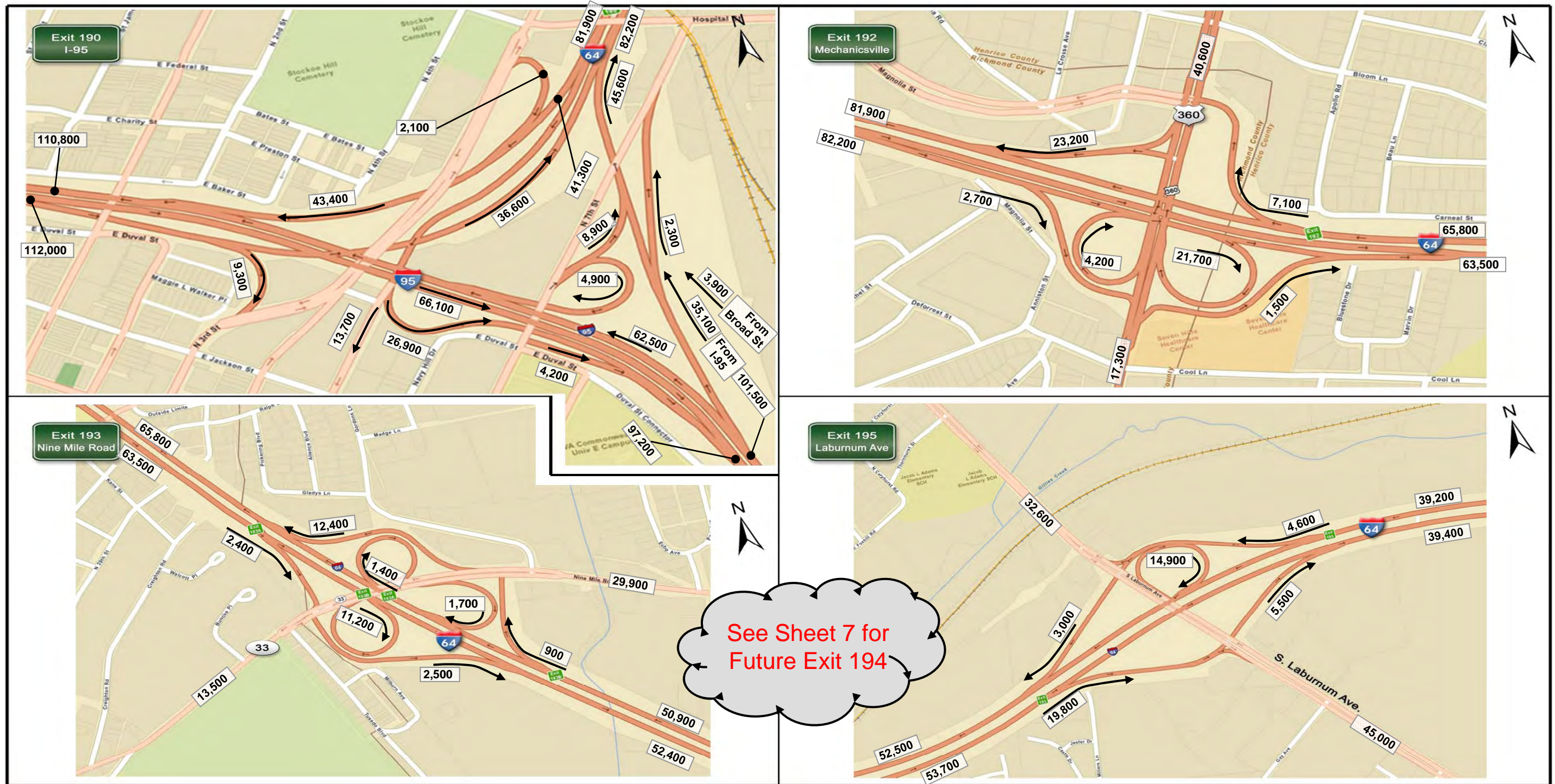


FIGURE 7: Summer SUN NIGHT Peak Hour Volumes
 2040 No Build Balanced Volumes
 Sheet 1 of 1

Note: Due to rounding, some volumes do not balance exactly.



Balanced 2040 Alternatives 1A/1B Traffic Volumes



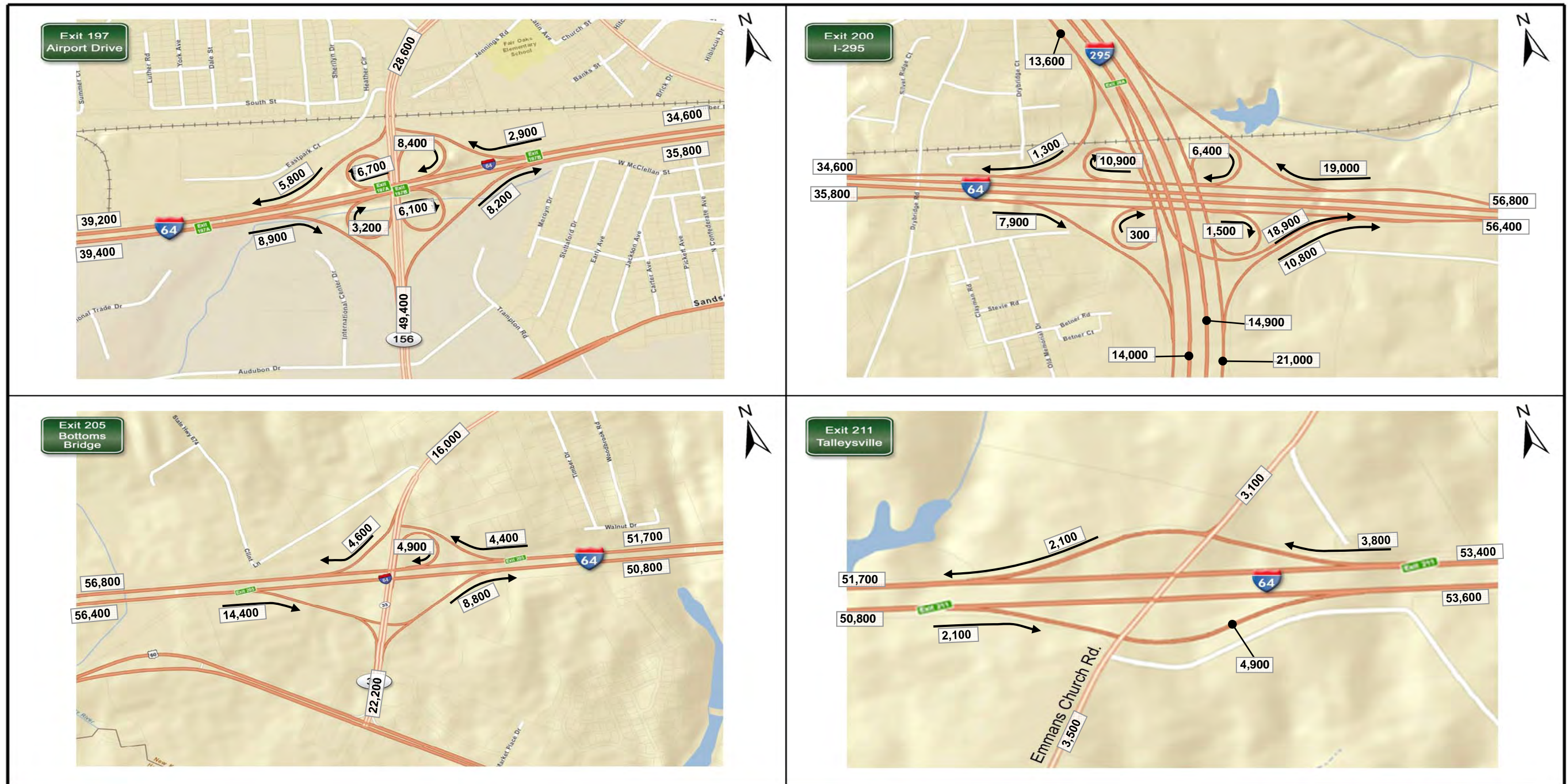


FIGURE 3: ADT Volumes
2040 Build Alt 1 Balanced Volumes
Sheet 2 of 7

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Updated 4/30/2012

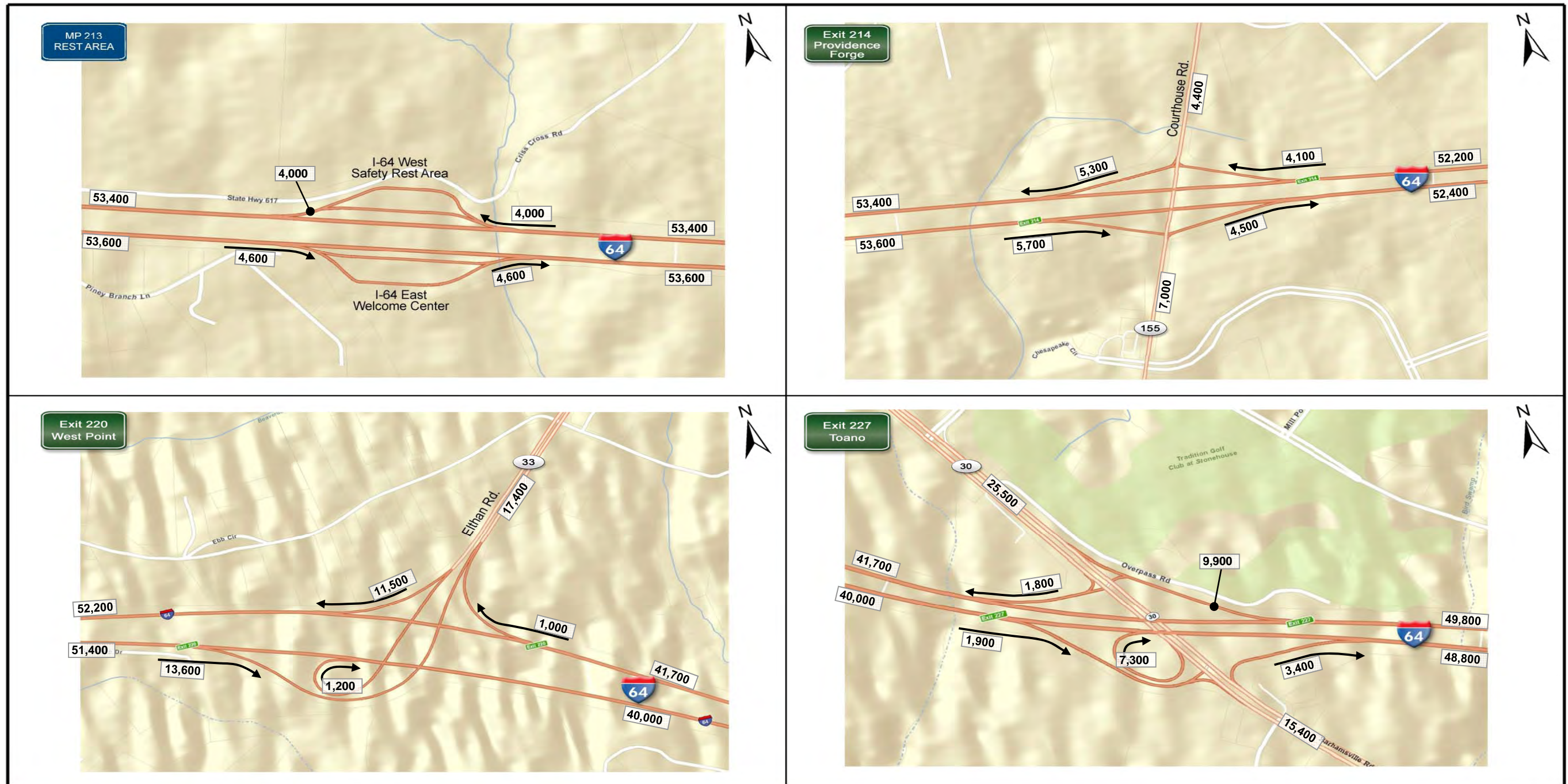


FIGURE 3: ADT Volumes
2040 Build Alt 1 Balanced Volumes
Sheet 3 of 7

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Updated 4/30/2012

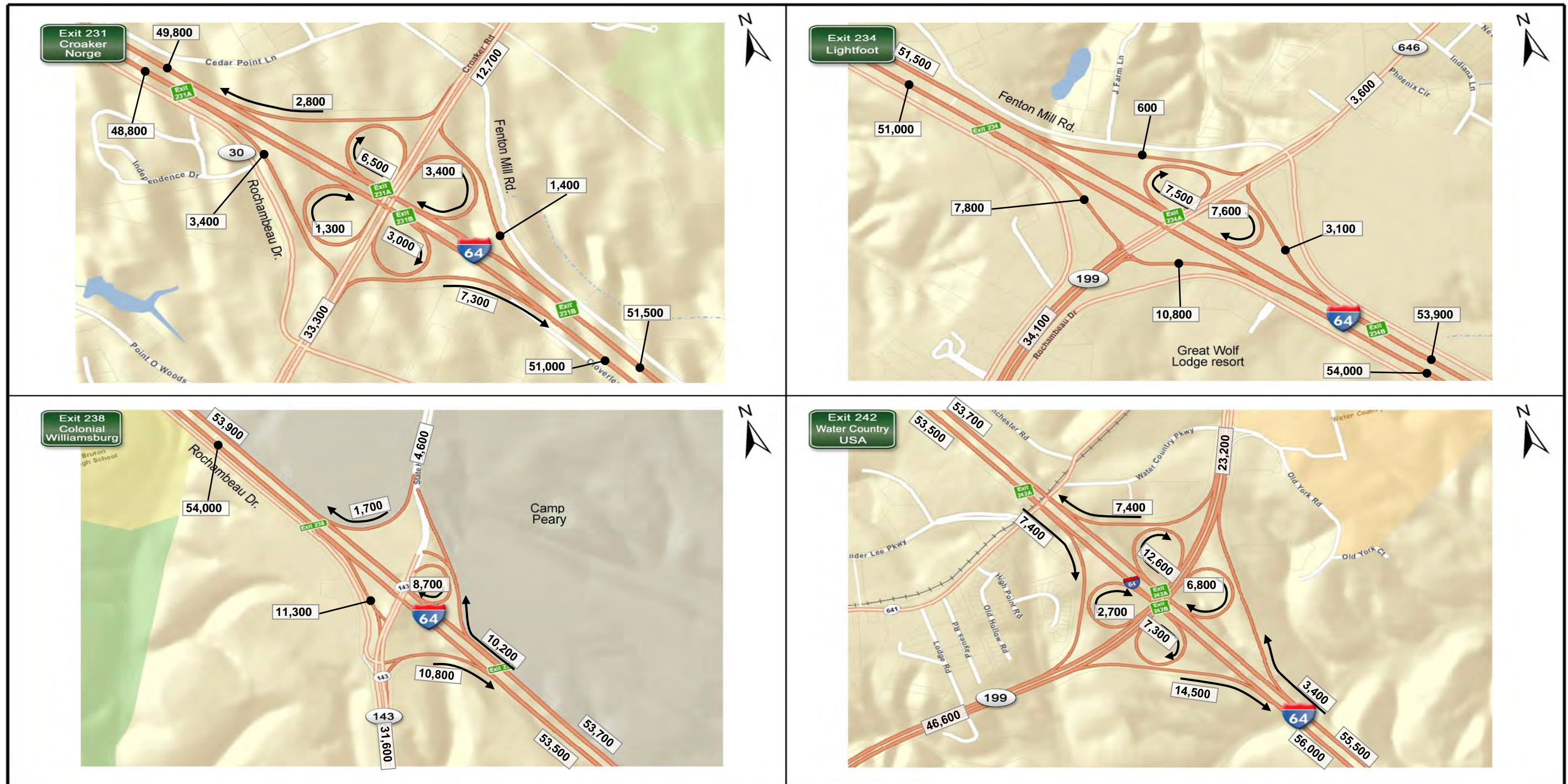


FIGURE 3: ADT Volumes
2040 Build Alt 1 Balanced Volumes
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Updated 4/30/2012

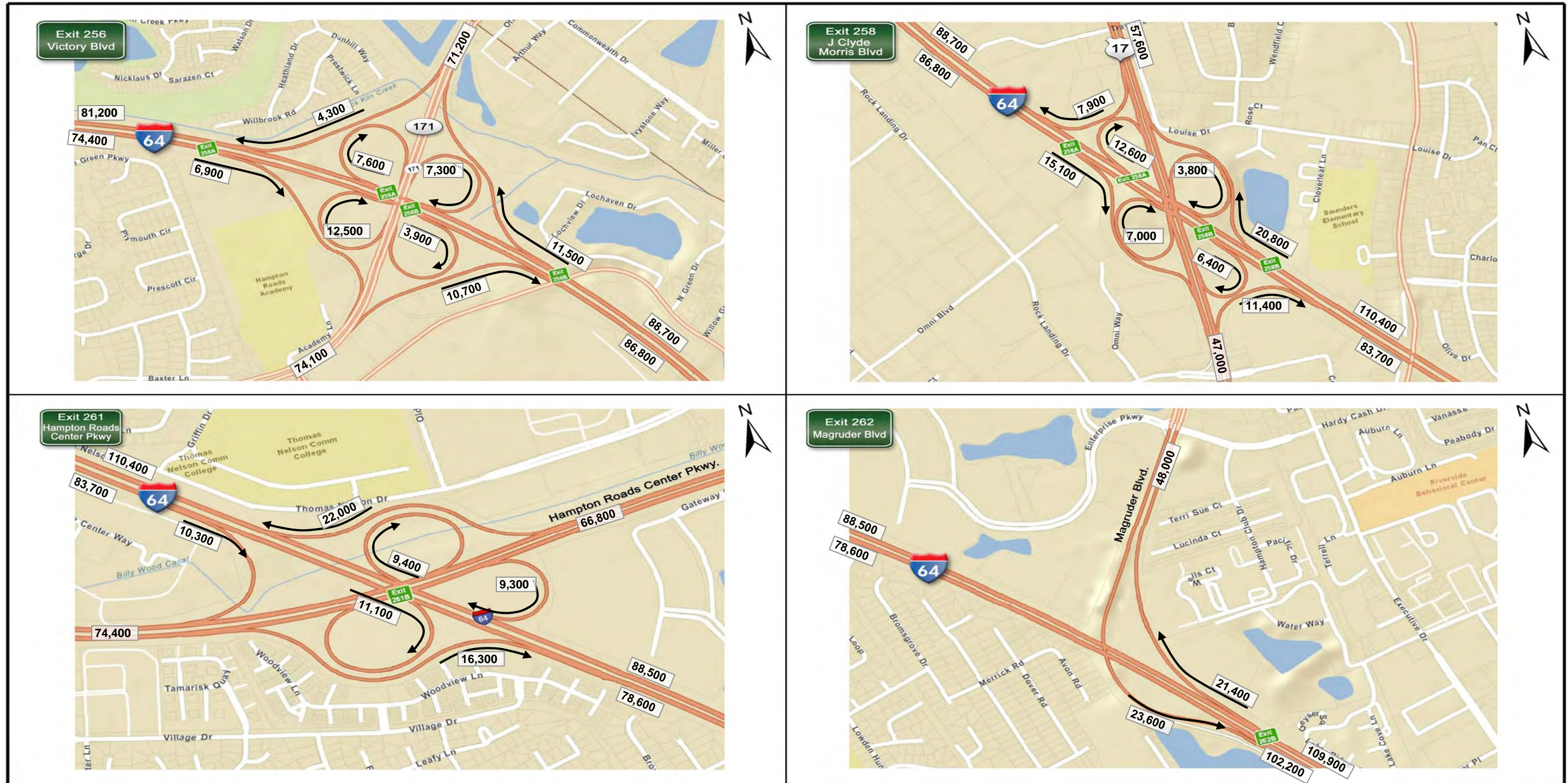


FIGURE 3: ADT Volumes
2040 Build Alt 1 Balanced Volumes
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DRAFT

Updated 5/21/12

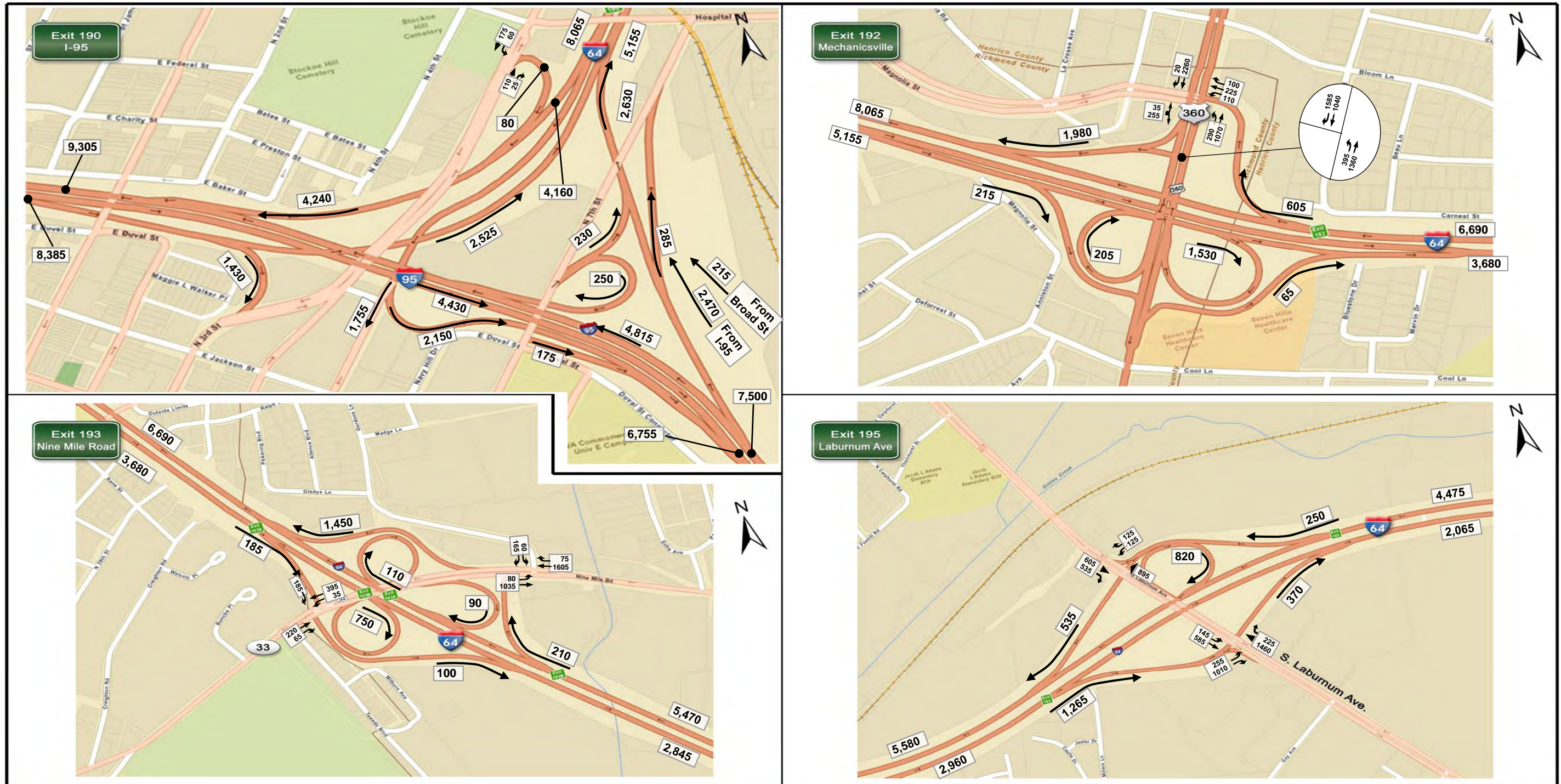


FIGURE 1: AM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
Sheet 1 of 7

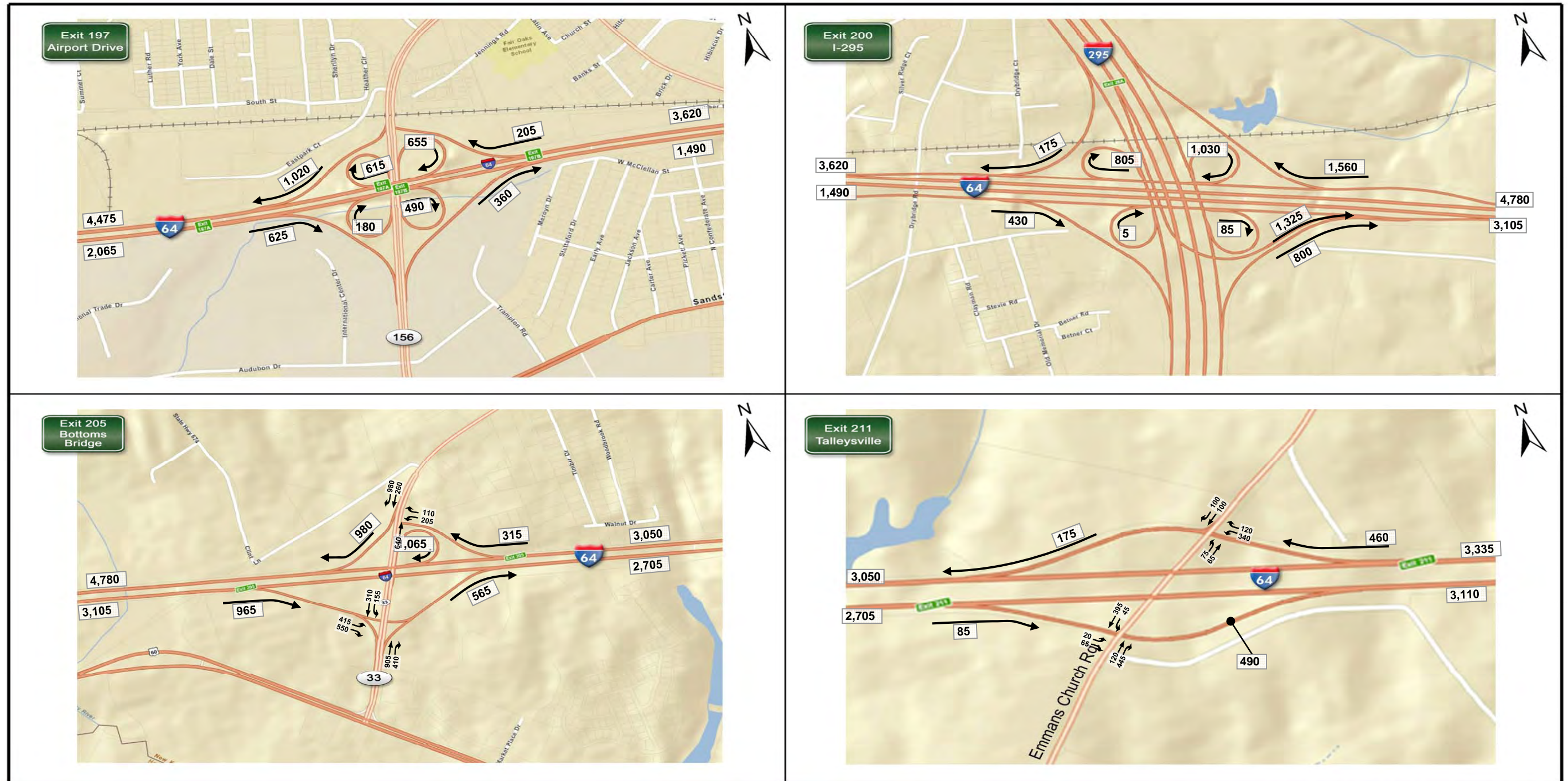


FIGURE 1: AM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
Sheet 2 of 7

DRAFT

Updated 5/21/12

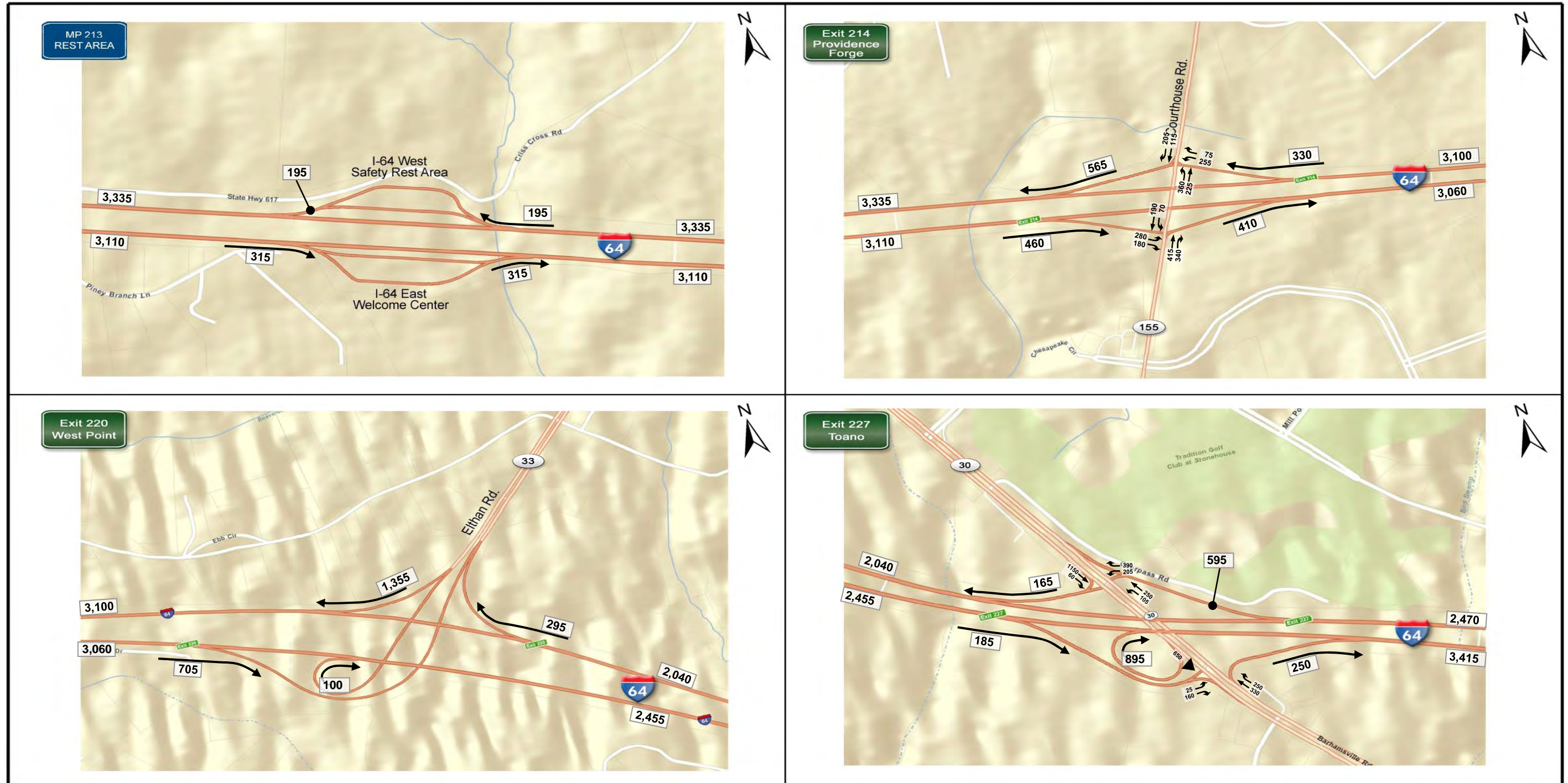


FIGURE 1: AM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
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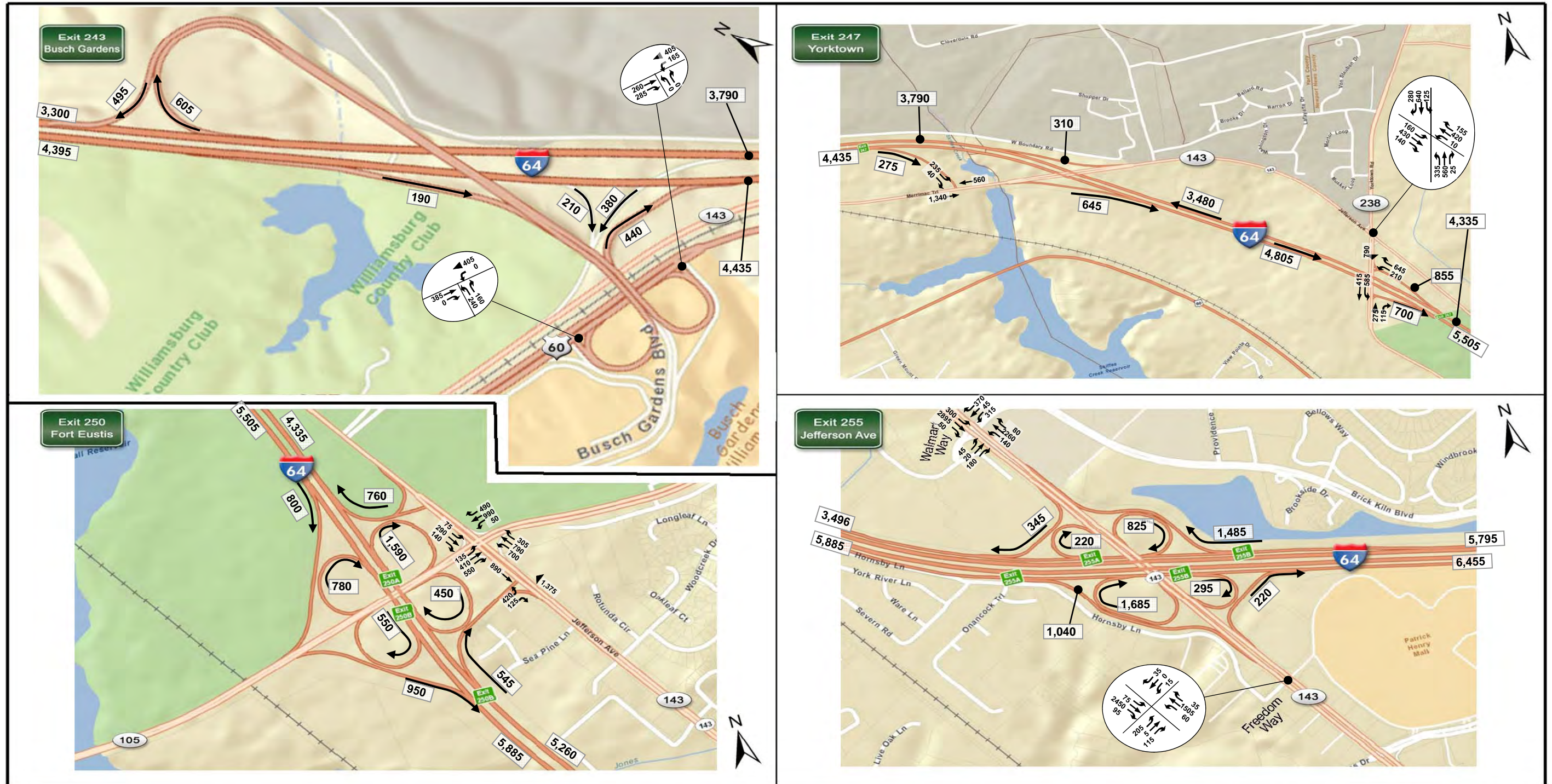


FIGURE 1: AM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
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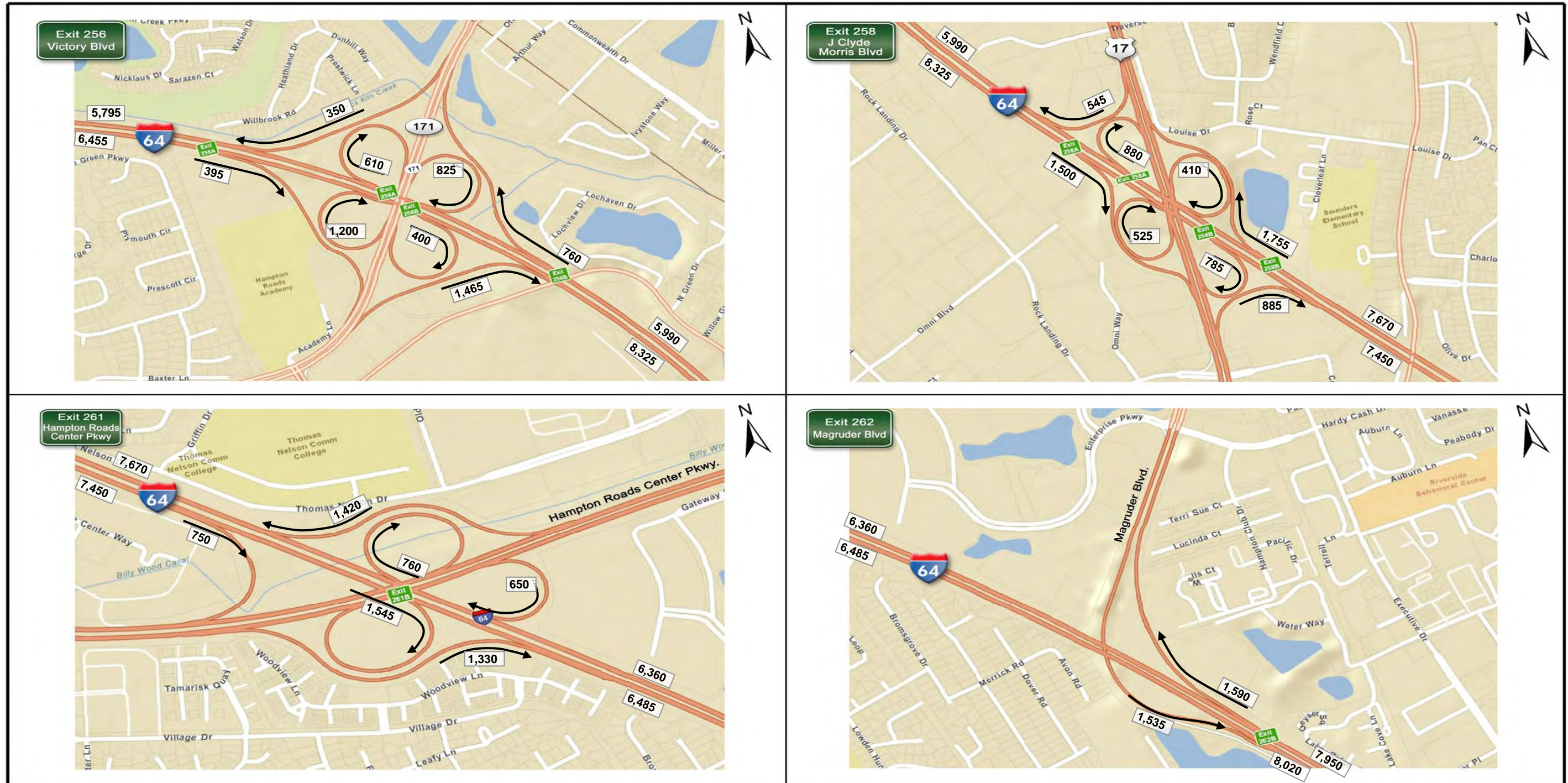


FIGURE 1: AM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
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Updated 5/21/12

