I. NEED AND PURPOSE STATEMENT

A. Project Need

The Atlanta region is one of the fastest growing areas in the United States. No other metro area in the country added more residents - approximately 890,000 - from 2000 to 2006, according to the latest US Census Bureau city rankings. The Atlanta Regional Commission (ARC) estimates that the population in its 20-county transportation planning area will grow from 4.3 million in 2000 to 7.4 million in 2030. ARC forecasts a more than 50 percent increase in the levels of peak period vehicle miles traveled (VMT) and vehicle hours traveled between 2005 and 2030. During this same period, roadway capacity is planned to increase by less than 25 percent.

Gwinnett County has been one of the fastest growing counties in the nation over the past 20 years in terms of percentage growth in population and employment. That growth trend is expected to continue through year 2030. Gwinnett's population is expected to grow from 720,000 in 2005 to 989,000 in 2030 (37 percent), and employment in the county is expected to grow from 314,000 to 516,000 (64 percent) in that same time period. Gwinnett County's forecasted growth in population is expected to account for approximately nine percent of the 20-county regional total through year 2030. The high population growth is expected to increase demand for travel particularly along the Interstate 85 (I-85) corridor in Gwinnett County, resulting in increased congestion and travel time for motorists.

In response to the population trends, Georgia began developing new ways to manage travel demand on its freeways with the implementation of the High Occupancy Vehicle (HOV) system in metro Atlanta. An HOV lane is a managed lane designated for exclusive use by vehicles with a qualifying number of occupants (currently two or more) and other low emission vehicles such as motorcycles and alternative fuel vehicles. The first HOV lanes opened in Atlanta on December 14, 1994, with 18 lane-miles on Interstate 20 (I-20) from downtown Atlanta to Interstate 285 (I-285). In 1996, 60 additional lane-miles opened on Interstate 75 (I-75) and I-85. Another 24 lane-miles opened on I-85 in Gwinnett County on October 31, 2001. The HOV system has provided a choice for carpoolers and transit patrons to avoid the recurrent traffic congestion on the freeways while also reducing mobile source air pollutants.

Congestion in the HOV Lanes

For some years, the HOV lane system within the Atlanta metropolitan area was successful in decreasing trip times and improving travel time reliability. However, traffic volumes in both the general purpose and HOV lanes have increased steadily over the past 15 years, resulting in a 30 percent overall

growth in demand. This growing demand on the travel corridors has begun to reduce the travel time reliability of the existing HOV lanes. Based on I-85 HOV lane traffic data from the Georgia Department of Transportation's (the Department's) Navigator system from 2002 through 2008, the peak directional HOV lane density (calculated as a combination of average speed and volume) increased from 17 vehicles per mile in 2002 to 26 vehicles per mile in 2008. This corresponds to a drop in level of service (LOS)[1], as defined in the *Highway Capacity Manual* by the Transportation Research Board, from LOS B (indicating relatively free flowing conditions) in 2002 to LOS D (indicating conditions approaching capacity when averaged along the corridor) in 2008.

It should be noted that traffic volumes have decreased in recent years as a result of a national downward trend in total VMT due to national economic factors. Nonetheless, traffic conditions on the I-85 corridor do remain congested, especially at key points along the study corridor. Although the corridor peak direction averages LOS C during the AM and PM peak periods, various sections of the I-85 HOV lanes are operating near or over capacity (LOS D and E) during the AM peak period.

An evaluation of the metro Atlanta HOV Lane System indicates that there is a need along the I-85 corridor (particularly north of I-285) to re-establish travel time reliability to the corridor. Traffic congestion resulting from high vehicle density has increased travel times through the corridor. As traffic flows approach capacity, the flow becomes unstable, which results in large increases in travel times due to abrupt stop-and-go traffic. This unstable traffic flow can result in a breakdown of traffic conditions that is characterized by a high density of traffic moving at low speed (bumper-to-bumper traffic). Because of the unstable nature of the traffic flow, the exact onset, severity, and frequency of the congested conditions are difficult to predict. Therefore, people must allow extra time for travel during more congested conditions to be sure they will arrive at their destinations on time. This additional "buffer time" is a measure of the reliability of traffic flow. Based on freeway travel data compiled in the Georgia Regional Transportation Authority's (GRTA's) *2008 Transportation MAP Report*, travelers along the peak directional flow of I-85 must allow an additional 33 to 47 percent of their travel time as a "buffer" to ensure on-time arrival during peak travel periods.

Effects of Congestion on Commuter Buses and Van Pools

Travel time delays in the HOV lane also pose a problem for the commuter bus service and van pools, particularly along the I-85 corridor. I-85 in Gwinnett and DeKalb counties currently accommodates five main express bus routes and approximately 36 van pools. As congestion increases, the trip time

[1] Level of service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream. There are six levels or degrees of LOS consisting of letters 'A' through 'F.' LOS A indicates the most optimal road operating conditions, whereas LOS F signifies the worst operational conditions. LOS A denotes free flow traffic, while LOS F denotes a complete breakdown in traffic flow.

advantages of speed and reliability provided by these transit options are lost. Despite the congestion, ridership along the corridor has increased substantially over the past several years. Increasing passenger demand is created by growing population in northern Gwinnett County. In addition, increasing fuel prices have been correlated to a higher than normal increase in transit ridership. Both of these factors have contributed to the steady increase in ridership over time, which has led to the need for expansion of the existing commuter bus system.

Quantifying Current and Future Congestion

As detailed in the draft 2009 *I-85 HOV to HOT Conversion – Traffic Analysis: I-85 from Chamblee Tucker Road to Old Peachtree Road*, the I-85 conversion project used traffic volume and speed data from several existing data sources. These data sources include traffic counts from other Department projects along the corridor as well as historical information from offices within the Department. Various data sources were researched to help establish existing traffic volumes along the corridor. In order to establish existing traffic volumes and speeds along the corridor, the following sources were of primary importance:

- Atlanta Radial Freeways Project traffic data
- Office of Transportation Data (OTD)
- Traffic Management Center (TMC)
- I-85/State Route 316 (SR 316) Interchange Improvements project flow diagrams
- ARC's TP+ Travel Demand Model
- I-285 Strategic Implementation Plan project flow diagrams

All of the data sources listed above were used to help establish the existing traffic volumes on the I-85 corridor for Existing Year (2008) conditions. Anticipated future growth would result in increased congestion and poor LOS in the HOV lanes. Based on growth rates obtained from the 2030 ARC travel demand model, traffic volumes in the HOV lanes are predicted to increase by 53 percent from Existing Year (2008) to Design Year (2031) conditions. If there were no changes to the current operating conditions of the managed lane, such growth would result in failure conditions in the HOV lane prior to Design Year (2031). Failure conditions are when the lane is expected to exceed the effective capacity of the managed lane (1400 vehicles per hour). The analysis indicates that the failure would occur much sooner than 2031. Failure of the existing HOV lane is anticipated within the next three years (2012).

Traffic Volumes

The future traffic volumes were projected by evaluating historical traffic data and ARC travel demand model growth information to select an annual growth rate. For the Build (described in Section II) condition, the traffic effects of implementing the preferred alternative were also taken into account.[2] The preliminary design decisions for this alternative, such as type of separation used, also affect the future traffic volume projections.

Overall, the Build condition is not expected to add lane capacity to the study corridor. Instead, the project would change the operations of the existing managed lane. Because additional capacity is not being added to the roadway network, the proposed project is not expected to result in the attraction of new trips to the study corridor. Although individual vehicles may shift from the managed lane to the general purpose lanes or vice versa, the overall traffic volume across both lane types is expected to remain consistent. Therefore, the total volumes (the combined volumes of the managed lane and general purpose lanes) were kept equal between the No Build and Build conditions.

Detailed Existing Year (2008) and Design Year (2031) traffic data for the study corridor are provided in Table I-1 for annual average daily traffic (AADT) volumes, in Table I-2 for AM peak hour volumes, and in Table I-3 for PM peak hour volumes. As the total (managed lane and general purpose lanes together) volumes are the same in the No Build and Build conditions, the 2031 traffic volumes included in these tables are representative of both design year alternatives. More detailed traffic volumes for the managed lane and general purpose lanes are available on the approved flow diagrams for the draft 2009 *I-85 HOV to HOT Conversion – Traffic Analysis: I-85 from Chamblee Tucker Road to Old Peachtree Road* report.

Table I-1
Summary of I-85 AADT Traffic Volumes

Location	2008 (vpd)			2031 (vpd)		
	NB	SB	Total	NB	SB	Total
South of Chamblee Tucker Road	108,650	114,660	223,310	126,765	133,990	260,755
Chamblee Tucker Road to I-285	114,540	118,550	233,090	133,495	138,485	271,980
I-285 to Jimmy Carter Blvd	135,935	153,050	288,985	157,915	178,600	336,515
Jimmy Carter Blvd to Beaver Ruin Road	141,780	150,520	292,300	165,185	175,440	340,625
Beaver Ruin Road to SR 316	140,120	150,440	290,560	163,380	175,260	338,640
SR 316 to Old Peachtree Road	79,550	79,310	158,860	93,250	92,775	186,025
North of Old Peachtree Road	79,050	81,090	160,140	92,655	94,810	187,465

Notes: vpd = vehicles per day
Total volumes include managed lane and several general purpose lanes.

[2] The preferred alternative is presented in detail in Section II.E of this document.

Table I-2
Summary of I-85 AM Peak Hour Traffic Volumes

Location	2008 (vph)			2031 (vph)		
	NB	SB	Total	NB	SB	Total
South of Chamblee Tucker Road	6,045	10,735	16,780	6,990	12,765	19,755
Chamblee Tucker Road to I-285	6,060	10,810	16,870	7,005	12,850	19,855
I-285 to Jimmy Carter Blvd	7,380	11,485	18,865	8,530	13,630	22,160
Jimmy Carter Blvd to Beaver Ruin Road	7,460	11,140	18,600	8,640	13,225	21,865
Beaver Ruin Road to SR 316	7,685	10,615	18,300	8,920	12,605	21,525
SR 316 to Old Peachtree Road	3,460	7,010	10,470	4,040	8,310	12,350
North of Old Peachtree Road	3,360	7,135	10,495	3,925	8,455	12,380

Notes: vph = vehicles per hour
Volumes include managed lane and general purpose lanes.

Table I- 3
Summary of I-85 PM Peak Hour Traffic Volumes

Location	2008 (vph)			2031 (vph)		
	NB	SB	Total	NB	SB	Total
South of Chamblee Tucker Road	9,885	6,630	16,515	11,690	7,745	19,435
Chamblee Tucker Road to I-285	10,080	6,830	16,910	11,905	7,980	19,885
I-285 to Jimmy Carter Blvd	10,640	8,185	18,825	12,525	9,545	22,070
Jimmy Carter Blvd to Beaver Ruin Road	11,115	8,195	19,310	13,100	9,550	22,650
Beaver Ruin Road to SR 316	10,735	8,495	19,230	12,675	9,885	22,560
SR 316 to Old Peachtree Road	5,890	4,225	10,115	7,020	4,930	11,950
North of Old Peachtree Road	5,825	4,635	10,460	6,940	5,400	12,340

Notes: vph = vehicles per hour
Volumes include managed lane and general purpose lanes.

Capacity

Increased future demand would exceed the capacity of the entire corridor. Initial traffic modeling from the draft 2009 *Toll Traffic and Revenue Report: I-85 from Chamblee Tucker Road to Old Peachtree Road* indicates that operations of the HOV lanes are expected to fail within the next three years. More specific failure year analysis was performed using traffic information from the draft 2009 *I-85 HOV to HOT Conversion – Traffic Analysis: I-85 from Chamblee Tucker Road to Old Peachtree Road* report.

The maximum traffic flow expected to operate in a managed lane was investigated. This maximum flow can be referred to as an "effective capacity." The National Cooperative Highway Research Program's (NCHRP) *Report 414 HOV Systems Manual* recommends a capacity of 1,400

vehicles per hour per lane (vphpl) for buffer-separated HOV lanes. Researchers have performed further investigation into the effective capacity of existing Atlanta HOV lanes for the Transportation Research Board (TRB) paper in *Analysis of Reduction in Effective Capacities on High-Occupancy-Vehicle Lanes Related to Traffic Behavior*. From study observation, the effective capacity ranged from 1,400 to 1,700 vphpl for existing Atlanta HOV lanes. The draft 2009 *Toll Traffic and Revenue Report: I-85 from Chamblee Tucker Road to Old Peachtree Road* employed ranges based on more conservative flow rates (1,200 to 1,400 vphpl) to preclude overestimating revenues. Based on this research (indicating 1400 vphpl in the NCHRP report and in TRB paper) and coordination with the draft 2009 *Toll Traffic and Revenue Report: I-85 from Chamblee Tucker Road to Old Peachtree Road* report, an effective capacity of 1,400 vphpl was selected for HOV lane operation for the traffic analysis.

The failure year was identified as the year that the traffic volumes in the managed lane would have to be restricted to maintain a high point volume of 1,400 vphpl during the peak periods. Based on the traffic flow diagrams from the draft 2009 *I-85 HOV to HOT Conversion – Traffic Analysis: I-85 from Chamblee Tucker Road to Old Peachtree Road* report, the location of I-85 at SR 140/Jimmy Carter Boulevard was identified as having the highest directional AADT and peak hour traffic volume. Based on the growth rates identified by historical traffic patterns and the ARC travel demand model, this location is expected to exceed 1,400 vphpl by the Year 2012.

Measure of Effectiveness

Because of vehicle interactions at the various ramps and weaving areas along the corridor, more localized areas can experience slower speeds and worse LOS. Detailed operations at these localized areas are described in the draft 2009 *I-85 HOV to HOT Conversion – Traffic Analysis: I-85 from Chamblee Tucker Road to Old Peachtree Road* report. Because this project does not provide additional capacity, peak hour traffic is expected to continue to experience congestion in the general purpose lanes under both No Build and Build conditions. Weaving movements are difficult for vehicles under congested conditions. Therefore, the weaving areas between the managed lane and the adjacent general purpose lanes are expected to continue to experience congestion in both No Build and Build conditions, even though the volumes in the managed lane are reduced in the Build condition.

Additionally, the heavy travel demand in the study corridor causes high peak directional traffic volumes, which result in unstable traffic flows. Unstable traffic flows can result in more congestion and slower speeds on some days. An expected benefit of the preferred alternative is to provide reliable travel times for the managed lanes by minimizing these unstable traffic flows within that lane. As shown in Table I-4, analysis of Existing Year (2008) traffic indicates travelers currently experience an average LOS F in the general purpose lanes for the peak direction of peak hour travel for southbound AM travel

between SR 316 and Jimmy Carter Boulevard and an average LOS E condition for northbound PM travel between Chamblee Tucker Road and Beaver Ruin Road. Southbound AM HOV lane travelers experience average LOS D between SR 316 and Jimmy Carter Boulevard during the AM peak period commute. Based on Table I-4 and field observations, northbound PM HOV travelers currently experience acceptable LOS conditions overall; however, the northbound travelers are expected to experience significant drops in travel speed associated with LOS in the near future (within three years).