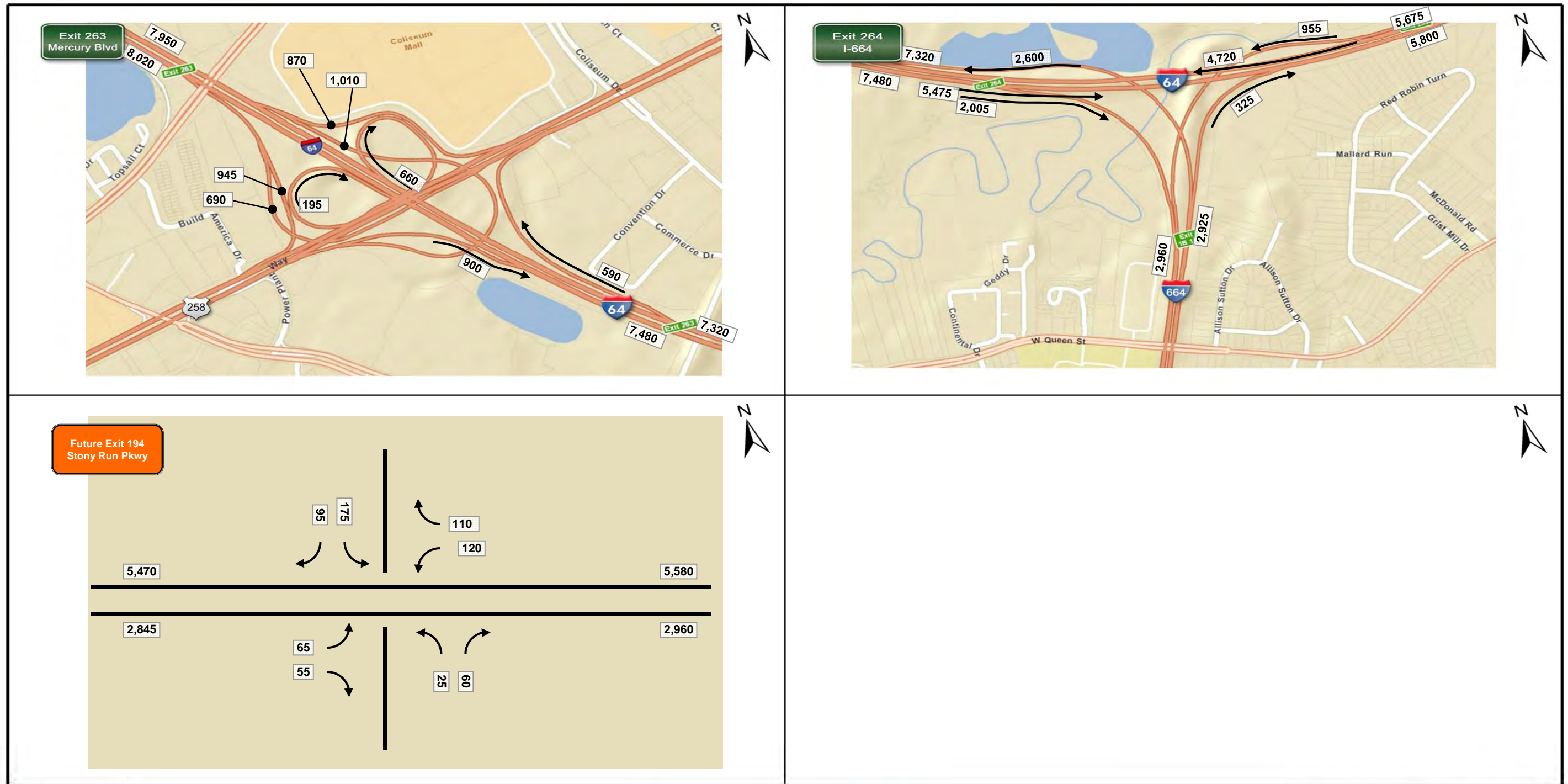


FIGURE 1: AM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
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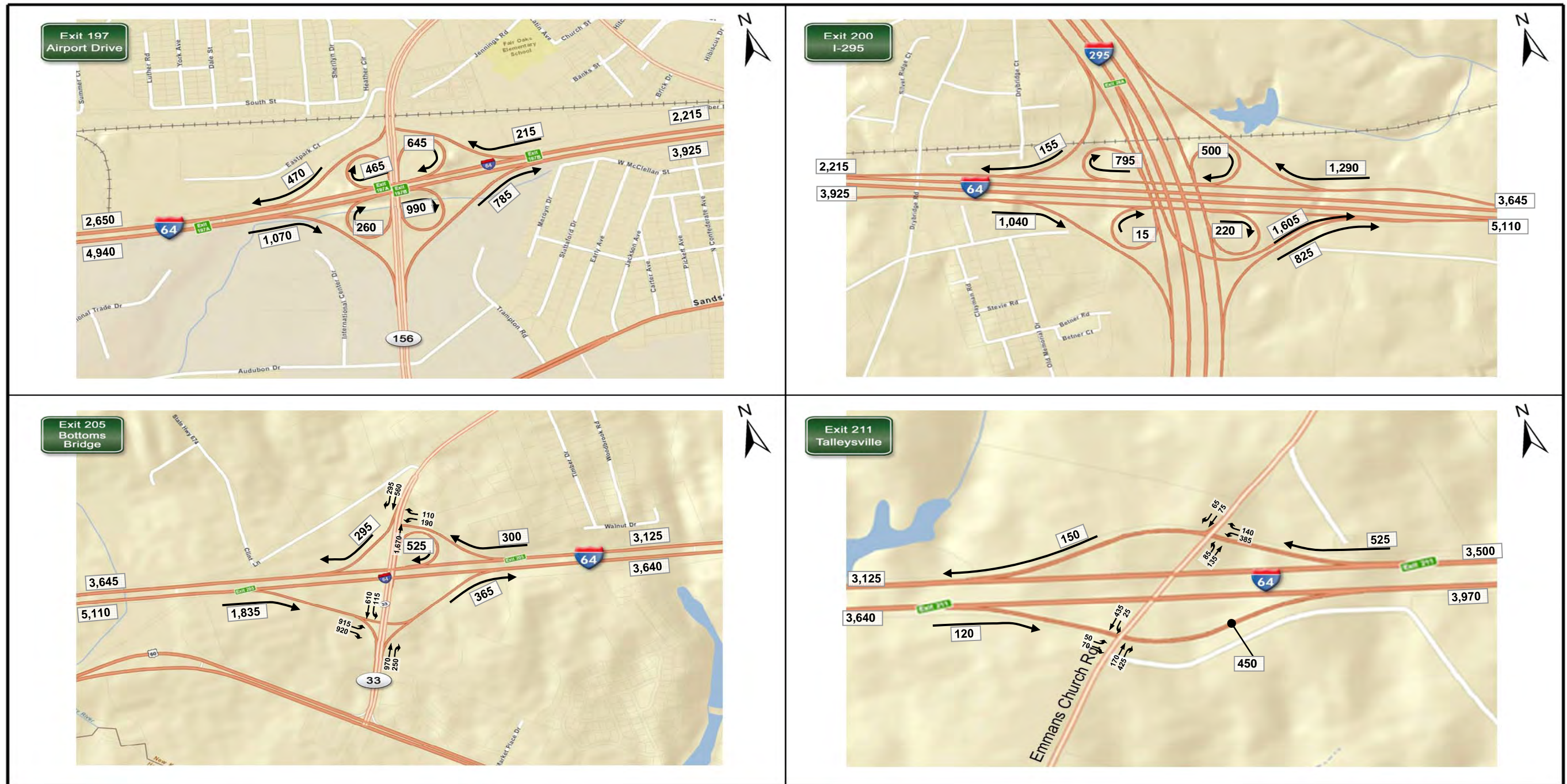


FIGURE 2: PM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
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DRAFT

Updated 5/21/12

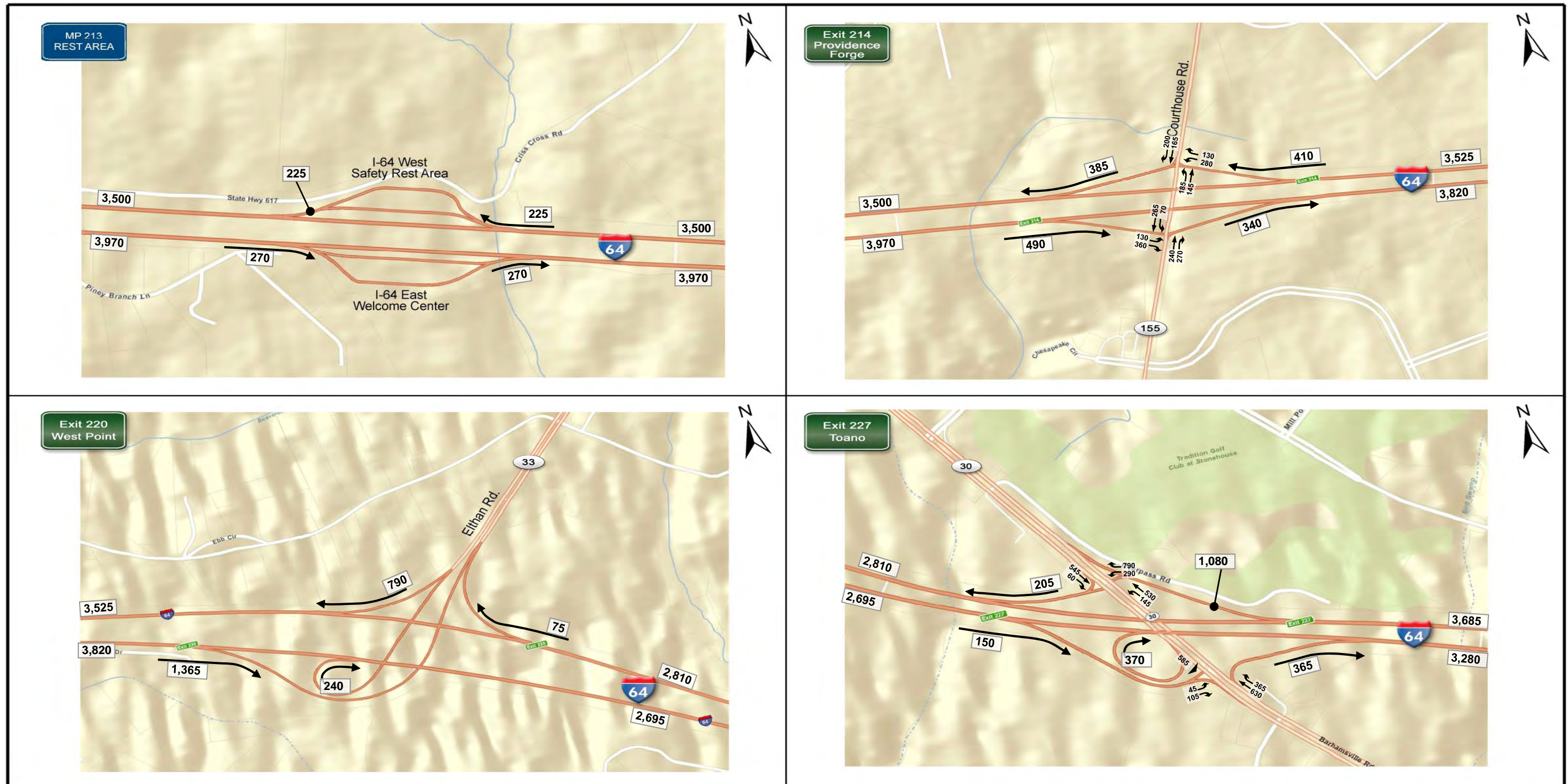


FIGURE 2: PM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
Sheet 3 of 7

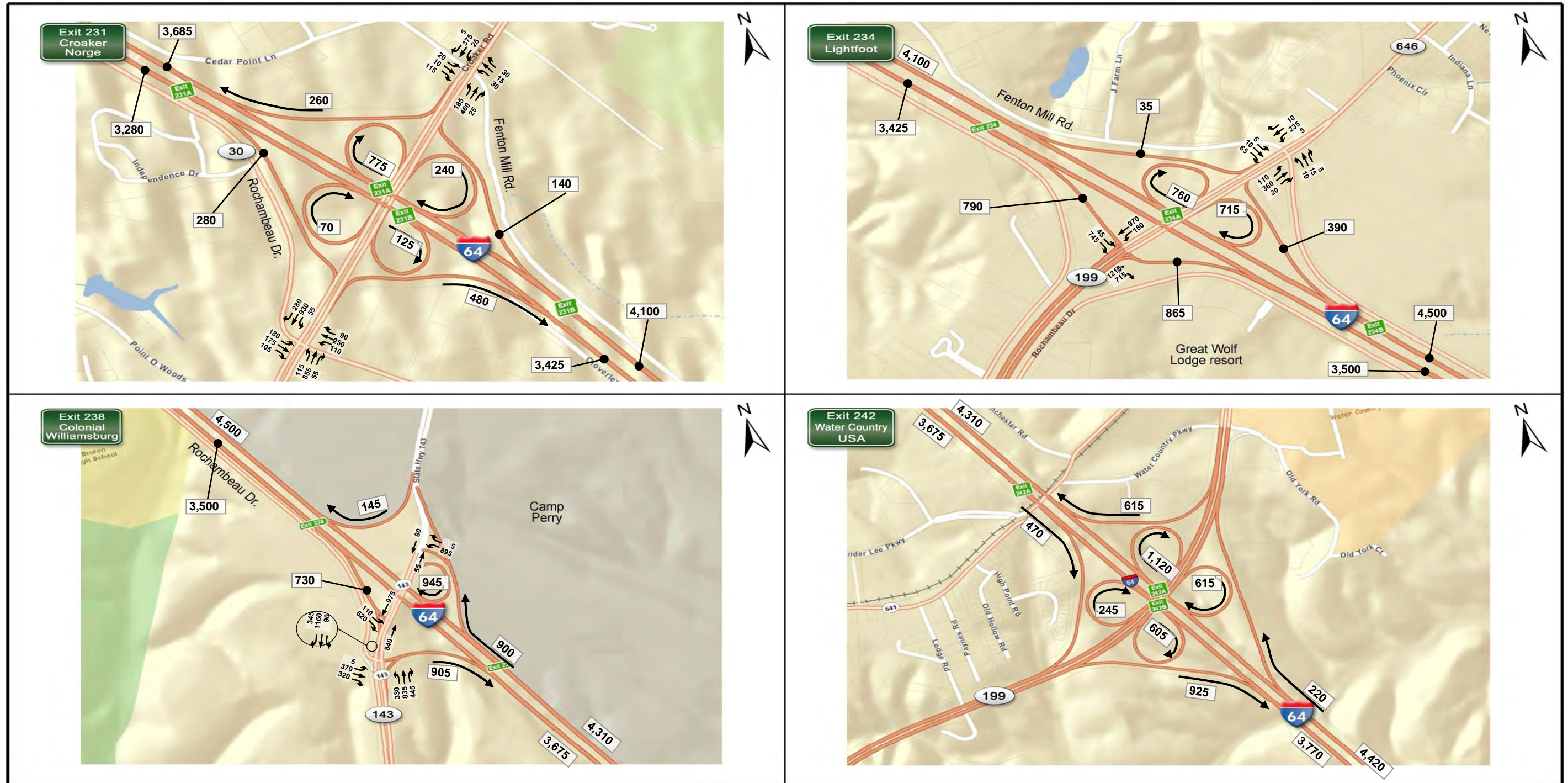


FIGURE 2: PM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
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DRAFT

Updated 5/21/12

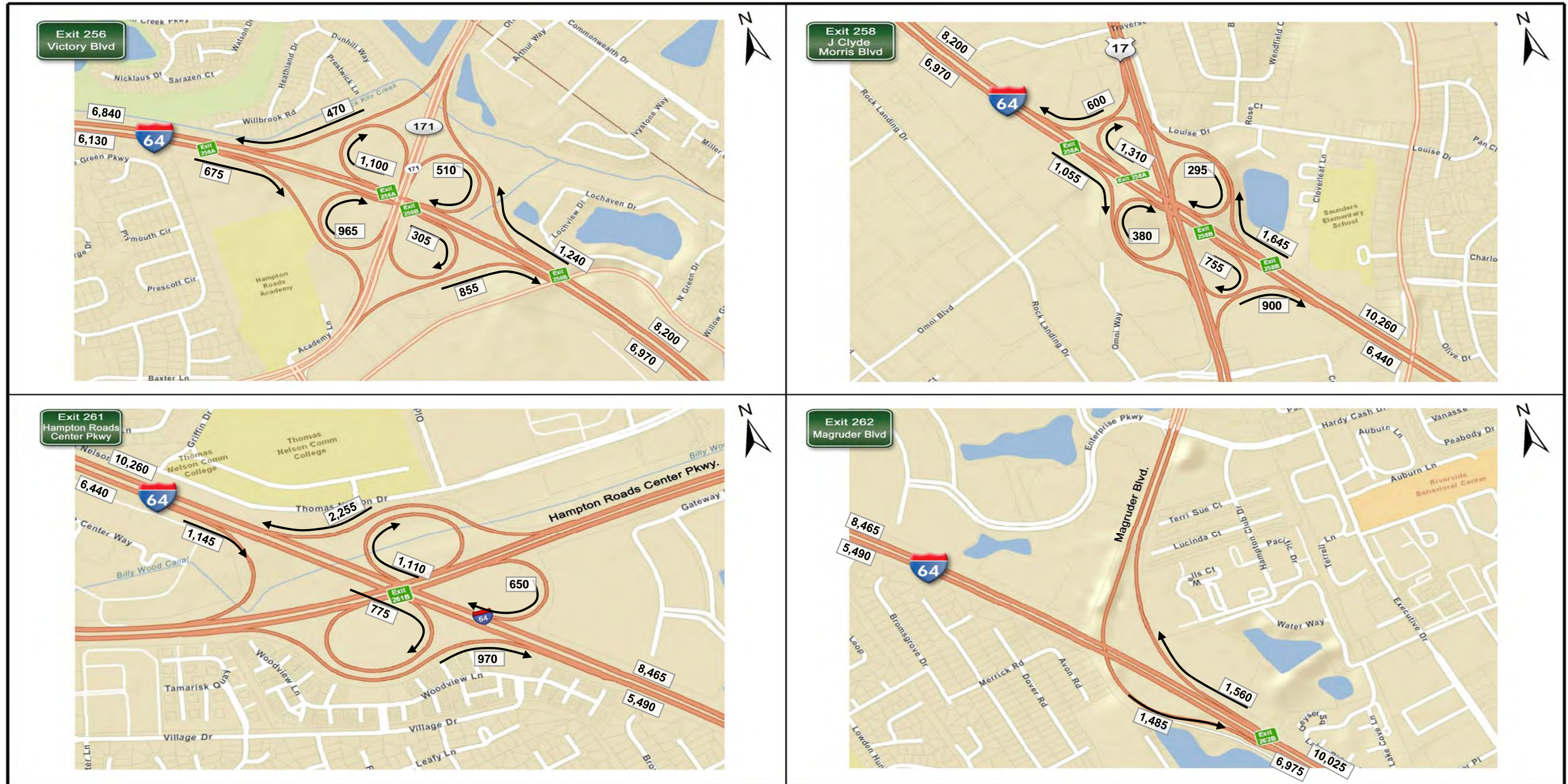


FIGURE 2: PM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
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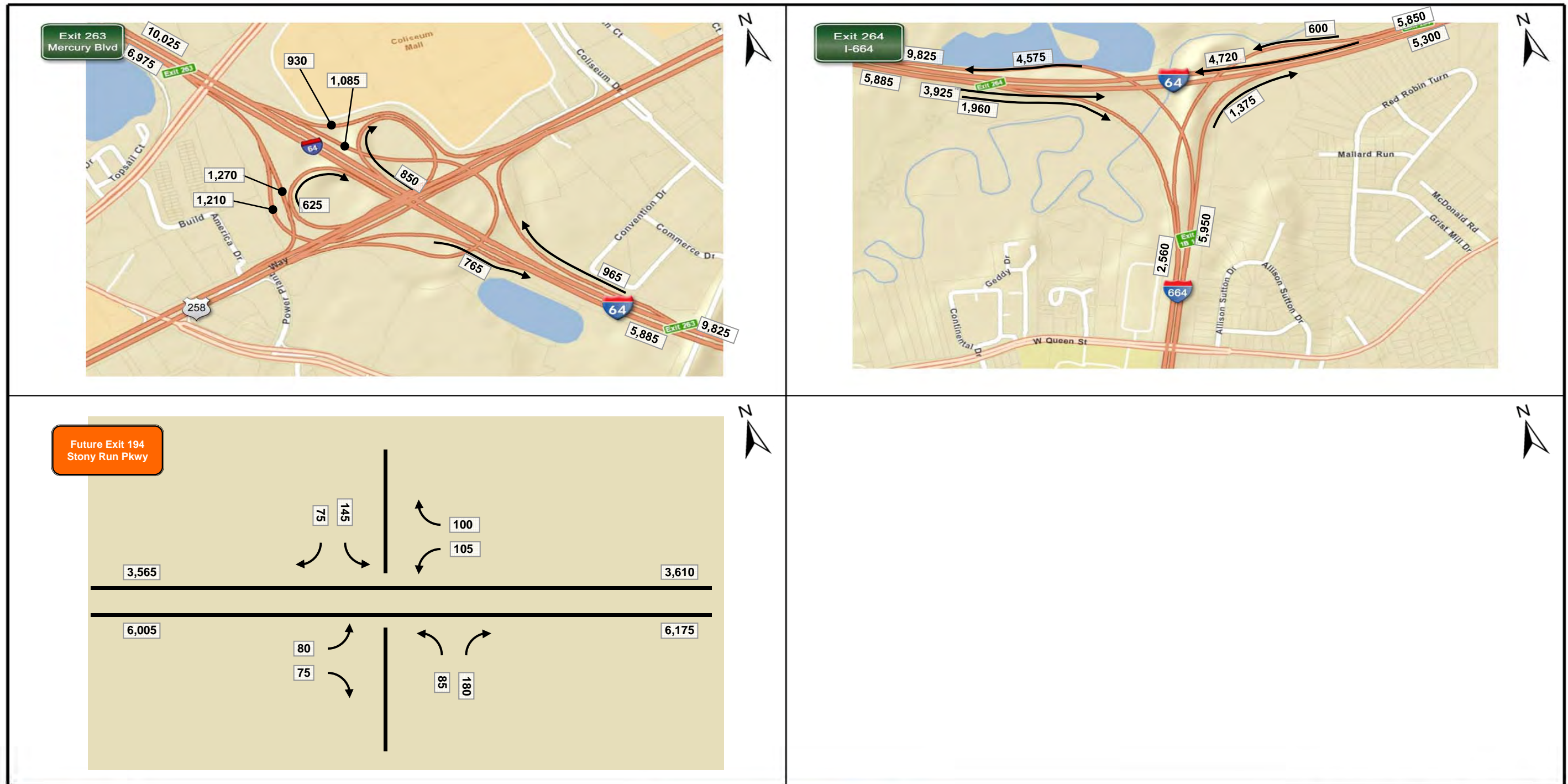
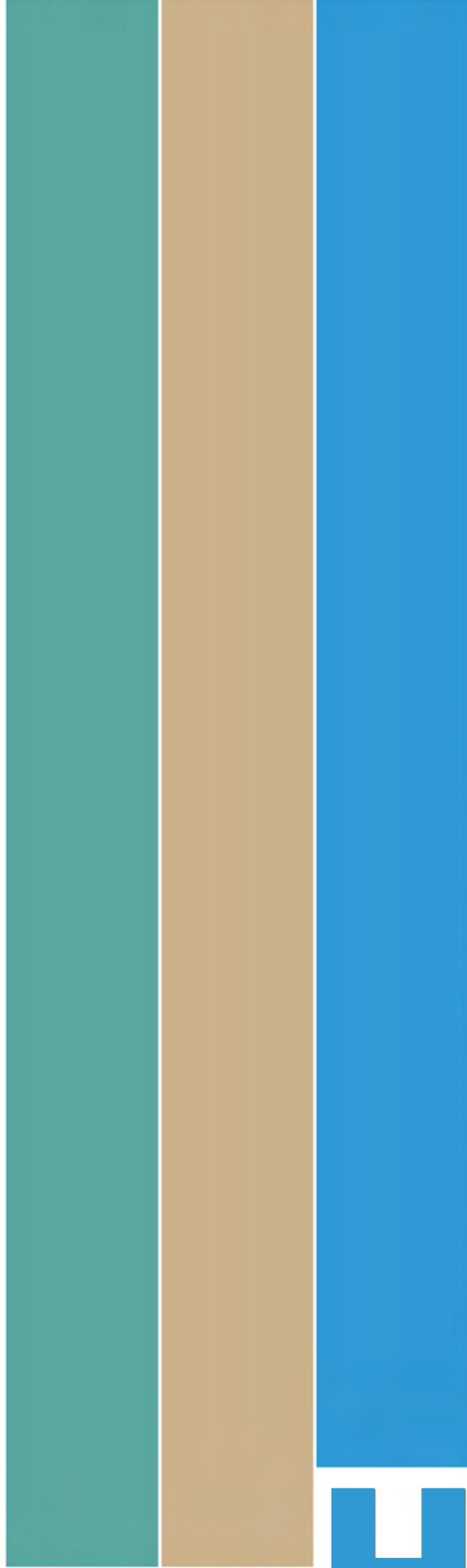


FIGURE 2: PM Peak Hour Volumes
2040 Alt 1 Balanced Volumes
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Toll Diversion Analysis Technical Memo



**Memorandum: Toll Diversion Analysis
Preliminary Results**

Date: May 18, 2012

Scenarios Analyzed:

- Build Alternatives 2A/2B – I-64 Widening With Full Tolling
- Reversible HOT lane (analysis to be completed)

Tools Used:

- VDOT’s Superregional Tidewater Model (SRTW) daily assignment model

Key Assumptions:

- Fixed, distance-based toll for both directions of the entire facility (I-95 in Richmond to I-664 in Hampton)
- Toll rates uniform for all segments (for example, with toll-collection gantries placed between each and every interchange within the corridor)
- Tolls collected at highway speeds
- Uniform rate for all vehicles (no higher truck rates)
- Toll rates based current rates for similar facilities in Northeast:

<i>Facility</i>	<i>Length of full trip (mi)</i>	<i>Toll</i>	<i>Rate/mile</i>
Dulles Toll Road	16.2	\$ 1.50	\$ 0.093
Dulles Greenway (peak)	12.5	\$ 4.80	\$ 0.383
Dulles Toll Road & Greenway	28.7	\$ 6.30	\$ 0.220
ICC (peak)	14.1	\$ 4.00	\$ 0.285
Delaware Route 1 (weekdays)	51	\$ 2.00	\$ 0.039
Delaware Turnpike	11.2	\$ 4.00	\$ 0.357
I-95/JFK (Maryland, one way)	48	\$ 6.00	\$ 0.125
DE I-95 & MD I-95, one way	59.2	\$ 10	\$ 0.169
New Jersey Turnpike	113	\$ 13.85	\$ 0.123
DE I-95 & MD I-95, round-trip	118	\$ 14	\$ 0.118

- Assumed Average Rate for I-64 EIS (based on highlighted regional toll rates): \$0.15/mile
- Sensitivity runs conducted: 50% higher and 50% lower (\$0.075/mile and \$0.225/mile)
- While the toll rate for the Delaware Turnpike was included in the summary of toll rates, it was not factored into the overall average. The Delaware Turnpike per-mile toll rate is an outlier, and its toll could be regarded more as a single-point toll bridge rather than a mileage-based toll

facility. A rate of 35 cents/mile is considerably higher than any other non-peak toll rate currently being charged in the US for passenger cars. The toll rates were coded in 2011 dollars, and not adjusted for future years for consistency with value of time assumptions

Preliminary Results:

Table 1
Daily volume changes at select locations along I-64

Exit		Segment	Assumed Toll Rate		
From	To		7.5 ¢/mi	15 ¢/mi	22.5 ¢/mi
192	193	US 360 to Nine Mile Road	-0.1%	-0.1%	-0.1%
194	195	Stony Run Parkway to Laburnum Road	-0.1%	-0.1%	0.0%
195	197	Laburnum Road to VA 156	-0.1%	-0.1%	0.0%
214	220	VA 155 to VA 33 (West Point)	-0.6%	-1.3%	-2.3%
234	238	VA 199 to VA 143	-2.1%	-4.9%	-7.7%
238	242	VA 143 to VA 199	-4.3%	-8.4%	-12%
243	247	Busch Gardens to Yorktown	-4.2%	-9.5%	-16%
250	255	VA 105 to VA 143	-1.3%	-2.1%	-3.1%
256	258	Victory Boulevard to J Clyde Morris Blvd	-1.2%	-2.3%	-3.5%
262	263	Magruder Boulevard to Mercury Boulevard	-1.5%	-3.7%	-5.5%

Table 2
Daily volume changes at select locations along US 60

Exit		Segment	Assumed Toll Rate		
From	To		7.5 ¢/mi	15 ¢/mi	22.5 ¢/mi
192	193	US 360 to Nine Mile Road	-0.2%	-0.1%	-0.4%
194	195	Stony Run Parkway to Laburnum Road	-0.1%	-0.1%	0.0%
195	197	Laburnum Road to VA 156	2.2%	4.0%	6.7%
214	220	VA 155 to VA 33 (West Point)	6.2%	18%	33%
234	238	VA 199 to VA 143	-0.4%	1.1%	1.9%
238	242	VA 143 to VA 199	2.6%	6.5%	11%
243	247	Busch Gardens to Yorktown	-0.3%	0.9%	3.1%
250	255	VA 105 to VA 143	1.5%	2.9%	3.3%
256	258	Victory Boulevard to J Clyde Morris Blvd	1.2%	1.5%	4.3%

Key Observations:

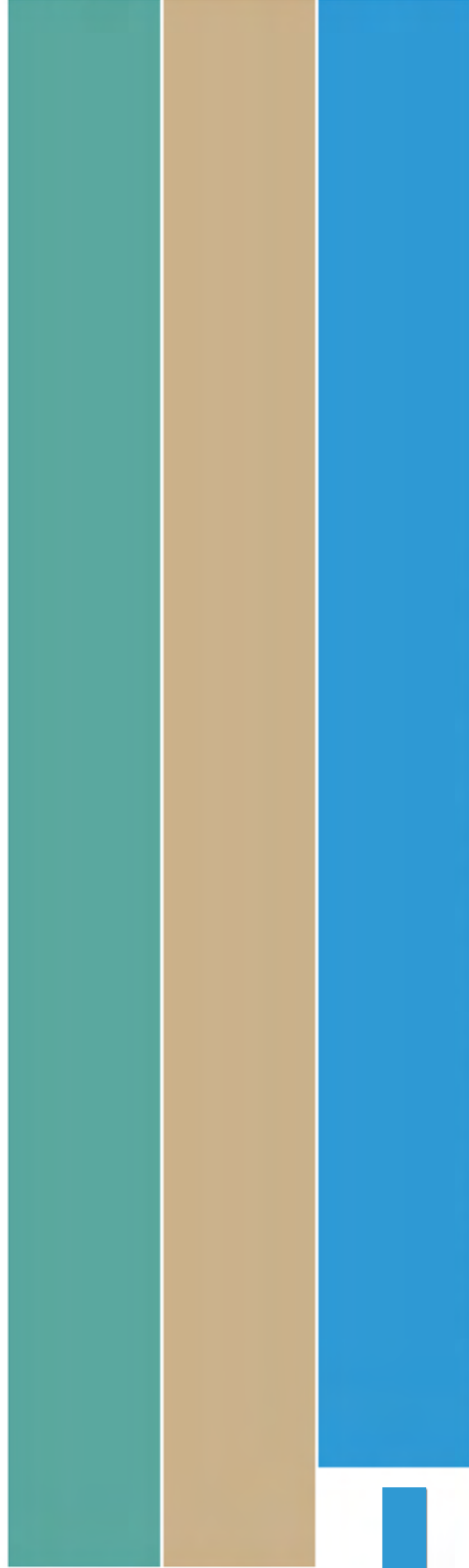
- Largest reductions in traffic volumes on I-64 projected to occur on “eastern” section of I-64 (east of Exit 214).
- Network congestion and lack of parallel alternate routes limit opportunity for diversion in Richmond area
- Other free parallel alternate routes such as VA Route 5 and US 17 are not projected to see major diversion of traffic from I-64 - Although TSM1 showed some diversion to VA 5, the significant additional time this route adds to long-distance trips between Richmond and Hampton Roads limits its attractiveness as a primary alternate route. US 17 is not modeled in its entirety within

TSM1 as a parallel route to I-64 and I-95; consequently, it is not possible to evaluate the level of diversion to this facility.

- Negligible impact on US 460 - The raw assignment in TSM1 showed very little change in daily volumes, which is in line with previous studies and in line with expectations. A select link analysis along I-64 showed approximately 10 percent of all trips originating and ending in Richmond and Hampton Roads (and beyond). This indicates that I-64 and US 460 compete for a limited number of true long-distance trips. The considerable additional distance that US 460 adds to a trip between Richmond and Hampton roads further limits the attractiveness of US 460 as a viable parallel route. US 460 was coded as a tolled, upgraded facility. It should be noted that the trip table in TSM1 is constructed from the individual models' trip tables; the conversion process may have resulted in underestimation of long-distance trips. In addition, TSM1 does not assign truck traffic, which may react differently to toll than passenger cars. Given the modeling tools currently available for this project, we believe the results are reasonable; however, we recommend that all forecasts be reviewed when TSM2 becomes available.

Impacts on Level of Service:

- If we assume that peak hour traffic diversion will be identical to daily traffic volume diversion, less widening may be required to achieve acceptable LOS (see attached spreadsheet). However, **this assumption must be considered carefully, as peak hour network congestion will make alternate routes less attractive, and daily model results may overstate the level of diversion during peak hours.**



Balanced 2040 Alternatives 2A/2B Traffic Volumes



DRAFT

Updated 6/21/2012

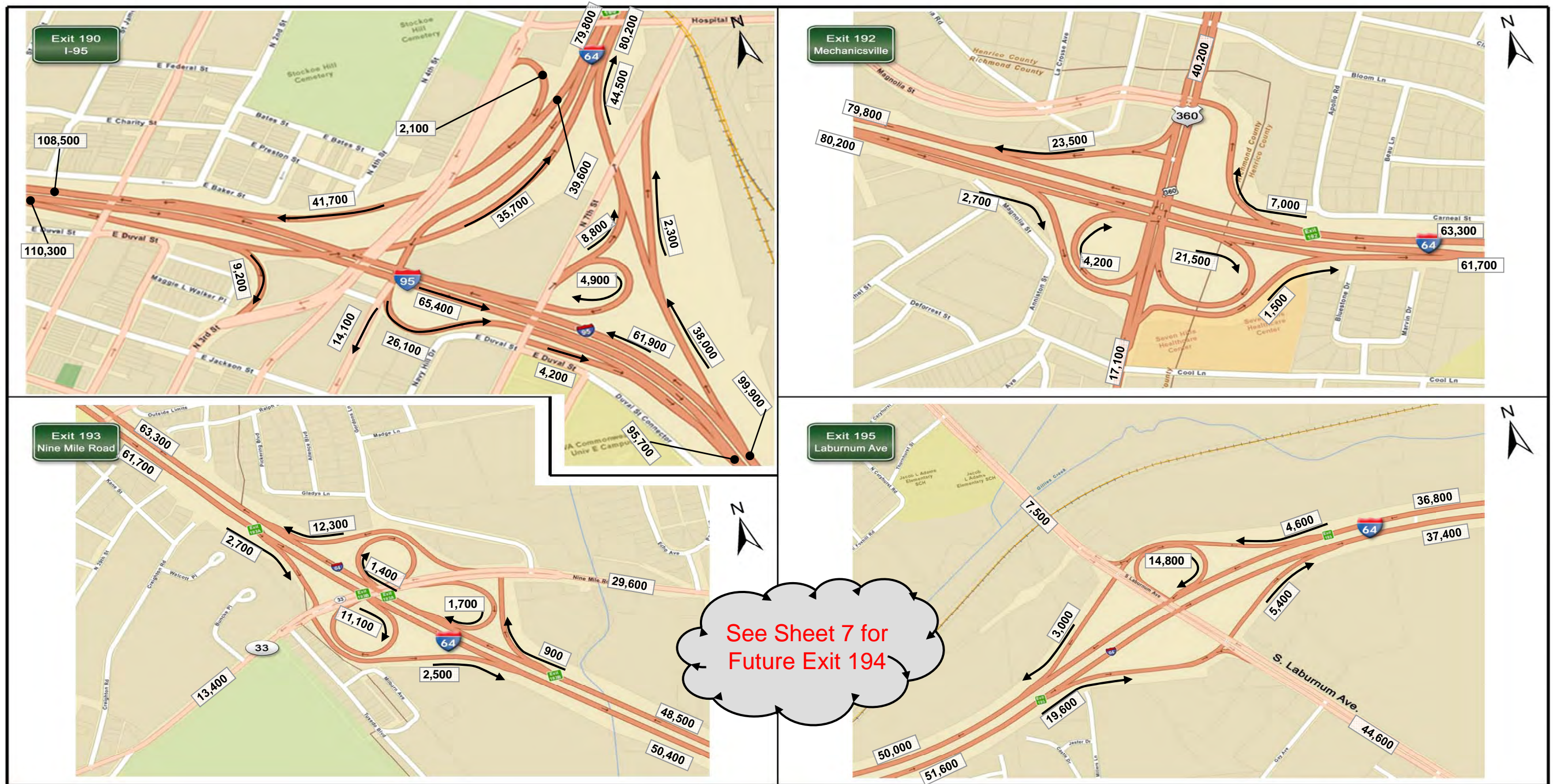


FIGURE 3: ADT Volumes
Alt 2 2040 Balanced Volumes
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Updated 6/21/2012

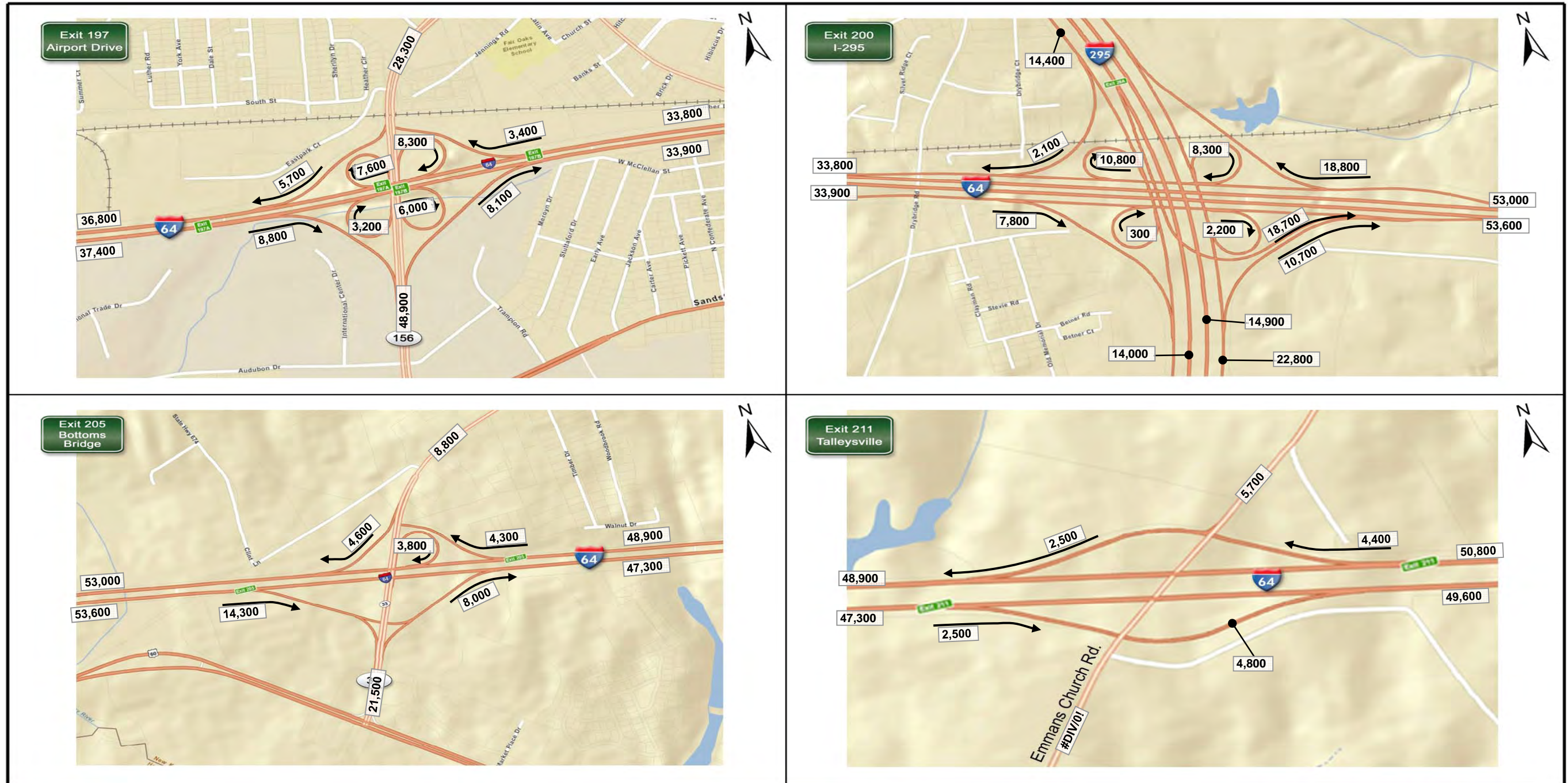


FIGURE 3: ADT Volumes
Alt 2 2040 Balanced Volumes
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Updated 6/21/2012

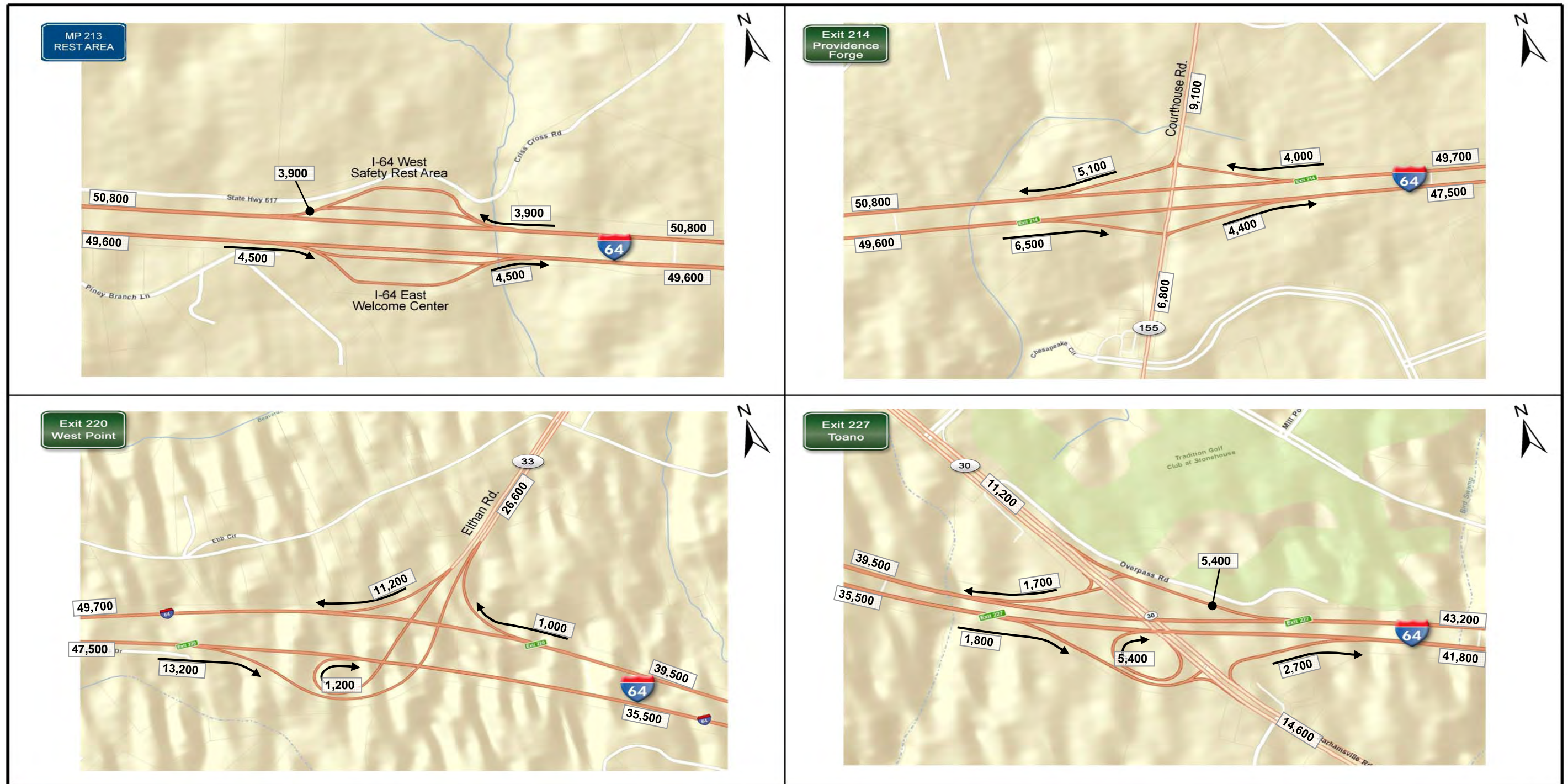


FIGURE 3: ADT Volumes
Alt 2 2040 Balanced Volumes
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Updated 6/21/2012

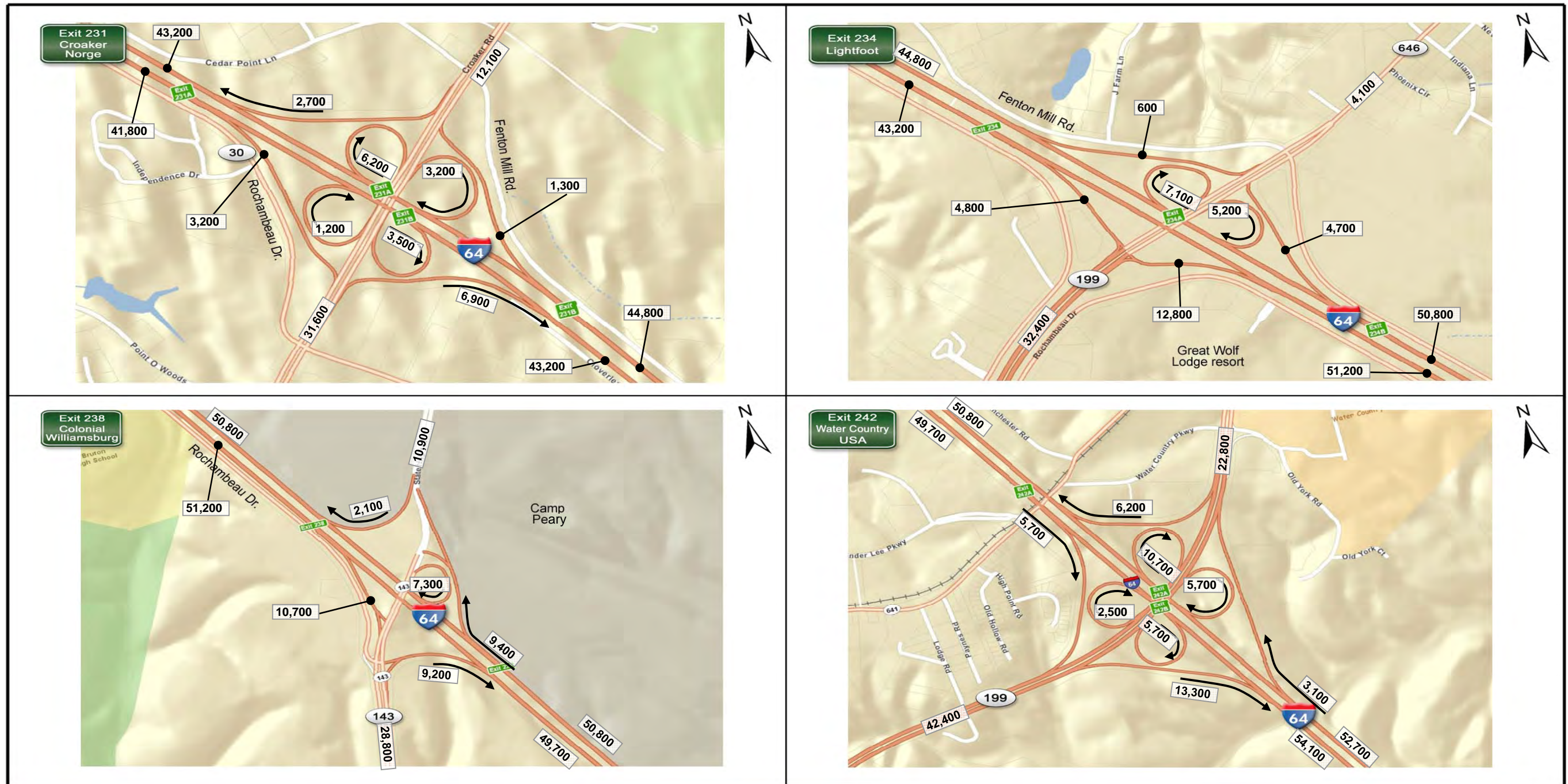


FIGURE 3: ADT Volumes
Alt 2 2040 Balanced Volumes
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DRAFT

Updated 6/21/2012

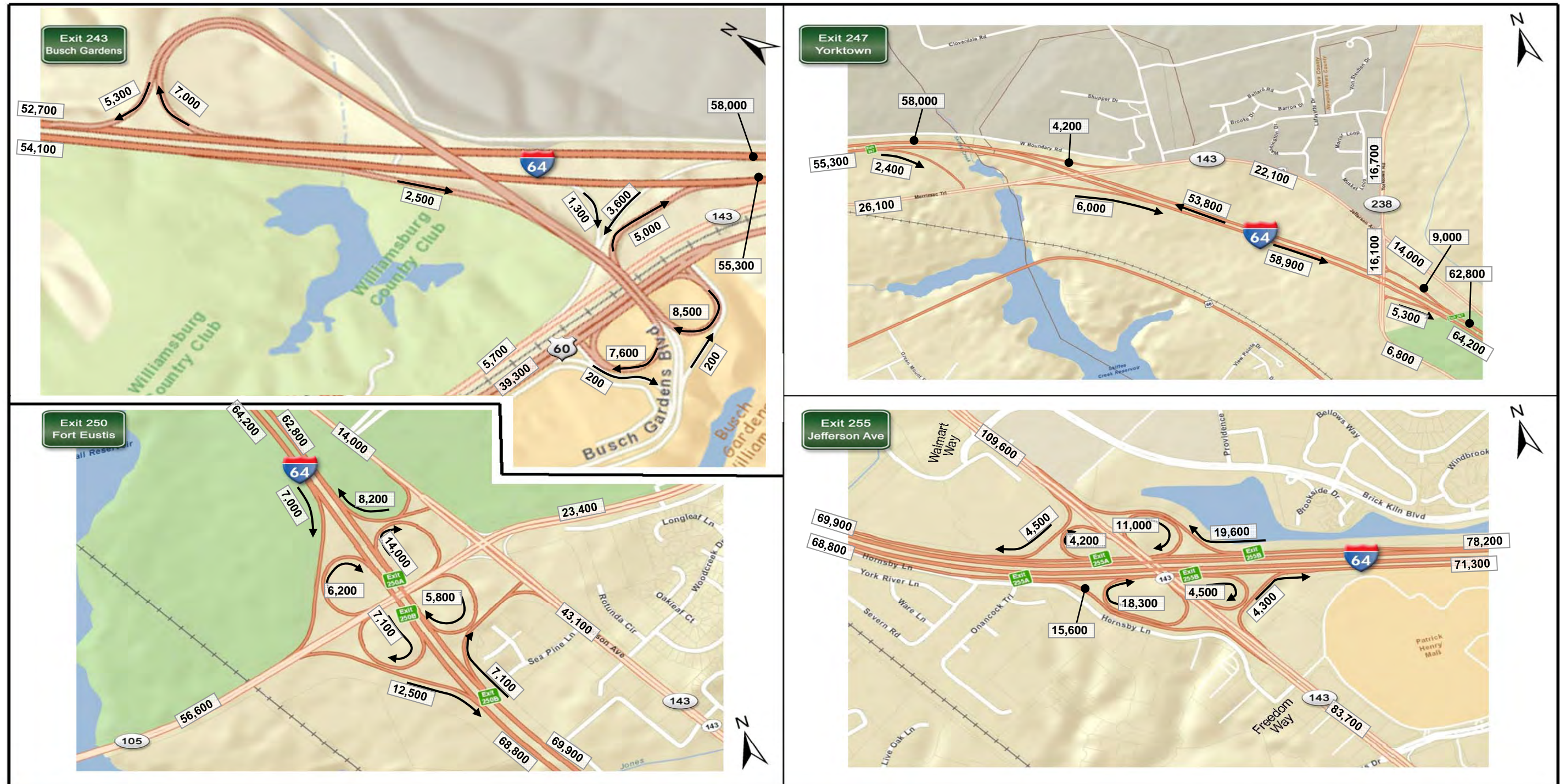


FIGURE 3: ADT Volumes
Alt 2 2040 Balanced Volumes
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Updated 6/21/2012

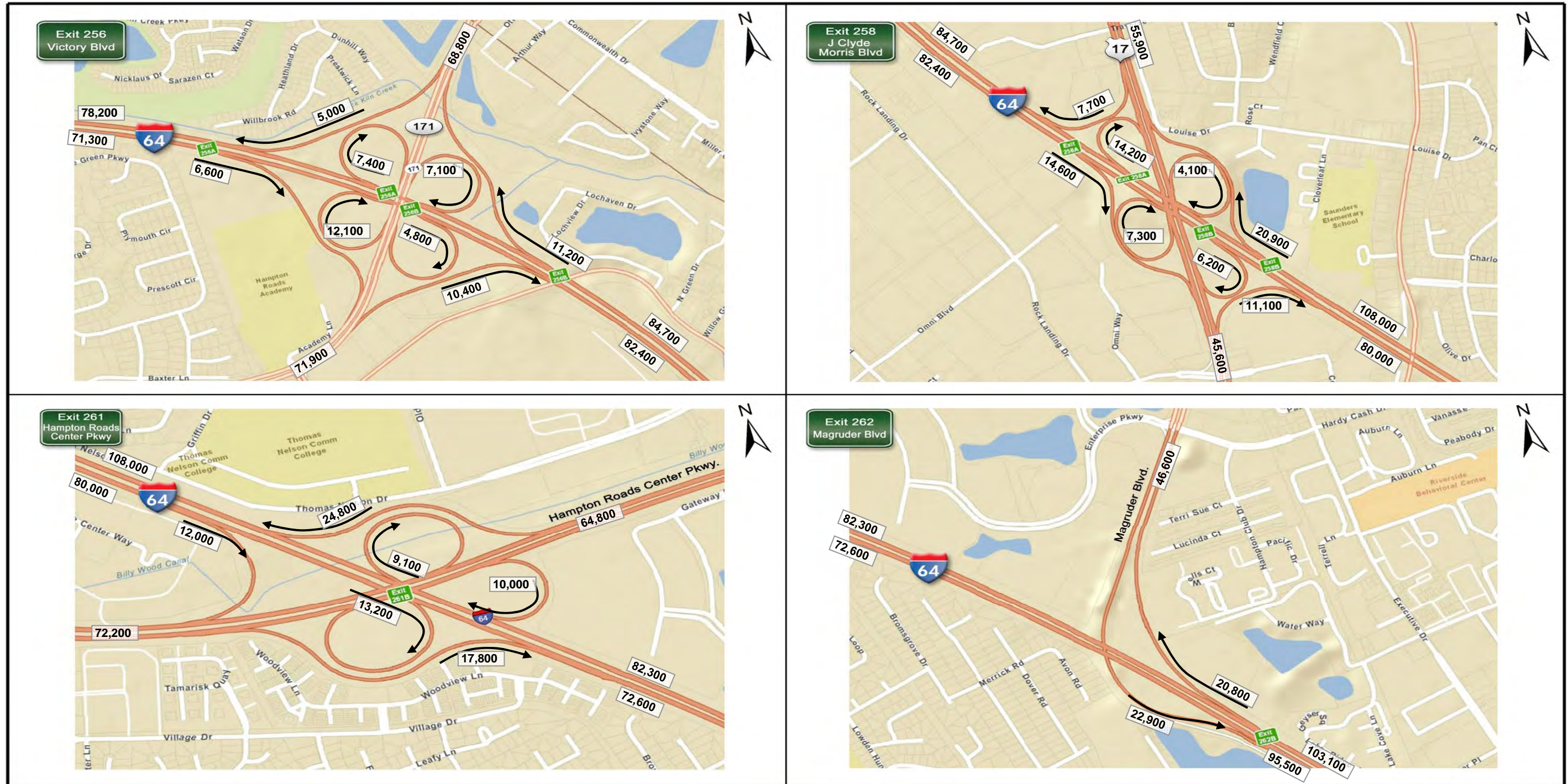


FIGURE 3: ADT Volumes
Alt 2 2040 Balanced Volumes
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Updated 6/21/2012

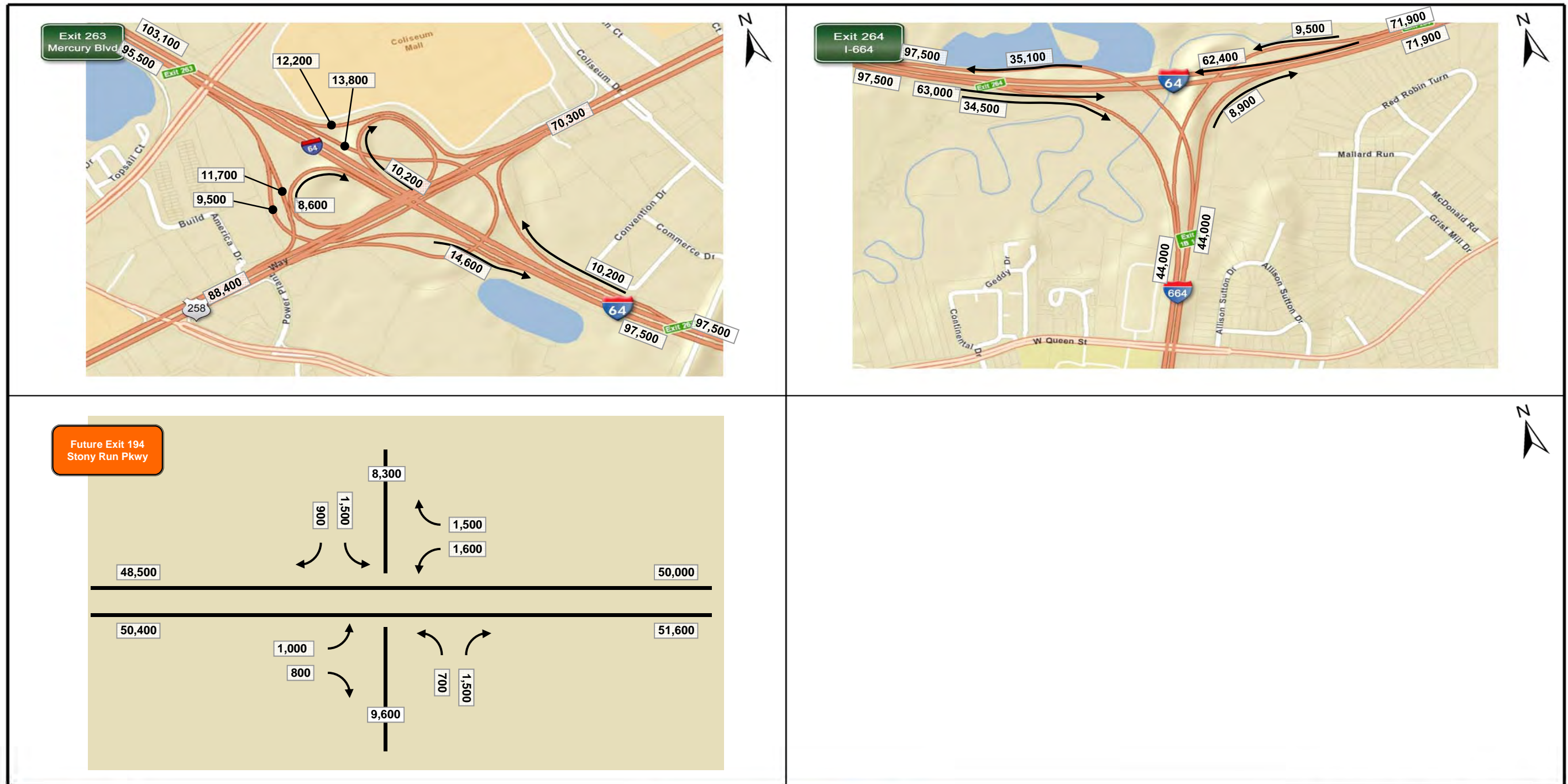


FIGURE 3: ADT Volumes
 Alt 2 2040 Balanced Volumes
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DRAFT

Updated 6/22/12

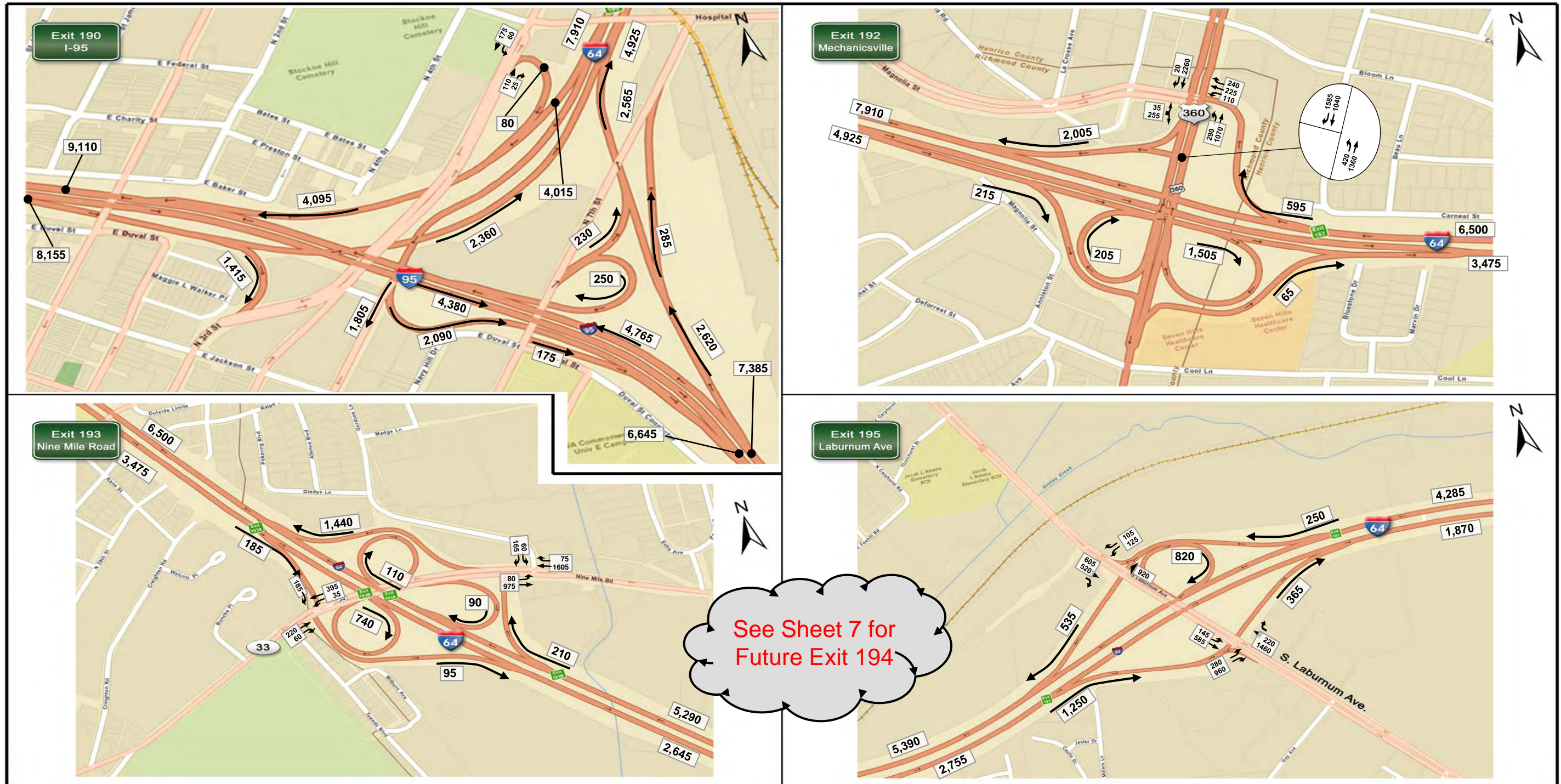


FIGURE 1: AM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
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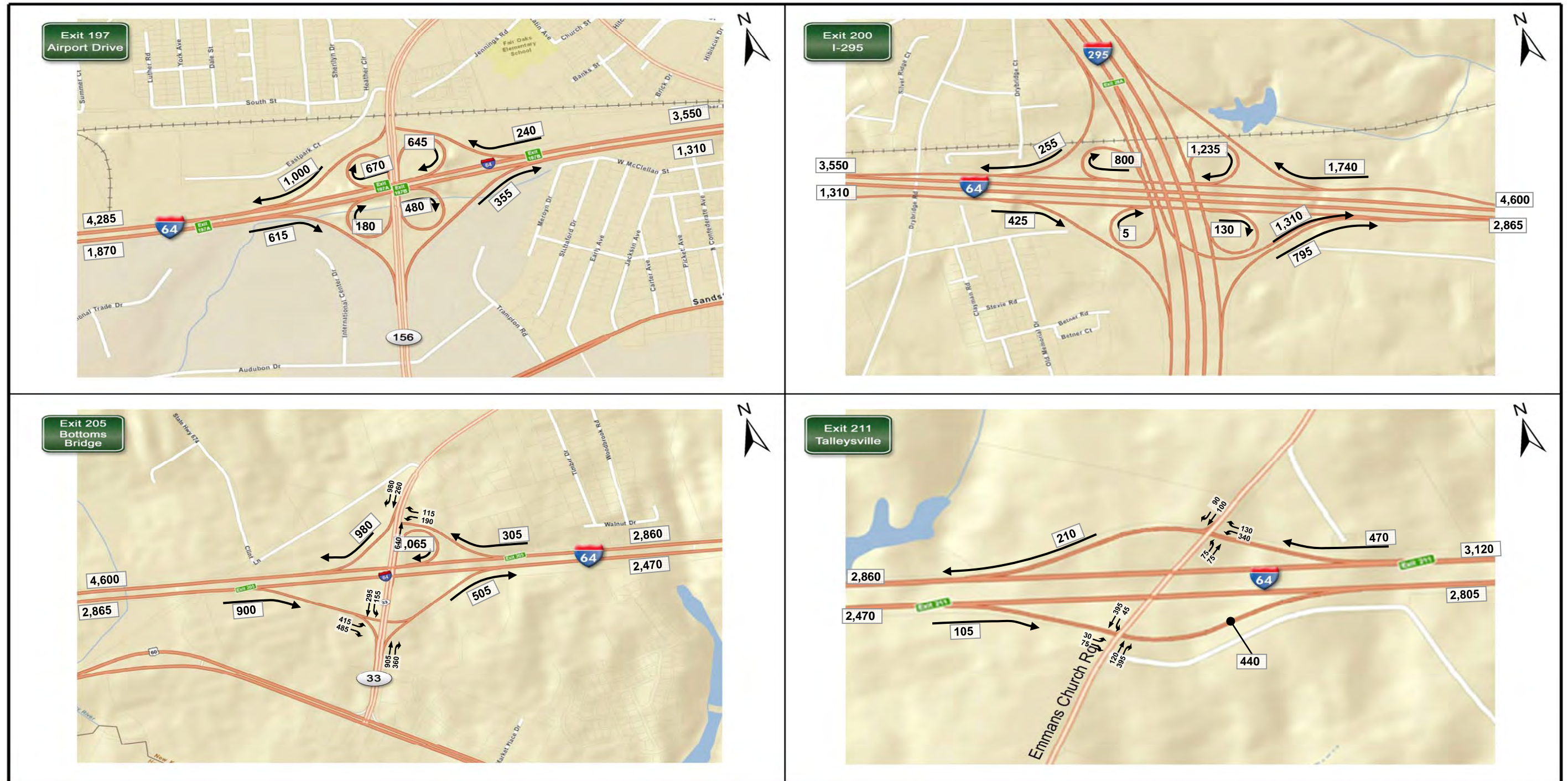


FIGURE 1: AM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
Sheet 2 of 7

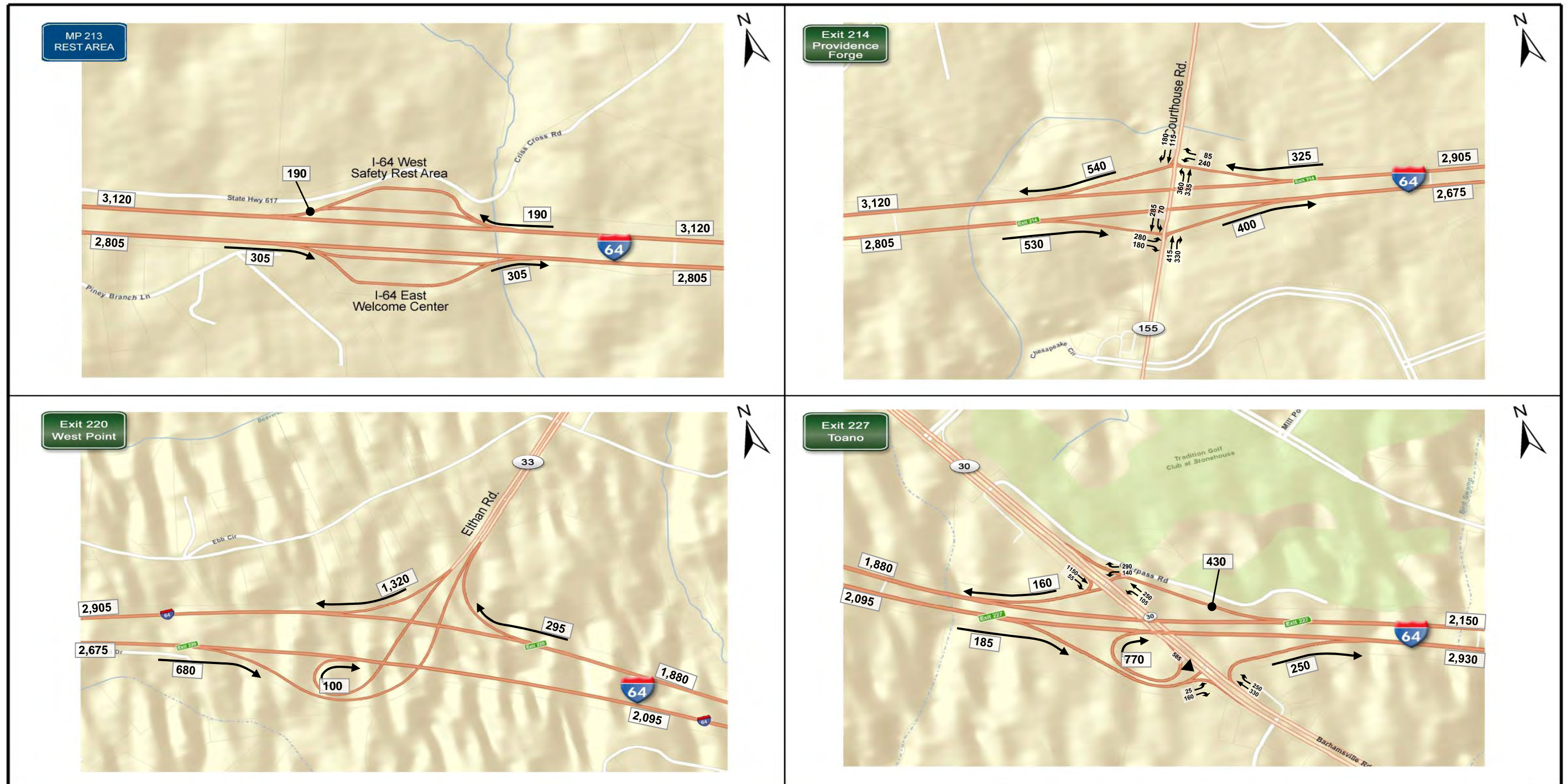


FIGURE 1: AM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
Sheet 3 of 7

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Updated 6/22/12

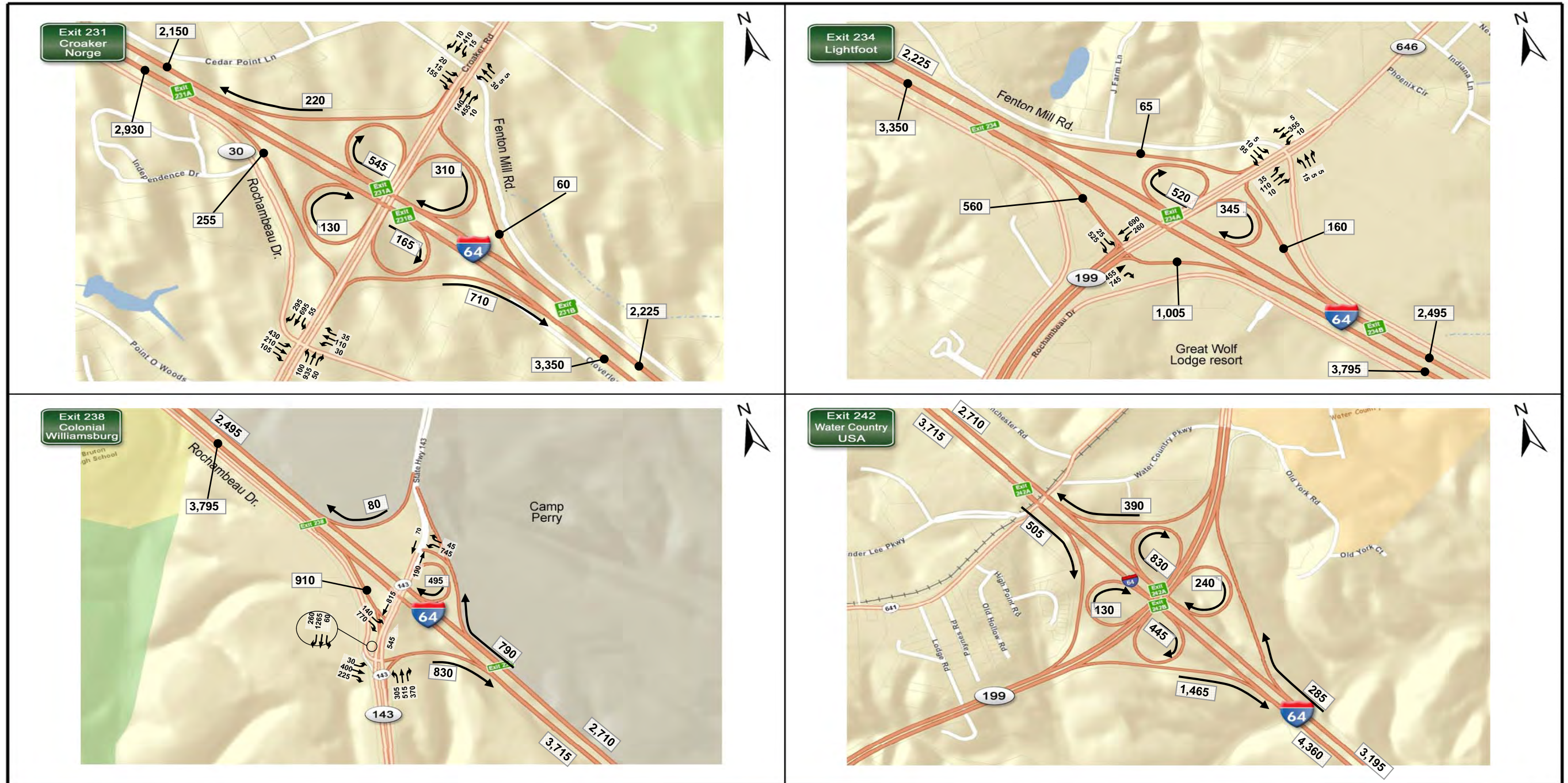


FIGURE 1: AM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
Sheet 4 of 7

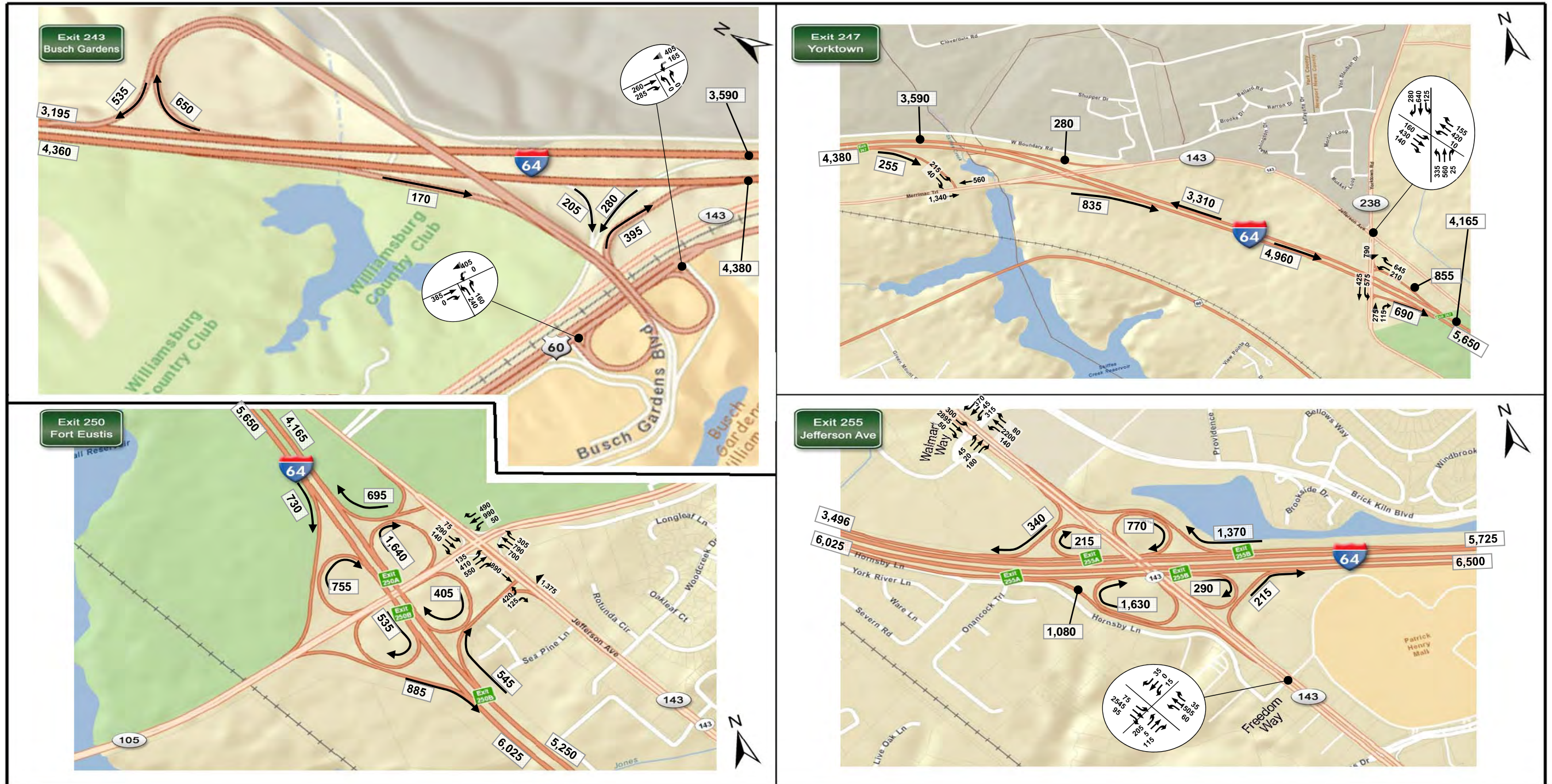


FIGURE 1: AM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
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Updated 6/22/12

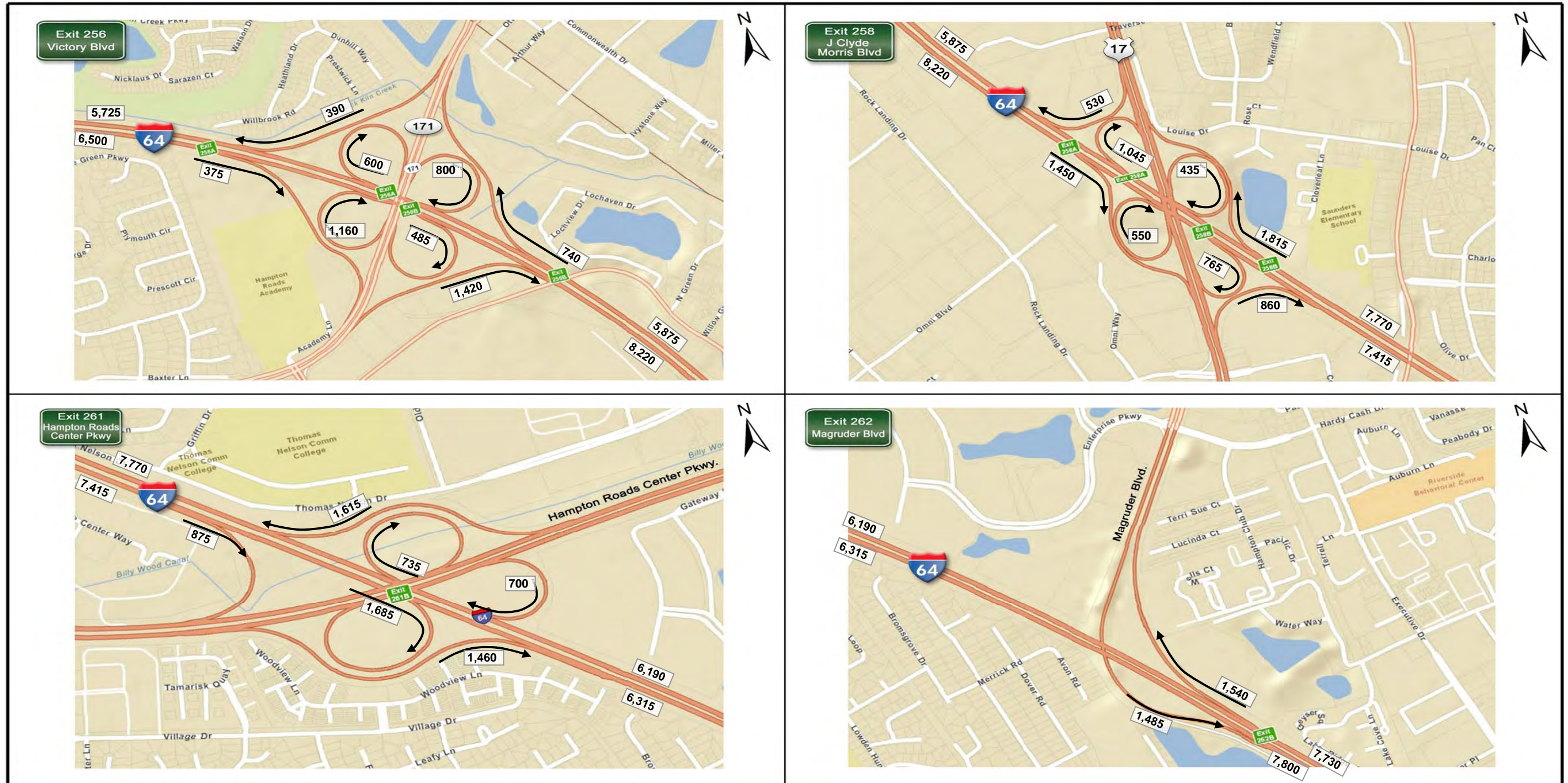


FIGURE 1: AM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
Sheet 6 of 7

DRAFT

Updated 6/22/12

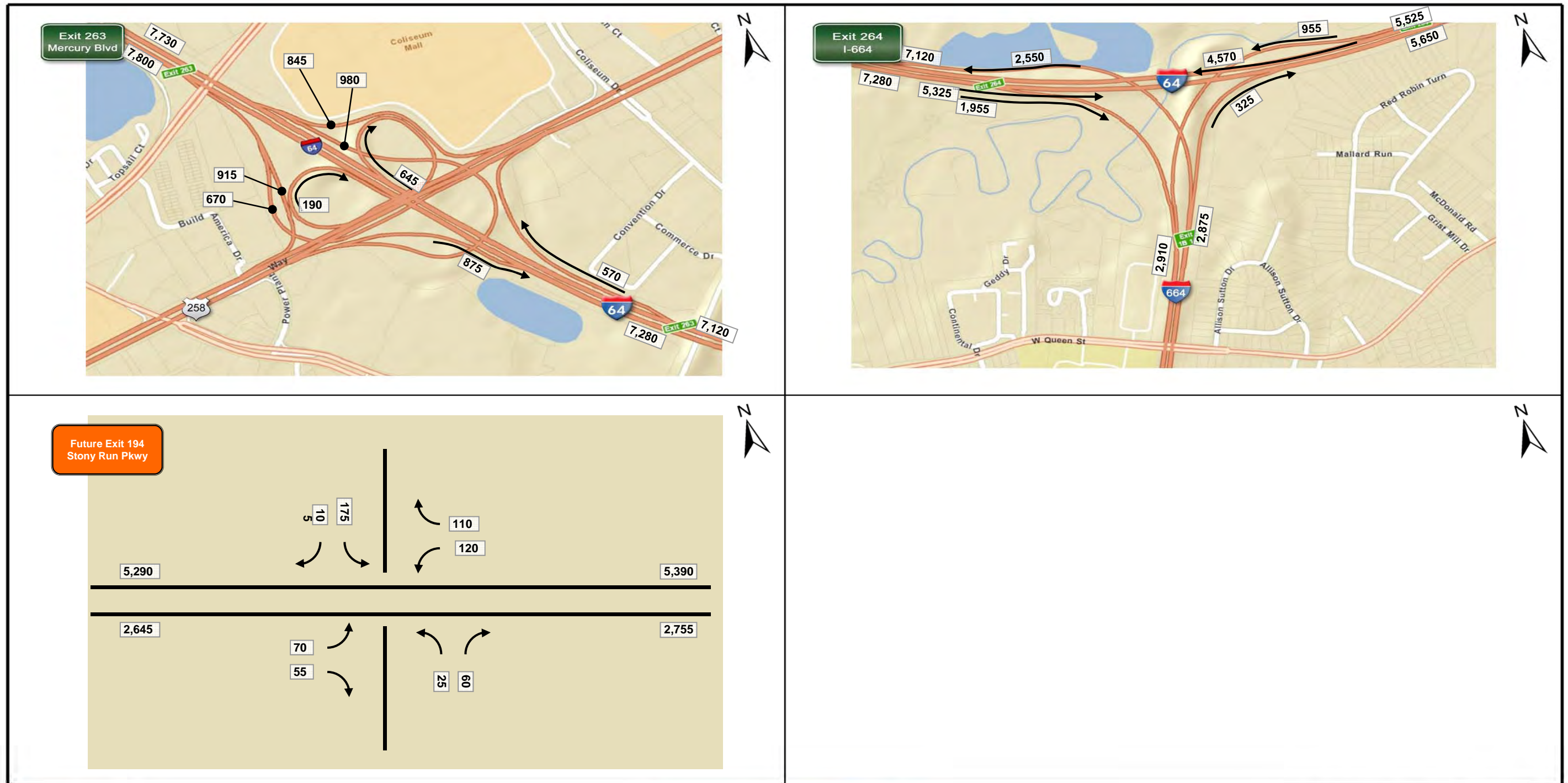


FIGURE 1: AM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
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DRAFT