Table I-4
Existing Year (2008) Peak Direction LOS

Area of I-85	Level of Service	
	Managed Lane	General Purpose Lanes
AM Peak Hour – Southbound Direction		
Old Peachtree Road to SR 316	A	C
SR 316 to Beaver Ruin Road	D	F
Beaver Ruin Road to Jimmy Carter Blvd	D	F
Jimmy Carter Blvd to I-285	C	E
I- 285 to Chamblee Tucker Road	B	D
PM Peak Hour – Northbound Direction		
Chamblee Tucker Road to I-285	B	E
I-285 to Jimmy Carter Blvd	B	E
Jimmy Carter Blvd to Beaver Ruin Road	C	E
Beaver Ruin Road to SR 316	B	D
SR 316 to Old Peachtree Road	A	B

Notes: Averaged for corridor—some sections (particularly weaving areas) experience lower LOS
LOS based on average speed

For the purposes of this analysis, average speed for the corridor is considered the critical measure of effectiveness. In accordance with 23 United States Code 166 (d) (2) (A), Federal Highway Administration (FHWA), the minimum average operating speed is defined as 45 mph for an HOV facility with a speed limit of 50 mph or greater, and not more than 10 mph below the speed limit for a facility with a speed limit of less than 50 mph. Overall, the study corridor achieves those managed lane speeds in the Existing Year (2008) conditions, with an average corridor speed of 53 mph for the southbound AM and 55 mph for the northbound PM within the managed lane. However, specific areas within the corridor experience slower speeds, as demonstrated in Table I-5 for southbound AM between SR 316 and Jimmy Carter Boulevard.

Table I-5
Existing Year (2008) Peak Direction Average Speed

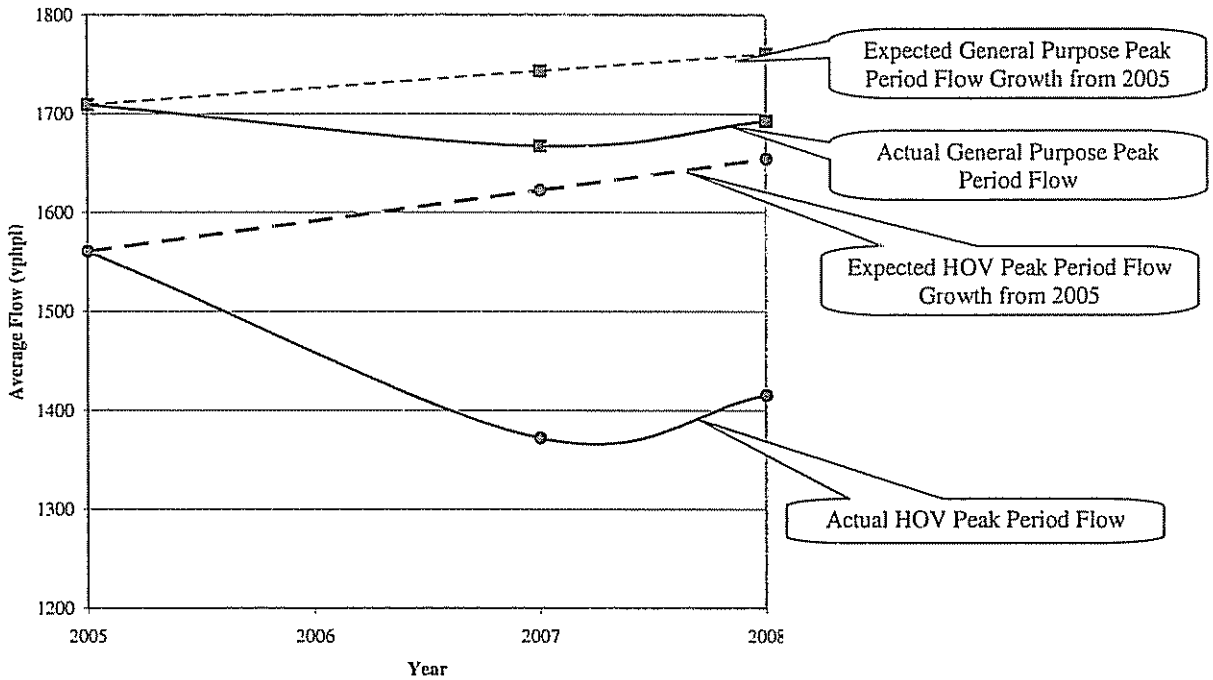
Area of I-85	Average Speed (mph)	
	Managed Lane	General Purpose Lanes
AM Peak Hour – Southbound Direction		
Old Peachtree Road to SR 316	> 55 mph	> 55 mph
SR 316 to Beaver Ruin Road	35-45 mph	35-45 mph
Beaver Ruin Road to Jimmy Carter Blvd	35-45 mph	0-35 mph
Jimmy Carter Blvd to I-285	45-55 mph	45-55 mph
I- 285 to Chamblee Tucker Road	> 55 mph	45-55 mph
PM Peak Hour – Northbound Direction		
Chamblee Tucker Road to I-285	45-55 mph	35-45 mph
I-285 to Jimmy Carter Blvd	45-55 mph	35-45 mph
Jimmy Carter Blvd to Beaver Ruin Road	45-55 mph	45-55 mph
Beaver Ruin Road to SR 316	> 55 mph	45-55 mph
SR 316 to Old Peachtree Road	> 55 mph	> 55 mph

Note: Averaged for corridor—some sections (particularly weaving areas) experience lower speeds

Historical information from the Department's TMC was investigated to demonstrate the effects of higher traffic volumes and slower travel speeds in the study corridor. Three I-85 study area locations with 2005, 2007, and 2008 traffic data were selected: north of Jimmy Carter Boulevard, south of Beaver Ruin Road, and north of Beaver Ruin Road. The total peak period traffic flows in the peak direction (6 to 10 AM southbound and 3 to 7 PM northbound) were averaged to determine the overall average peak period flow for each year.

The traffic growth trends between 2005 and 2008 in both the managed lane and the general purpose lanes are shown in Figure I-1. Figure I-1 also shows how traffic volumes could have been expected to increase from 2005 volumes, based on overall historical growth rate and ARC travel demand model information. As shown, traffic volumes have recently begun to again increase. However, the reduction in traffic volumes has yielded an opportunity to put the Build condition improvements in place before traffic volumes have again exceeded the effective capacity of the managed lane. In order to demonstrate the expected benefit of the project, traffic operations under the No Build and Build conditions were compared for the Design Year (2031).

Figure I-1
Flow Comparisons



As shown in Table I-6, analysis of the Design Year (2031) No Build condition indicated travelers in the managed lane would experience an average LOS F condition along southbound I-85 between SR 316 and Jimmy Carter Boulevard during the AM peak period commute. Additionally, northbound I-85 HOV travelers would experience an average LOS D condition between I-285 and Beaver Ruin Road during the PM peak commute. In the Build condition for the preferred alternative, an average LOS D condition would be maintained for the managed lane in both Design Year (2031) peak directions.

The traffic operations of the general purpose lanes improves in the Build condition in some localized areas because of decreased interaction with the managed lane facility, both from the removal of weave areas and because increased enforcement is expected to significantly reduce the weaving movements outside the designated weave areas. This improvement is counterbalanced in other areas with the effects of increased traffic volumes in the general purpose lanes for the Build condition. On average, the general purpose lanes have the same overall LOS and speed for both the No Build and Build conditions. As shown in Table I-7, there is one location where the range of operating speeds would decrease from a range of 45 to 55 mph in the No Build to 35 to 45 mph in the Build. By 2031, the average speed is expected to reduce to an average speed of less than 45 mph between SR 316 and Old Peachtree Road because of the increase in general purpose lane traffic volumes.

Table I-6
Design Year (2031) Peak Direction LOS

Area of I-85	Level of Service			
	2031 No-Build		2031 Build	
	Managed Lane	General Purpose Lanes	Managed Lane	General Purpose Lanes
AM Peak Hour – Southbound Direction				
Old Peachtree Road to SR 316	D	E	B	E
SR 316 to Beaver Ruin Road	F	F	C	F
Beaver Ruin Road to Jimmy Carter Blvd	F	F	D	F
Jimmy Carter Blvd to I-285	D	E	C	E
I- 285 to Chamblee Tucker Road	D	F	C	E
PM Peak Hour – Northbound Direction				
Chamblee Tucker Road to I-285	C	F	C	F
I-285 to Jimmy Carter Blvd	D	F	D	F
Jimmy Carter Blvd to Beaver Ruin Road	D	F	D	F
Beaver Ruin Road to SR 316	C	D	C	D
SR 316 to Old Peachtree Road	B	C	B	C

Notes: Averaged for corridor—some sections (particularly weaving areas) experience lower LOS.
In the AM Peak, the southbound traffic is the peak direction, while northbound traffic is the peak direction in the PM Peak.

Table I-7
Design Year (2031) No Build and Build Average Speed in HOV and General Purpose Lanes

Area of I-85	Average Speed (mph)			
	2031 No-Build		2031 Build	
	Managed Lane	General Purpose Lanes	Managed Lane	General Purpose Lanes
AM Peak Hour – Southbound Direction				
Old Peachtree Road to SR 316	> 55 mph	45-55 mph	> 55 mph	35-45 mph
SR 316 to Beaver Ruin Road	0-35 mph	0-35 mph	45-55 mph	0-35 mph
Beaver Ruin Road to Jimmy Carter Blvd	0-35 mph	0-35 mph	45-55 mph	0-35 mph
Jimmy Carter Blvd to I-285	35-45 mph	35-45 mph	45-55 mph	35-45 mph
I- 285 to Chamblee Tucker Road	45-55 mph	35-45 mph	45-55 mph	45-55 mph
PM Peak Hour – Northbound Direction				
Chamblee Tucker Road to I-285	35-45 mph	0-35 mph	45-55 mph	35-45 mph
I-285 to Jimmy Carter Blvd	35-45 mph	0-35 mph	35-45 mph	0-35 mph
Jimmy Carter Blvd to Beaver Ruin Road	35-45 mph	35-45 mph	45-55 mph	35-45 mph
Beaver Ruin Road to SR 316	> 55 mph	45-55 mph	> 55 mph	45-55 mph
SR 316 to Old Peachtree Road	> 55 mph	> 55 mph	> 55 mph	> 55 mph

In the No Build condition for the Design Year (2031), the average HOV system speed for the study corridor is expected to be 43 mph for the southbound direction during the AM peak hour and 49 mph for the northbound direction during the PM peak hour. This analysis shows that the HOV lane is not expected to maintain the required 45 mph average travel speed for the AM peak hour by the Design Year (2031) in the southbound direction based on current operating conditions. For the northbound direction by the Design Year (2031) PM peak hour, operations are expected to be below 45 mph between Chamblee Tucker Road and Beaver Ruin Road. Based on the data discussed, a need exists to manage the future traffic volumes in the current managed lanes on I-85 in order to provide reliable travel times.

As shown in Table I-7 for the Design Year (2031) Build condition, the managed lane has one area where the speed is expected to drop below 45 mph. However, overall the preferred alternative average system speed for the managed lane is expected to be 49 mph for the southbound direction during the AM peak hour and 53 mph for the northbound direction during the PM peak hour. This analysis shows that the HOT lane is expected to maintain the required 45 mph average travel speed for both peak periods averaged through the study corridor.

B. Project Purpose

The purpose of this project is to provide the most effective use of the managed lanes along portions of I-85 north of Atlanta in order to provide reliable travel times in this corridor. The Project Location maps (Figures I-2A and I-2B) present the I-85 corridor evaluated for the I-85 HOV to HOT lane conversion project.

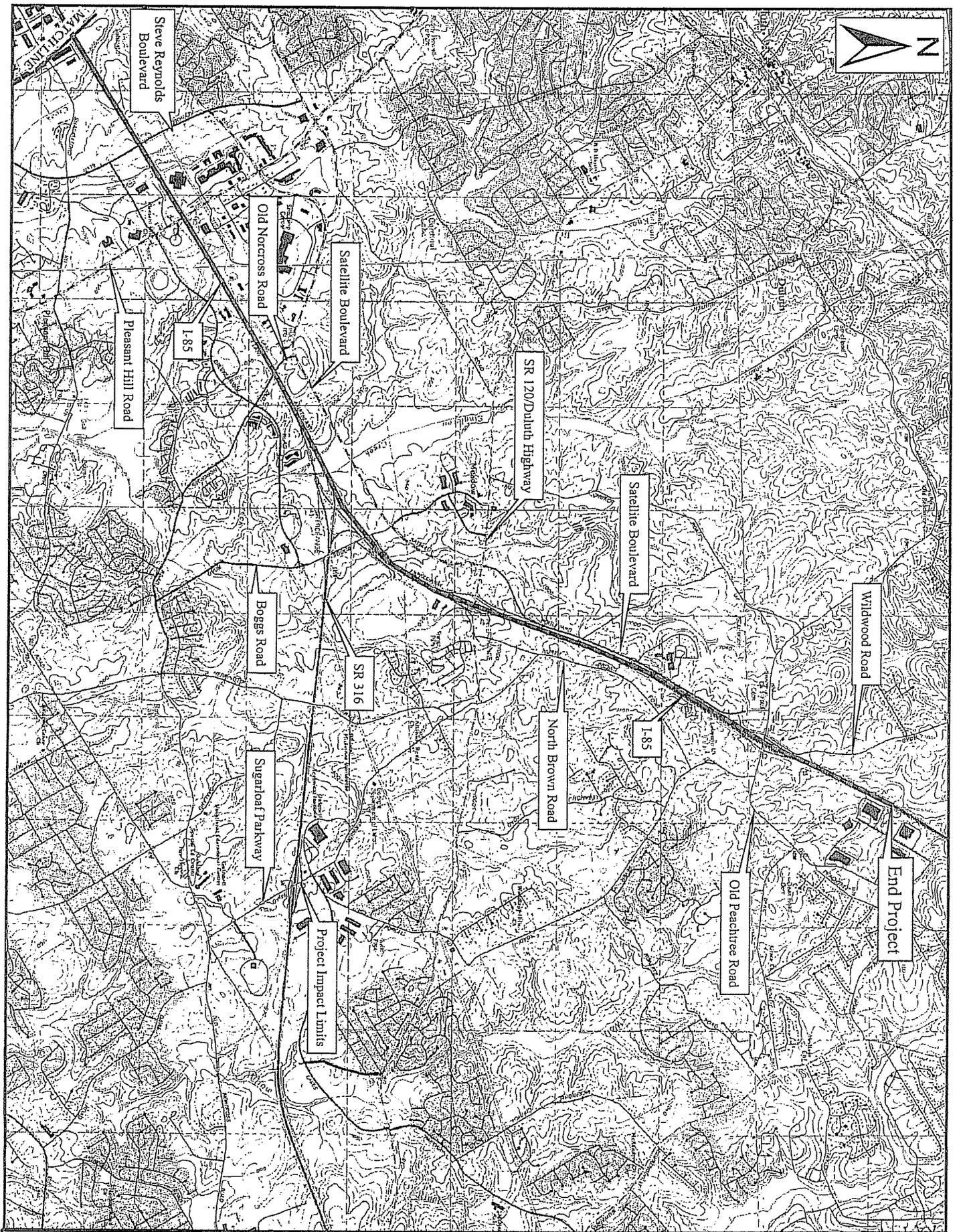
C. Planning Basis for Action

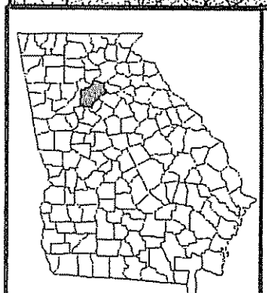
In 2003, a regional HOV Strategic Implementation Plan for the Atlanta region was developed. This lead to Senate Resolution 575 that directed HOT lane studies be conducted and enabled HOT lane legislation to be passed in 2004 [Senate Bill 489 (O.C.G.A. 40-6-54)]. A seminal study was completed in 2005 by the State Road and Tollway Authority (SRTA), titled *High Occupancy Toll and Truck Only Toll Feasibility Study*. This study examined the feasibility of implementing HOT lanes in the Atlanta region. The study showed that conversion of the existing HOV lane system to HOT lanes could be a viable solution to the loss of travel time reliability along the I-85 corridor and other HOV corridors within the metro Atlanta system. In 2007, ARC adopted a managed lane policy that included HOT lanes, and the Department's Board adopted a *Managed Lane Vision* for the region.