Updated 6/22/12

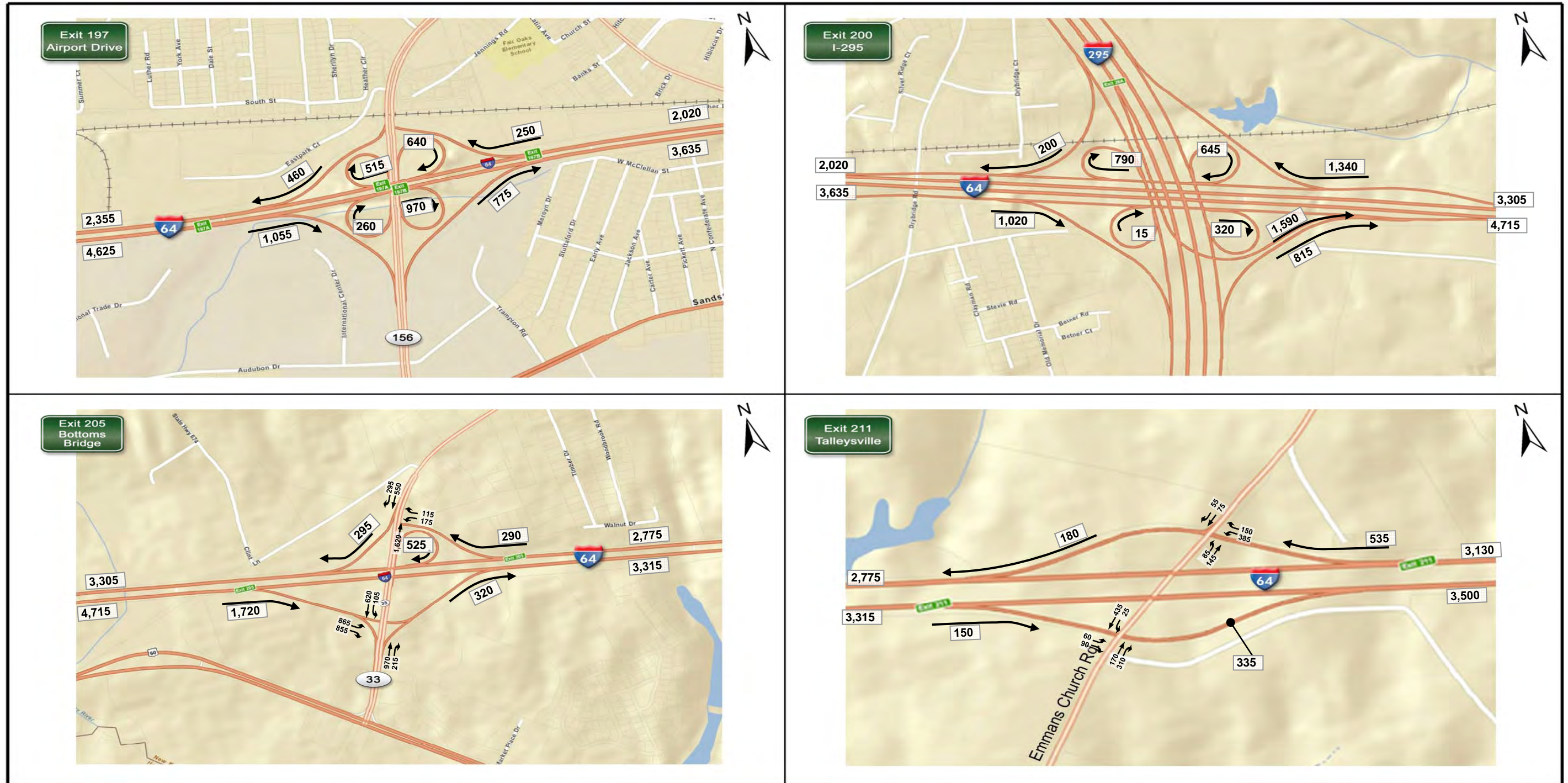


FIGURE 2: PM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
Sheet 2 of 7

DRAFT

Updated 6/22/12

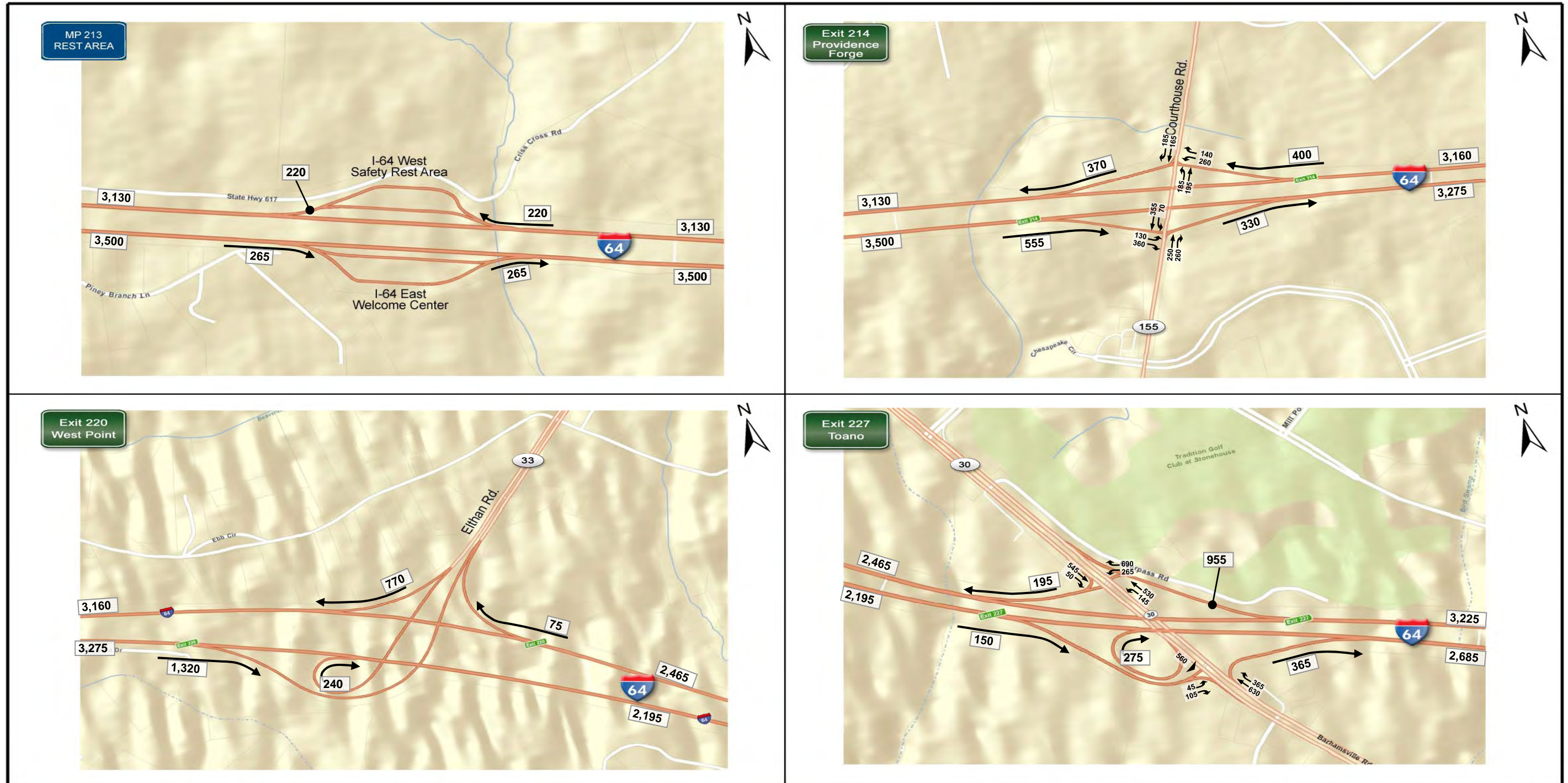


FIGURE 2: PM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
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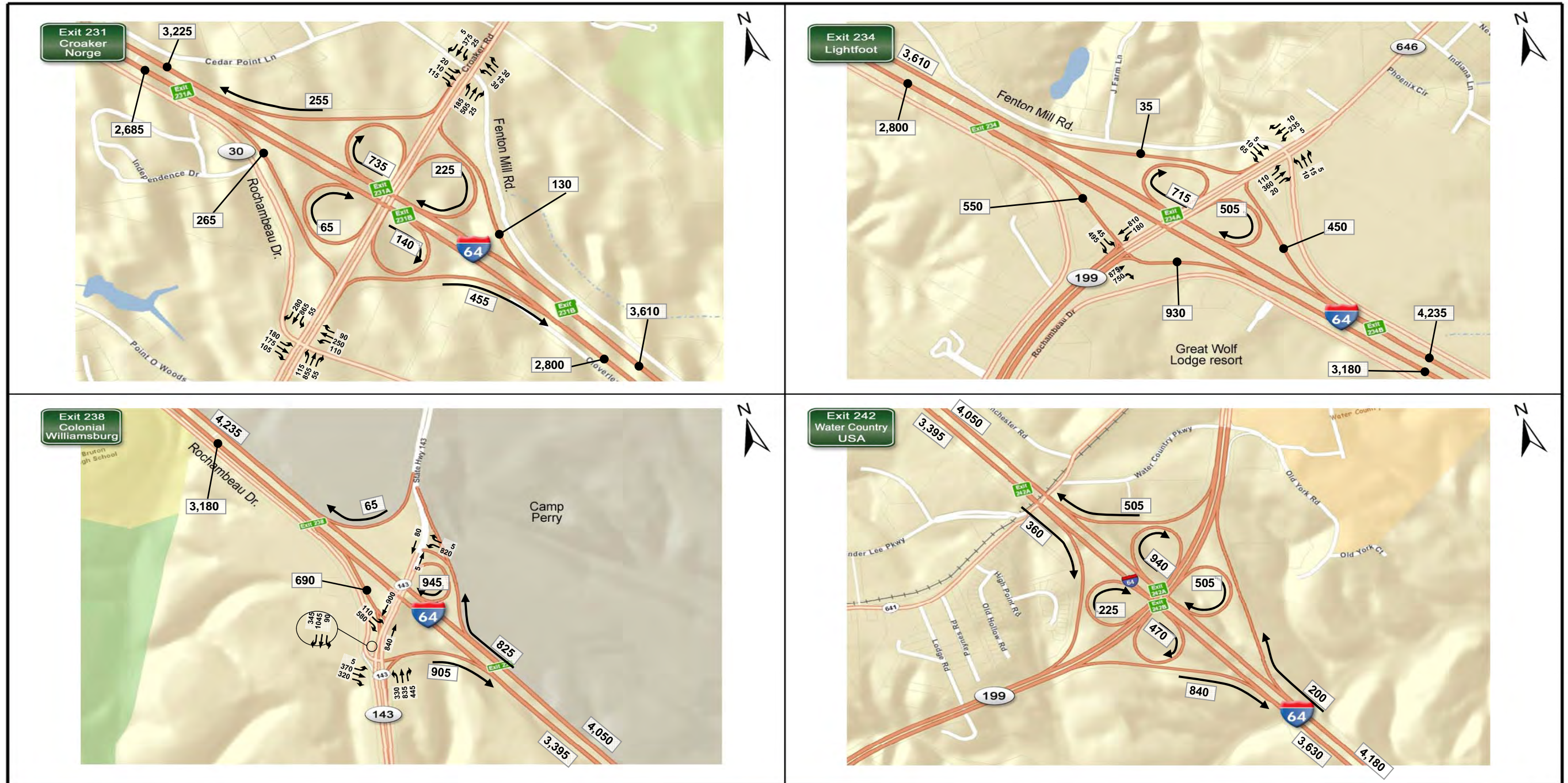


FIGURE 2: PM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
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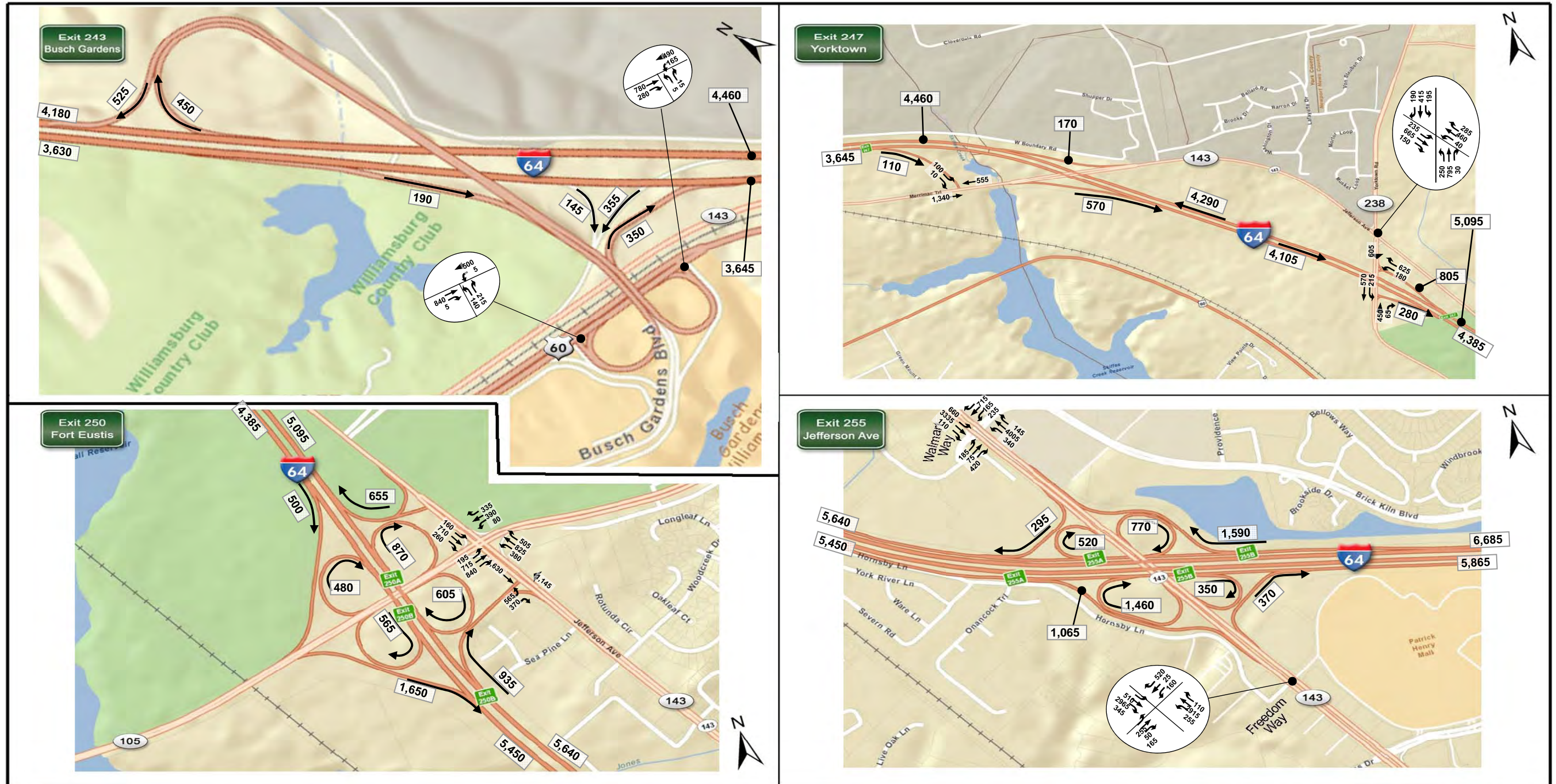


FIGURE 2: PM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
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Updated 6/22/12

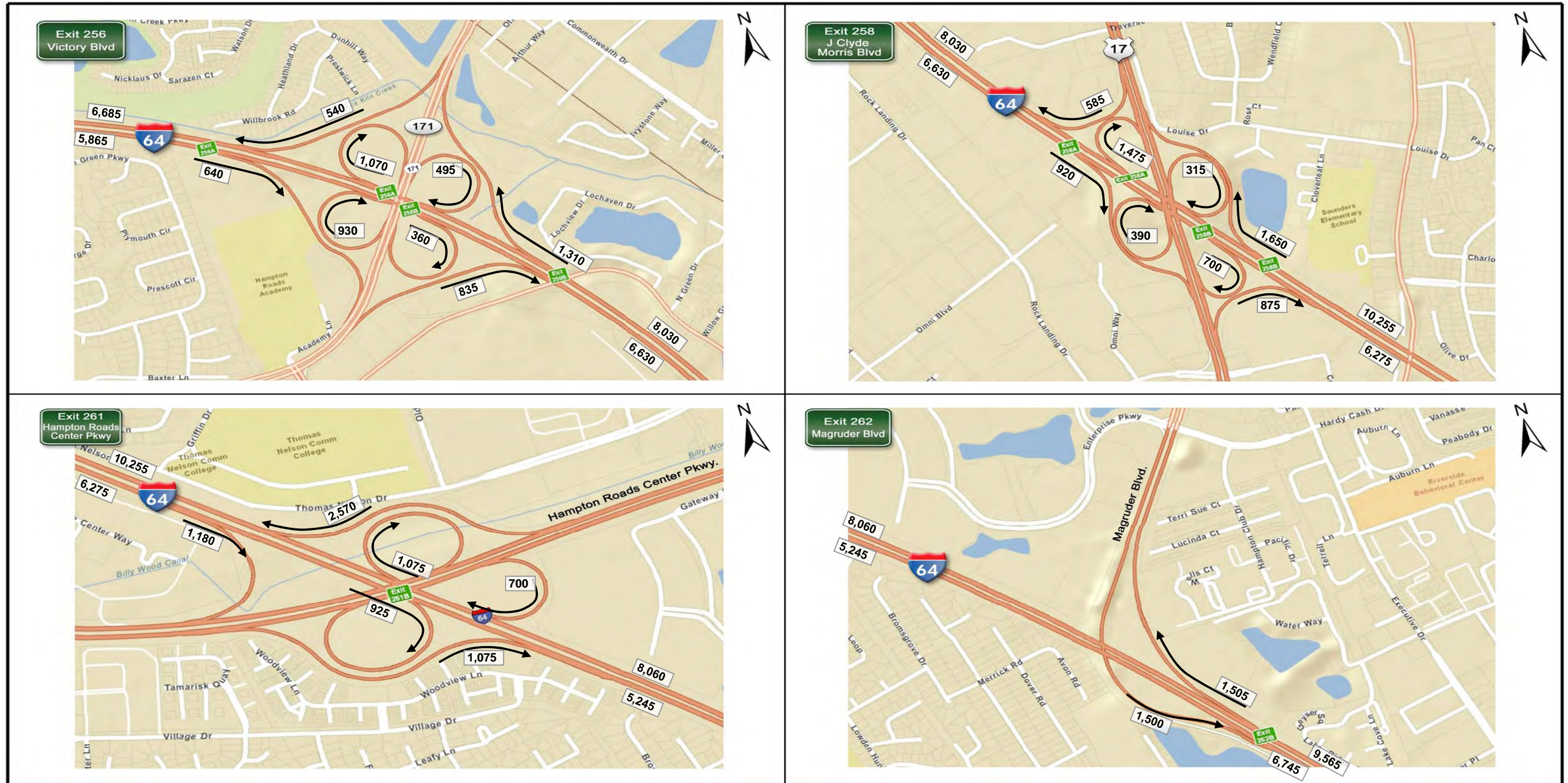


FIGURE 2: PM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
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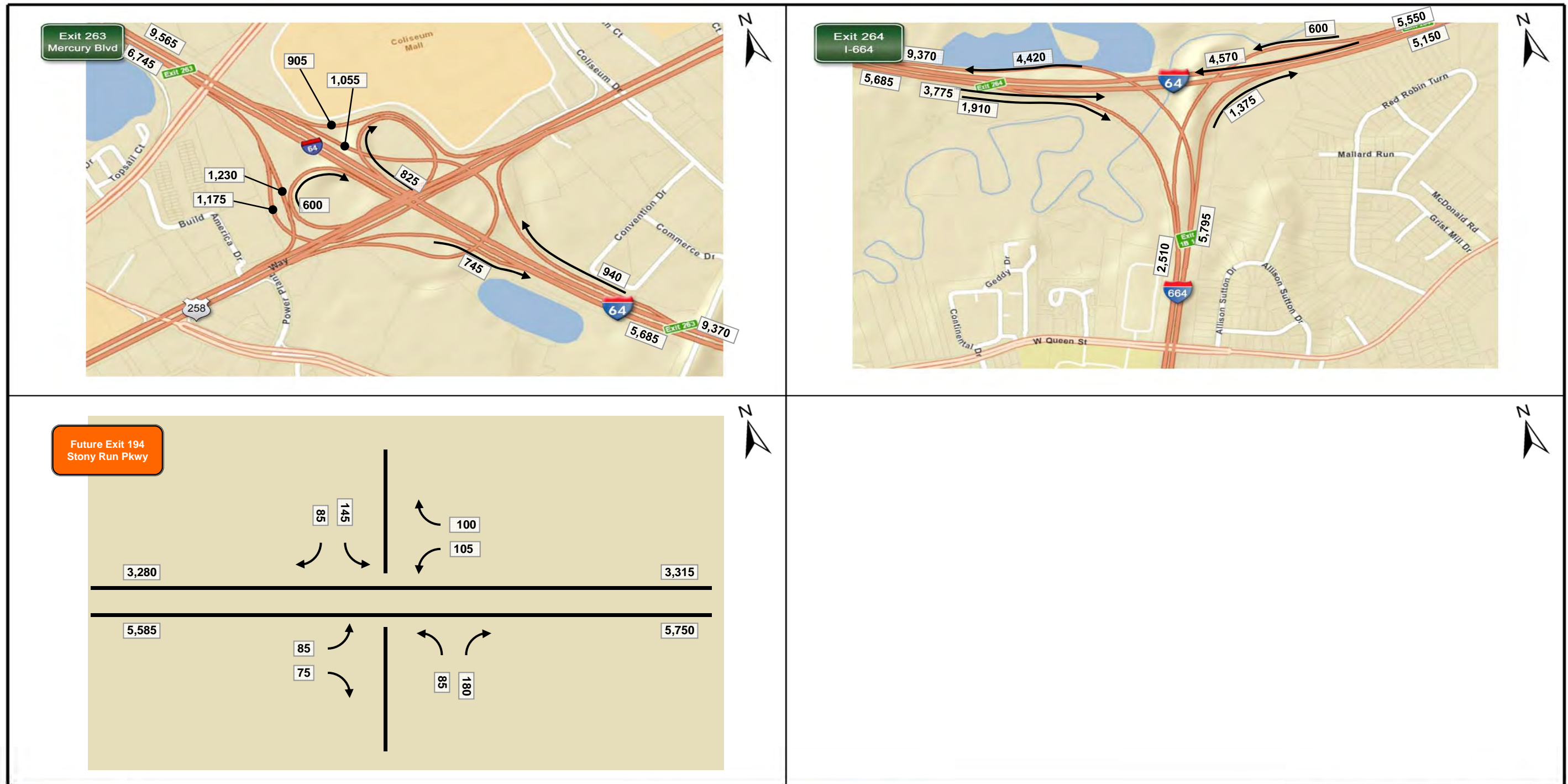
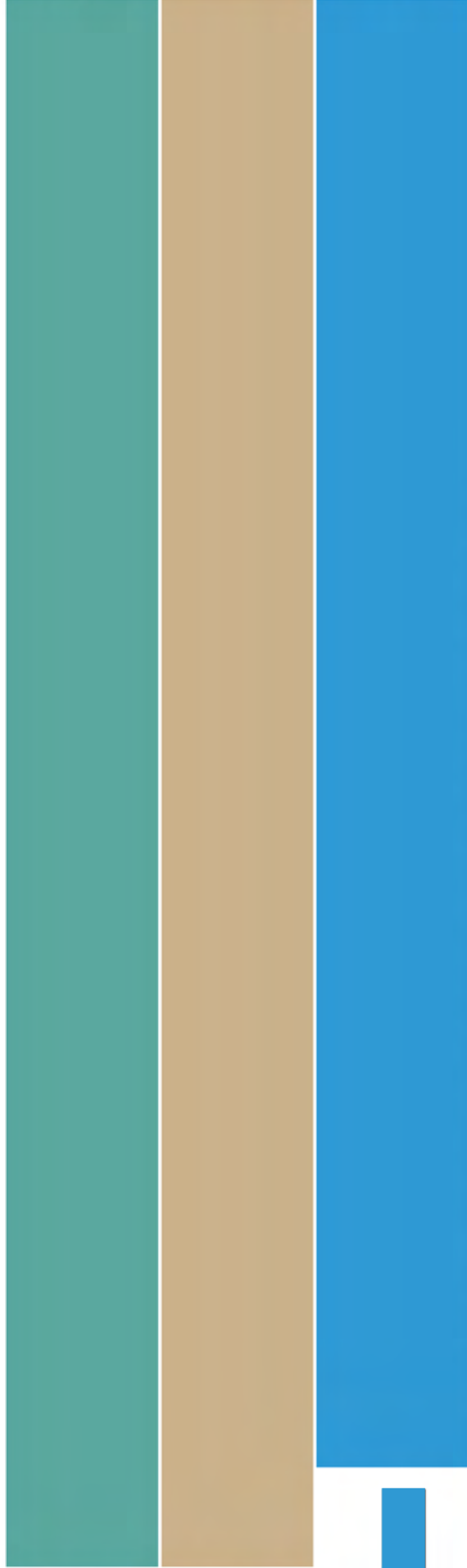


FIGURE 2: PM Peak Hour Volumes
2040 Alt 2 Balanced Volumes
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Managed Lanes Forecasting Procedure Technical Memo



MEMORANDUM

TO:

FROM: Marcel Klik, RK&K

DATE: May 15, 2012
Updated August 9, 2012

SUBJECT: I-64 Peninsula Study – Additional Detail on Managed Lane Forecasting Procedure

The purpose of this memorandum is to describe in further detail the development of managed lane forecasts for the I-64 Peninsula Study. This procedure will be followed to develop forecasts for Alternative 3.

1. Define limits of Managed Lanes Implementation

Managed lanes are most effective when the level of service in adjacent General Purpose lanes is sufficiently low to provide an incentive for a driver to pay for and use the Managed lane.

An initial HCS analysis was performed on the Alternative 1 peak hour volumes to determine whether general purpose and managed lane traffic could be distributed between the two to maintain a sufficiently low (poor) level of service in the general purpose lanes and sufficiently high (good) level of service in the managed lanes. If a sufficiently poor level of service resulted in the GP lanes, there would be an incentive for use of managed lanes. However, the use of the managed lane would need to be assessed to ensure it does not become over saturated to the point that the benefit of using a managed lane (high level of service to provide free-flow conditions and significant travel time benefits) vanishes. This analysis did not account for current or projected volumes of HOV traffic.

Using HCM procedures, the percentage distribution between managed and general purpose lanes was adjusted manually until the following conditions were met:

- a. Managed Lane (ML) LOS no worse than B
- b. General Purpose (GP) LOS no better than D

This initial analysis indicated these levels of service could be achieved with the provision of two additional managed lanes between I-95 and Exit 214, one managed lane between Exit 214 and Exit 243, and two managed lanes between Exit 243 and I-664. It should be noted that this analysis was not based on any specific toll rate, but entirely on the potential for distributing traffic between the general purpose and managed lanes to achieve the desired levels of service. The actual distribution of traffic could be effected under a managed lanes scenario in a number

of ways, and would be dependent on toll rates, occupancy restrictions, and the configuration of the general purpose and managed lanes.

2. Determine potential for reversible lanes within study corridor

Reversible lanes may be appropriate when there is a distinct directionality in the projected traffic flow, e.g., predominant inbound traffic during the AM peak, and predominant outbound flow during the PM peak. If the difference in inbound and outbound volumes exceeds the capacity of one or more lanes, a reversible lane can reduce the necessary footprint. In the Richmond area, projected traffic volumes do exhibit this characteristic, and reversible lane operation could be feasible between I-95 and Exit 220.

In the Hampton Roads area, the preliminary analysis shows that widening the current HOV lanes to two Managed Lanes would be required.

3. Determine number of lanes for Managed section(s)

Using the approximation procedure in Step 1 will also determine the number of required lanes to maintain LOS B or better in the Managed lanes. The preliminary assessment shows that at least two Managed lanes would be required in the peak direction in both the Richmond area as well as the Hampton Roads area.

4. Code managed lanes into the Super Regional Tidewater Model (SRTW)

After consultation with VDOT TMPD, the managed lanes will be coded in the SRTW using the following assumptions:

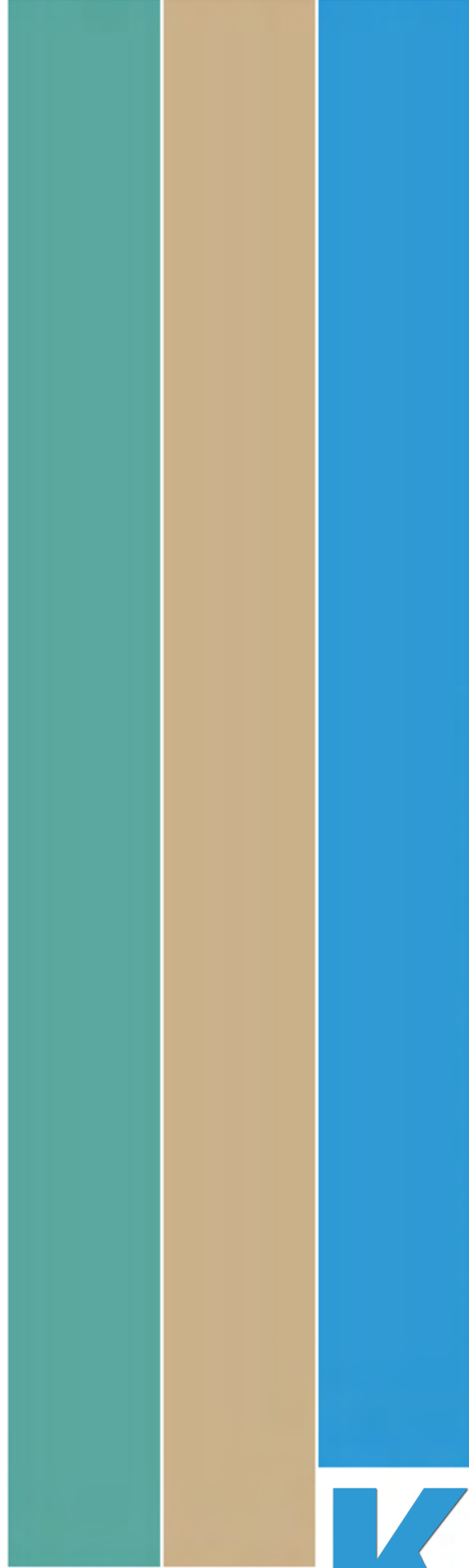
<i>Value of Time (VOT)</i>	<ul style="list-style-type: none"> ➤ 37 cents/minute in Richmond area, per VDOT discussions on 8/7/12 ➤ 20 cents/minute in Hampton Roads, per original Super Regional Tidewater Model
<i>Managed Lane toll rate</i>	22.5 cents/mile, per review of toll rates of comparable facilities in Northeast United States
<i>Managed Lane coding</i>	Free-flow speeds increased 2-4 mph on managed lanes over main lanes to initially attract traffic in free flow condition
<i>Lane Configuration</i>	<ul style="list-style-type: none"> ➤ Two reversible managed lanes from western terminus to Exit 214 ➤ One managed lane in each direction between Exits 214 and 247 ➤ Two managed lanes in each direction east of Exit 247 to eastern project limit ➤ No additional General Purpose lanes
<i>k-factors</i>	Based on 2011 k-factors: <ul style="list-style-type: none"> ➤ 4.3 to 11.0 percent of daily one-way traffic during AM peak ➤ 6.1 to 9.8 percent of daily one-way traffic during PM peak
<i>Interchange access</i>	No special access/ramps to managed lanes at interchanges; all movements from managed and general purpose lanes occur at existing ramps

The SRTW will be run using the trip table from Alternative 1 (this is a conservative assumption).

5. Run SRTW and review model output

Model output from the SRTW model runs will be reviewed and analyzed to verify the assumptions made in step 1, and finalize the footprint for Alternative 3. This step will also provide guidance to determine whether additional General Purpose lanes would be needed on segments that are still shown to operate at LOS F in the preliminary assessment in Step 1.

The initial assessment in Steps 1-3 indicates that two reversible managed lanes could be required between Exits 190 and 214 to mitigate projected peak hour congestion. A single managed lane in each direction between Exits 220 and 247 could be sufficient to accommodate both weekday peak hour traffic as well as summer weekend traffic. East of Exit 247, two non-reversible Managed lanes would be required. A transition between the permanent and reversible Managed lanes between Exits 214 and 220 would be required.