Figure I-2A
Project Location Map

GDOT Projects CSMSL-0009-00(295),
CSMSL-0009-00(296), & CSMSL-0009-00(297)
P.I. Nos. 0009295, 0009296 & 0009297
DeKalb and Gwinnett Counties
I-85 HOV to HOT Conversion Project

Source: Northeast Atlanta, Norcross,
Chamblee & Luxomni, GA
Quadrangles USGS
7.5' Series (Topographic)





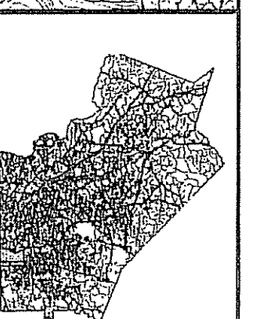
State of Georgia

Figure I-2B
Project Location Map

GDOT Projects CSMSL-0009-00(295),
CSMSL-0009-00(296), & CSMSL-0009-00(297)
P.I. Nos. 0009295, 0009296 & 0009297
DeKalb and Gwinnett Counties
I-85 HOV to HOT Conversion Project

Source: Northeast Atlanta, Norcross,
Chamblee & Luxomni, GA
Quadrangles USGS
7.5' Series (Topographic)

0 1,550 3,100 6,200 Feet



DeKalb & Gwinnett Counties

In early 2006, the Department began the reconstruction and HOV Lane Extension Project at the I-85 and SR 316 Interchange in Gwinnett County. The project was designed to relieve traffic congestion and improve safety. The project included the addition of new HOV lanes. Beginning in the mid-2000s, a change in the economic landscape occurred. The increase in gas prices, in conjunction with the economic recession and the rise in the unemployment rate have all contributed to the existing decline in traffic congestion along the I-85 corridor. However, growth in the region is anticipated to rebound in the next few years. The completion of the I-85 conversion project would provide the most effective use of the managed lanes along this portion of I-85 north of Atlanta. As the economic situation improves, Gwinnett County would be positioned to provide commuters with reliable travel times, improved commutes and choices that are currently not available to single occupancy vehicle (SOV) drivers. The proposed HOV to HOT conversion along with the recent improvements to the local roadway network at Pleasant Hill Road, completion of the SR 316 interchange, and planned improved transit service would allow Gwinnett County to be a model for other counties in the region.

In March 2008, the State Transportation Board passed a resolution advising the Department, in partnership with SRTA, to:

1. Recommend governing policies for managed lanes to include occupancy and pricing on both applicable new-location facilities and within existing transportation corridors;
2. Recommend a system of managed lanes separated from the general purpose lanes with strategic access points along the transportation corridors; and
3. Actively pursue public outreach activities to educate the public on the benefits of managed lanes.

Also in 2008, the Department and SRTA Boards authorized a feasibility plan for converting the existing HOV lanes to HOT lanes. This resolution allowed for the submission of the HOV to HOT System Conversion Proposal to the United States Department of Transportation (USDOT) which allowed Georgia to begin the first conversion of HOV lanes to HOT lanes in the State.

HOT lanes are limited-access managed lanes for general use by buses and other qualifying HOVs but open to SOVs and other non-qualifying HOVs for a fee. The number of vehicles using these lanes can be controlled through dynamic pricing via electronic toll collection or other means to maintain traffic flow in them at all times, even during peak travel times. Dynamic pricing is a method of charging drivers a toll for using managed or designated lanes, with increased costs during the periods of heaviest use. The fee is set to maintain traffic flow and provide reliable trip times. Converting portions of the HOV lane system to HOT lanes allows for tolling and better use of the managed lane. In addition, it provides SOV motorists the option to enter the lane. Moreover, the use of dynamic pricing with HOT lanes allows

greater latitude in providing incremental adjustments to lane usage in order to maintain travel time reliability during times of heavy demand.

Currently, there are eight HOT facilities in operation in the United States:

- I-95 in Miami, Florida,
- I-15 in San Diego, California,
- I-394 in Minneapolis, Minnesota,
- I-25 in Denver, Colorado,
- I-10 Katy Freeway in Houston, Texas,
- US 290 in Houston, Texas
- I-15 in Salt Lake City, Utah, and
- SR 167 in Seattle, Washington.

The Atlanta metropolitan area was chosen by the USDOT as a candidate for the conversion of its HOV managed lane system to HOT lanes due to its decreasing travel time reliability as described earlier in this section.

The Transportation Improvement Program (TIP) has been amended to include the I-85 HOV to HOT lanes conversion project. The revised TIP was open for public comment in April 2009. The following is a summary of TIP approvals received:

- May 8, 2009: HOV to HOT Conversion TIP Amendment is approved by ARC Transportation Coordinating Committee (TCC),
- May 27, 2009: HOV to HOT Conversion TIP Amendment is approved by ARC Board,
- June 10, 2009: HOV to HOT Conversion TIP Amendment is approved by GRTA Board, and
- June 10, 2009: USDOT approved TIP Amendment.

The HOT lanes were tested by the ARC using their travel demand model to confirm the revised TIP conforms to air quality standards. As detailed in Section III.D.2., air quality issues were further evaluated to support substitution of the HOT lanes for the HOV lanes as a Transportation Control Measure (TCM) in the State Implementation Plan (SIP) for air quality conformity.

Regional/State Planning – Other Projects in the Area

Due to the heavily urbanized nature of the project area, there are a number of additional projects in close proximity to the proposed improvements. The list below includes roadway projects and long range planning projects (2016+) in close proximity to the corridor. The fiscal year provided in Table I-8, Other Projects in the Area, is an approximate construction date based on information from the Department's Transportation Explorer online database (http://app5-trex-web.dot.state.ga.us/trex_external/viewer.htm).

Table I-8

Map #	Roadway Project	Description	Status
1	PI No. 0006397	I-85 north ATMS Ramp Meters from Buford Hwy to Pleasant Hill Rd - ATMS/ITS (2010)	Under Construcion
2	PI No. 0003164	I-85 from SR 316 north to Hamilton Mill Rd for HOV Lanes Recon/Rehab (2016+)	Long Range
3	PI No. 0008218	I-85 from Peachtree Rd to SR 20 – ATMS/ITS (2016+)	Long Range
4	PI No. 0007326	Holcomb Bridge Rd – Upgrade Traffic Signal Equipment (Under Construction)	Under Construction
5	PI No. 0006825	SR 13 from DeKalb County Line to Sugarloaf Pkwy – ATMS/ITS (2010)	UNLET
		const 2009, open yr 2010 - Gwinnett Co. LET	
6	PI No. 0000845	SR 8/US 29 at SR 378 (2010) - Intersection Improvement	Under Construction
		open yr 2010	
7	PI No. 0006829	Sugarloaf Pkwy from SR 20 to Peachtree Industrial Blvd – ATMS/ITS (2010)	UNLET
		const 2009, open yr 2009 - Gwinnett Co. LET	
8	PI No. 0000844	SR 8/US 29 at Pleasant Hill Rd/Lester (2010) - Intersection Improvement	Under Construction
		open yr 2010	
9	PI No. 110600	I-85: I-985 to north of Hamilton Mill Rd - Recon/Rehab Widening (2016+)	UNLET
		const LR, open yr 2020	
10	PI No. 110720	I-85: from Pleasant Hill Road to Old Peachtree Road - ATMS/IRS (2010)	Under Construction
		open yr 2011	
11	PI No. 0003168	SR 316: I-85 to west of CR 104 and CR 107 to CR 183: Recon/Rehab HOV Lanes (2012)	UNLET
		open yer 2015, const 2012	
12	PI No. 0004644	SR 20 Loganville Hwy from Ozora Rd to Brand Rd- GRTA - Reconstruction/Rehabilitation (2010)	Under Construction
		open yr 2011	
13	PI No. 0004086	SR 316 from west of CR 104/Collins Road to CR 177/Hi-Hope Rd - Interchange Construction (2011)	UNLET
		const 2011, open yr 2013	

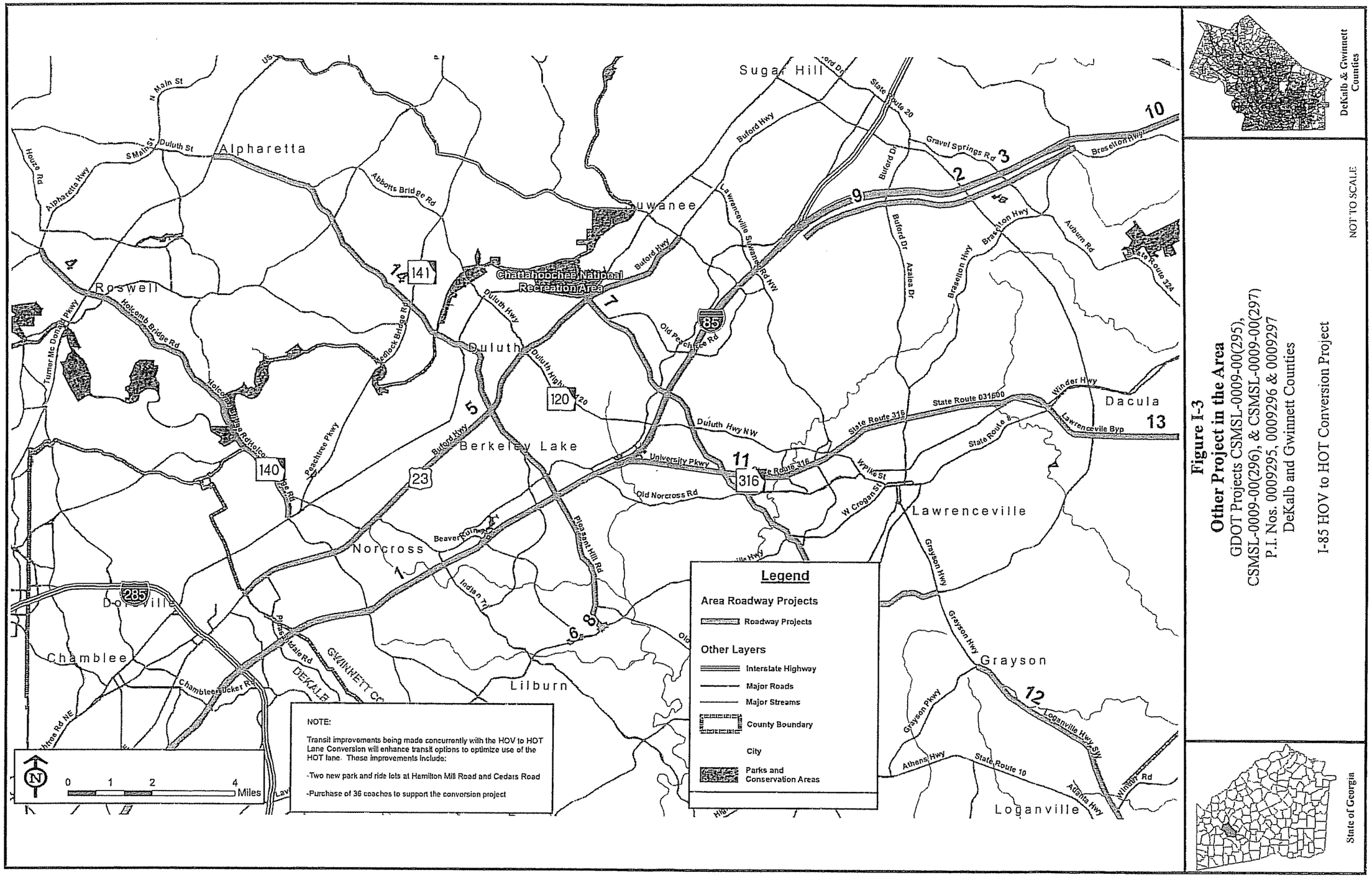


Figure I-3
Other Project in the Area
GDOT Projects CSMSL-0009-00(295), CSMSL-0009-00(296), & CSMSL-0009-00(297)
P.I. Nos. 0009295, 0009296 & 0009297
DeKalb and Gwinnett Counties

I-85 HOV to HOT Conversion Project

The Map Number corresponds to the location shown in Figure I-3. The proposed HOV to HOT conversion project is not associated with any other construction project and would not restrict consideration of any currently proposed or future improvements.

Regional/State Planning – Other Transit Projects along the Corridor

Mass transit is currently available along the corridor, and it provides commuters with an alternative mode of transportation to the SOV. Although beneficial, it provides only limited relief from the congestion.

Rail

Countywide polls have consistently shown that residents see traffic congestion as the county's biggest issue, with the majority of respondents favoring transportation alternatives such as rail to help mobility. Rail transit for the I-85 corridor has been considered in various study efforts including some that are ongoing. The *Concept 3 Technical Report* (December 2008) is a study developed by the Transit Planning Board (TPB) that proposes two commuter rail lines in the I-85 corridor. The TPB approved this technical report as the *Regional Vision for Transit* in Atlanta on August 28, 2008, and submitted it to ARC for adoption as the transit portion of the *Regional Aspirations Plan*.

To the south and east of the I-85 corridor is the Athens to Atlanta CSX rail line, which is a heavily used freight railroad. This line has been considered for some time by the Department's Rail Program as a key element of the State's Commuter Rail Plan. The project has been called "the Brain Train" because of the universities located along the line, including the University of Georgia, Emory University, Georgia Institute of Technology, and Georgia State University. CSX and the Department have an ongoing rail simulation project to evaluate the railroad improvements that would be required for CSX to host the commuter rail project on their facility. At the conclusion of the rail simulation project the Department's Rail Program will update the cost estimates for the project.