Balanced 2040 Alternative 3 Traffic Volumes

DRAFT

Updated 8/14/2012

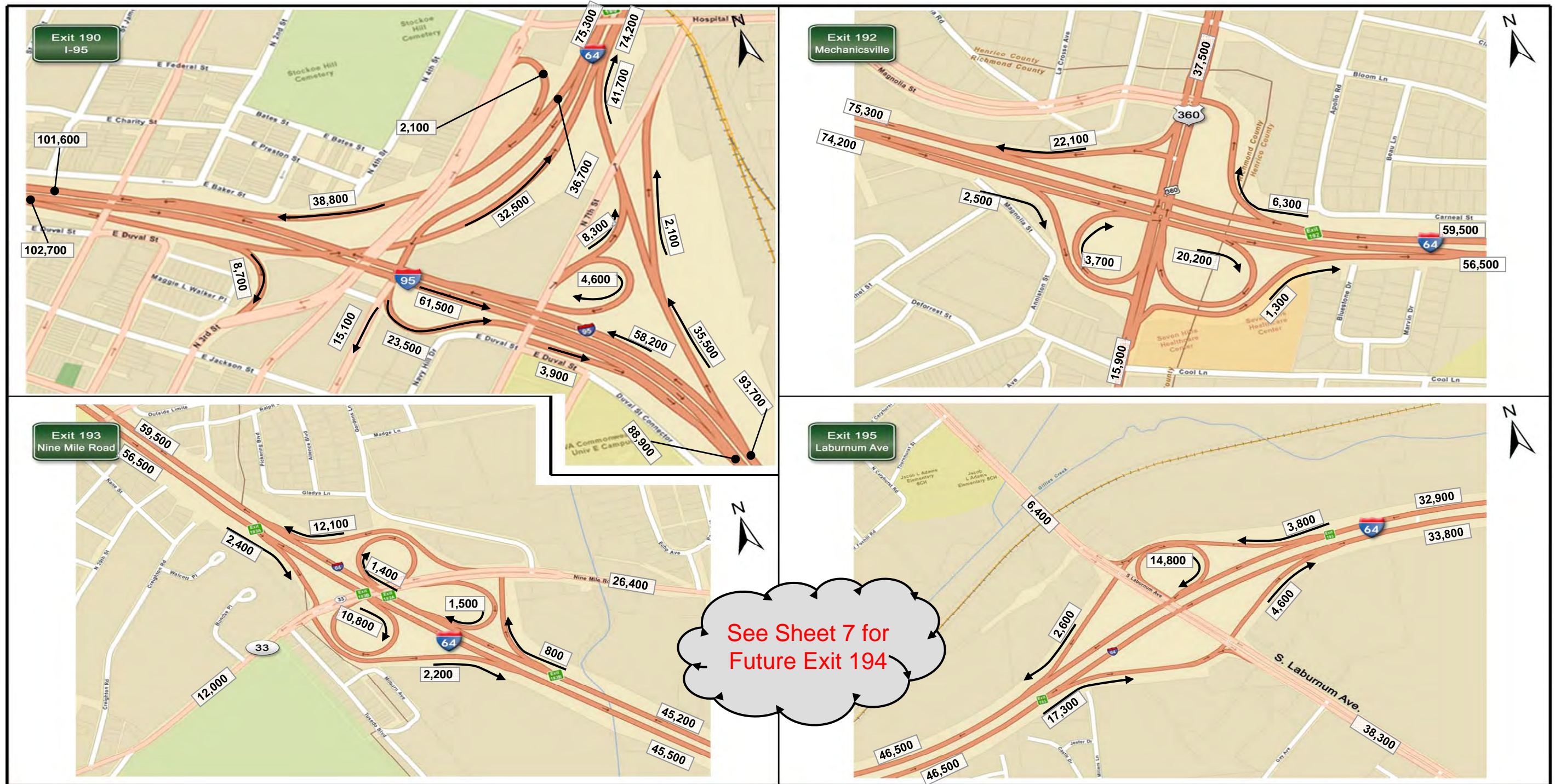


FIGURE 3: ADT Volumes
Alt 3 2040 Balanced Volumes
Sheet 1 of 7

Note: Sum of General Purpose and Managed Lane volumes shown

DRAFT

Updated 8/14/2012

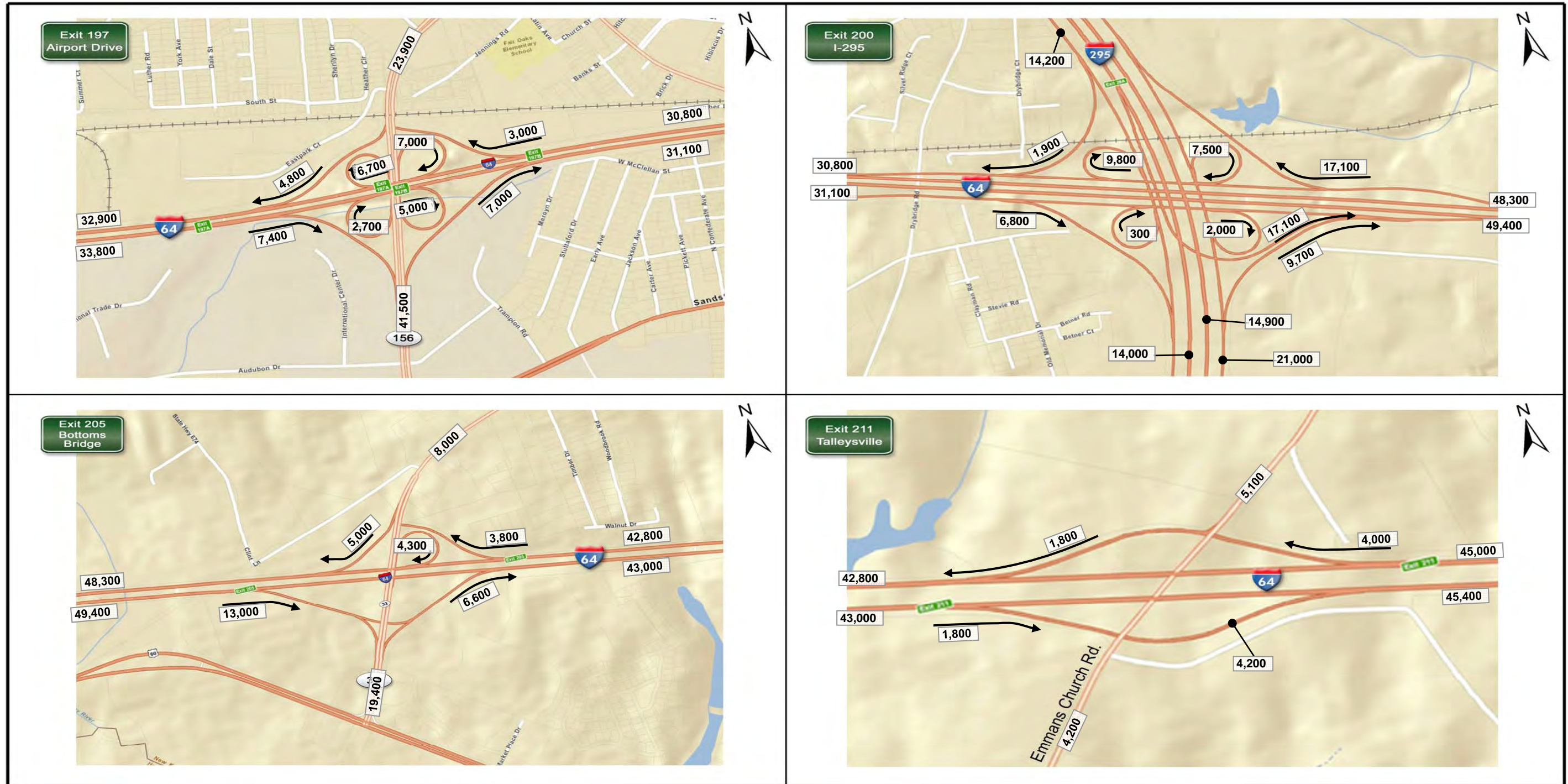


FIGURE 3: ADT Volumes
Alt 3 2040 Balanced Volumes
Sheet 2 of 7

Note: Sum of General Purpose and Managed Lane volumes shown

DRAFT

Updated 8/14/2012

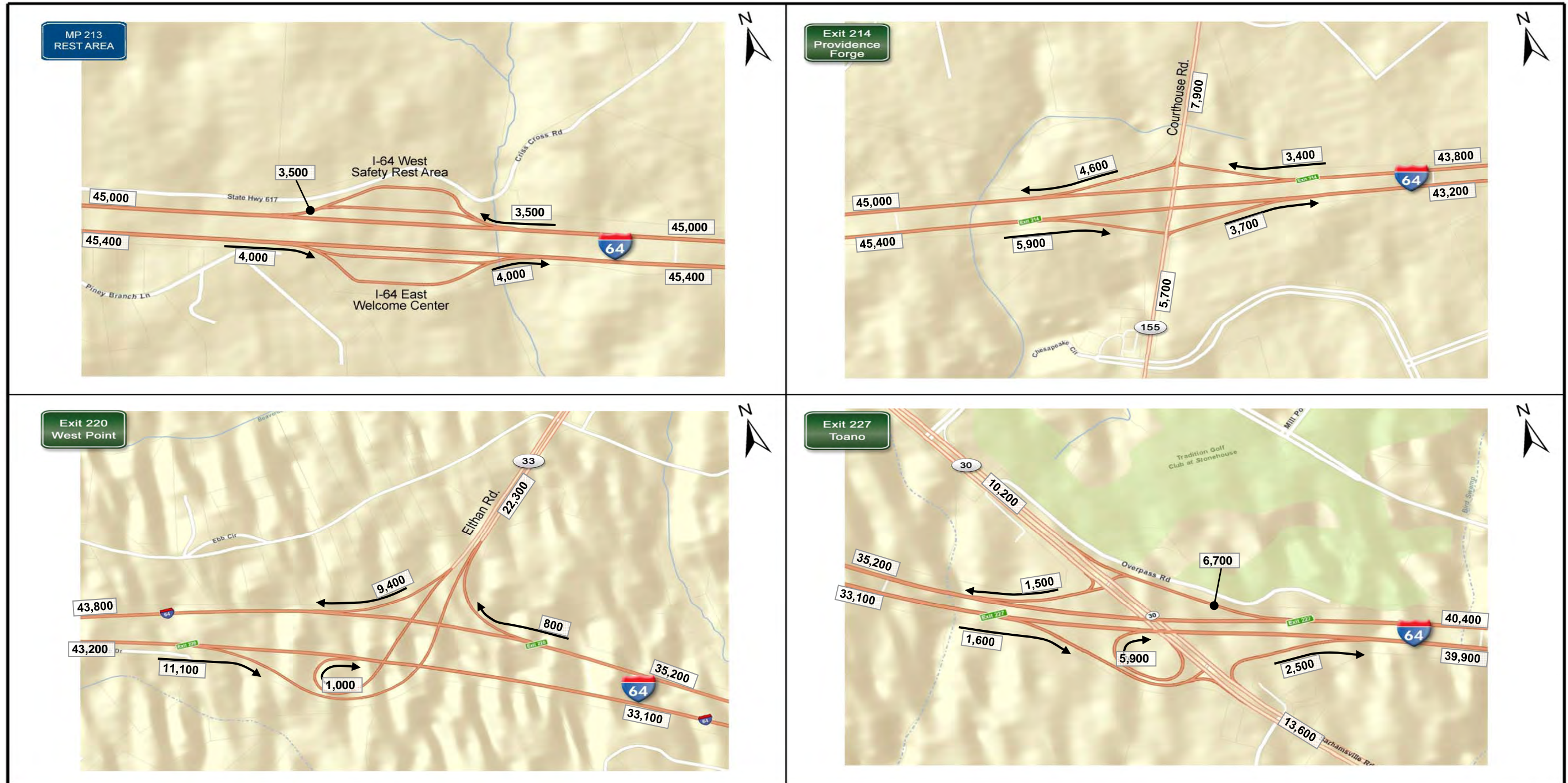


FIGURE 3: ADT Volumes
Alt 3 2040 Balanced Volumes
Sheet 3 of 7

Note: Sum of General Purpose and Managed Lane volumes shown

DRAFT

Updated 8/14/2012

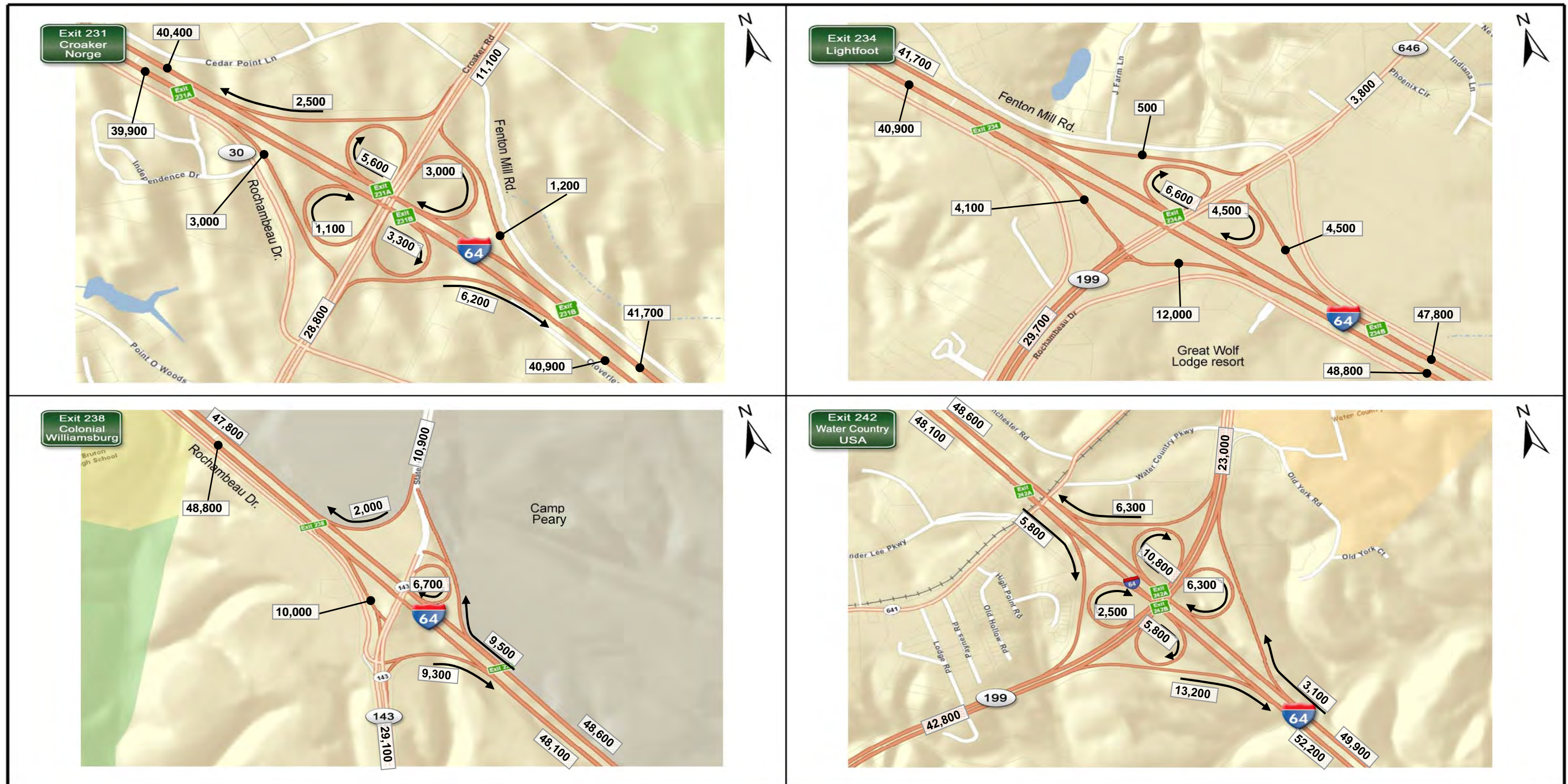


FIGURE 3: ADT Volumes
Alt 3 2040 Balanced Volumes
Sheet 4 of 7

Note: Sum of General Purpose and Managed Lane volumes shown

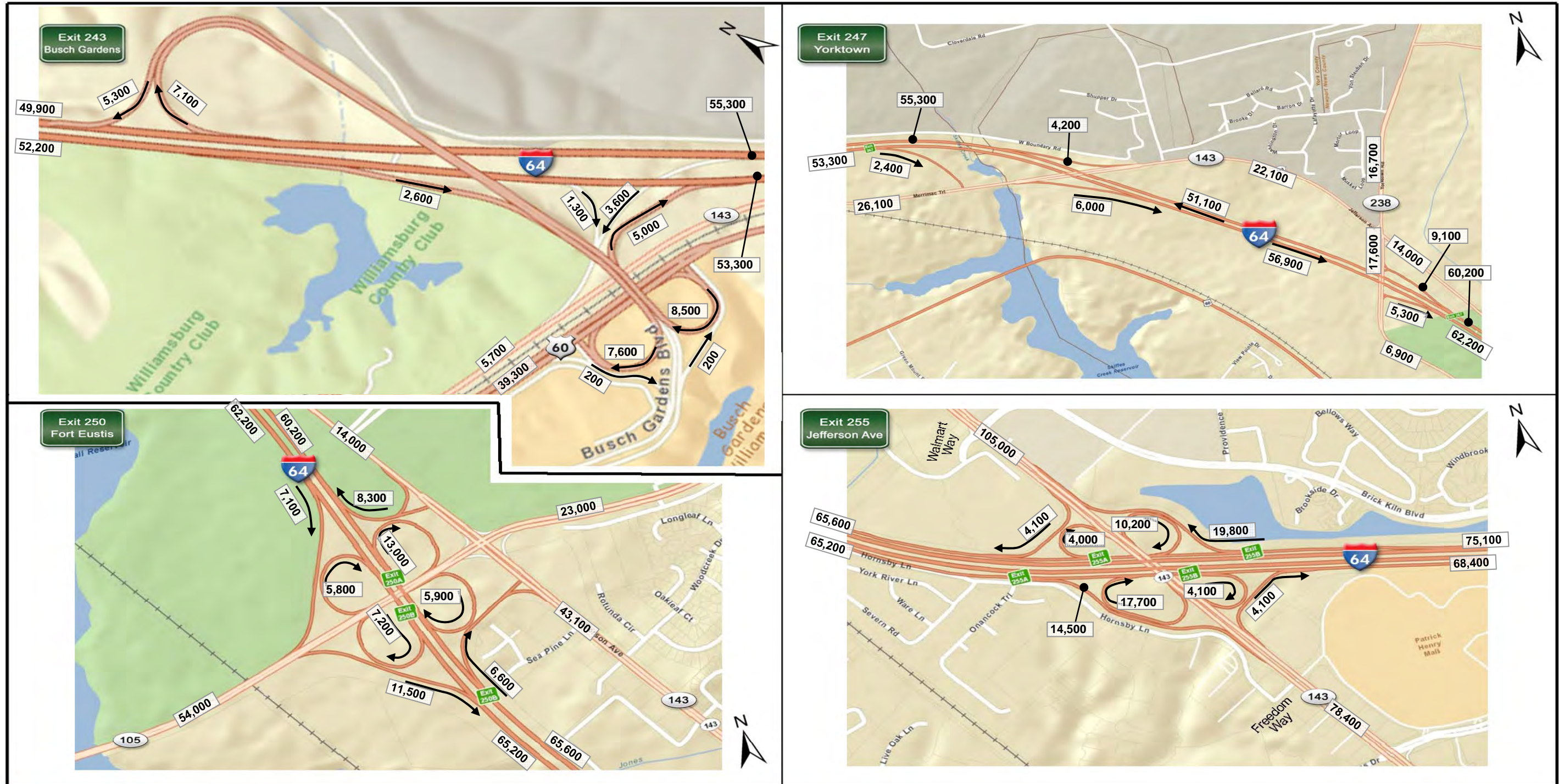


FIGURE 3: ADT Volumes
 Alt 3 2040 Balanced Volumes
 Sheet 5 of 7

DRAFT

Updated 8/14/2012

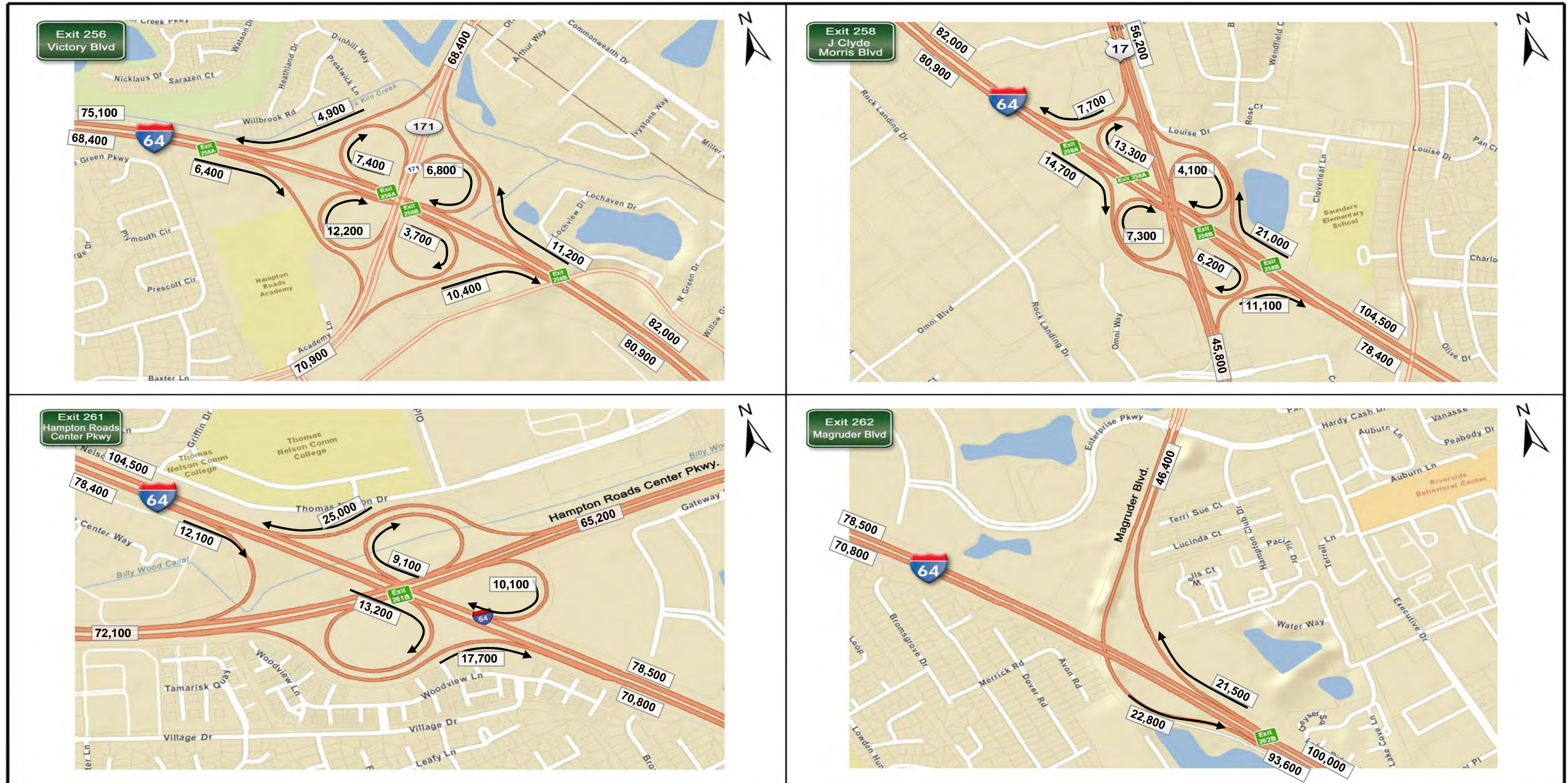


FIGURE 3: ADT Volumes
Alt 3 2040 Balanced Volumes
Sheet 6 of 7

DRAFT

Updated 8/14/12

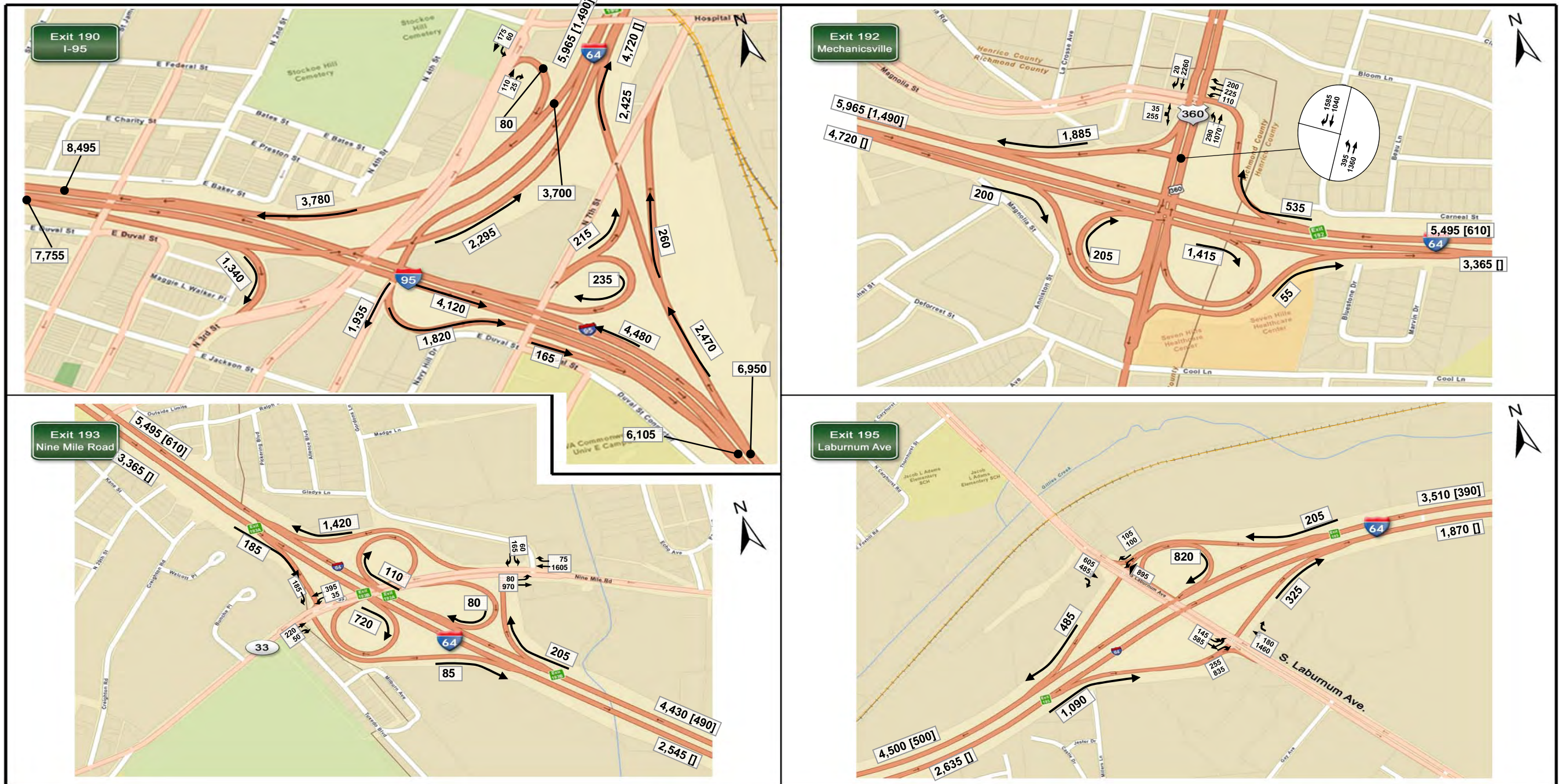
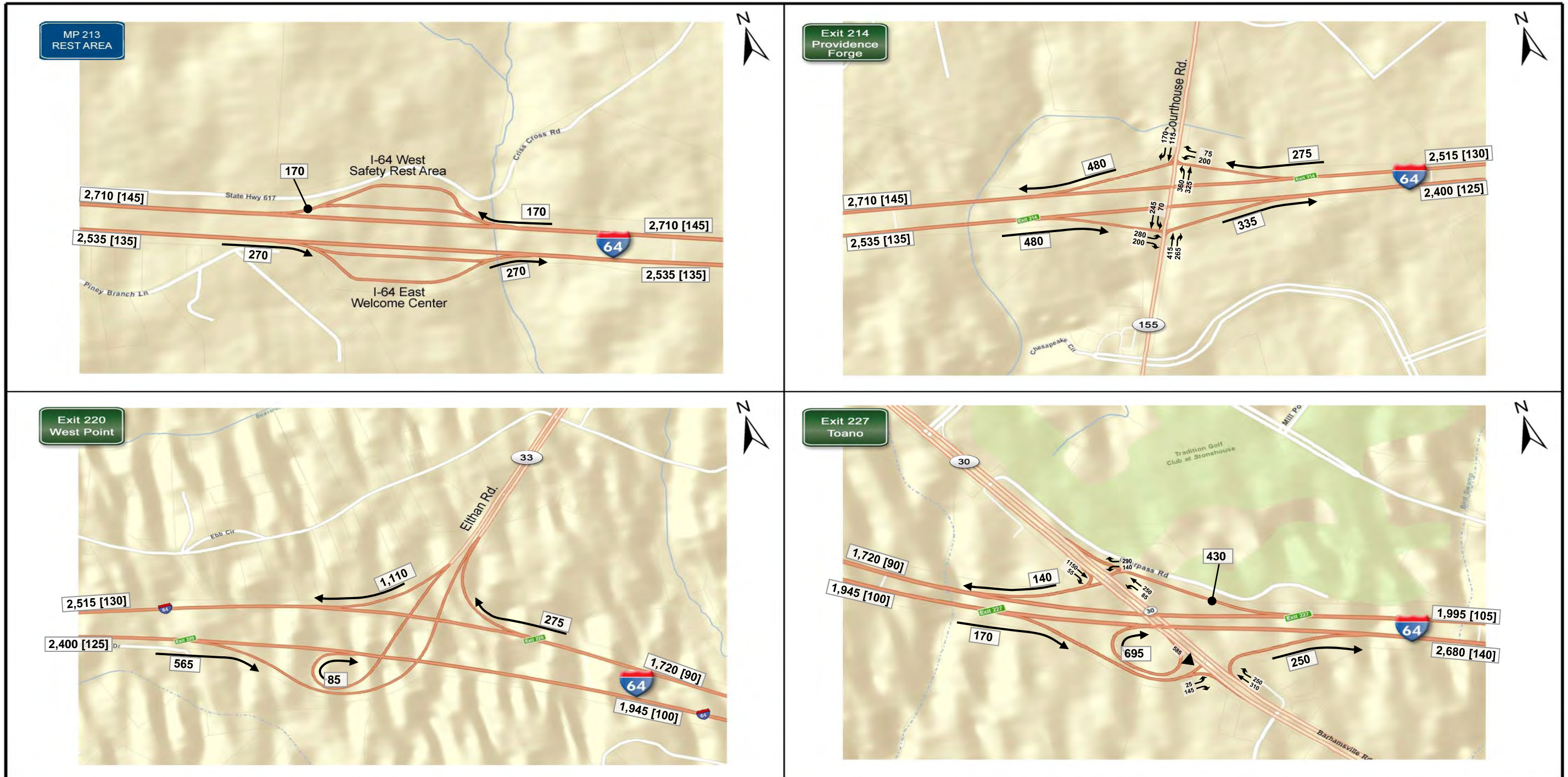