The Gainesville commuter rail project is proposed for the Norfolk Southern (NS) rail line running along the Buford Highway corridor approximately two miles to the north and west of I-85. This NS line connects Atlanta with Washington DC through the Piedmont Crescent of North and South Carolina. The rail line is a heavily used freight railroad and hosts Amtrak's Crescent trains twice each day. This line is also designated by the Federal Railroad Administration as a part of the Southeast High Speed Rail Corridor.

The *Concept 3 Technical Report* also proposed an I-85 Corridor Light Rail Transit (LRT) System from the Doraville Metropolitan Atlanta Rapid Transit Authority (MARTA) station to Gwinnett Place Mall. The study examined the feasibility of a LRT system that would connect the Doraville MARTA

station to the Gwinnett Arena with three transit stops in Gwinnett Village. After examining heavy rail, light rail, and streetcar technologies, light rail was found to be the most cost-effective and efficient transit option. Initial ridership projections have found that transit stations in Gwinnett County would be some of the most-heavily utilized in metro Atlanta. With a grant from the ARC, the local community improvement district (CID) is currently beginning the next phase of the study that will include detailed ridership projections and a market analysis that are required to apply for federal funding.

Other than the studies currently underway by the local CID, there are no current efforts underway to study a MARTA rail extension into Gwinnett County.

Park and Ride Lots and Express Bus Service

Concurrent projects would enhance transit options for the I-85 corridor and the HOT lane project, including the proposed installation of two new park and ride lots along I-85 at Hamilton Mill Road and Cedars Road (Project PI Numbers 0008711 and 0008713, respectively) and the purchase of 36 additional express bus coaches (Project PI Numbers 0008692 and 0005628). As of early 2009, five express routes are operated by Gwinnett County in the I-85 north corridor. The number of vehicles, service characteristics, and January 2009 ridership results were provided by GRTA and are shown in Table I-8. Because of the variability in bus ridership, both the average daily riders and peak daily riders are shown. The average daily riders shown are the actual boardings from Gwinnett Transit figures for the month of January 2009 divided by the number of operating days. This yields the average daily ridership. Because ridership varies significantly during the month, peak daily boardings were also estimated.

Table I-9
Gwinnett County Express Bus Ridership - January 2009

Route	Park and Ride Lot	Destination	Peak Buses	Daily Bus Trips	Peak Hour Bus Trips	Avg Daily Riders	Peak Daily Riders	Estimated Peak Hour Auto Trips Removed
G 101	I-985 and GA 20	Downtown	5	24	4	770	960	190
G 102	Indian Trail	Downtown	3	11	2	262	330	65
G 103	Discover Mills	Downtown	9	42	6	1,400	1,750	350
410	Discover Mills	Lindberg	3	21	2	268	330	65
412	Discover Mills	Midtown	5	18	3	550	690	140
I-85 North Total			25	116	17	3,250	4,060	810

Two additional park and ride lots and expansion of the lot at I-985 and SR 20 will be complete by the end of 2011. Five additional routes are planned.

The estimated services as of December 2012 in the I-85 north corridor are shown in Table I-9. While the proposed project, in combination with these transit improvements, would act to further improve travel time reliability, the proposed action would not be dependent upon the other proposed transit improvements to adequately address the need for improvement within the corridor. In addition, the proposed project would not restrict consideration of any currently proposed or future improvements. For the estimated riders and trips removed shown in Table I-9, according to GRTA, the following assumptions were made:

- Average daily riders are assumed to be 60 percent of seats over the course of the day,
- Peak daily riders are assumed to be 75 percent of seats over the course of the day,
- Peak hour auto trips removed are estimated to be 80 percent of seats over the course of the peak hour (peak hour bus trips x 57 seats x 0.8), and
- All coaches are expected to be 57 seat commuter coaches.

Table I-10
Proposed Gwinnett County Express Bus Routes

Route	Park and Ride Lot	Destination	Peak Buses	Daily Bus Trips	Peak Hour Bus Trips	Avg Daily Riders	Peak Daily Riders	Peak Hour Auto Trips Removed
G 101	I-985 and GA 20	Downtown	5	24	4	821	1,026	182
411	I-985 and GA 20	Midtown	5	20	3	684	855	137
G 102	Indian Trail	Downtown	3	11	2	376	470	91
G 103	Discover Mills	Downtown	6	30	4	1,026	1,283	182
410	Discover Mills	Lindberg	3	21	2	718	898	91
412	Discover Mills	Midtown	5	18	3	616	770	137
413	Hamilton Mill	Downtown	8	32	4	1,094	1,368	182
414	Hamilton Mill	Midtown	5	20	3	684	855	137
416	Cedars Road	Downtown	8	32	4	1,094	1,368	182
417	Cedars Road	Midtown	5	20	3	684	855	137

D. Logical Termini

As detailed in draft 2009 *I-85 HOV to HOT Conversion – Traffic Analysis: I-85 from Chamblee Tucker Road to Old Peachtree Road* report, traffic data indicates speeds in excess of 45 mph in the peak direction for HOV lanes outside the study area limits of Chamblee Tucker Road and Old Peachtree Road.

This indicates logical termination points, beyond which traditional HOV lanes could operate under today's conditions independent of other improvements to the managed lane system. This is further supported by simulation results for Design Year (2031). The detailed simulation show that traffic in the HOV lanes outside the study area would experience LOS D or better conditions south of I-285 and north of SR 316 with current HOV lanes with poor LOS existing at points between these locations. Therefore, the project limits of Chamblee Tucker Road to north of Old Peachtree Road (approximately sixteen miles) were selected.

In addition to providing logical points to define HOT lanes based on areas of future congestion, the length of the corridor provides sufficient distance for full utilization by vehicles accessing from several locations along the corridor, including traffic bound for I-285 and SR 316. In addition, the corridor limits indicated do not restrict consideration of alternatives for other reasonably foreseeable transportation improvements, as discussed previously in the Section I.C. (*Planning Basis for Action*) of this document. The other improvements could occur independent of the preferred alternative project detailed in this study. Finally, the corridor is of sufficient length to address environmental considerations along the corridor.

PRELIMINARY COST ESTIMATE

HOV to HOT

11/5/2009

PROJECT NO.: CSMSL-0009-00(295)/0009-00(296)/0009-00(297)

P.I. NO.: 0009295/0009296/0009297

PROJECT DESCRIPTION: HOV to HOT conversion

PRELIMINARY PLANS

Estimate Report for file "0009295"

Section TRAFFIC CONTROL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	5100000	TRAFFIC CONTROL -	$5,100,000
				Section Sub Total	$5,100,000.00

Section ITS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
009-1020	1	HR	50000	MOBILIZATION	$50,000
201-1500	1	LS	5000	CLEARING & GRUBBING -	$5,000
615-1100	4860	LF	28	DIRECTIONAL BORE PIPE -	$136,080
639-1235	37	EA	2700	TREATED TIMBER POLE, CL 2, 35 FT	$99,900
639-3004	10	EA	12104.3	STEEL STRAIN POLE, TP IV	$121,043
639-5000	3	EA	16200	PRESTRESSED CONC STRAIN POLE, TP -	$48,600
647-2140	60	EA	1600	PULL BOX, PB-4	$96,000
668-5005	9	EA	4200	JUNCTION BOX, SPCL DES	$37,800
682-6120	1195	LF	15	CONDUIT, RIGID, 2 IN	$17,925
682-6222	33900	LF	11.25	CONDUIT, NONMETL, TP 2, 2 IN	$381,375
682-6520	3270	LF	15.5	CONDUIT, FIBERGLASS, 2 IN	$50,685
682-9023	89	EA	1200	ELECTRICAL JUNCTION BOX, GALVANIZED, SIZE -	$106,800
682-9028	15	EA	2800	ELECTRICAL COMMUNICATION BOX, TP 5	$42,000
935-0010	88526	LF	10	72 SMFO LOOSE TUBE CABLE-BACKBONE	$885,260
935-00	8200	LF	7.5	48 SMFO LOOSE TUBE CABLE-BACKBONE	$61,500
935-0015	9650	LF	6.5	12 SMFO LOOSE TUBE - DROPS	$62,725
935-3102	58	EA	1800	FIBER OPTIC CLOSURE, UNDERGROUND, 12 FIBER	$104,400
935-3106	6	EA	2100	FIBER OPTIC CLOSURE, UNDERGROUND, 72 FIBER	$12,600
935-4010	720	EA	52.14	FIBER OPTIC SPLICE, FUSION	$37,541
935-5050	350	EA	109	FIBER OPTIC PATCH CORD, SM	$38,150
935-8000	1	LS	25000	TESTING	$25,000
936-8000	1	LS	1000	TESTING	$1,000
939-2211	32	EA	4200	NETWORK SWITCH,LAYER 3 GIGE, TYPE A	$134,400
939-2216	8	EA	8000	NETWORK SWITCH, LAYER 3 GIGE, TYPE F	$64,000
939-2216	7	EA	5800	NETWORK SWITCH, LAYER 3 GIGE, TYPE F	$40,600
939-4010	9	EA	3800	TYPE A CABINET	$34,200
939-4040	43	EA	8200	TYPE D CABINET	$352,600
939-5010	47	EA	4200	ELECTRICAL POWER SERVICE ASSEMBLY, AERIAL SERVICE POINT	$197,400
939-6000	47	EA	6200	HUB UNITERRUPTIBLE POWER SUPPLY	$291,400
				Section Sub Total	**$3,535,984**

Section SIGNING AND MARKING

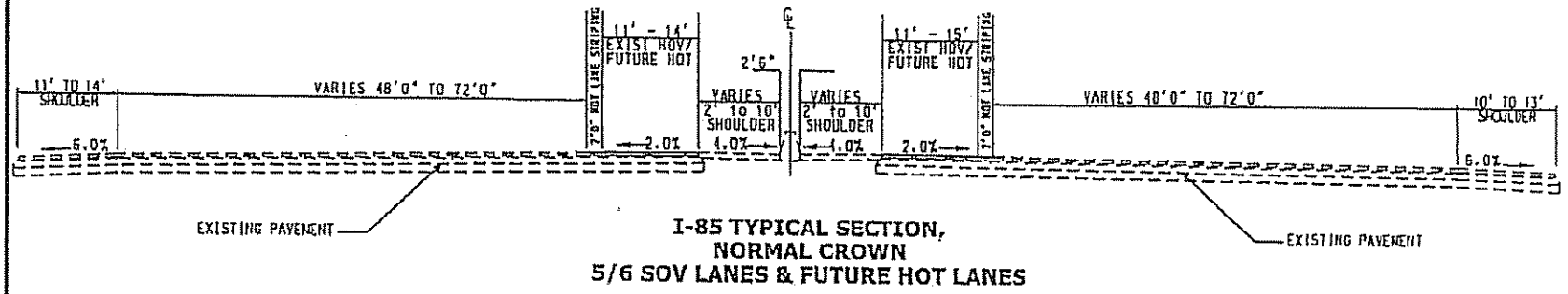
Item Number	Quantity	Units	Unit Price	Item Description	Cost
631-0022	10	EA	29000	PERMANENT CHANGEABLE MESSAGE SIGN	$290,000
636-1077	21000	SF	24.99	HIGHWAY SIGNS, ALUM EXTRUDED PANELS, REFL SHEETING, TP 9	$524,790
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 203+60	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 257+80	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 289+60	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 307+30	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 339+16	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 421+00	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 446+20	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 451+80	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 498+00	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 516+95	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 561+50	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 579+80	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 592+80	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 598+00	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 613+50	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 631+00	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 703+45	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 724+00	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 737+00	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 752+50	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 773+00	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 916+35	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 929+30	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 933+10	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 1145+00	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 1149+30	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 1168+50	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 1194+90	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 988+38 SR 316	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 995+30 SR 316	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 1008+00 SR 316	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 1021+00 SR 316	$86,000
638-1001	1	LS	86000	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA - 1047+00 SR 316	$86,000

Item Number	Quantity	Units	Unit Price	Item Description	Cost
638-1003	1	LS	39000	STR SUPPORT FOR OVERHEAD SIGN, TP III, STA 406+00	$39,000
638-1003	1	LS	39000	STR SUPPORT FOR OVERHEAD SIGN, TP III, STA 474+80	$39,000
638-1003	1	LS	39000	STR SUPPORT FOR OVERHEAD SIGN, TP III, STA 840+00	$39,000
638-1003	1	LS	39000	STR SUPPORT FOR OVERHEAD SIGN, TP III, STA 1087+30	$39,000
638-1003	1	LS	39000	STR SUPPORT FOR OVERHEAD SIGN, TP III, STA 1115+00	$39,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 303+00	$105,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 320+90	$105,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 455+00	$105,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 488+04	$105,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 509+50	$105,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 529+70	$105,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 591+00	$105,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 648+60	$105,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 716+80	$105,000
638-1004	1	LS	105000	STR SUPPORT FOR OVERHEAD SIGN, TP IV, STA 893+50	$105,000
638-1007	1	LS	19000	STR SUPPORT FOR OVERHEAD SIGN, TP VII, STA - 553+40	$19,000
638-1007	1	LS	19000	STR SUPPORT FOR OVERHEAD SIGN, TP VII, STA - 554+36	$19,000
638-1007	1	LS	19000	STR SUPPORT FOR OVERHEAD SIGN, TP VII, STA - 666+63	$19,000
641-1200	5000	LF	17.89	GUARDRAIL, TP W	$89,450
641-5001	10	EA	673.15	GUARDRAIL ANCHORAGE, TP 1	$6,732
641-5012	10	EA	1762.58	GUARDRAIL ANCHORAGE, TP 12	$17,626
653-0230	20	EA	168.85	THERMOPLASTIC PVMT MARKING, WORD, TP 3A	$3,377
653-2502	30	LM	1265.57	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	$37,967
653-2804	60	LM	9126.95	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	$547,617
653-3804	47000	GLF	1.4	THERMOPLASTIC SKIP TRAF STRIPE, 8 IN, WHITE	$65,800
				Section Sub Total	**$5,743,358**

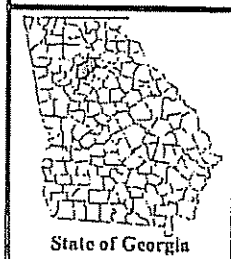
BASE AND PAVING

Item Number	Quantity	Units	Unit Price	Item Description	Cost
400-3604		TN	110	ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER MODIFIED	$0
400-3624		TN	90	ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER MODIFIED	$0
413-1000		GL	2.59	BITUM TACK COAT	$0
432-0206		SY	2.5	MILL ASPH CONC PVMT, 1 1/2 IN DEPTH	$0
500-2100	2800	LF	50	Concrete Barrier	$140,000
610-0716	2800	LF	150	Rem Conc Median	$420,000
				Section Sub Total	**$560,000**

		SUBTOTAL CONSTRUCTION	**$14,939,342**
		SUBTOTAL $	**14,939,342.20**
1		Years of Inflation at 5%	$0.00
		10 % E & C $	1,493,934.22
		TOTAL CONSTRUCTION ESTIMATE: $	**16,433,276.42**



I-85 TYPICAL SECTION,
NORMAL CROWN
5/6 SOV LANES & FUTURE HOT LANES



State of Georgia

Source: Jacobs Engineering, Inc.

Figure II-1
Proposed Typical Section
GDOT Projects CSMSL-0009-00(295),
CSMSL-0009-00(296), & CSMSL-0009-00(297)
P.I. Nos. 0009295, 0009296 & 0009297
DeKalb and Gwinnett Counties
I-85 HOV to HOT Conversion Project

NOT TO SCALE

DeKalb & Gwinnett Counties

JACOBS™

Table 1 Historical Crash Data			
Segment	**2004**	**2005**	**2006**
I-85 from Chamblee Tucker Road to Old Peachtree Road	3,416	2,193	3,223

These crashes were used in order to calculate standard corridor crash rates (per 100 million vehicle-miles traveled) per year, which were compared to statewide average rates for urban interstates in Table 2.

Table 2 Historical Crash Rates (Statewide Average)			
Segment	**2004**	**2005**	**2006**
I-85 from Chamblee Tucker Road to Old Peachtree Road	273.0	176.6	260.3
Statewide Average for Urban Interstate	190	206	200

Comparing the statewide averages to the I-85 study corridor rates shows that I-85 has an above-average crash rate for two (2004 and 2006) of the three study years within the study area. Table 3 shows the historical number of injuries and fatalities.

Table 3 Summary of I-85 Injuries and Fatalities						
	2004		**2005**		**2006**	
Segment	Injuries	Fatalies	Injuries	Fatalies	Injuries	Fatalies
I-85 from Chamblee Tucker Road to Old Peachtree Road	693	5	497	2	681	6

These statistics were used in order to calculate standard corridor injury crash rates (per 100 million vehicle-miles traveled) per year, which are compared to statewide average rates for urban interstates in Table 4.

Table 4 Injury and Fatality Crash Rates (Statewide Average)						
	2004		**2005**		**2006**	
Segment	Injuries	Fatalies	Injuries	Fatalies	Injuries	Fatalies
I-85 from Chamblee Tucker Road to Old Peachtree Road	55 39	0 4	40 02	0 16	55	0.48
Statewide Average for Urban Interstate	44	0.59	49	0.77	46	0.73

Comparing the statewide averages to the I-85 study corridor rates shows that I-85 has an above-average injury crash rate for two (2004 and 2006) of the three study years within the study area. The study segment of I-85 had a fatality crash rate below the statewide average for all three study years.

Partnership for Progress

HOV TO HOT

DRAFT TRAFFIC ANALYSIS

I-85 from Chamblee-Tucker Road to Old Peachtree Road

DEPARTMENT OF TRANSPORTATION UNITED STATES OF AMERICA

Georgia™

I-85 HOV to HOT Conversion - Traffic Analysis

From Chamblee-Tucker Road to Old Peachtree Road

May 2009

Prepared for:
Georgia Department of Transportation (GDOT)

Prepared by:

1718 Peachtree Street NW, Suite 400
Atlanta, Georgia 30309
Phone: (404) 249-7550
Fax: (404) 249-7705
www.JACOBS.com

TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... **VII**

Background vii

Report Objective vii

Traffic Analysis Methodology vii

Design Year 2031 HOT Lane Conditions viii

Conclusions ix

1 INTRODUCTION **1**

1.1 Background 1

1.2 Project Purpose 1

2 EXISTING CONDITIONS **3**

2.1 Corridor Review 3

Logical Termini 3

Corridor Characteristics 4

2.2 Crash History 4

2.3 Existing Traffic Data Sources 6

Atlanta Radial Freeways Project (provided by Cambridge Systematics) 6

GDOT Office of Transportation Data (OTD) 7

GDOT Traffic Management Center (TMC) 8

Interstate 85/SR 316 Interchange Improvements 8

Atlanta Regional Commission's (ARC's) TP+ Travel Demand Model 8

I-285 Strategic Implementation Plan 8

Summary of Data Sources 8

2.4 K & D Factors 9

2.5 Heavy Vehicles 9

2.6 Travel Speeds 10

GRTA Transportation MAP Report Data 10

Cambridge Systematics Data 11

JACOBS Travel Time Runs 12

3 FUTURE CONDITIONS **13**

3.1 Traffic Growth & Volumes 13

GDOT Historical Trends 13

ARC TDM Forecasting 14

No-Build and Build K & D Factors 16

3.2 Build Alternative 17
Thermo-plastic HOT Lane Separation 17
HOT Lane Typical Section 18
HOT Lane Access 18

4 MICROSIMULATION MODELING & LEVEL-OF-SERVICE (LOS) 21

4.1 Microsimulation Model Selection 21
Traffic Analysis Tools Program 21
Decision Support Methodology Conclusion 23
Microscopic Simulation Model Detailed Evaluation 23
Simulation Model Comparison Matrix 24
Final Evaluation and Decision 24

4.2 Modeling Methodology 25

4.3 Calibration to Existing Conditions 26

4.4 Model Development with HOT Lanes 28

4.5 Level-of-Service (LOS) Methodology 29
LOS for Freeway Segments 29
LOS for Weaving Segments 29

4.6 Existing (2008) LOS Results 30
LOS for Freeway Segments – 2008 Existing 30
LOS for Weaving Segments – 2008 Existing 39

4.7 Opening Year (2011) & Design Year (2031) No-Build LOS Results 40
LOS for Freeway Segments – 2011 No-Build 40
LOS for a Weaving Segments – 2011 No-Build 48
LOS for Freeway Segments – 2031 No-Build 50
LOS for Weaving Segments – 2031 No-Build 58

4.8 Opening Year (2011) & Design Year (2031) Build LOS Results 60
LOS for Freeway Segments – 2011 Build 60
LOS for Weaving Segments -2011 Build 68
LOS for Freeway Segments – 2031 Build 69
LOS for Weaving Segments -2031 Build 77

5 SUMMARY & CONCLUSIONS 78

Traffic Analysis Methodology 78

Existing Conditions 78

2011 No-Build Conditions 79

2031 No-Build Conditions 79

2011 Build Conditions 80

2031 Build Conditions 80

Conclusions 81

APPENDIX A – EXISTING TRAFFIC FLOW DIAGRAMS .....

APPENDIX B – 2011 & 2031 NO-BUILD TRAFFIC FLOW DIAGRAMS .....

APPENDIX C – 2011 & 2031 BUILD TRAFFIC FLOW DIAGRAMS.....

APPENDIX D – MANAGED LANE SEPARATION TECHNIQUES & COST ESTIMATES.....

APPENDIX E – EXISTING 2008 TRANSMODELER SIMULATION RESULTS.....

APPENDIX F – 2011 & 2031 NO-BUILD TRANSMODELER SIMULATION RESULTS.....

APPENDIX G – 2011 & 2031 BUILD TRANSMODELER SIMULATION RESULTS.....

LIST OF FIGURES

Figure 1. I-85 HOV to HOT Corridor 2
Figure 2. Existing I-85 Lanes and HOV Access 5
Figure 3. Growth Trend Line from 1992 14
Figure 4. HOT Lane Typical Section for I-85 18
Figure 5. Future I-85 Lanes and HOT Access 20
Figure 6. I-85 Southbound AM – HOV Lane Comparison 26
Figure 7. I-85 Southbound AM – General Purpose Lanes Comparison 27
Figure 8. I-85 Northbound PM – HOV Lane Comparison 27
Figure 9. I-85 Northbound PM – General Purpose Lanes Comparison 28
Figure 10. Existing Conditions - Southbound AM Peak Hour Speed Profiles 31
Figure 11. Existing Conditions - Northbound PM Peak Hour Speed Profiles 32
Figure 12. 2011 No-Build Conditions - Southbound AM Peak Hour Speed Profiles 41
Figure 13. 2011 No-Build Conditions - Northbound PM Peak Hour Speed Profiles 41
Figure 14. 2031 No-Build Conditions - Southbound AM Peak Hour Speed Profiles 51
Figure 15. 2031 No-Build Conditions - Northbound PM Peak Hour Speed Profiles 51
Figure 16. 2011 Build Conditions - Southbound AM Peak Hour Speed Profiles 60
Figure 17. 2011 Build Conditions - Northbound PM Peak Hour Speed Profiles 61
Figure 18. 2031 Build Conditions - Southbound AM Peak Hour Speed Profiles 70
Figure 19. 2031 Build Conditions - Northbound PM Peak Hour Speed Profiles 70

LIST OF TABLES

Table 1. Historical Crash Data 4
Table 2. Historical Crash Rates (Statewide Average) 4
Table 3. Summary of I-85 Injuries and Fatalities 4
Table 4. Injury and Fatality Crash Rates (Statewide Average) 6
Table 5. K and D Factors (Cambridge Systematics) 9
Table 6. K and D Factors (Traffic Flow Diagrams) 9
Table 7. I-85 Truck Percentages 10
Table 8. Existing Average Speeds on I-85 (Cambridge Systematics Data) 11
Table 9. Average Speeds on I-85 (JACOBS Data April 2009) 12
Table 10. Historical Traffic Growth 13
Table 11. I-85 HOV to HOT No-Build Growth Rates (percentage) 14
Table 12. I-85 HOV to HOT Build Peak Hour Growth Rates (percentage) 15
Table 13. K Factors (Traffic Flow Diagrams) 16
Table 14. D Factors (Traffic Flow Diagrams) 16
Table 15. Guidelines for HOT Lane Cross-sections 18
Table 16. Guidelines for HOT Lane Spacing 18
Table 17. Characteristics of Simulation Models: Interface and Level of Effort 24
Table 18. Characteristics of Simulation Models: Design 24
Table 19. Characteristics of Simulation Models: Capabilities and Detail 24
Table 20. LOS for Freeway Segments 29
Table 21. LOS for Weaving Segments 30
Table 22. Existing (2008) Southbound – HOV 32
Table 23. Existing (2008) Southbound – General Purpose Lanes 34
Table 24. Existing (2008) Northbound – HOV 36
Table 25. Existing (2008) Northbound – General Purpose Lanes 37
Table 26. Existing (2008) Weaving Segments - Southbound 39
Table 27. Existing (2008) Weaving Segments - Northbound 40
Table 28. No-Build (2011) Southbound – HOV 42
Table 29. No-Build (2011) Southbound – General Purpose Lanes 44
Table 30. No-Build (2011) Northbound – HOV 45

Table 31. No-Build (2011) Northbound – General Purpose Lanes 47
Table 32. No-Build (2011) Weaving Segments - Southbound 49
Table 33. No-Build (2011) Weaving Segments - Northbound 49
Table 34. No-Build (2031) Southbound – HOV 52
Table 35. No-Build (2031) Southbound – General Purpose Lanes 54
Table 36. No-Build (2031) Northbound – HOV 55
Table 37. No-Build (2031) Northbound – General Purpose Lanes 57
Table 38. No-Build (2031) Weaving Segments - Southbound 58
Table 39. No-Build (2031) Weaving Segments - Northbound 59
Table 40. Build (2011) Southbound – HOT 61
Table 41. Build (2011) Southbound – General Purpose Lanes 63
Table 42. Build (2011) Northbound – HOT 64
Table 43. Build (2011) Northbound – General Purpose Lanes 66
Table 44. Build (2011) Weaving Segments - Southbound 68
Table 45. Build (2011) Weaving Segments - Northbound 68
Table 46. Build (2031) Southbound – HOT 71
Table 47. Build (2031) Southbound – General Purpose Lanes 72
Table 48. Build (2031) Northbound – HOT 73
Table 49. Build (2031) Northbound – General Purpose Lanes 75
Table 50. Build (2031) Weaving Segments - Southbound 77
Table 51. Build (2031) Weaving Segments - Northbound 77

EXECUTIVE SUMMARY

Background

Traffic congestion on the Interstate freeways in metropolitan Atlanta significantly impairs commuters. Nationally, Atlanta is ranked only behind Los Angeles in terms of wasted time per traveler, and is ranked 3rd in the nation in terms of wasted fuel per traveler according to a 2007 Texas Transportation Institute Report.

Interstate 85 (I-85) between Chamblee-Tucker Road in DeKalb County and Old Peachtree Road in Gwinnett County ranks as one of the most congested freeway segments in metro Atlanta. Its importance to Metro Atlanta's economic vitality is seen with the heavy commuter traffic southbound into Atlanta in the morning and northbound out of Atlanta in the evening. This section of I-85 includes High Occupancy Vehicle (HOV) lanes, however, the operations and benefits expected from the HOV lanes on I-85 have not been fully realized. The HOV lanes on I-85 have failed to provide commuters with a transportation alternative that facilitates reliable travel times in the midst of recurring congestion.

Given that the potential benefits of HOV lanes on I-85 have not been fully realized, the Georgia Department of Transportation (GDOT) is considering converting the existing HOV lanes along I-85 to dynamically-priced High Occupancy Toll (HOT) lanes from Chamblee-Tucker Road to Old Peachtree Road. This would allow single occupant vehicles to use the HOT lane for a fee. The fee would be subject to change based on the severity of traffic conditions on the corridor and/or the availability of capacity of the HOT lane. For instance, under severe congested conditions, the fee would be relatively higher in order to help preserve the service of traffic flow in the HOT lane. The preservation of HOT lane capacity and quality of service would also include increasing the occupancy requirements from two (2) to three (3) or more persons per vehicle. This occupancy requirement is currently expected to be in place for all hours of operation. The purpose of the I-85 HOV to HOT project is to modify and provide more effective management of the existing HOV lanes on I-85 and provide a reliable, congestion-free alternative for motorists and transit vehicles.

Report Objective

As part of the concept report for the HOV to HOT conversion project on I-85, this traffic analysis report identifies and examines existing and future traffic conditions on the I-85 corridor, including Build scenarios that simulate potential HOT lane operations. Future traffic conditions were based on the Opening (2011) and Design Years (2031) for the HOT lanes.

Traffic Analysis Methodology

The task of evaluating existing traffic conditions on the I-85 corridor began with field reviews of the system between Chamblee-Tucker Road and Old Peachtree Road. The field reviews consisted of travel time runs during the weekday peak hours, video logging, documenting lane configurations, interchange ramps, HOV exit/entry points, HOV weaving lengths, signage, and milepost information.

Existing traffic volume and speed data on the corridor was obtained from various data sources. Safety data data was also obtained and evaluated to identify crash statistics along the corridor.

The process of forecasting future traffic volumes and travel conditions began with the examination of historical traffic volumes on the corridor to identify growth trends in traffic. The Atlanta Regional Commission (ARC) travel demand model was also used to extract potential growth trends in traffic with the consideration of anticipated land use changes in the region that may impact the traffic demand on the corridor. The growth rates for the corridor were developed for the I-85 general purpose lanes, HOV lanes, and for the HOT lanes scenario. Using the growth rates, future traffic volumes with and without the HOT lanes were derived (i.e. Build and No-Build, respectively). The micro-simulation model, TransModeler, was identified as the most appropriate software for simulating freeway corridor operations with HOV lanes and dynamically-priced HOT lanes. The forecasted traffic volumes served as key inputs into the microsimulation model. Calibrating the model to existing conditions was an important step in the process and was accomplished by referencing other sources of speed data along the corridor. After model calibration to existing conditions was complete, the model was built and run for future conditions. The simulation model provided various performance measure outputs for the existing and future scenarios with and without the HOT lane. Performance measure outputs included vehicular speeds, vehicular density, and traffic volumes. These are key performance measures that can assist in identifying freeway corridor conditions. These performance measures are also used to calculate Level-of-Service (LOS) in accordance with Federal Highway Administration's (FHWA) *Highway Capacity Manual 2000* (HCM 2000) Quality of Service thresholds. Given the performance measures provided from the model, the future operations of I-85 with HOV lanes and with HOT lanes could be measured and evaluated.