FIGURE 1: AM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 1 of 7

DRAFT

Updated 8/14/12



DRAFT

Updated 8/14/12

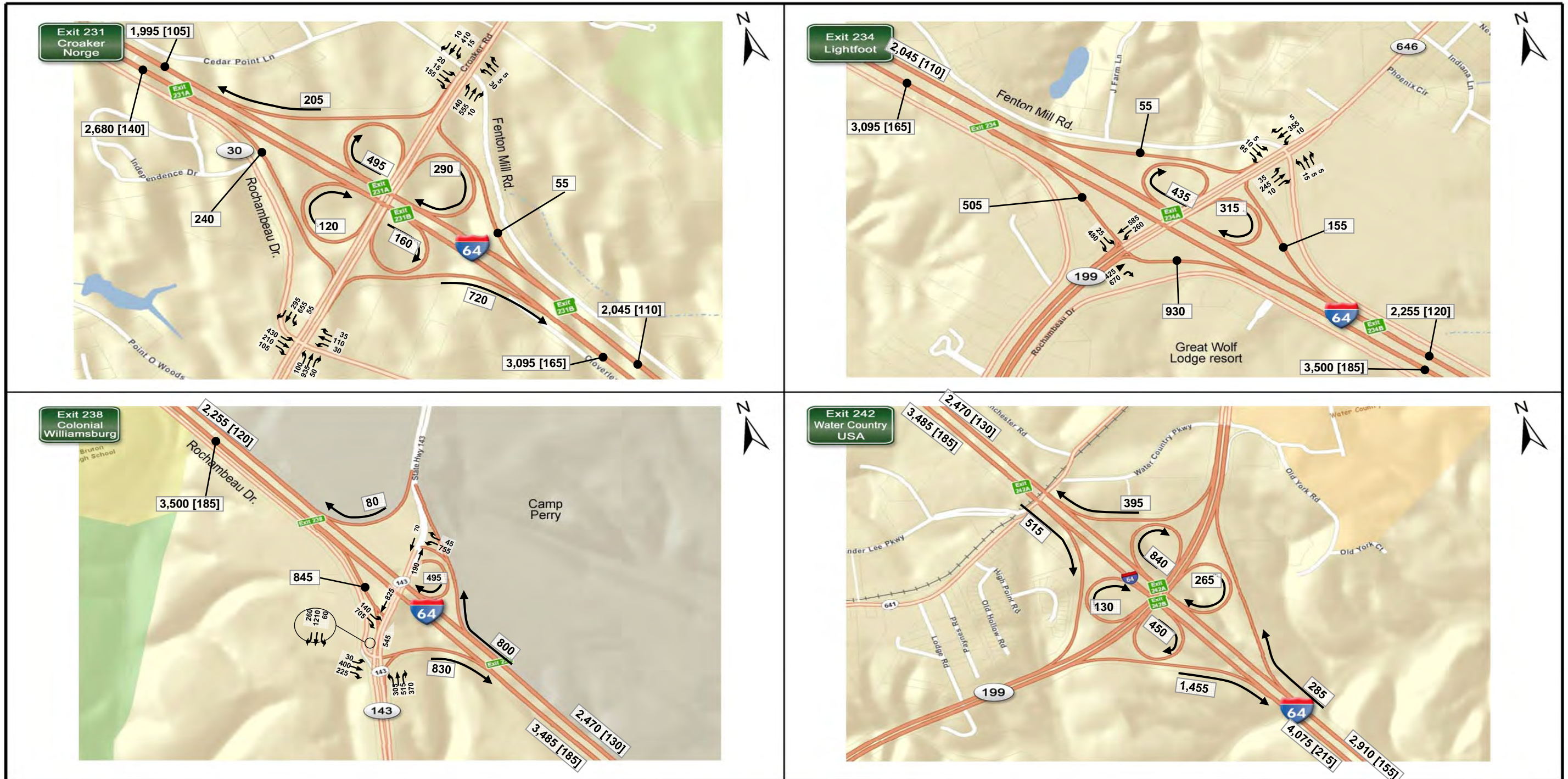


FIGURE 1: AM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 4 of 7

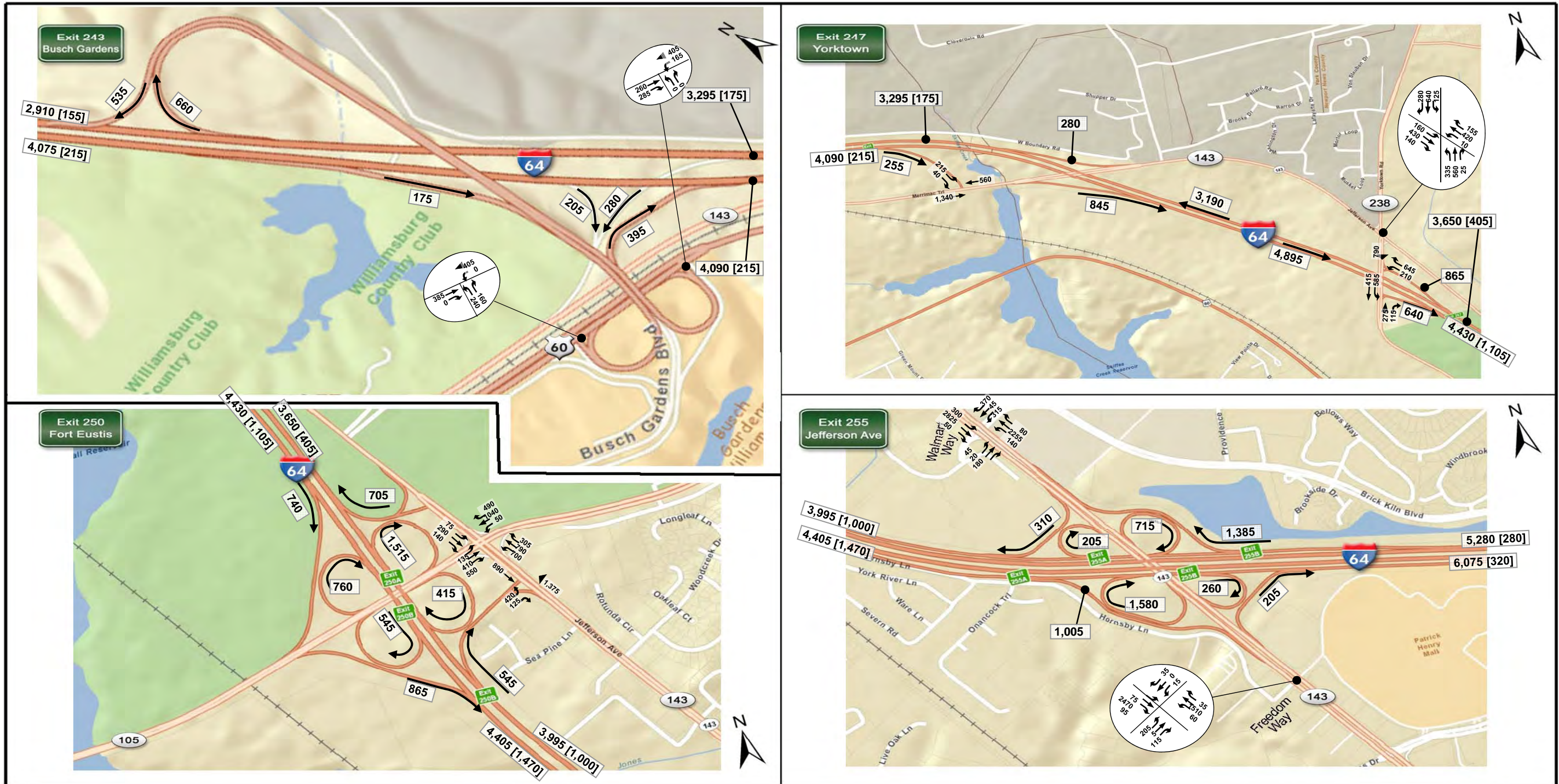


FIGURE 1: AM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 5 of 7

DRAFT

Updated 8/14/12

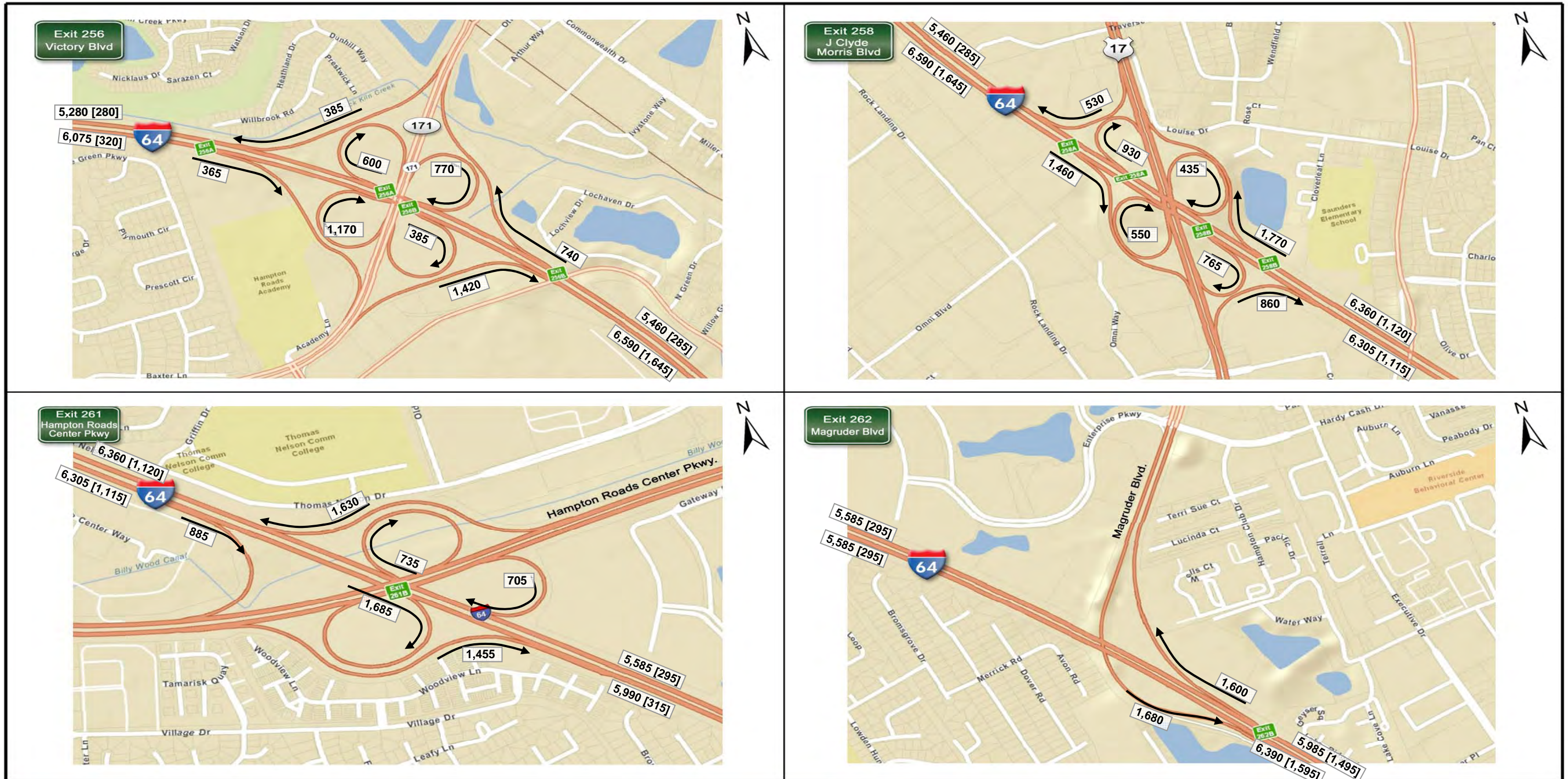


FIGURE 1: AM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 6 of 7

DRAFT

Updated 8/14/12

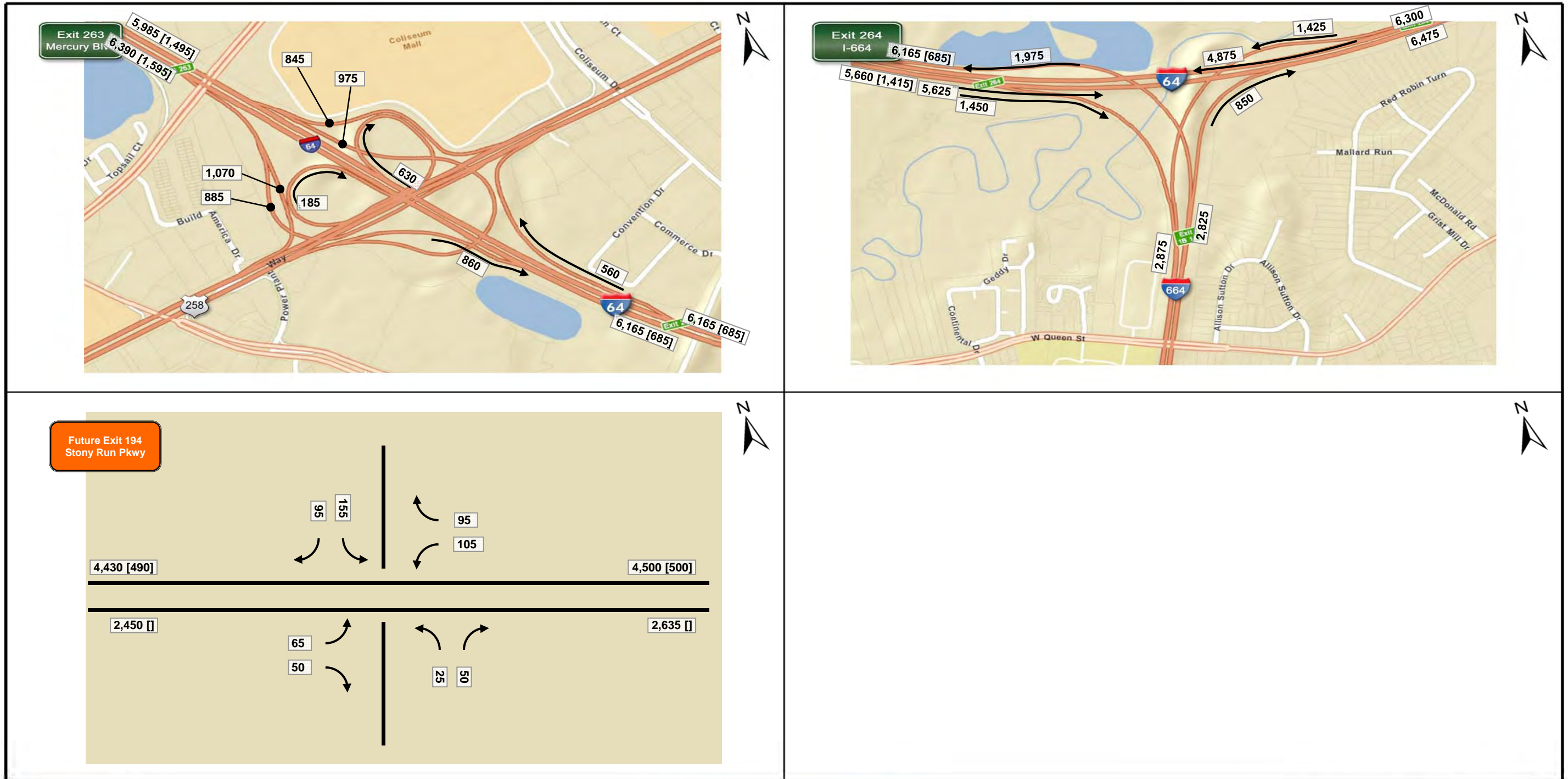


FIGURE 1: AM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 7 of 7

DRAFT

Updated 8/14/12

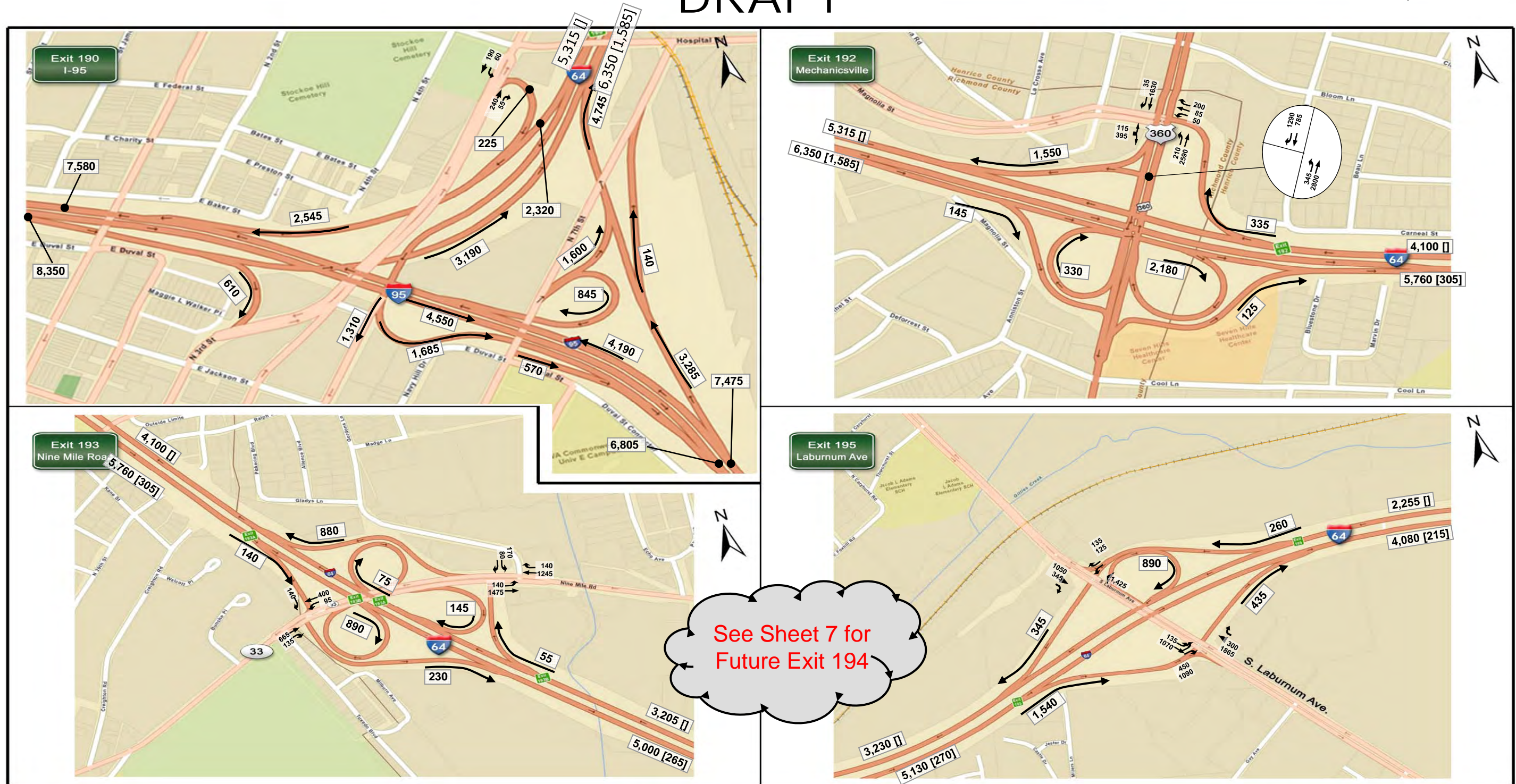


FIGURE 2: PM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 1 of 7

DRAFT

Updated 8/14/12

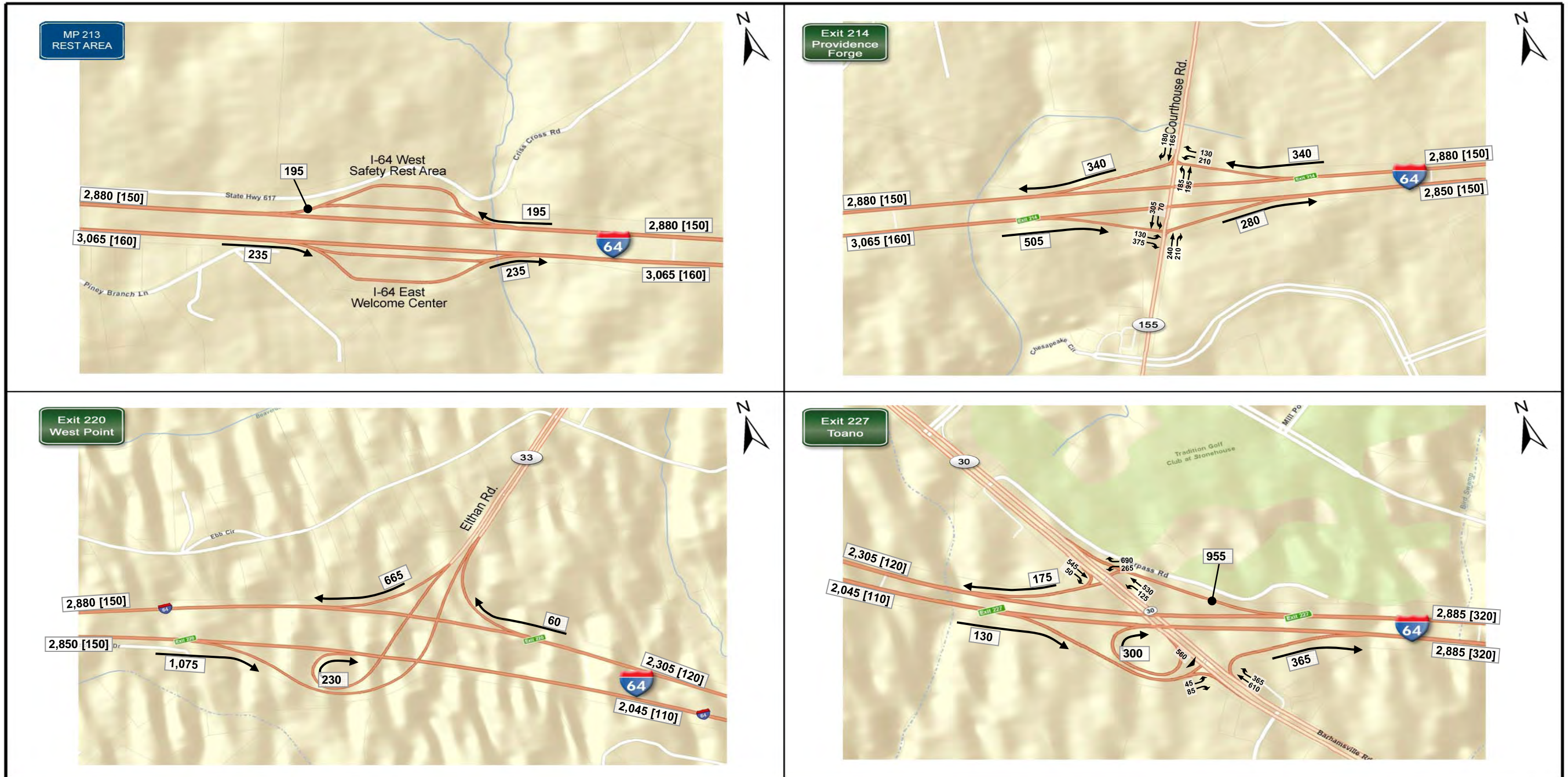


FIGURE 2: PM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 3 of 7

DRAFT

Updated 8/14/12

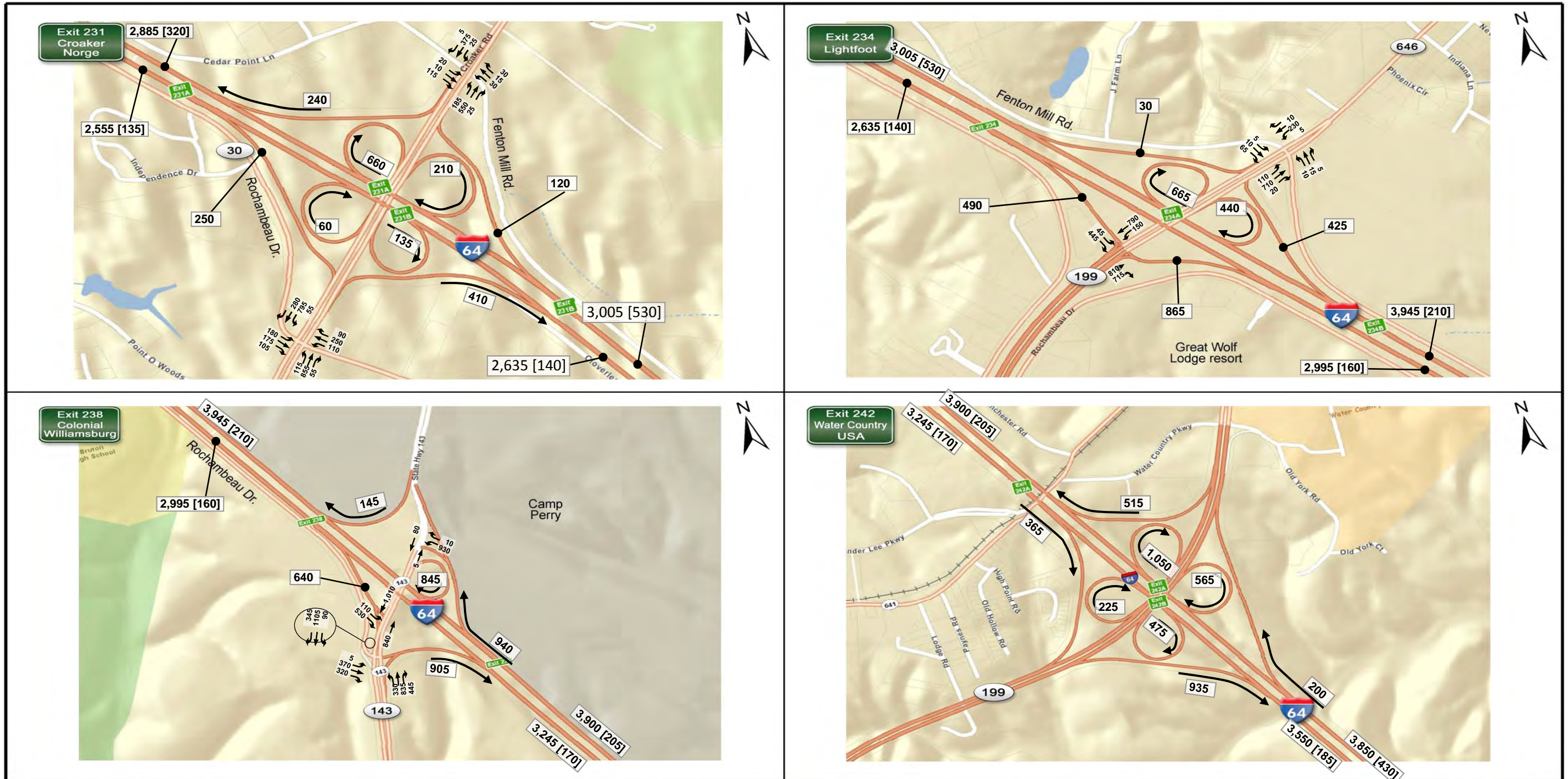


FIGURE 2: PM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 4 of 7

DRAFT

Updated 8/14/12

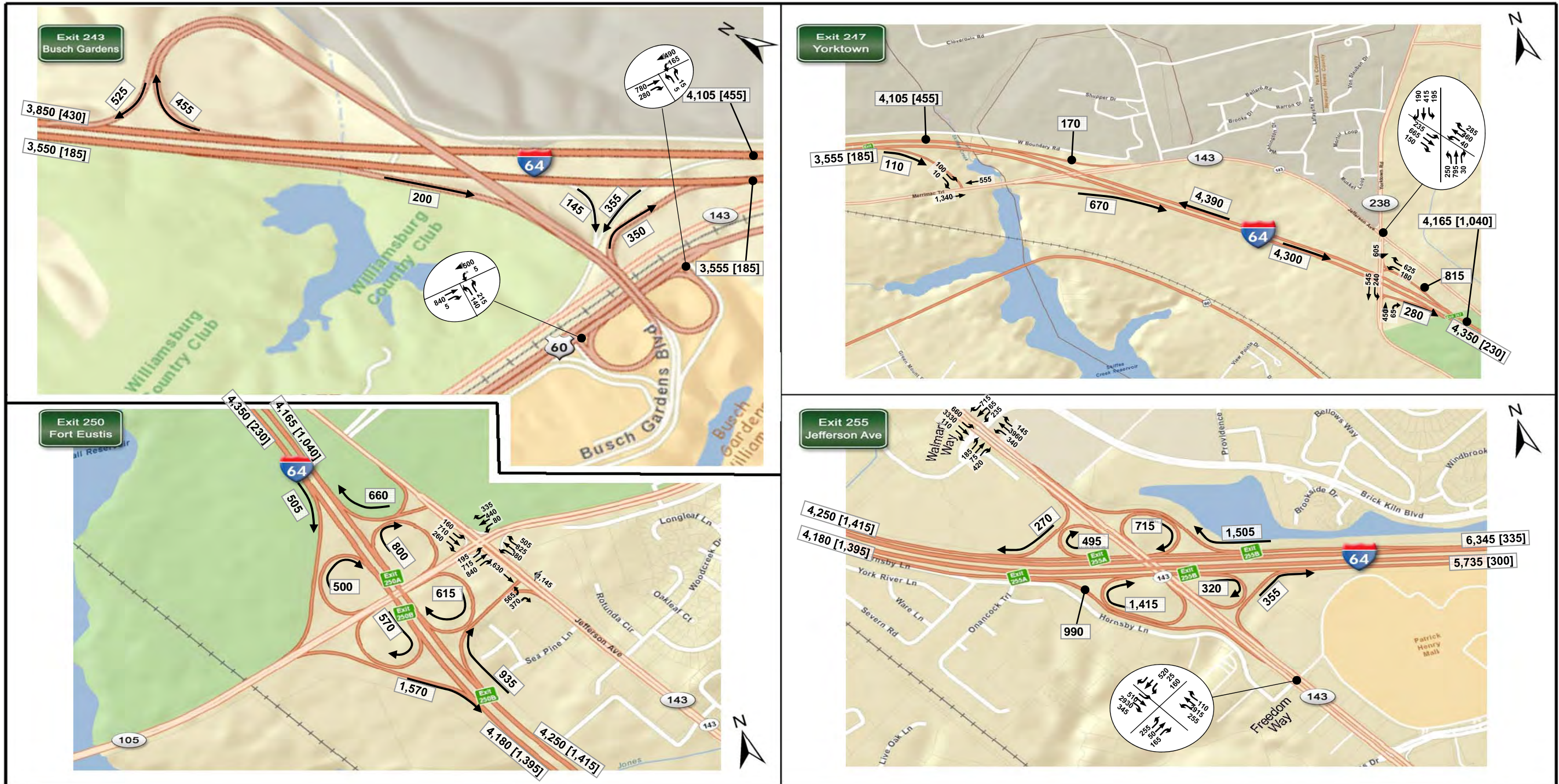


FIGURE 2: PM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 5 of 7

DRAFT

Updated 8/14/12

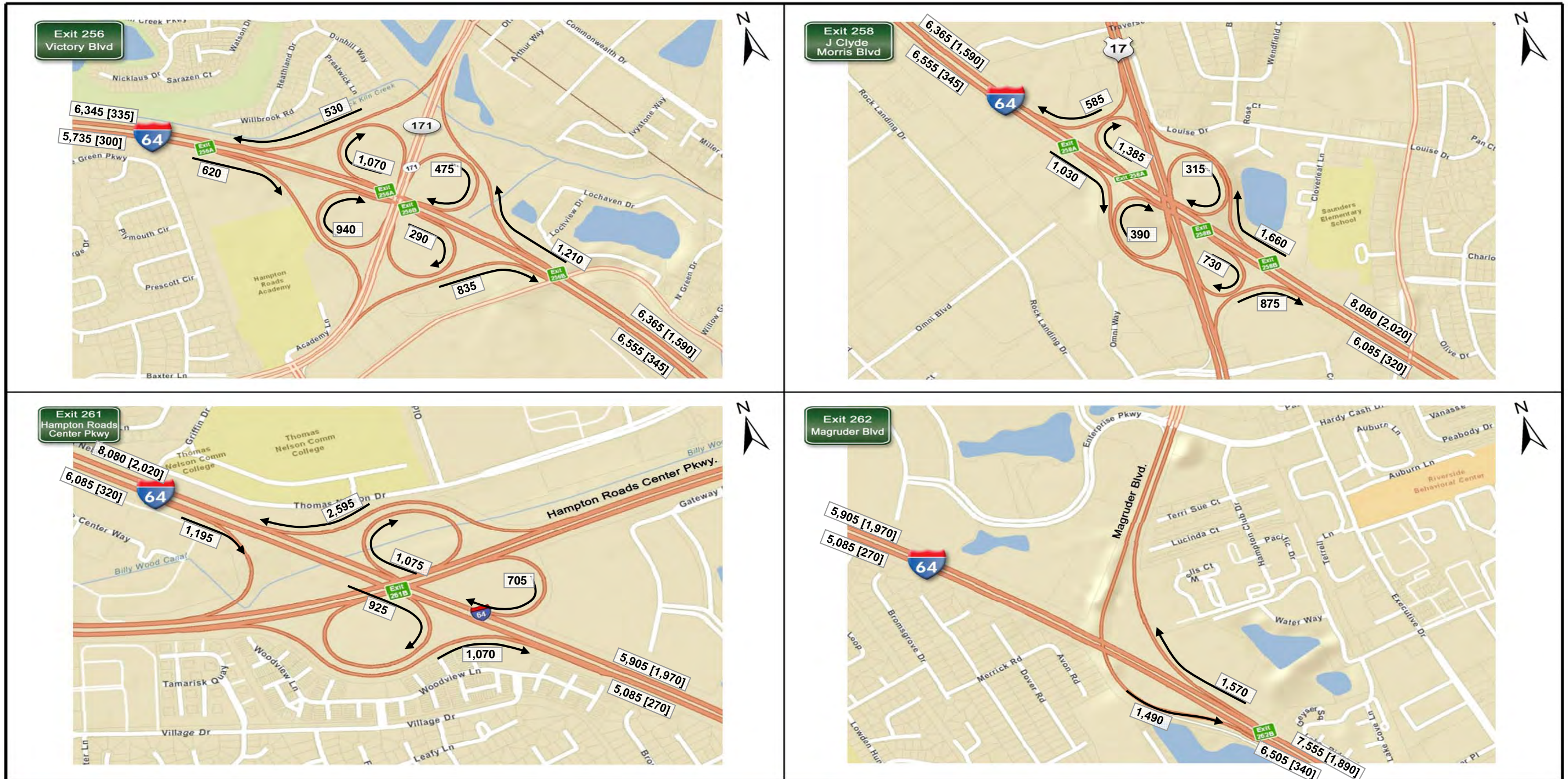


FIGURE 2: PM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 6 of 7

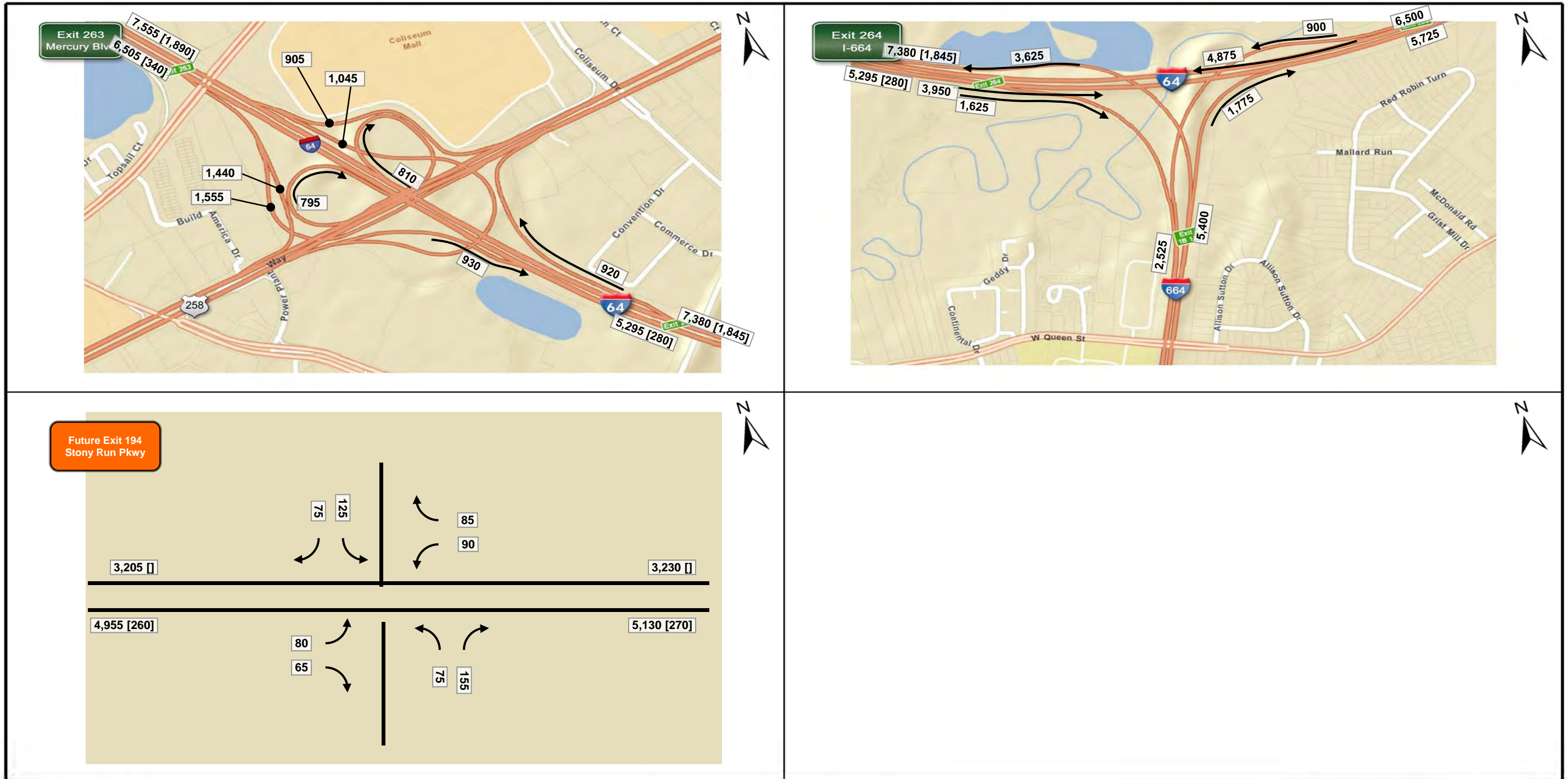
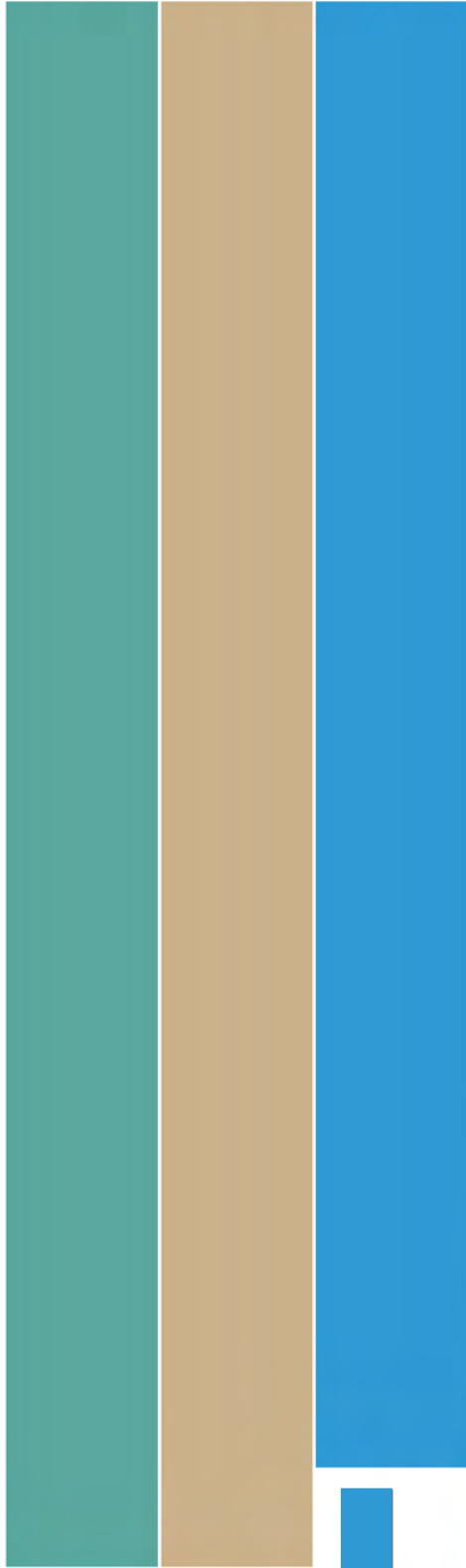


FIGURE 2: PM Peak Hour Volumes
2040 Alt 3 Balanced Volumes
Sheet 7 of 7

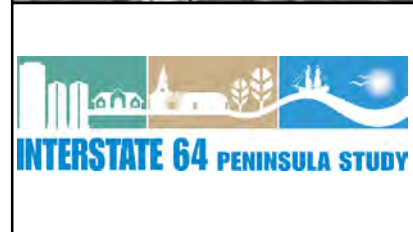
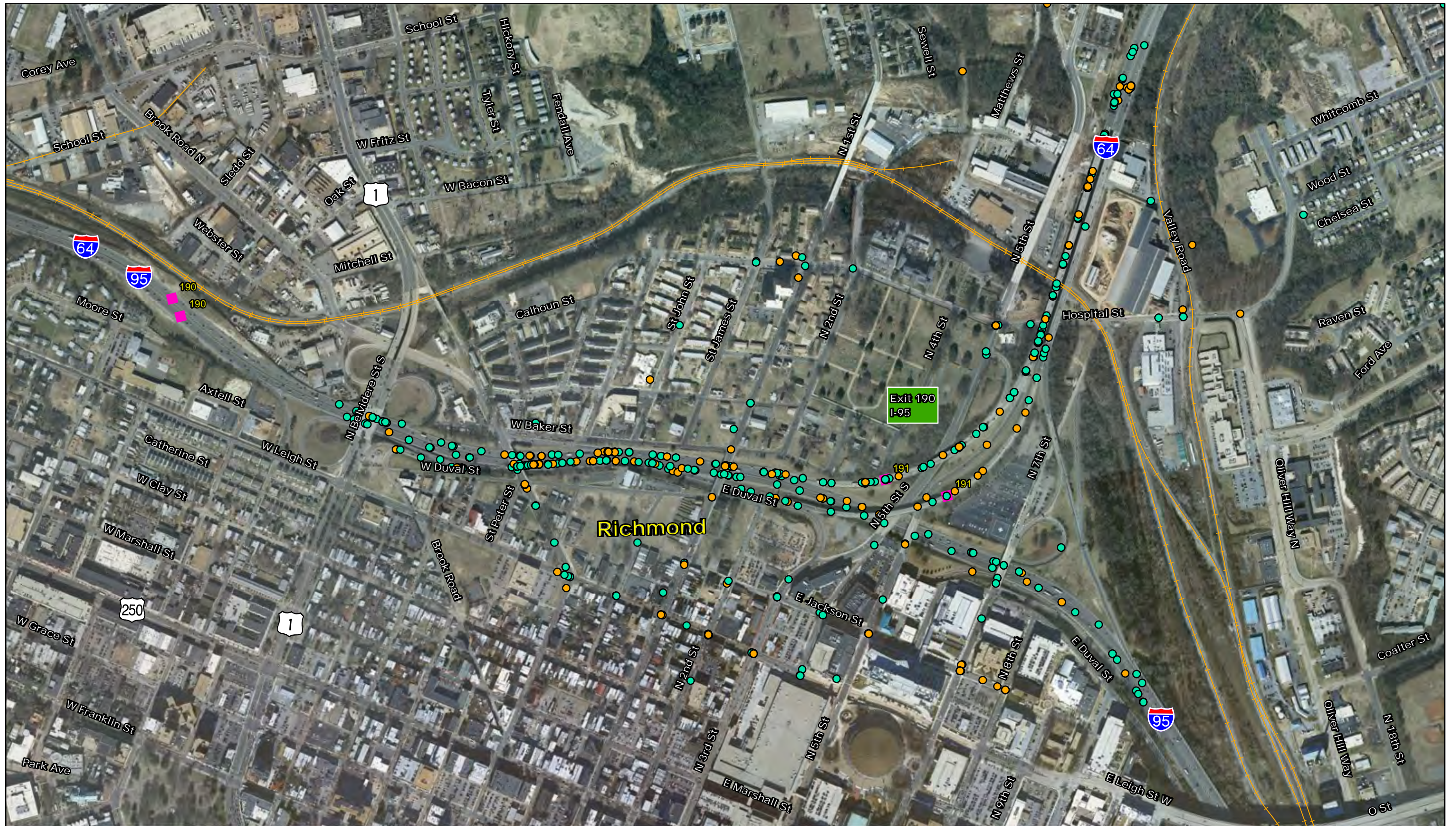
INTERSTATE 64 PENINSULA STUDY



Crash Diagrams

APPENDIX





Crash Locations 2008 - 2010

Sheet 1 of 43

Jurisdiction

Rail

Streams and Waterbodies

Mileposts

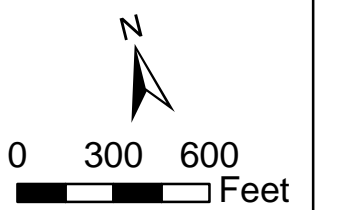
Fatal Crash

Injury Crash

Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

Sheet 2 of 43

Jurisdiction

Rail

Streams and Waterbodies

Mileposts

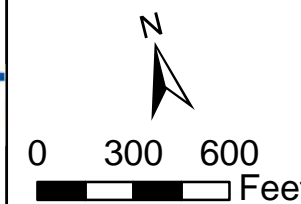
Fatal Crash

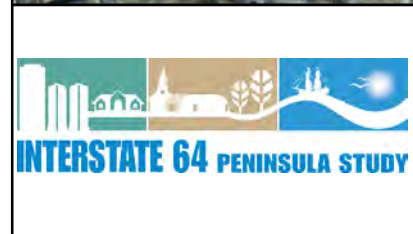
Injury Crash

Property Damage Only

Notes:

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Crash Locations 2008 - 2010

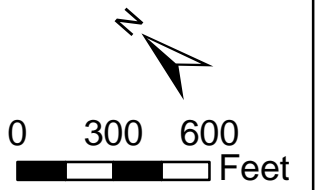
Sheet 3 of 43

- Jurisdiction
- Streams and Waterbodies
- Rail

- Fatal Crash
- Injury Crash
- Property Damage Only
- Mileposts

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

Sheet 4 of 43

Jurisdiction

Rail

Streams and Waterbodies

Mileposts

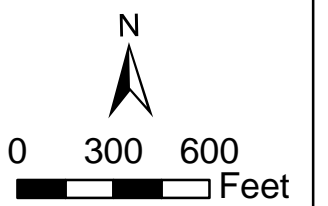
Fatal Crash

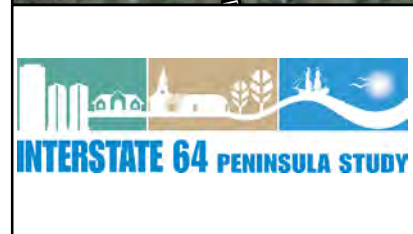
Injury Crash

Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.

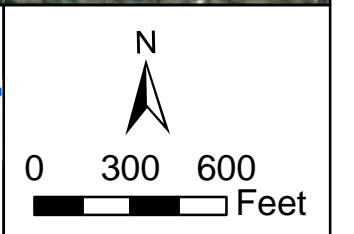


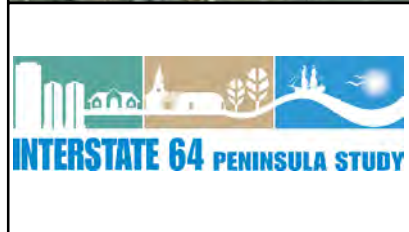


Crash Locations 2008 - 2010
 Sheet 5 of 43

Jurisdiction	Streams and Waterbodies	Fatal Crash
Rail	Mileposts	Injury Crash
		Property Damage Only

Notes:
 Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

Sheet 6 of 43

Jurisdiction

Rail

Streams and Waterbodies

Mileposts

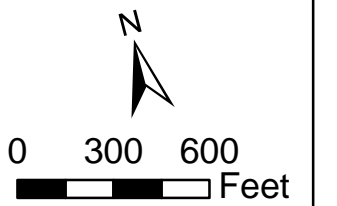
Fatal Crash

Injury Crash

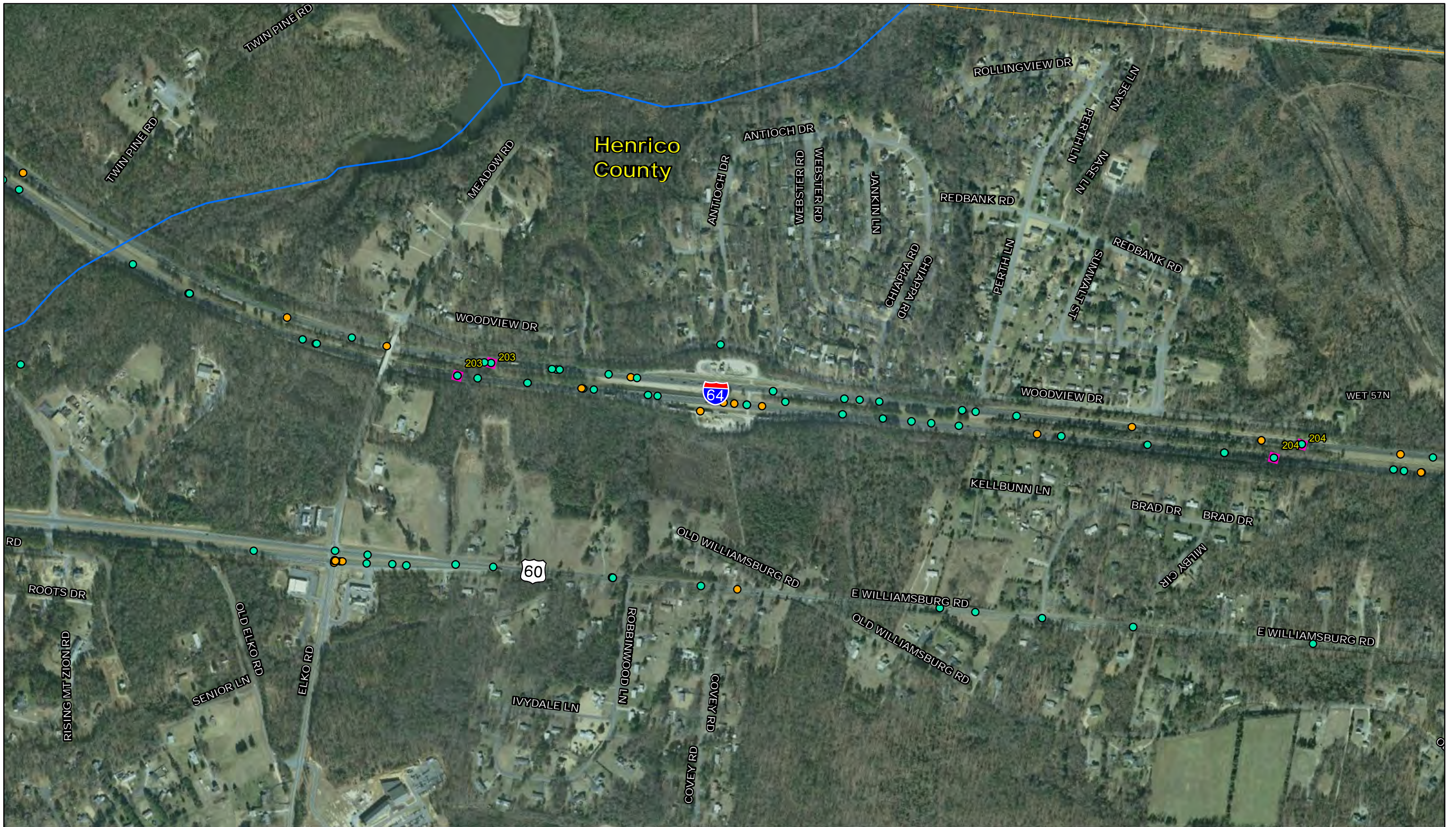
Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.







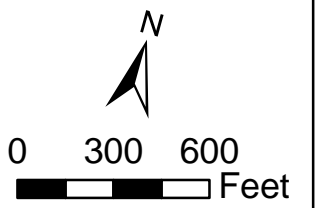
Crash Locations 2008 - 2010

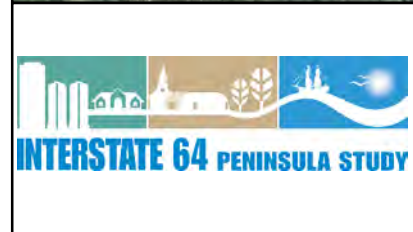
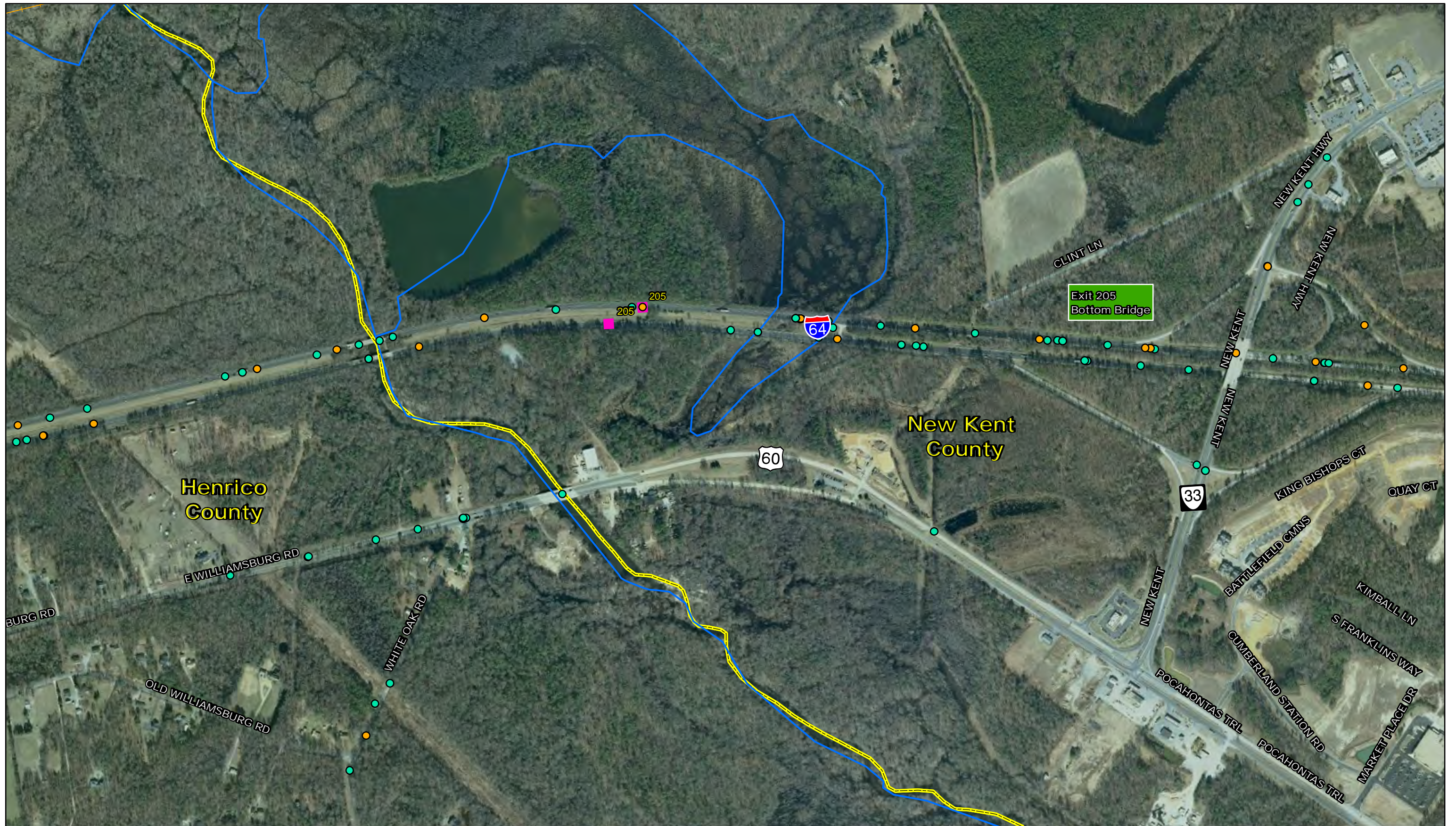
Sheet 8 of 43

- Jurisdiction
- Streams and Waterbodies
- Fatal Crash
- Injury Crash
- Mileposts
- Property Damage Only
- Rail

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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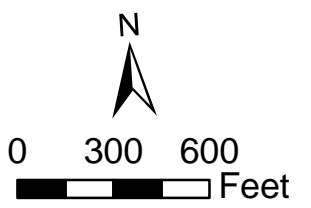
- Jurisdiction
- Rail

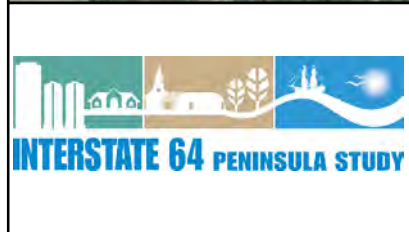
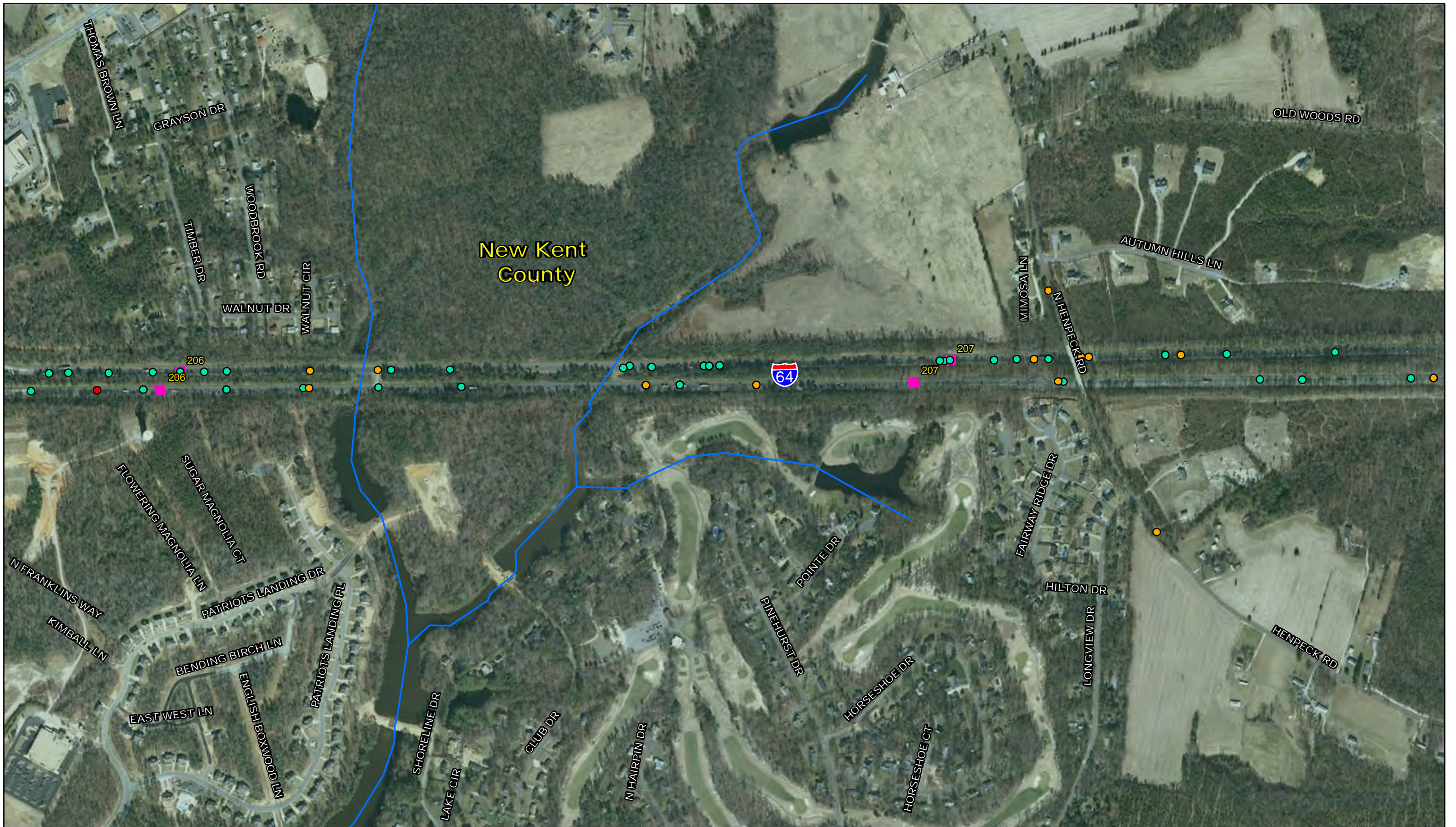
- Streams and Waterbodies
- Mileposts

- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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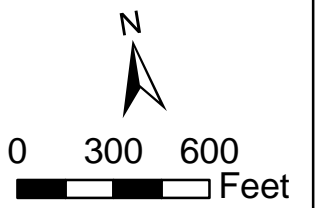
- Jurisdiction
- Rail

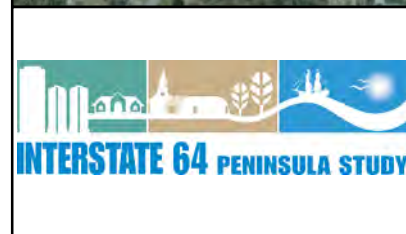
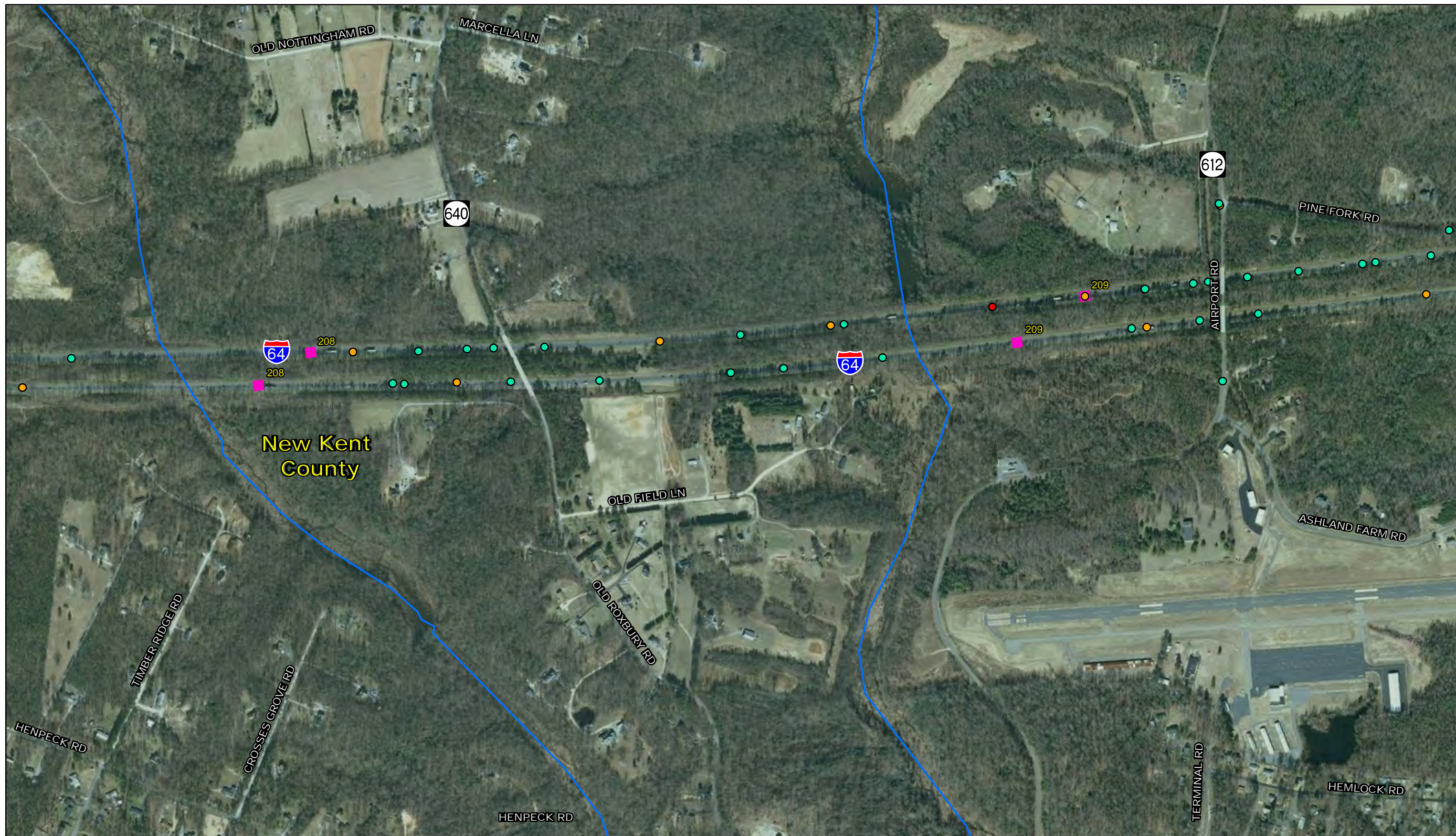
- Streams and Waterbodies
- Mileposts

- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

Sheet 11 of 43

Jurisdiction

Rail

Streams and Waterbodies

Mileposts

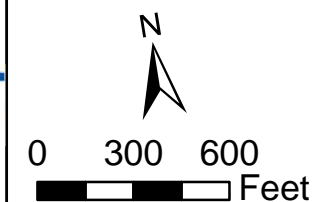
Fatal Crash

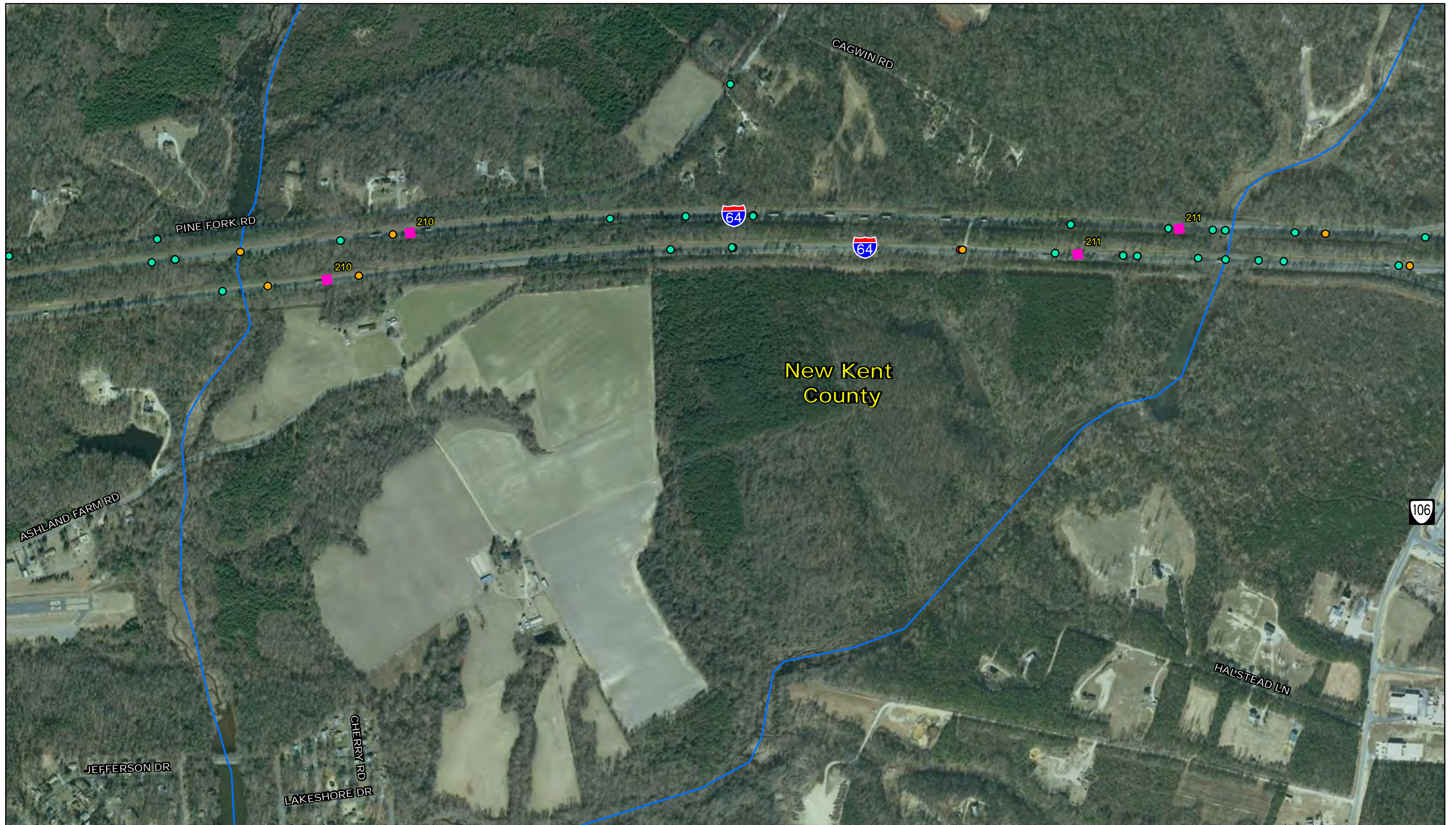
Injury Crash

Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.







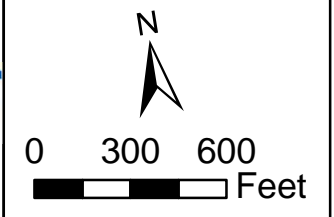
Crash Locations 2008 - 2010

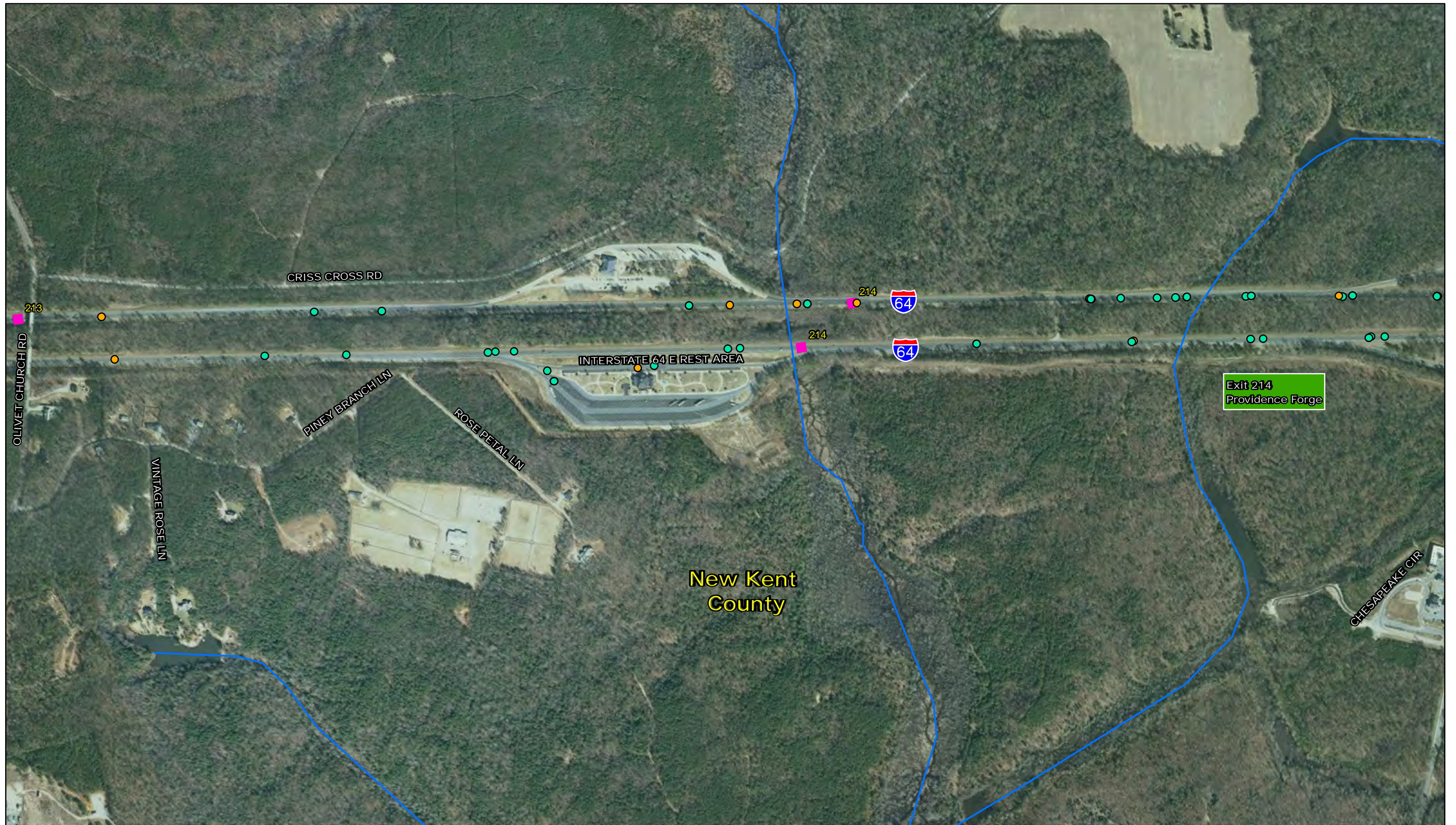
Sheet 13 of 43

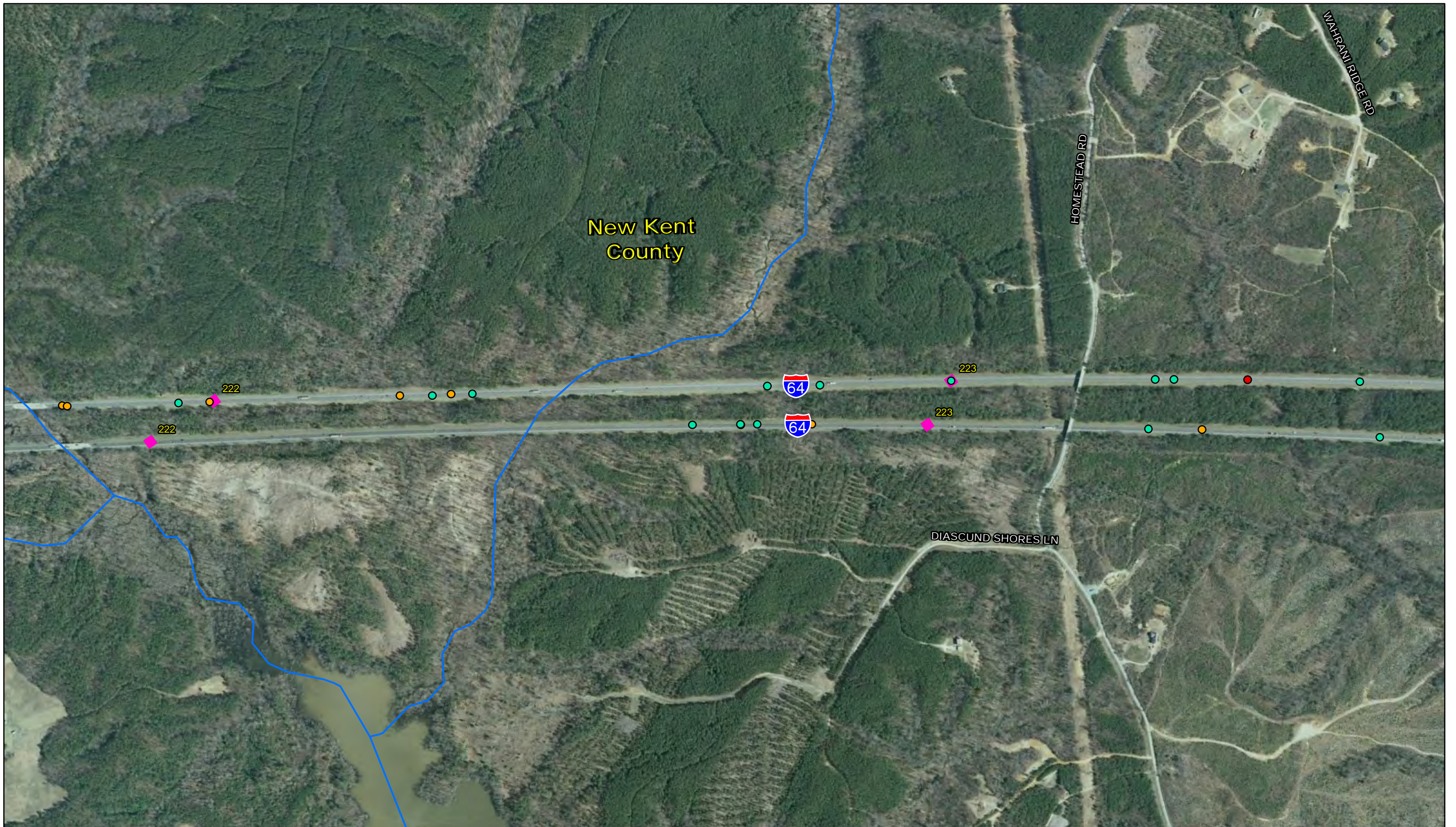
- Streams and Waterbodies
- Jurisdiction
- Rail
- Mileposts
- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.







Crash Locations 2008 - 2010

Sheet 19 of 43

Jurisdiction

Rail

Streams and Waterbodies

Mileposts

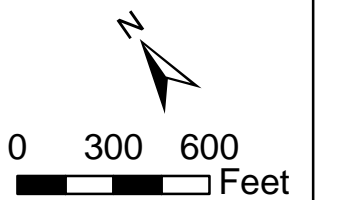
Fatal Crash

Injury Crash

Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





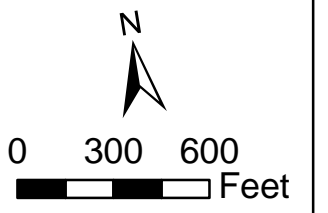
Crash Locations 2008 - 2010

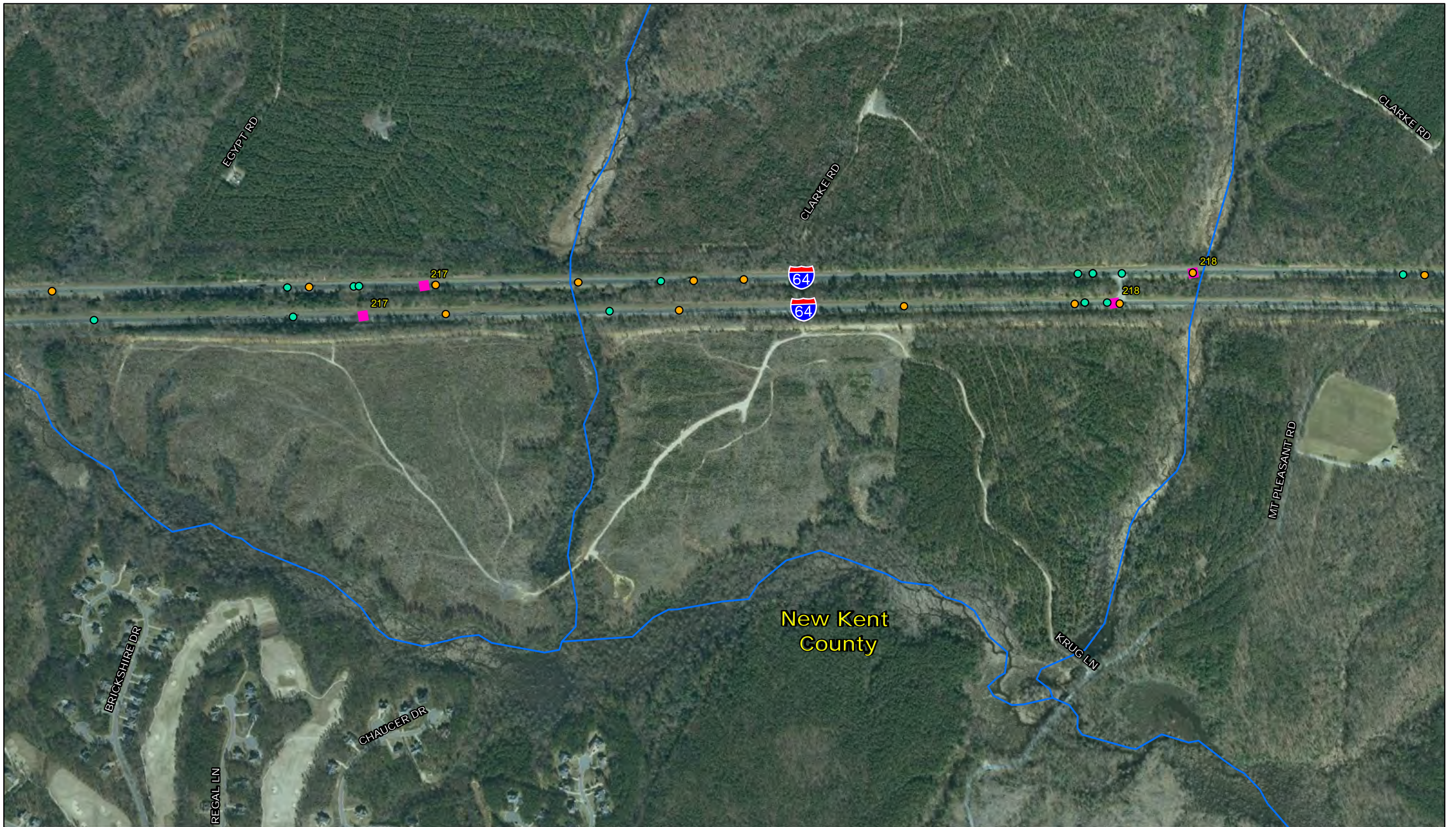
Sheet 15 of 43

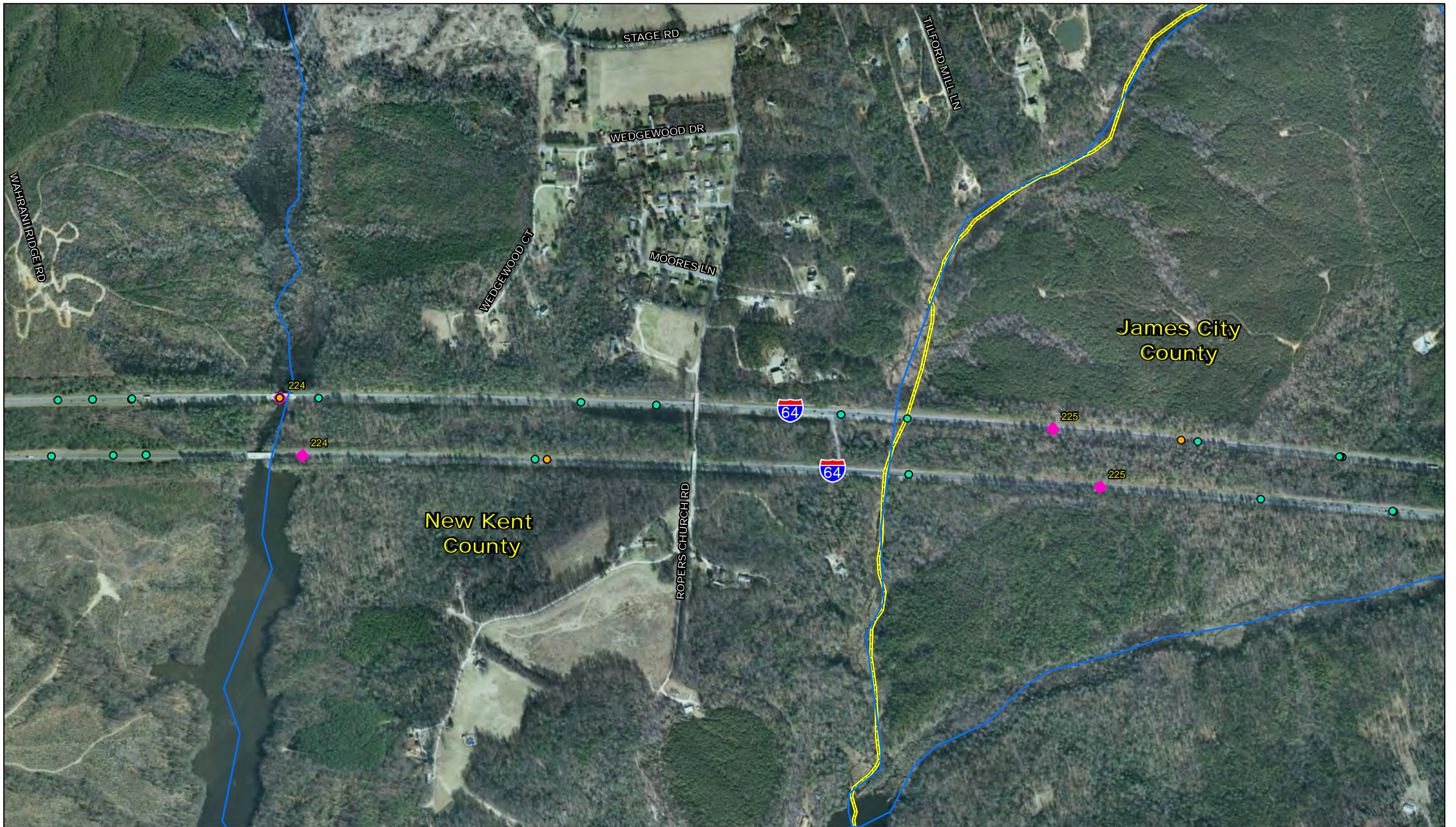
- Jurisdiction
- Streams and Waterbodies
- Fatal Crash
- Injury Crash
- Mileposts
- Property Damage Only
- Rail

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.







Crash Locations 2008 - 2010

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Jurisdiction

Rail

Streams and Waterbodies

Mileposts

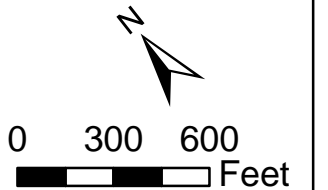
Fatal Crash

Injury Crash

Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





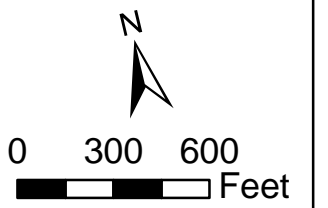
Crash Locations 2008 - 2010

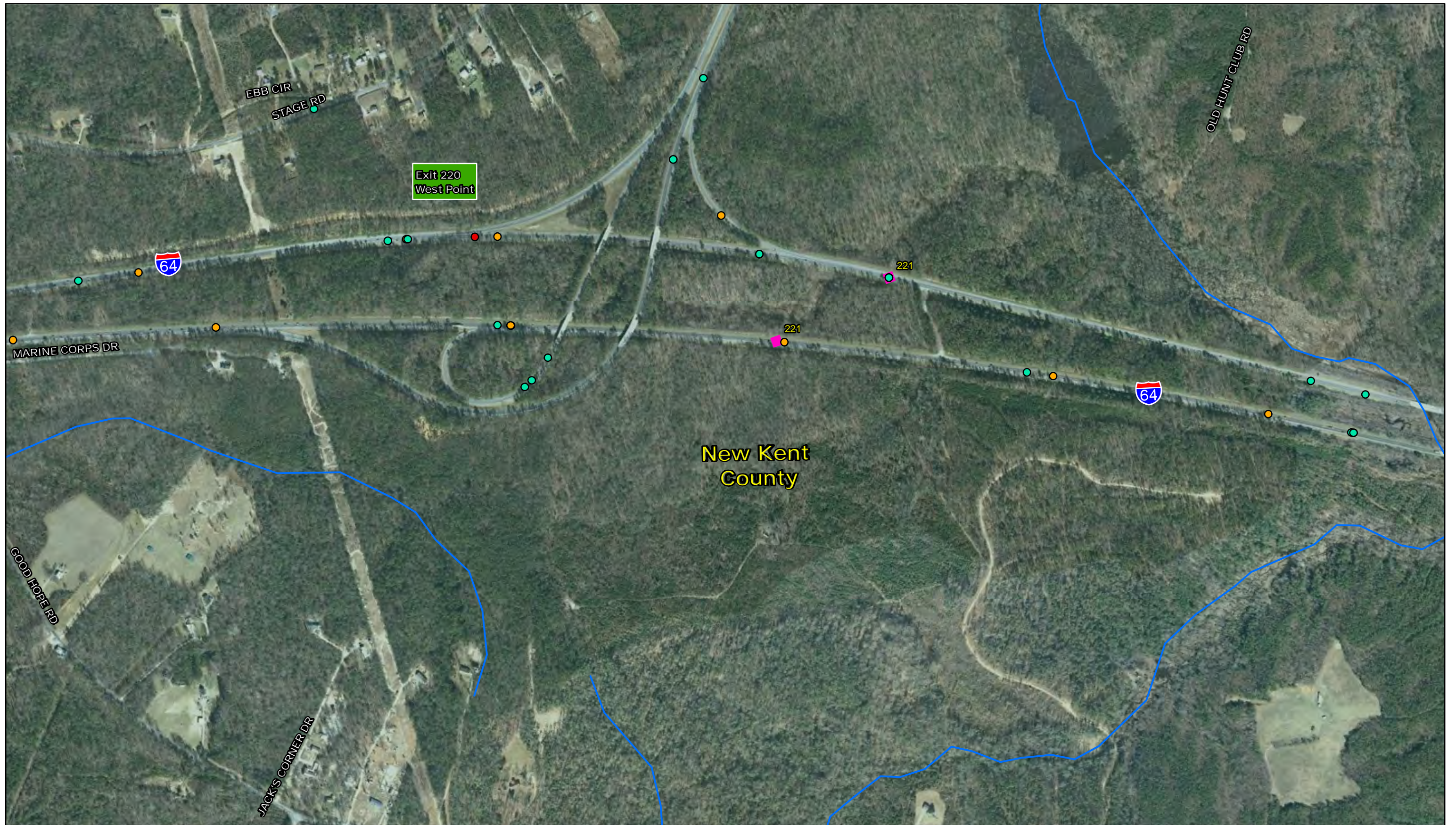
Sheet 17 of 43

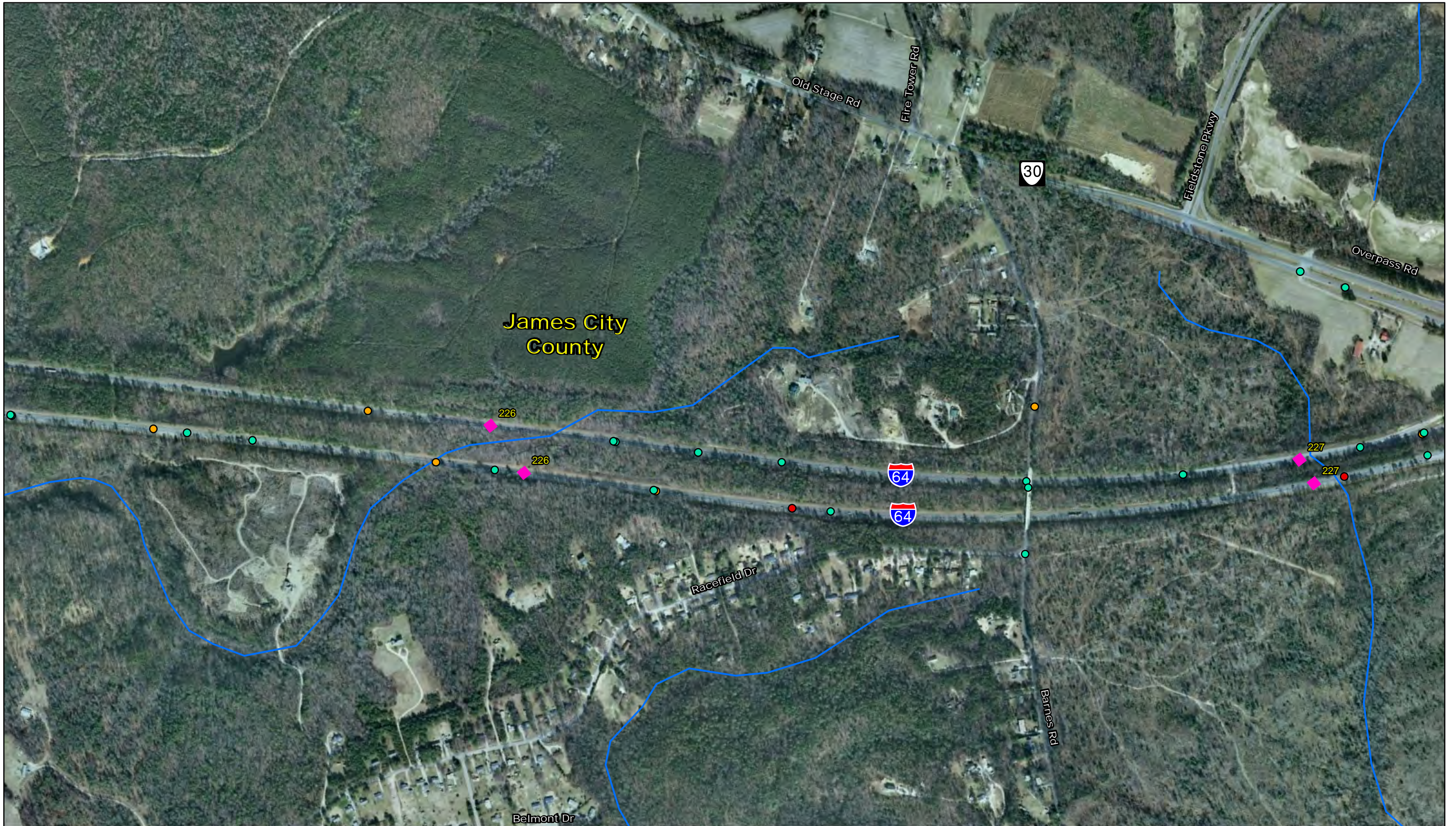
- Streams and Waterbodies
- Jurisdiction
- Rail
- Fatal Crash
- Injury Crash
- Property Damage Only
- Mileposts

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.







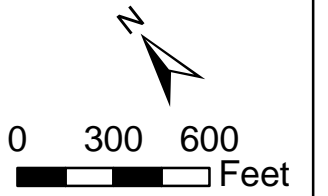
Crash Locations 2008 - 2010

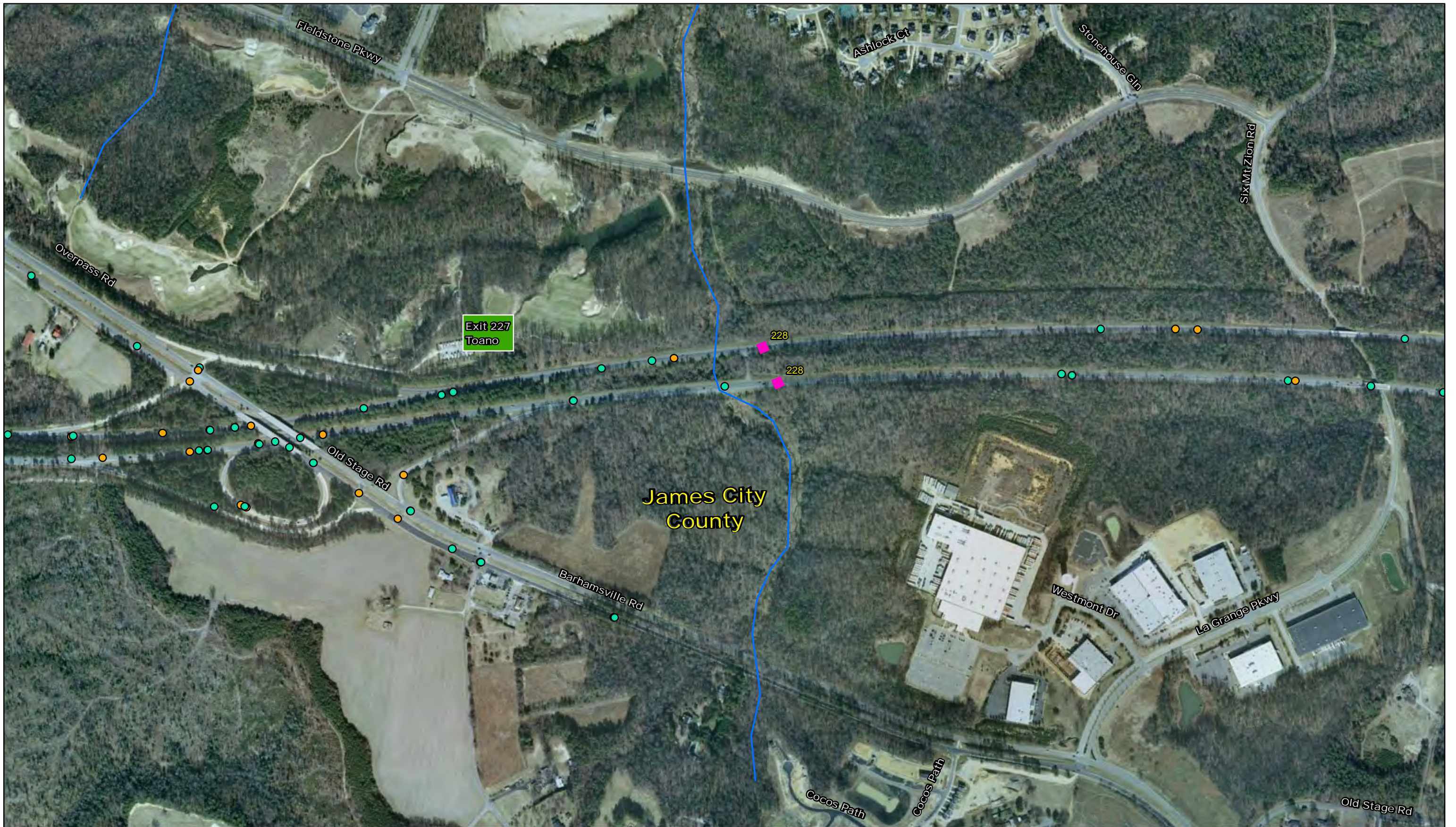
Sheet 21 of 43

- Jurisdiction
- Streams and Waterbodies
- Mileposts
- Fatal Crash
- Injury Crash
- Property Damage Only
- Rail

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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Jurisdiction

Rail

Streams and Waterbodies

Mileposts

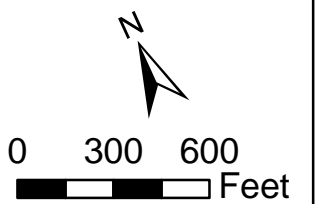
Fatal Crash

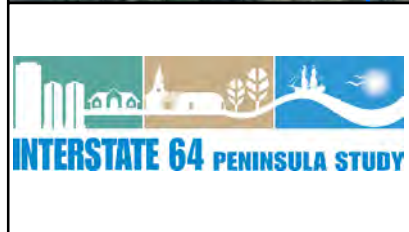
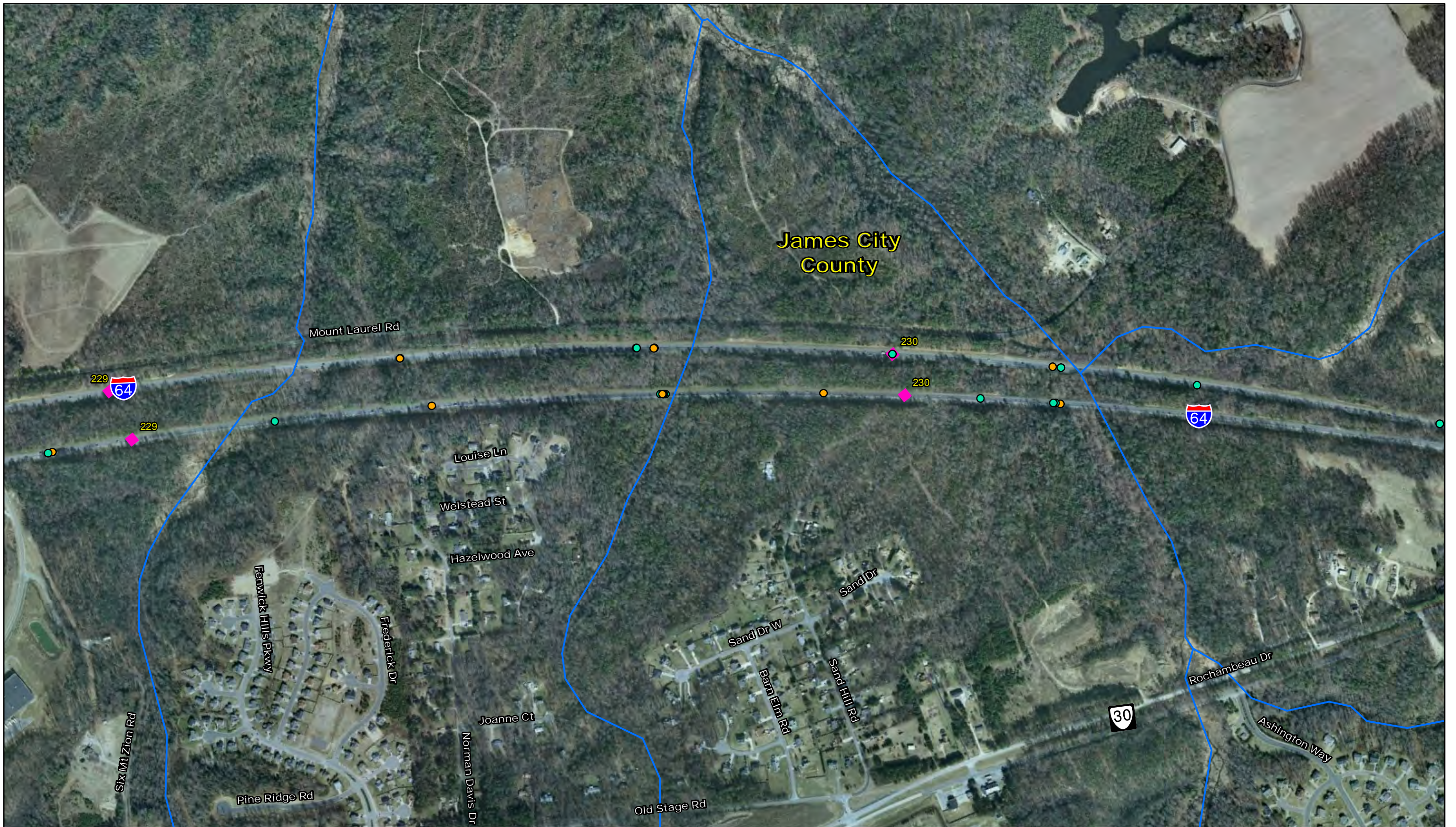
Injury Crash

Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





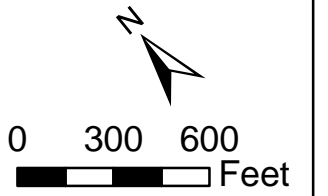
Crash Locations 2008 - 2010

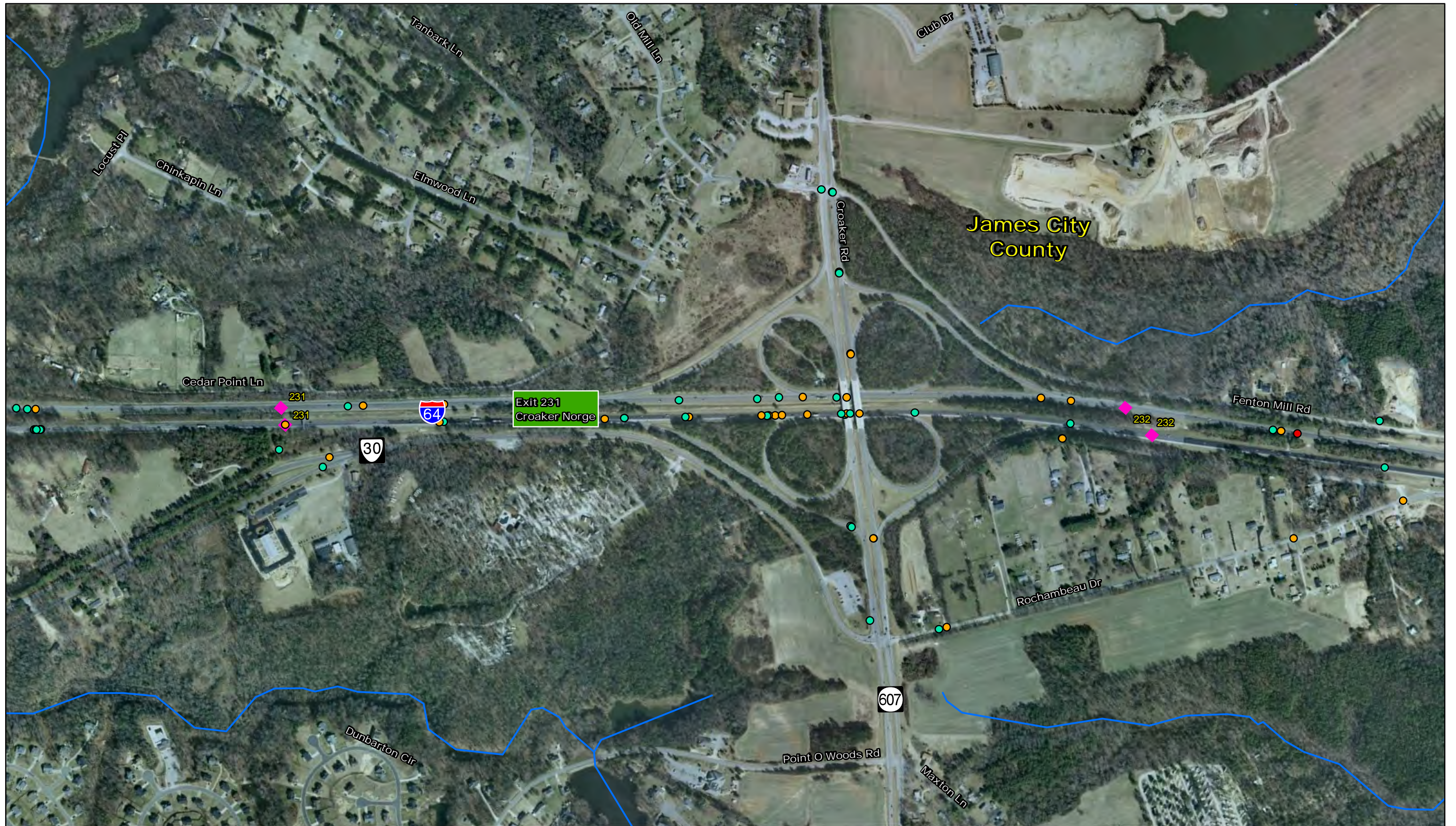
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- Streams and Waterbodies
- Jurisdiction
- Mileposts
- Rail
- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:



Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.