Design Year 2031 HOT Lane Conditions

For the southbound AM peak hour, there are severely congested travel speeds throughout the entire corridor on the general purpose lanes. However, the HOT lanes show speeds greater than 50 mph, with one section at 45 mph. For the northbound PM peak hour, there are slow speeds beginning at Chamblee-Tucker Road and between Jimmy Carter Boulevard and Beaver Ruin Road for the general purpose lanes. However, again the HOT lanes show speeds greater than 50 mph for the entire corridor. This analysis indicates that the HOT lanes can be operated to provide reliable travel time through the corridor.

In the AM peak hour, the HOT lane in the southbound direction in the AM peak hour operate with LOS C or better through the entire I-85 corridor. The average system-wide speed for the AM peak hour was calculated to be approximately 60 mph. The general purpose lanes in the southbound direction in the AM peak hour operate with LOS E and F throughout the entire I-85 corridor. The average system-wide speed for the AM peak hour was calculated to be approximately 30 mph.

In the PM peak hour, the HOT lane in the northbound direction operates with LOS B or better through the entire I-85 corridor. The average system-wide speed for the PM peak hour was calculated to be approximately 64 mph. The general purpose lanes in the northbound direction operate with LOS E and F on specific stretches of the I-85 corridor. The LOS E and F values are primarily focused in the vicinity between Chamblee-Tucker Road and Steve Reynolds Boulevard. The average system-wide speed for the PM peak hour was calculated to be approximately 35 mph.

All of the HOT lane access weave sections in the southbound direction during the AM peak hour are forecast to operate with LOS E and F under 2031 Build conditions. This is primarily due to the high amount of traffic in the general purpose lanes during the peak hour. In the PM peak hour, three (3) of the four (4) HOT lane access weave sections in the northbound direction are forecast to operate with LOS E and F conditions. These low levels-of-service are primarily due to the high amount of traffic in the adjacent general purpose lane.

Conclusions

Existing traffic conditions on the I-85 corridor between Chamblee-Tucker Road and Old Peachtree Road are severely congested during the weekday peak hours. In the southbound direction during the AM peak hour commute into Atlanta, traffic congestion is evident between SR 316 and I-285 with stop-and-go traffic, low vehicular speeds, and poor levels-of-service. In the northbound direction during the PM peak hour, the same overall segment of I-85 between I-285 and SR 316 endure similar low levels-of-service and travel speeds. These weekday peak hour conditions on I-85 are expected to worsen in the future as traffic volumes continue to increase.

Based on travel demands generated by future growth in conjunction with model simulations, the I-85 corridor is forecast to operate with severe traffic congestion in both the general purpose lanes and HOV lanes. Between the two, the general purpose lanes on I-85 are forecast to have slower travel speeds and lower levels-of-service compared to the HOV lanes - as they do today. However, due to the increased demand for travel along I-85, the HOV lanes are not anticipated to provide the speeds and reliable travel times expected from managed lanes.

In order to preserve the travel time reliability and levels-of-service of the managed lanes on I-85 in the future, the potential impacts and benefits from a HOV to HOT conversion was examined in detail for the corridor under projected Year 2011 and Year 2031 traffic conditions. Based on simulated traffic conditions, the HOT lanes are expected to provide more reliable trip times and better overall levels-of-service for commuters on the I-85 corridor. In particular, the conditions on the southbound AM and northbound PM HOT lanes are substantially better than projected conditions for the No-Build conditions if the managed lane were to remain HOV2+. Given the severely congested conditions anticipated on the corridor for the general purpose lanes, the HOT lanes are forecast to not only provide adequate travel speeds and travel time reliability, but the HOT lanes will also provide regular single-occupant vehicle commuters with the option to use the HOT lane when conditions and personal circumstances deem it necessary. While the HOT lanes are forecast to provide adequate levels-of-service and travel speeds during the weekday peak hour commute times, the HOT lane access points proposed and examined in the model simulations are anticipated to be adversely impacted by congestion in the adjacent general purpose lane with inadequate operations, primarily due to the high volumes anticipated on the general purpose lanes. The friction between HOT traffic weaving out of the HOT lane and into a stream of slower-moving and bumper-to-bumper traffic in the general purpose lanes will decrease HOT operations at the access points.

Mitigation treatments are currently being examined in the microsimulation modeling of the HOT lanes scenario for the Year 2011 and Year 2031, with particular focus on the peak direction of travel in the AM and the PM peak hours. Preliminary treatments to preclude any operational deficiencies at the HOT lane access points include the following: adding more HOT lane access points, reducing HOT lane access points, increasing the length of the weaving areas, and shifting the location of the access

points to provide more time and opportunity for vehicles in the HOT lane to enter back in the adjacent general purpose lanes.

With careful mitigation of the HOT lane access/weaving issues identified in the study under Year 2011 and Year 2031 simulated traffic conditions, the HOV to HOT conversion should provide commuters with a transportation alternative that offers more reliable travel times on the I-85 corridor.

1 INTRODUCTION

1.1 Background

Traffic congestion on the Interstate freeways in metropolitan Atlanta significantly impairs commuters. Nationally, Atlanta is ranked only behind Los Angeles in terms of wasted time per traveler, and is ranked 3rd in the nation in terms of wasted fuel per traveler according to a 2007 Texas Transportation Institute (TTI) Report. Congestion on Atlanta freeways worsens our air quality, decreases our productivity, increases gas usage and dependency, hurts the regional and local economy, and affects our overall quality of life.

Interstate 85 (I-85) is a major north-south freeway providing inter-state connectivity between South Carolina and Alabama, and intra-state connectivity between downtown Atlanta, metro Atlanta counties, and rural Georgia. In northeast Atlanta, I-85 between Chamblee-Tucker Road and Old Peachtree Road ranks as one of the most congested freeway segments in metro Atlanta. Travel on this section of I-85 can take more than twice as much time to travel than should be expected, according to the Georgia Regional Transportation Authority's annual MAP Report. I-85 between Chamblee-Tucker Road and Old Peachtree Road has a travel time index of 1.82 in the morning peak hour and 2.36 in the evening peak hour. These travel time indexes exemplify severe congested traffic conditions.

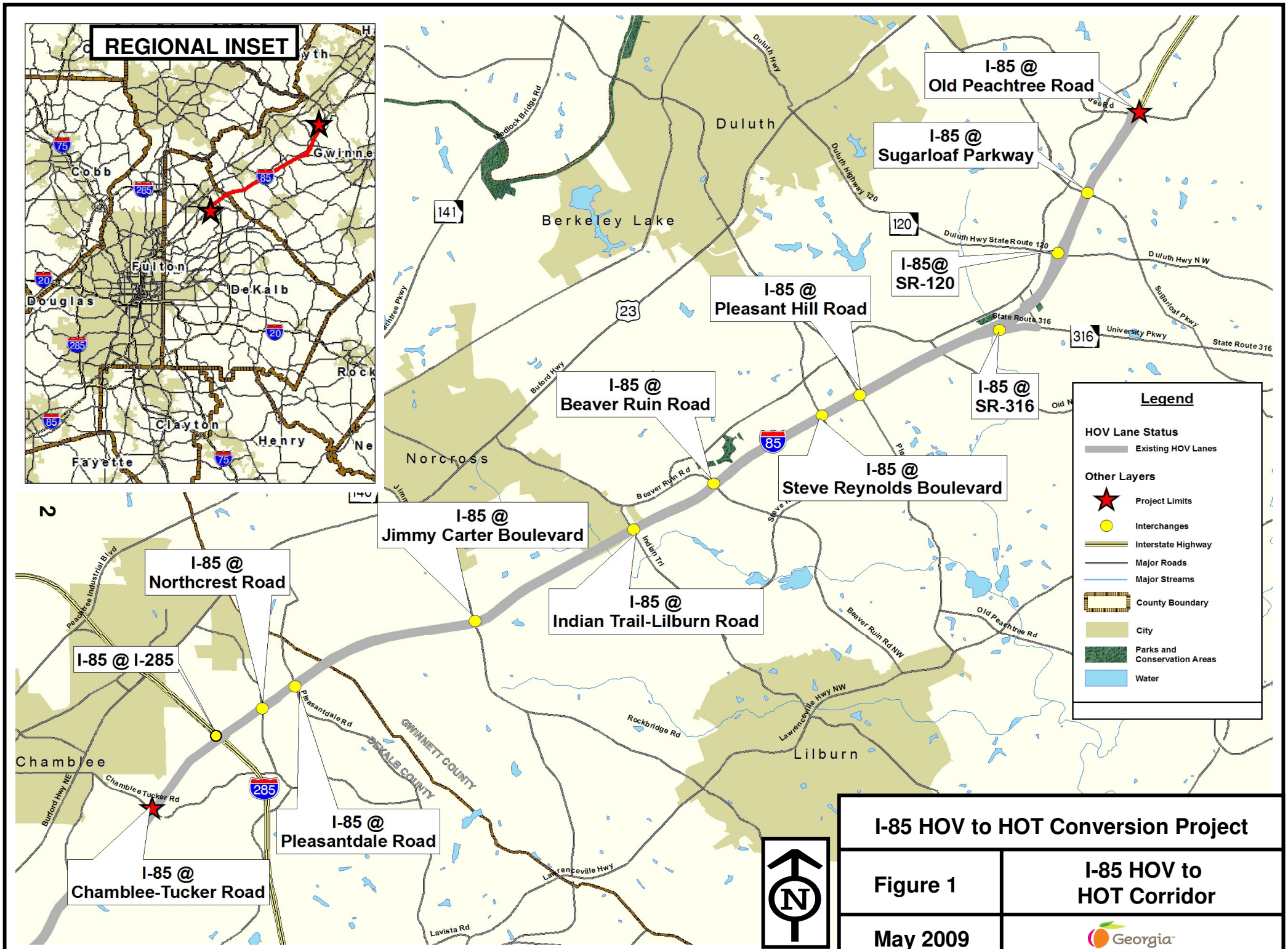
The I-85 corridor between Old Peachtree Road and Chamblee-Tucker Road includes high occupancy vehicle (HOV) lanes. Today, vehicles having two or more persons are allowed to use the HOV lanes. Restricting users of the HOV lane was intended to preserve its lane capacity and provide for reliable travel times, free of congestion. However, the operations and benefits expected from the HOV lanes on I-85 have not been fully realized. The HOV lanes on I-85 have failed to provide commuters with an alternative that facilitates reliable travel times during times of recurring congestion.

1.2 Project Purpose

In response to the current HOV operations on I-85 and their inability to provide commuters with an alternative that facilitates reliable travel times, The Georgia Department of Transportation (GDOT) is considering converting the existing HOV lanes along I-85 to dynamically-priced high occupancy toll (HOT) lanes from Chamblee-Tucker Road to Old Peachtree Road. The HOV conversion would include the increased requirement of three (3) or more persons in a vehicle to travel free on the lanes, from its existing two (2) persons or more per vehicle requirement.

The purpose of the project is to modify and provide more effective management of the existing managed lanes on I-85 in order to facilitate a reliable, congestion-free alternative for motorists and transit vehicles.

The objective of this traffic analysis report is to identify existing and future traffic conditions on the I-85 corridor, including future scenarios that include HOT lane operations. Opening Year (2011) and Design Year (2031) traffic conditions were examined. Figure 1 shows the corridor limits for the HOV to HOT Conversion on I-85.



I-85 HOV to HOT Conversion Project	
Figure 1	I-85 HOV to HOT Corridor
May 2009	Georgia

2 EXISTING CONDITIONS

Interstate 85 (I-85) is a major north-south freeway providing inter-state connectivity between South Carolina and Alabama, and intra-state connectivity between downtown Atlanta, metro Atlanta counties, and rural Georgia. Northeast of Atlanta, the I-85 corridor between Chamblee-Tucker Road in DeKalb County and Old Peachtree Road in Gwinnett County ranks as one of the most congested freeway segments in metro Atlanta.

This I-85 corridor features high occupancy vehicle (HOV) lanes. Today, vehicles having two or more persons are allowed to use the HOV lanes. Restricting users of the HOV lane is intended to preserve its lane capacity and provide for reliable travel times that are free of congestion.

HOV lanes on I-85 provide priority movement to transit, carpools, vanpools, motorcycles, and certified alternative fueled vehicles. Gwinnett County Transit and GRTA Xpress buses currently utilize the HOV lanes during the peak periods on I-85, primarily serving the commute patterns of Gwinnett County residents who work in Atlanta.

2.1 Corridor Review

An initial roadway inventory for the HOV lanes along I-85 was performed in December 2008. More detailed field reviews were performed in January 2009 in order to conduct initial data processing. The field reviews captured data and information on lane configurations, interchange ramp locations, and use and location for weave areas between HOV lanes and general purpose (GP) lanes. Aerial photography and previous design plans for the freeway section were also consulted. The gathered information was confirmed through additional fieldwork in February 2009. In March and April, peak period travel time runs were performed for the purpose of traffic simulation model calibration.

Logical Termini

Logical termini are defined as rational end points for a transportation improvement with consideration of environmental impacts. The most common termini are points of major traffic generation or interchanges.

The proposed 14.3 mile project is located along I-85 and extends northeast from Chamblee-Tucker Road (Exit 94) to Old Peachtree Road (Exit 109), where the existing HOV system ends. The proposed project is located in both DeKalb and Gwinnett Counties, Georgia. Northbound at Old Peachtree Road in Gwinnett County, the HOV lane terminates and transitions into a GP lane prior to the I-985/I-85 split. The southern terminus would incorporate a southbound transition from HOT to HOV at the Chamblee-Tucker Road exit (Exit 94) in DeKalb County. Chamblee-Tucker Road was determined to be a good selection for the southern terminus since traffic on I-85 south of Chamblee-Tucker Road has a tendency to operate with adequate travel speeds and levels of service even during weekday peak hours.

Corridor Characteristics

The I-85 corridor between Chamblee-Tucker Road and Old Peachtree Road contains thirteen (13) interchanges and seven (7) HOV entry/exit points (weaving areas) in the northbound direction and eight (8) HOV entry/exit points (weaving areas) in the southbound direction. These existing lane configurations and HOV access points are shown in Figure 2.

2.2 *Crash History*

Corridor crash analysis on I-85 was conducted for the most current three years of data available from the Georgia Department of Transportation (GDOT): 2004, 2005 and 2006. Table 1 shows the historical number of crashes for the study corridor

Table 1. Historical Crash Data

Segment	Year		
	2004	2005	2006
I-85 from Chamblee Tucker Road to Old Peachtree Road	3,416	2,193	3,223

These crashes were used in order to calculate standard corridor crash rates (per 100 million vehicle-miles traveled) per year, which were compared to statewide average rates for urban interstates in Table 2.

Table 2. Historical Crash Rates (Statewide Average)

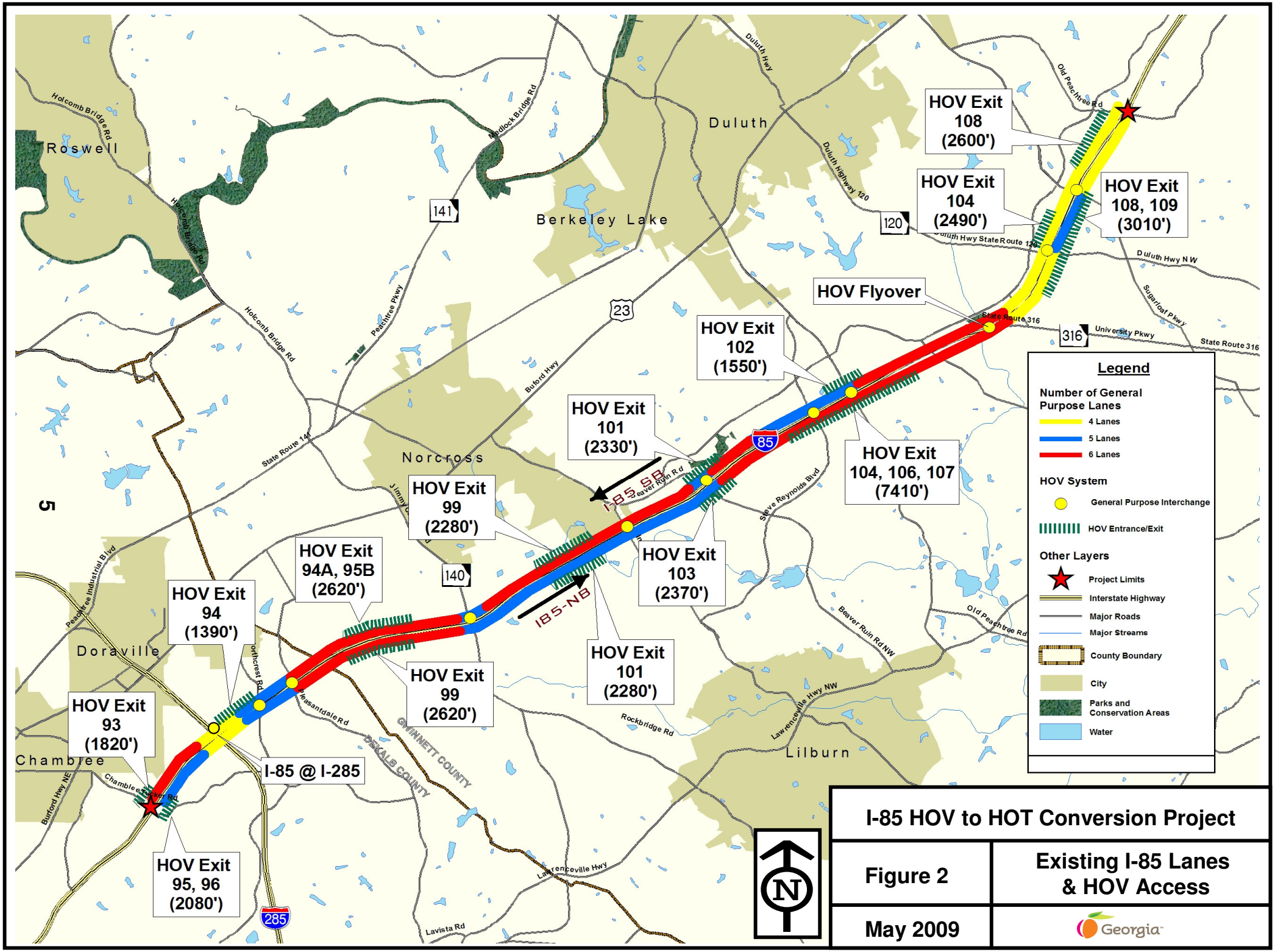
Segment	Year		
	2004	2005	2006
I-85 from Chamblee Tucker Road to Old Peachtree Road	273	176.6	260.3
Statewide Average for Urban Interstate	190	206	200

Comparing the statewide averages to the I-85 study corridor rates shows that I-85 has an above-average crash rate for two (2004 and 2006) of the three study years within the study area. Table 3 shows the historical number of injuries and fatalities.

Table 3. Summary of I-85 Injuries and Fatalities

Segment	Year					
	2004		2005		2006	
	Injuries	Fatalies	Injuries	Fatalies	Injuries	Fatalies
I-85 from Chamblee Tucker Road to Old Peachtree Road	693	5	497	2	681	6

These statistics were used in order to calculate standard corridor injury crash rates (per 100 million vehicle-miles traveled) per year, which are compared to statewide average rates for urban interstates in Table 4.



I-85 HOV to HOT Conversion Project

Figure 2	Existing I-85 Lanes & HOV Access
May 2009	Georgia

Table 4. Injury and Fatality Crash Rates (Statewide Average)

Segment	Year					
	2004		2005		2006	
	Injuries	Fatalies	Injuries	Fatalies	Injuries	Fatalies
I-85 from Chamblee Tucker Road to Old Peachtree Road	55.39	0.4	40.02	0.16	55	0.48
Statewide Average for Urban Interstate	44	0.59	49	0.77	46	0.73

Comparing the statewide averages to the I-85 study corridor rates shows that I-85 has an above-average injury crash rate for two (2004 and 2006) of the three study years within the study area. The study segment of I-85 had a fatality crash rate below the statewide average for all three study years.

Additional statistics for the I-85 study corridor were calculated from the GDOT Traffic Management Center (TMC) 2007 incident data. They are as follows:

- 4% of all incidents were noted as affecting the HOV lane.
- 36% of all weekday incidents occur during the peak hours.
- More (150% of average month in both July and August) incidents occur during the summer.
- The day with the highest incident rate (127% of average day) is Friday.
- The most common (48% of all incidents, 50% of HOV incidents) incident type is a stalled vehicle.
- Excluding construction, most incidents were clustered around I-285 (28%) and Jimmy Carter Boulevard (20%).

2.3 Existing Traffic Data Sources

In scoping discussions with GDOT, the I-85 HOV to HOT conversion project was envisioned to use existing data sources. These data sources include traffic counts from other GDOT projects along the corridor as well as historical information from the GDOT Office of Transportation Data (OTD) and the GDOT Traffic Management Center (TMC). Various data sources were researched and the following data was used to help establish existing traffic volumes along the corridor.

Atlanta Radial Freeways Project (provided by Cambridge Systematics)

Data from GDOT's Atlanta Radial Freeways Project was reviewed and used to assist the development of existing traffic volumes along the corridor. Specifically, 48-Hour bi-directional traffic volume segment counts on I-85 (including HOV-lane volume counts, classifications and speeds) were reviewed. The count locations on I-85 are as follows, with the count date in parentheses:

- Between Shallowford Road and Chamblee-Tucker Road (January 2008)
- Between Chamblee-Tucker Road and I-285 (January 2008)
- Between Exit to I-285 and Entrance from I-285 (October 2007)
- Between I-285 and Pleasantdale Road (October 2007 and January 2008)

- Between Pleasantdale Road and Jimmy Carter Boulevard (October 2007)
- Between Jimmy Carter Boulevard and Indian Trail-Lilburn Road (October 2007)
- Between Indian Trail-Lilburn Road and Beaver Ruin Road (October 2007)
- Between Beaver Ruin Road and Steve Reynolds Boulevard (October 2007)
- Between Pleasant Hill Road and Old Norcross Road (October 2007)
- Between Old Norcross Road and Boggs Road (October 2007)
- Between Boggs Road and SR 120/Duluth Hwy (October 2007)
- Between Sugarloaf Parkway and Old Peachtree Road (October 2007)
- Between Old Peachtree Road and Lawrenceville-Suwannee Road (October 2007)

Interchange ramp volumes along the I-85 were also examined from the Atlanta Radial Freeways Project. The counts included vehicle classification data. The location of the ramp volume counts (48-hour counts) are as follows:

- All ramps at Shallowford Road (October 2007)
- All ramps at Chamblee-Tucker Road (October 2007)
- NB on-ramp at Pleasantdale Road (October 2007)
- All ramps at Jimmy Carter Boulevard (October 2007)
- All ramps at Indian Trail-Lilburn Road (October 2007)
- All ramps at Beaver Ruin Road (October 2007)
- All ramps at Steve Reynolds Boulevard (October 2007)
- All ramps at Pleasant Hill Road (October 2007)
- All ramps at SR 120 (October 2007)
- SB collector-distributor (C-D) on-ramp at Sugarloaf Parkway (October 2007)
- All ramps at Old Peachtree Road (October 2007)
- NB off-ramp and SB on-ramp at Lawrenceville-Suwannee Road (October 2007)

Year 2008 peak hour turning movement counts were also provided at eight (8) interchanges that were used to cross-check the ramp volume counts.

GDOT Office of Transportation Data (OTD)

GDOT Automatic Traffic Recorder (ATR) count stations were used. The I-85 count locations are as follows:

- One (1) DeKalb ATR location (2007)
- Two (2) I-85 metro Fulton ATR locations (2007)
- One (1) Jackson ATR location (2007)

Volumes from the four (4) ATR locations were averaged to get the initial truck percentage of 13%. This percentage was adjusted based on more detailed vehicle classification data collected along I-85 from the Atlanta Radial Freeways Project. Additionally, historical traffic information was gathered for GDOT OTD count stations (STARS) along the I-85 corridor and for SR 316.

The DeKalb ATR location was used to determine seasonality of traffic volumes on I-85. Traffic volumes in the month of September were found to represent the average traffic volumes on the corridor.

GDOT Traffic Management Center (TMC)

Traffic volume and speed data was collected for an average week (based on ATR seasonality) for all I-85 segments between Pleasantdale Road and Pleasant Hill Road. Information for the entire corridor was not available due to field equipment malfunction and construction on SR 316 interchange north of Pleasant Hill Road. This data was used to supplement data obtained from the Atlanta Radial Freeways Project. Additionally, 2007 incident data was processed to provide statistics about HOV-specific crashes.

Interstate 85/SR 316 Interchange Improvements

The 2005/2025 traffic flow diagrams by Moreland Altobelli Associates developed for the I-85/SR 316 interchange improvements were used to help calculate ramp volumes in the vicinity of the SR 316 project.

Atlanta Regional Commission's (ARC's) TP+ Travel Demand Model

The ARC model for the 20 metro Atlanta counties was used to help calculate ramp volumes in the vicinity of I-285. Traffic count data for I-285 ramps was not available from GDOT OTD or GDOT TMC.

I-285 Strategic Implementation Plan

The 2005 flow diagrams by PBS&J were used to help balance the I-285 ramp volumes calculated from Cambridge I-85 data and the ARC TP+ travel demand model. Raw traffic count data was not available from this project.

Summary of Data Sources

All of the data sources described above were used to help establish the existing traffic volumes on the I-85 corridor for Year 2008 conditions. The existing condition traffic flow diagrams are shown in Appendix A for Average Daily Traffic (ADT), AM and PM Peak Hours.

The Cambridge Systematics data from the Atlanta Radial Freeways Project provided the majority of traffic volume and speed data used for the I-85 study corridor, especially in establishing the existing volumes. Based on a segment-level review, the roadway network for the balanced flow diagrams is within 5% of the initial Cambridge Systematic traffic counts. The SR 316 interchange is the primary location where traffic volumes were modified using other data sources. These modifications account for the completed construction of the SR 316 interchange and its associated collector-distributor system. These existing traffic flow diagrams were approved by GDOT OEL on April 10, 2009.

2.4 K & D Factors

The overall hourly traffic patterns show a typical urban freeway daily distribution, with traffic generally traveling south (toward Atlanta) during the AM and north during the PM. The existing traffic volume counts were reviewed in order to determine existing conditions K and D factors. The K factor is the percentage of daily traffic occurring during the peak hour and the D factor is the percentage of two-way traffic traveling in the peak direction.

The K and D factors were calculated from 2008 traffic volume counts obtained from the GDOT TMC for the study corridor. The following factors were approved by GDOT OEL:

- HOV (AM K=0.09, PM K=0.09, AM D=0.84, PM D=0.72)
- GP (AM K=0.06, PM K=0.07, AM D=0.59, PM D=0.54)
- Overall (AM K=0.07, PM K=0.07, AM D=0.61, PM D=0.56)

These factors were checked against the values obtained from the Cambridge Systematic counts. Calculations based on Cambridge Systematics' data are shown in Table 5.

Table 5. K and D Factors (Cambridge Systematics)

Type	K Factor		D Factor	
	AM	PM	AM	PM
HOV	0.09	0.09	0.82	0.69
General Purpose (GP)	0.07	0.07	0.59	0.56
Overall	0.07	0.07	0.61	0.57

These K and D factors were then compared to the K and D factors calculated for the existing (2008) conditions traffic flow diagrams shown in Appendix A, as shown in Table 6.

Table 6. K and D Factors (Traffic Flow Diagrams)

Type	K Factor		D Factor	
	AM	PM	AM	PM
HOV	0.09	0.09	0.82	0.70
General Purpose (GP)	0.06	0.07	0.59	0.57
Overall	0.07	0.07	0.61	0.58

The overall K and D factors for the traffic flow diagrams shown in Table 6 are closely in-line for the HOV and GP breakdown for both the GDOT TMC and Cambridge Systematics' data.

2.5 Heavy Vehicles

Vehicle classification counts were initially obtained from GDOT automatic traffic recorder (ATR) count locations on I-85. The truck percentage calculated from the GDOT OTD ATR locations was 13%, with 4% single-unit trucks and 9% combination trucks. This calculation was fine-tuned with the segment-specific truck percentage available from the Cambridge Systematics data. Based on Cambridge Systematics data, the overall truck percentage for the study area (including sections inside and outside I-285) is 16%, with 6% single-unit trucks and 10% combination trucks.

The segment-specific information identified a different truck percentage within I-285 (south) versus outside I-285 (north). Heavy trucks traveling through (but not into) Atlanta are required to bypass the city on I-285, as there is a well-signed and heavily enforced ban on through truck traffic along I-75, I-85, I-20, Georgia 400, and many other major Atlanta thoroughfares. Currently, the truck percentage inside I-285 is 8%, with 5% single-unit trucks and 3% combination trucks. Outside I-285, the truck percentage is 18%, with 6% single-unit trucks and 12% combination trucks. This truck percentage information was used in the analysis of the I-85 corridor. The daily and peak hour truck percentages are shown in Table 7.