Crash Locations 2008 - 2010

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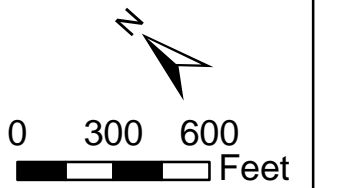
-  Jurisdiction
-  Rail

-  Streams and Waterbodies
-  Mileposts

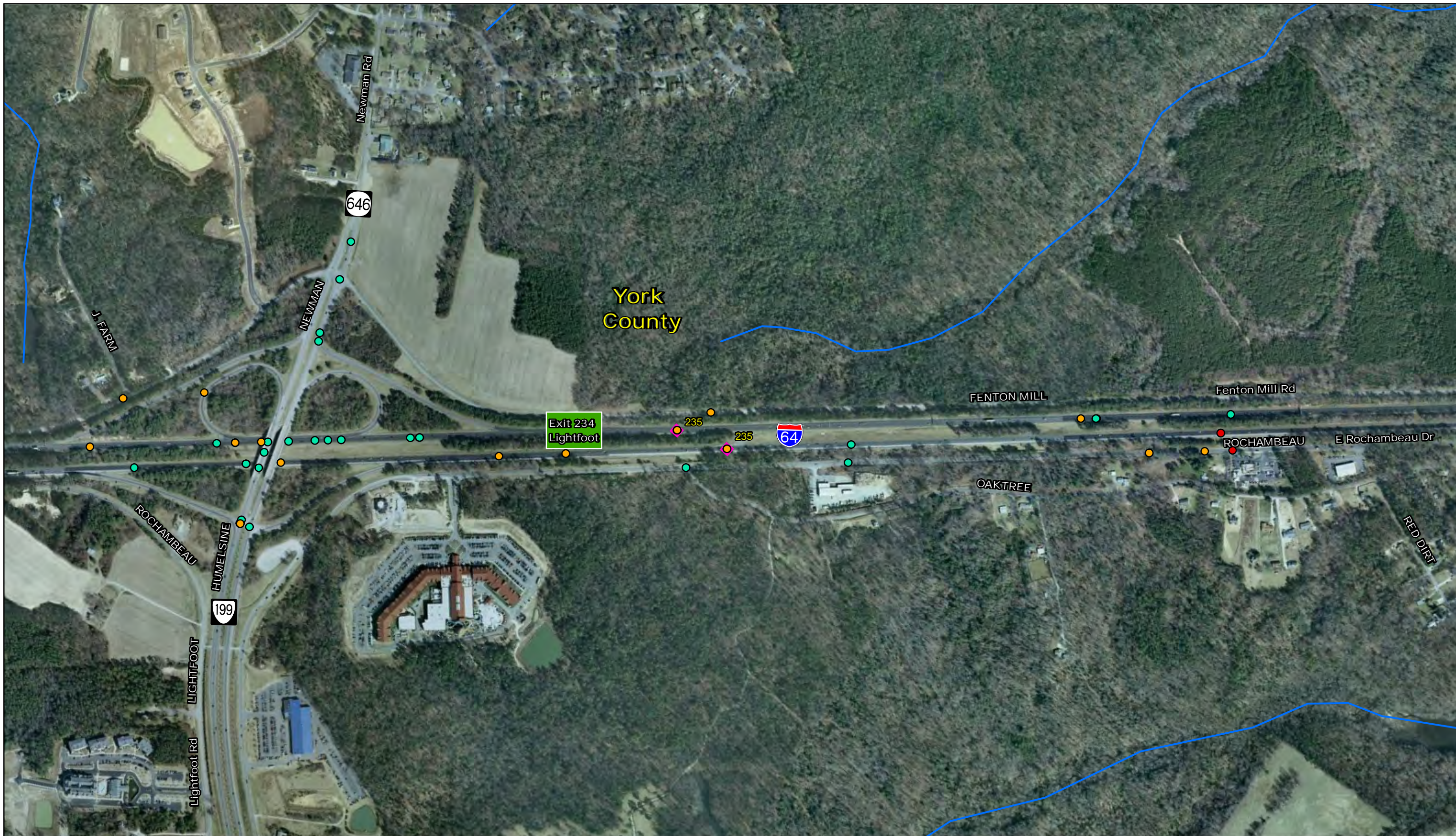
-  Fatal Crash
-  Injury Crash
-  Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.







Crash Locations 2008 - 2010

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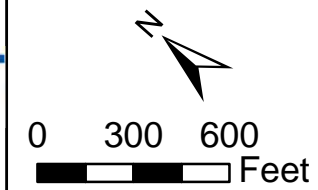
- Jurisdiction
- Rail

- Streams and Waterbodies
- Mileposts

- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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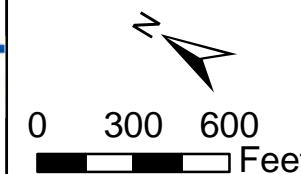
- Jurisdiction
- Rail

- Streams and Waterbodies
- Mileposts

- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





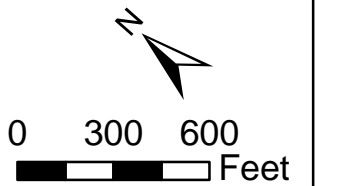
Crash Locations 2008 - 2010

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- Jurisdiction
- Streams and Waterbodies
- Mileposts
- Fatal Crash
- Injury Crash
- Property Damage Only
- Rail

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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Jurisdiction

Rail

Streams and Waterbodies

Mileposts

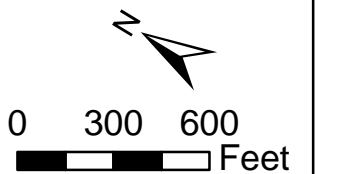
Fatal Crash

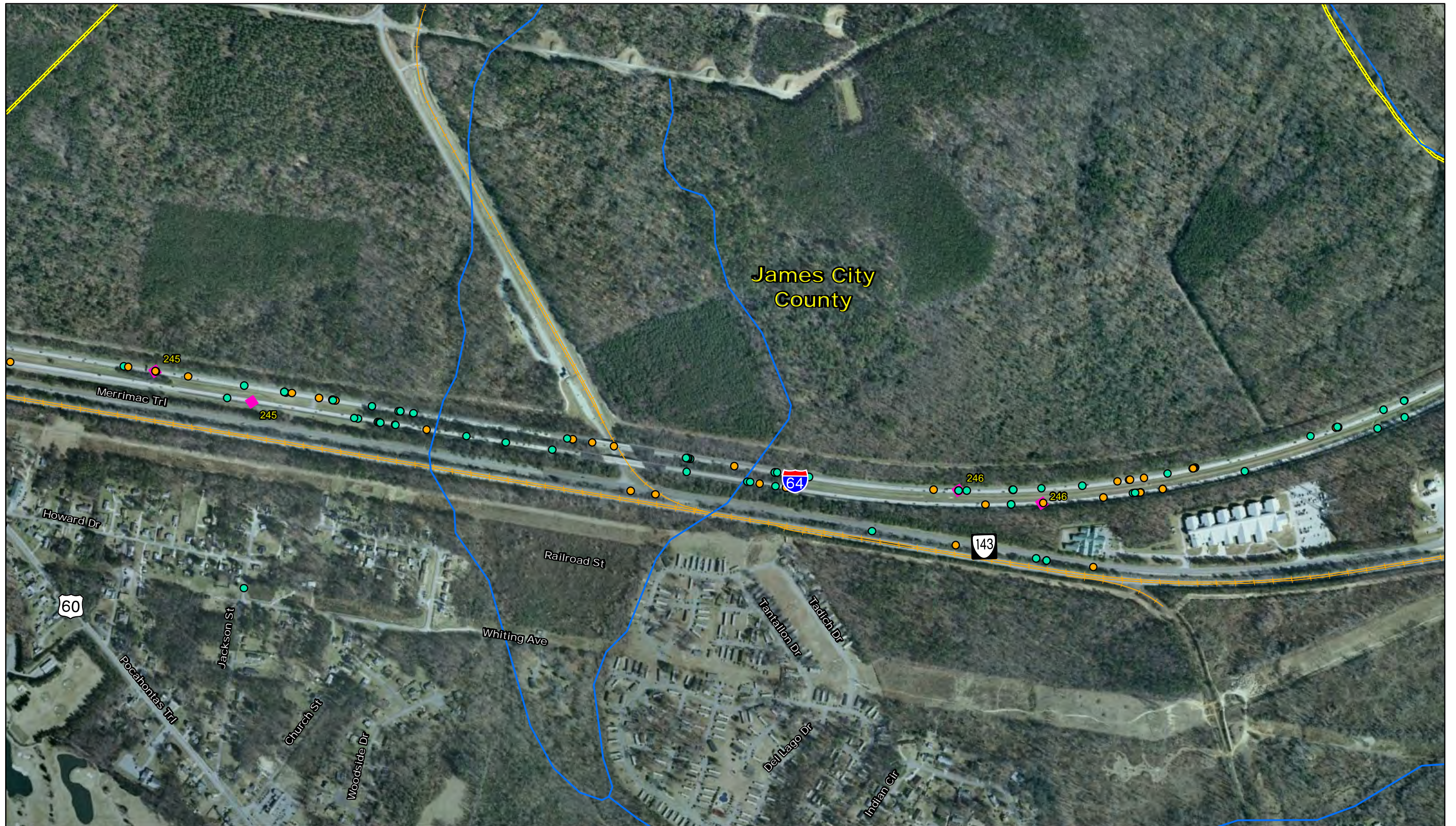
Injury Crash

Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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Jurisdiction

Rail

Streams and Waterbodies

Mileposts

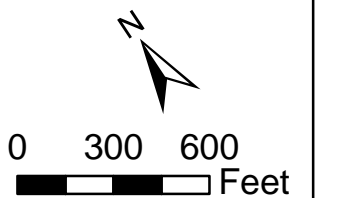
Fatal Crash

Injury Crash

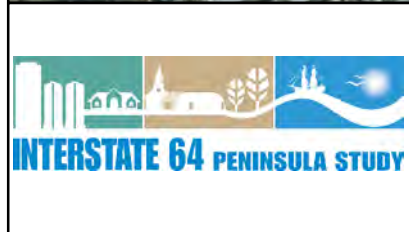
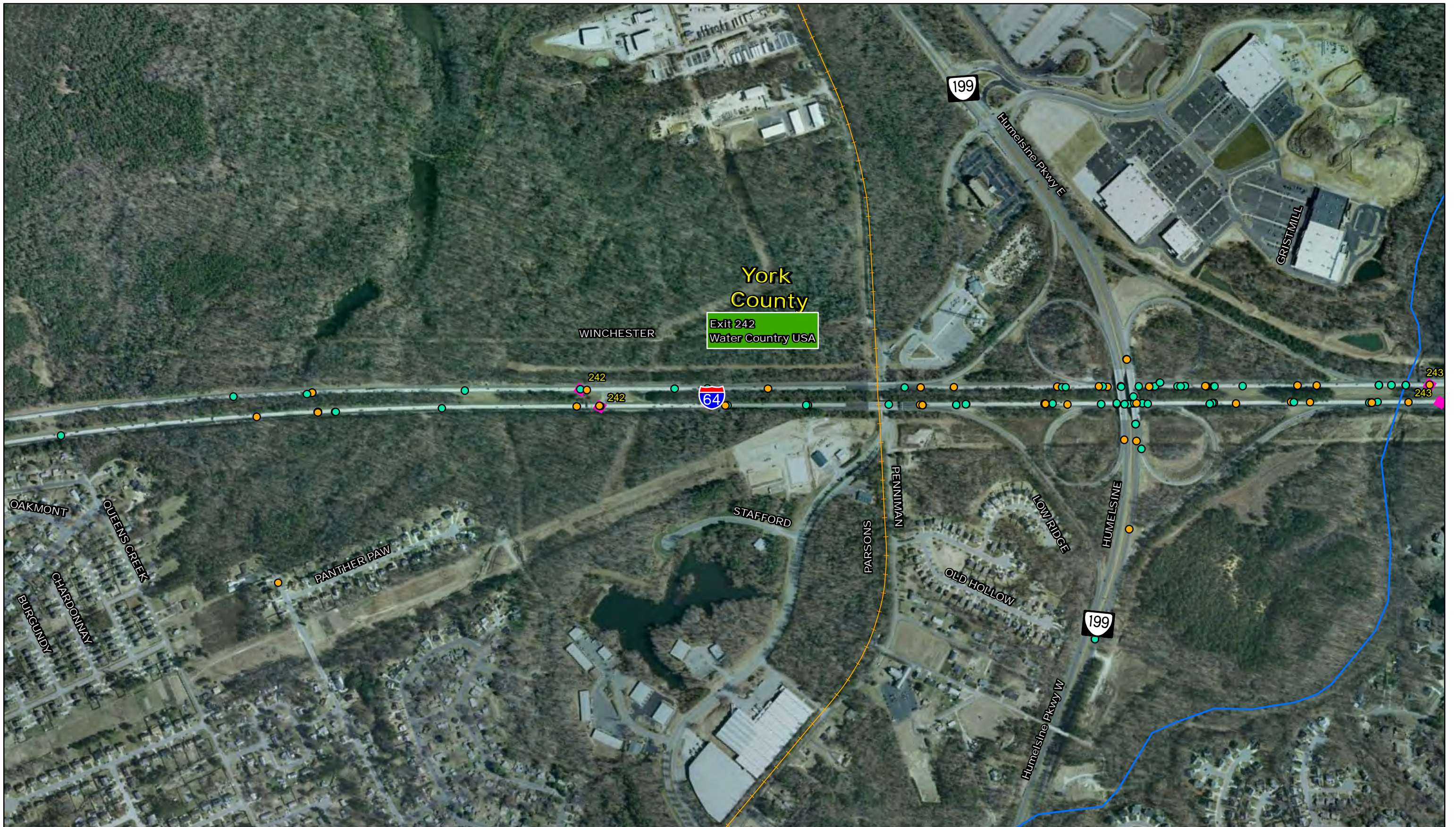
Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.







Crash Locations 2008 - 2010

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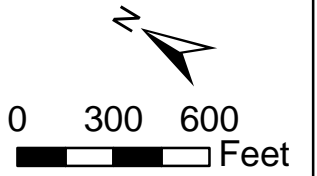
- Jurisdiction
- Rail

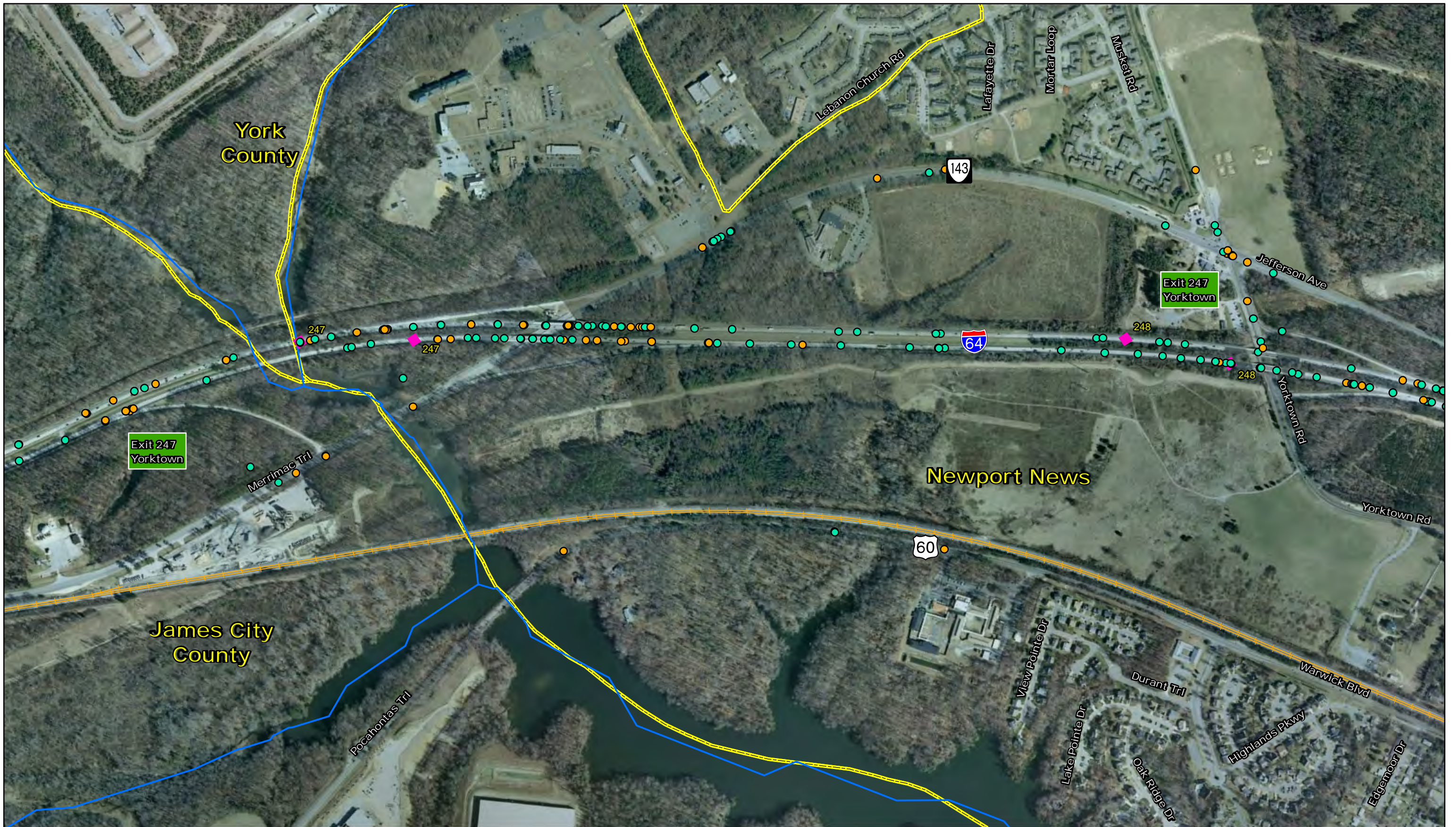
- Streams and Waterbodies
- Mileposts

- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.

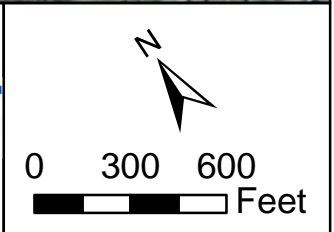


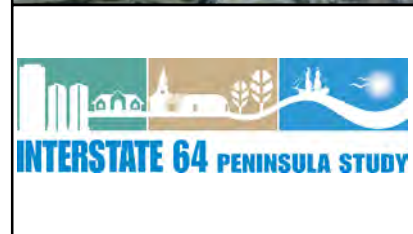


Crash Locations 2008 - 2010
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Streams and Waterbodies	Fatal Crash
Jurisdiction	Injury Crash
Rail	Property Damage Only
Mileposts	

Notes:
 Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.



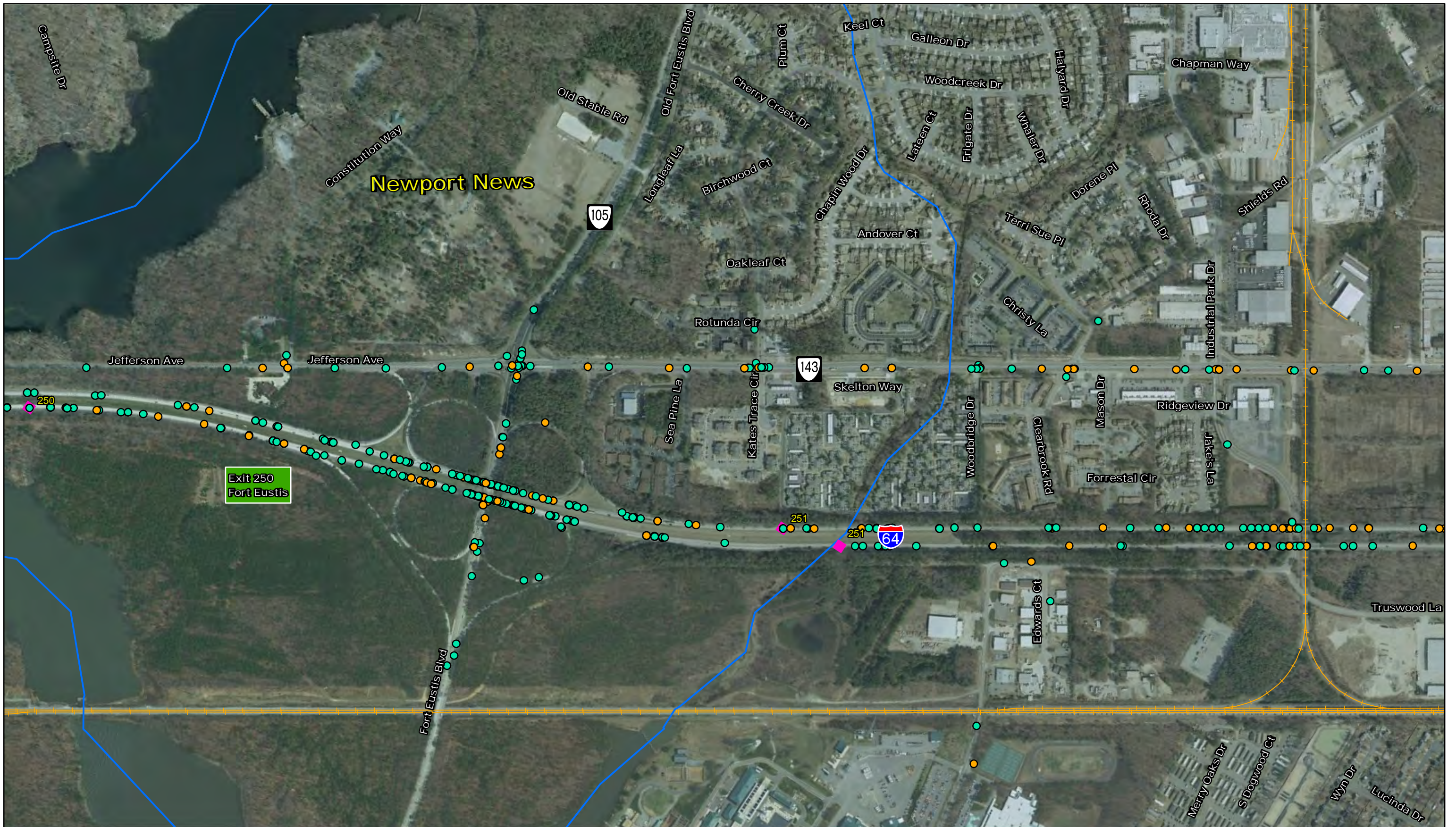


Crash Locations 2008 - 2010
 Sheet 34 of 43

Streams and Waterbodies	Fatal Crash
Jurisdiction	Injury Crash
Rail	Property Damage Only
Mileposts	

Notes:
 Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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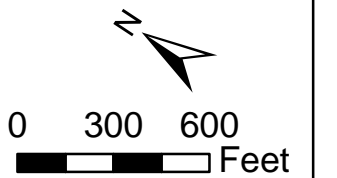
- Jurisdiction
- Rail

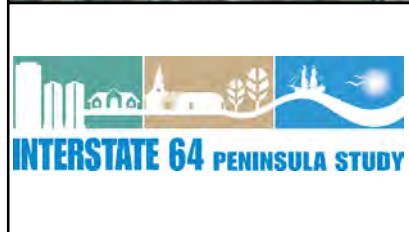
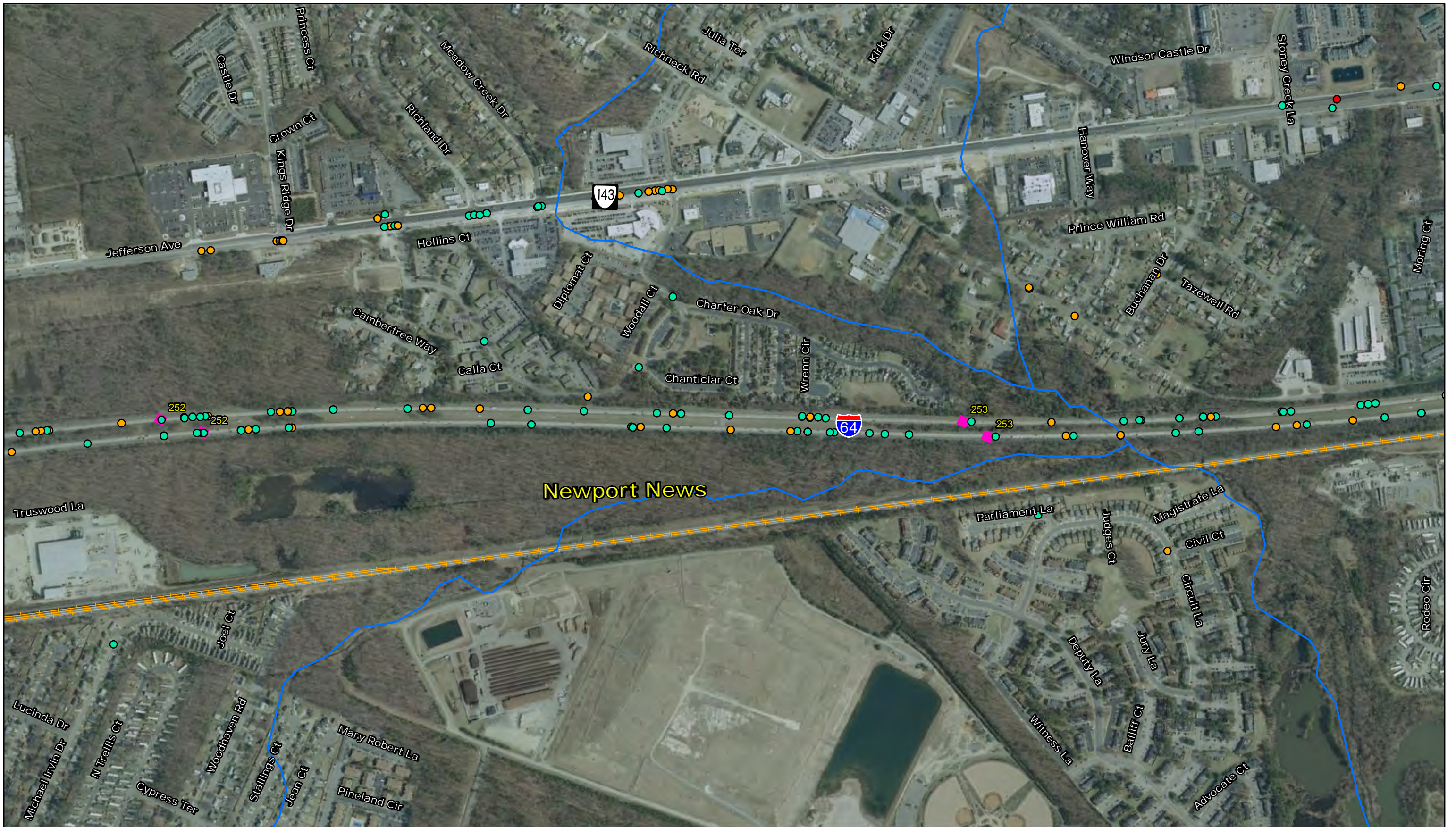
- Streams and Waterbodies
- Mileposts

- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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Jurisdiction

Rail

Streams and Waterbodies

Mileposts

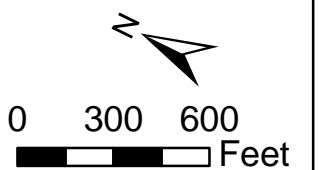
Fatal Crash

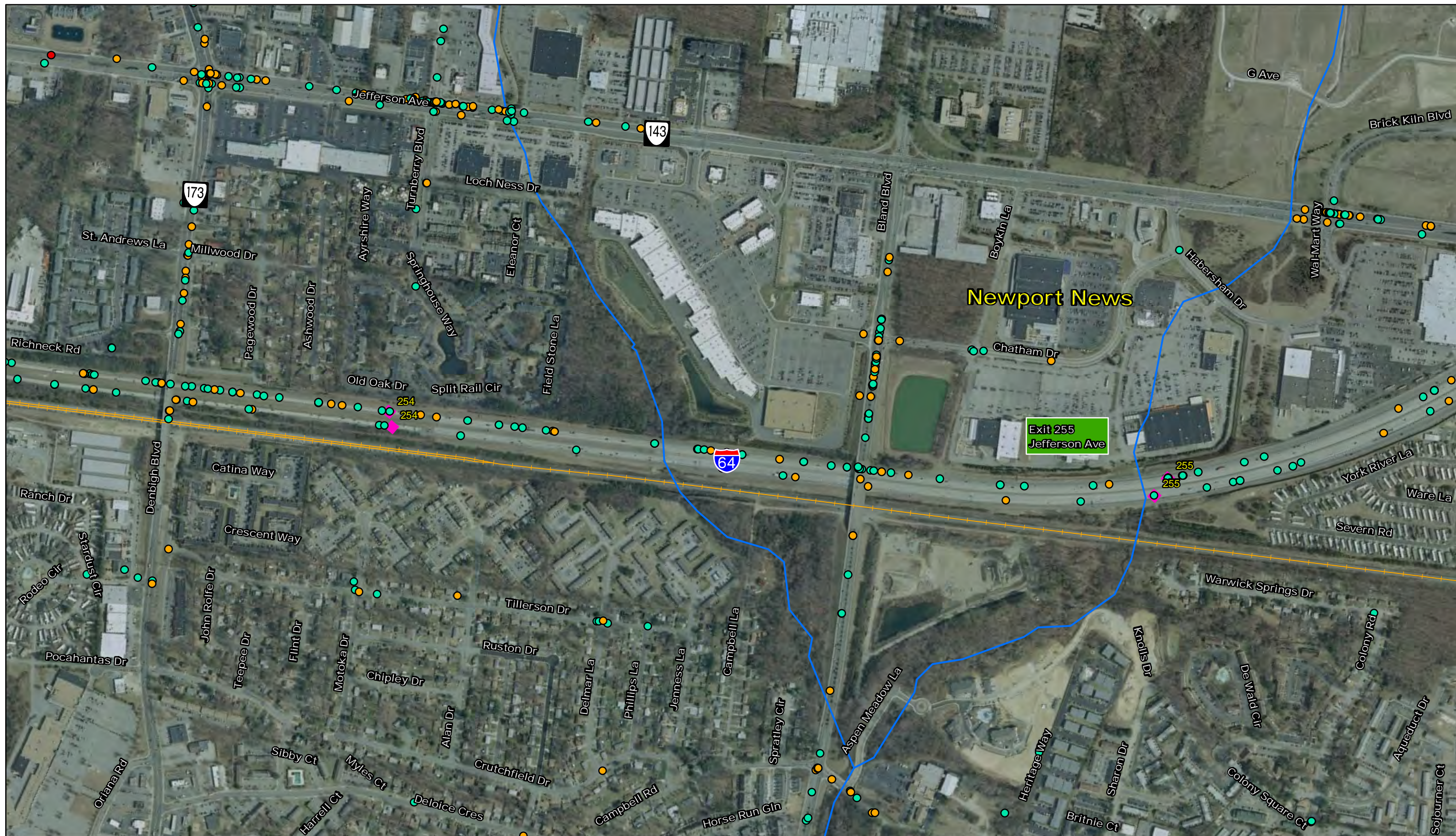
Injury Crash

Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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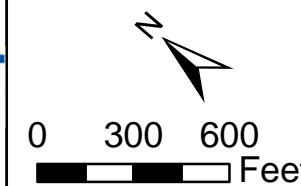
- Jurisdiction
- Rail

- Streams and Waterbodies
- Mileposts

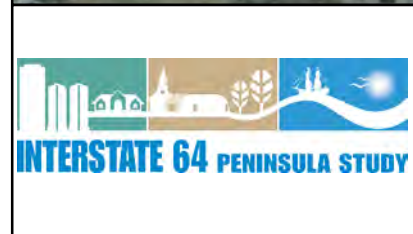
- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:

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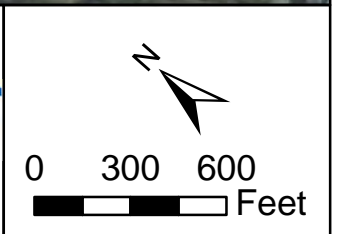


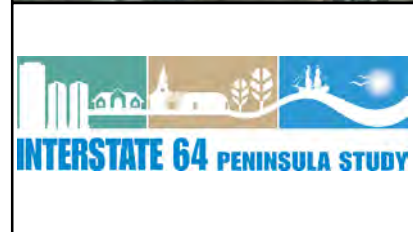


Crash Locations 2008 - 2010
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Streams and Waterbodies	Fatal Crash
Jurisdiction	Injury Crash
Mileposts	Property Damage Only
Rail	

Notes:
 Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





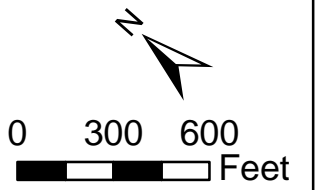
Crash Locations 2008 - 2010

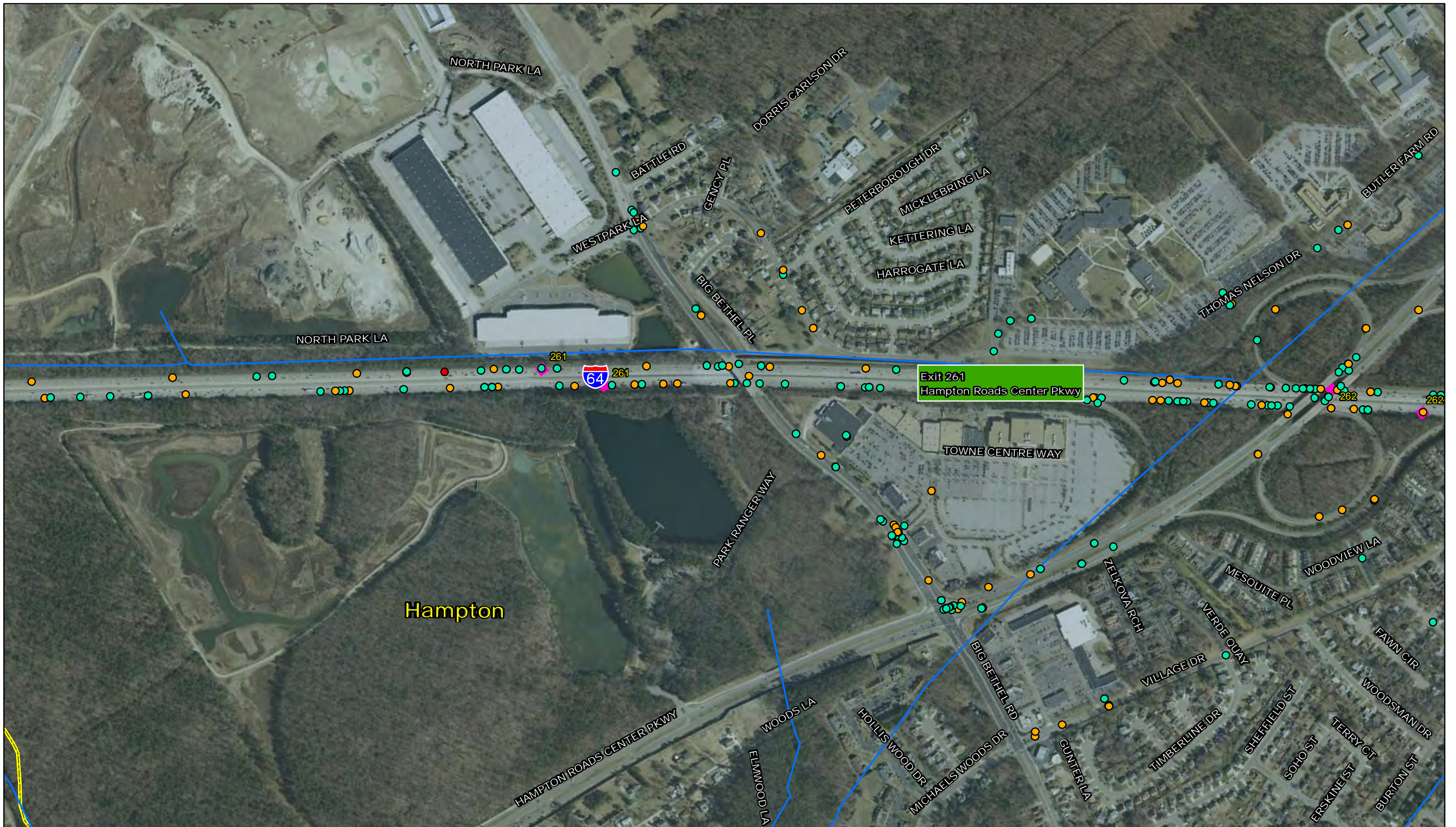
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- Streams and Waterbodies
- Jurisdiction
- Rail
- Fatal Crash
- Injury Crash
- Property Damage Only
- Mileposts

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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— Jurisdiction

— Rail

— Streams and Waterbodies

■ Mileposts

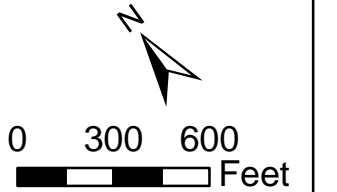
● Fatal Crash

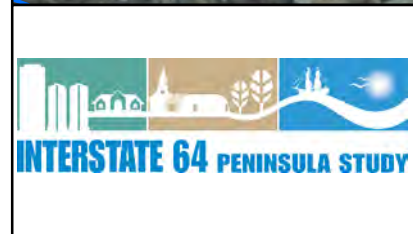
● Injury Crash

● Property Damage Only

Notes:

Crash locations based on available information in statewide databases and do not include crashes not reported to the state system. Mileposts locations are approximate and may not reflect the actual location. The mileposts locations shown were for accident rate calculations purposes only.





Crash Locations 2008 - 2010

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- Jurisdiction
- Streams and Waterbodies
- Mileposts
- Rail

- Fatal Crash
- Injury Crash
- Property Damage Only

Notes:

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