Table 7. I-85 Truck Percentages

Location	ADT			AM Peak			PM Peak		
	SU	MU	Total	SU	MU	Total	SU	MU	Total
Inside I-285	5%	3%	8%	5%	2%	7%	3%	2%	5%
Outside I-285	6%	12%	18%	6%	8%	14%	5%	9%	14%
Overall	6%	10%	16%	6%	6%	12%	5%	7%	12%

2.6 Travel Speeds

GRTA Transportation MAP Report Data

Traveling on the I-85 corridor can take more than twice as much time to travel than should be expected. According to the 2008 Transportation MAP Report issued by the Georgia Regional Transportation Authority (GRTA), I-85 between Chamblee-Tucker Road and Old Peachtree Road has a travel time index of 1.82 in the morning peak hour and 2.36 in the evening peak hour. The Travel Time Index (TTI) is the ratio of the average travel time over the free-flow travel time obtained for a certain portion or segment of the freeway system.

Commuters on this section of I-85 may find it difficult to make efficient travel plans to reach their destinations on-time, since traffic conditions can be variable and result in unreliable travel times. According to the same GRTA report, commuters in this section of I-85 have to budget from 2.5 times to over 3 times more travel time (compared to free flow travel time) in order to increase their chances of arriving at their destinations on-time. Relative to average congested speeds experienced on I-85, commuters need to allocate additional time (buffer) in order to increase their chances of reaching their destination on-time. This section of I-85 has a buffer time index of 47% and 33% in the morning and evening, respectively. The Buffer Time Index (BTI) is the difference between the 95th percentile time and the average travel time. BTI is the size of the buffer time as a percentage of the average travel time necessary for the traveler to reach the destination on-time 95 times out of 100. This demonstrates variable levels of congestion and the potential difficulty to plan effective and punctual travel trips.

Cambridge Systematics Data

Travel speeds in the HOV lanes and general purpose lanes on the I-85 corridor were obtained from the Cambridge Systematics data. At the time the speed data was collected no data was collected between SR 316 and Old Peachtree Road due to the re-construction of the SR 316 interchange. The speed data is shown in Table 8.

Table 8. Existing Average Speeds on I-85 (Cambridge Systematics Data)

I-85 Segment	HOV Lane Average Speed (mph)	GP Lanes Average Speed (mph)
AM Peak Hour - Southbound Peak Direction		
SR 316 to Old Peachtree Rd	n/a	68
Beaver Ruin Rd to SR 316	41	29
Jimmy Carter Blvd to Beaver Ruin Rd	44	32
I-285 to Jimmy Carter Blvd	50	36
Chamblee-Tucker to I-285	56	47
PM Peak Hour - Northbound Peak Direction		
Chamblee-Tucker to I-285	65	59
I-285 to Jimmy Carter Blvd	42	31
Jimmy Carter Blvd to Beaver Ruin Rd	56	44
Beaver Ruin Rd to SR 316	44	32
SR 316 to Old Peachtree Rd	n/a	67

As shown in Table 8, the HOV lane speeds are approximately ten miles per hour higher on average than those experienced in the general purpose lanes under congested conditions. However, the HOV lane speeds are less than 50 mph along half of the corridor segments during the peak hour. These lower speeds are correlated with unstable traffic flow.

JACOBS Travel Time Runs

Travel time runs along I-85 during the AM and PM peak period were conducted on April 1 and 2, 2009. It should be noted that the southbound HOV data in the AM peak period and the northbound general purpose lane data in the PM peak period were during the peak period but not during the peak 15 minutes of congestion. The results of the travel time runs are shown in Table 9.

Table 9. Average Speeds on I-85 (JACOBS Data April 2009)

Segment	Direction	AM		PM	
		HOV Lane	GP Lanes	HOV Lane	GP Lanes
Shallowford and Chamblee-Tucker	NB	61.0	66.2	60.2	40.4
	SB	67.6	47.8	71.5	64.4
Chamblee-Tucker and I-285	NB	61.5	64.7	62.3	25.0
	SB	61.5	44.5	67.9	67.2
I-285 and Jimmy Carter	NB	67.8	63.2	42.3	50.5
	SB	53.3	33.1	70.8	68.4
Jimmy Carter and Indian Trail	NB	69.3	63.4	39.3	59.2
	SB	40.8	26.4	70.4	64.2
Indian Trail and Beaver Ruin	NB	70.4	60.4	49.6	64.4
	SB	44.3	25.9	68.7	65.7
Beaver Ruin and Steve Reynolds	NB	70.6	58.1	49.6	67.0
	SB	44.3	16.8	70.7	67.1
Steve Reynolds and Pleasant Hill	NB	70.8	59.9	48.3	68.1
	SB	53.6	11.1	70.0	69.4
Pleasant Hill and Old Norcross	NB	70.8	63.2	58.9	68.5
	SB	53.6	16.4	72.8	67.7
Old Norcross and Boggs Road	NB	72.0	62.2	68.9	68.4
	SB	75.4	59.6	72.9	68.0
Boggs Road and SR 120/Duluth Hwy	NB	69.0	62.6	68.3	66.4
	SB	75.4	61.1	71.9	67.2
Sugarloaf and Old Peachtree	NB	66.2	64.7	69.4	69.4
	SB	73.2	62.8	71.3	69.5
Old Peachtree and Lawrenceville-Suwanee	NB	68.1	66.7	68.7	66.1
	SB	72.8	58.9	69.9	68.0

3 FUTURE CONDITIONS

3.1 Traffic Growth & Volumes

GDOT Historical Trends

Historical data from nearby GDOT count stations was analyzed and yielded a 1.8% exponential growth trend. The trend analysis employed conforms to specific GDOT *Design Policy Manual Guidance*. The results of the analysis are shown in Table 10.

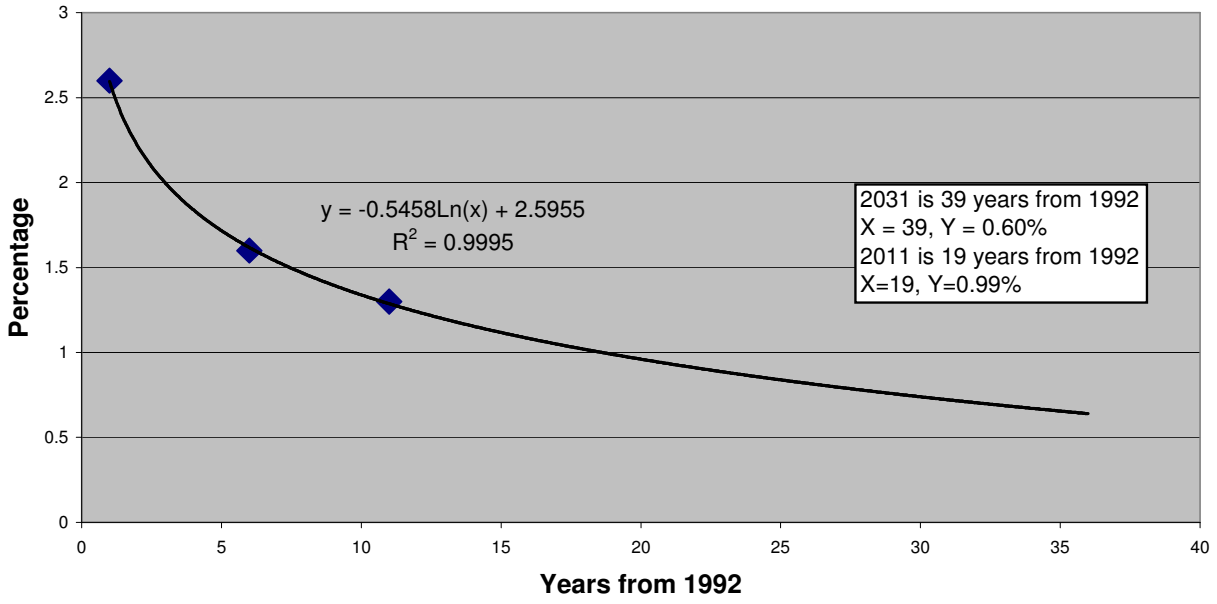
Table 10. Historical Traffic Growth

County	Station	Location	5-Year Growth Rate	10-Year Growth Rate	15-Year Growth Rate
DeKalb County	893329	South of Chamblee Tucker Road	0.50%	2.30%	0.90%
	893332	South of I-285	0.50%	1.00%	0.20%
	893334	North of I-285	3.20%	0.90%	5.80%
Gwinnett County	1356287	North of Jimmy Carter Blvd.	0.50%	0.20%	1.10%
	1350294	North of Beaver Ruin Road	0.90%	1.10%	2.20%
	1350295	North of Steve Reynolds Blvd.	0.90%	1.90%	2.50%
	1350296	North of Pleasant Hill Road	1.00%	2.10%	2.50%
	1350301	North of Sugarloaf Parkway	3.10%	3.70%	5.60%
5-Year, 10-Year, and 15-Year Averages			**1.30%**	**1.60%**	**2.60%**
Weighted Average				**1.80%**	

In order to correlate the historical traffic data with the ARC model results, the change in growth rate over time was investigated. As seen in Table 10, the historical traffic growth value is less for the five-year traffic growth rate than the fifteen-year traffic growth rate. This reduction in growth rate is reflective of slowing traffic growth as I-85 capacity is constrained. These growth rates were plotted and a logarithmic trendline was fitted to the data, as shown in Figure 3.

The coefficient of determination, or R-squared, is a statistical measure of how well a regression line approximates real data points. An R-squared value of 1.0 indicates that the regression line perfectly fits the data. The logarithmic equation shown in Figure 1 has an R-squared factor of 0.9995 and so is considered to be a good predictor of future behavior. Using this formula, the annual growth rate is 0.99 percent for 2011 traffic projections and 0.60 percent for 2031 projections. The 2031 growth rate calculated by this formula is also consistent with the Atlanta Regional Commission TP+ travel demand model, as described in the following section.

Figure 3. Growth Trend Line from 1992



ARC TDM Forecasting

JACOBS ran the updated ARC travel demand model for 2005, 2010 and 2030 conditions in order to obtain growth rate information that will be used in projecting future traffic volumes. The model was run for the existing conditions to obtain a no-build growth rate, which yielded a 0.6% overall growth rate. This low growth rate is reflective of the constrained capacity on I-85. Given the constrained capacity of the roadway, the HOV lane is expected to have a stronger growth rate than its adjacent general purpose (GP) lanes. From the ARC 2010 and 2030 model results, the 2030 HOV-specific exponential growth rate is expected to be 1.95 percent and the adjacent 2030 GP lanes growth rate is expected to be 0.59 percent. This GP-specific growth rate is approximately the same value as calculated by using the logarithmic trendline from the historical growth information. Based on this information, the exponential growth rates shown in Table 11 were used for the no-build condition.

Table 11. I-85 HOV to HOT No-Build Growth Rates (percentage)

Segment	2011	2031
High-occupancy vehicle (HOV) lane	1.95	1.95
General purpose (GP) lanes	0.99	0.59

Traffic volumes for the future Build condition will be affected by the expected future operations of the HOT system. Pricing will be adjusted on this system in order to keep the HOT lane operating consistently at 45 mph. For the Build traffic volume projections, the maximum traffic flow expected to operate in the HOT lane was investigated. This maximum flow can be referred to as an effective capacity. The National Cooperative Highway Research Program (NCHRP) Report 414 HOV Systems Manual recommends a capacity of 1,400 vehicles per hour per lane (vphpl) for buffer-separated HOV lanes. Angshuman Guin, Michael Hunter, and Randall Guensler of the Georgia Institute of Technology performed further research into this effective capacity on existing Atlanta HOV lanes for their Transportation Research Board (TRB) paper on "Analysis of Reduction in Effective Capacities on High-Occupancy-Vehicle Lanes Related to Traffic Behavior." Based on their observations, the HOV effective capacity ranged from 1,400 vph to 1,700 vph. Based on this research and discussions with JACOBS staff analyzing the concurrent SRTA study for traffic and revenue on the HOV to HOT conversion, an effective capacity of 1,400 vph was selected for the Build condition analysis.

Overall, the Build condition is not expected to add lane capacity to the study corridor. Instead, the project is expected to change the operations of the existing managed lane from HOV to HOT guidelines. Although this change in managed lane operation may cause some variations in volume from changes in mode choice, segment traffic volumes across both lane types is expected to remain roughly consistent overall. For simplification, the segment (HOV/HOT and GP together) volumes were kept equal between the No-Build and Build conditions. The peak hour HOT-specific traffic volume was limited to 1,400 vph as the HOT lane projected effective capacity. This restriction results in traffic volume shifting from the HOT lane to the GP lanes in order to have the same segment volume between No-Build and Build conditions. The Build volume calculations result in the following peak hour growth rates, as shown in Table 12.

Table 12. I-85 HOV to HOT Build Peak Hour Growth Rates (percentage)

Segment	2011				2031			
	AM		PM		AM		PM	
	NB	SB	NB	SB	NB	SB	NB	SB
High-occupancy vehicle (HOV) lane	1.95	1.95	1.95	1.95	1.95	0.27	1.28	1.95
General purpose (GP) lanes	1.03	1.02	1.00	1.01	0.60	0.83	0.69	0.61

The expected daily volume of the HOT lane was also considered. Currently, the HOT lane operation is expected to be in place continuously. During non-congested periods, most vehicles with one or two occupants are therefore expected to travel in the GP lanes rather than in the HOT lane where they will be required to pay a toll. This traffic shift will reduce ADT growth for the managed lane. In order to estimate how much daily traffic could be estimated based on the peak hour volumes, JACOBS staff reviewed the traffic operations of the existing SR 167 HOT facility in south King County, Washington. Peak hour toll traffic volumes, daily toll traffic volumes and operation characteristics were reviewed from the performance summary included in the Washington State Department of Transportation (WSDOT) report "Eight-Month Performance Summary of SR 167 High Occupancy Toll (HOT) Lanes Pilot Project: May 3, 2008 – December 31, 2008."

SR 167 HOT lanes operate daily between 5 AM and 7 PM. During that time period, 23 percent of the toll traffic occurs during a single peak hour. However, this percentage is not a true K factor, since the SR 167 lane does not have 24-hour operations and the K factor reflects a 24-hour daily volume.

To convert this percentage for use in calculating the Build traffic projections, 24-hour traffic counts at the I-85 system high point were reviewed to determine the percentage of daily traffic that occurs between 5 AM and 7 PM. From this data review, 76 percent of I-85 traffic occurs between 5 AM and 7 PM. This percentage was used to modify the SR 167 data to yield a percentage factor of 0.17. This percentage was applied to the directional peak hour traffic volumes (SB for AM, NB for PM) to yield the expected HOT ADT volumes. However, because of the directionality of the existing I-85 HOV traffic patterns, the overall HOT K factor was greater than the corresponding HOV K factor but lower than the 0.17 percent calculated for the SR 167 system. The final K and D factor results are shown in the following section.

As with the peak hour projections, the overall segment volumes were kept the same between the No-Build and Build conditions. Traffic that shifted from the HOT lane (as reflected by the higher K factor) was therefore placed in the adjacent GP lane.

The 2011 & 2031 No-Build traffic flow diagrams are shown in Appendix B. The 2011 & 2031 Build traffic flow diagrams are shown in Appendix C.

No-Build and Build K & D Factors

K and D factors were also calculated from No-Build and Build traffic flow diagrams as shown in Table 13 for K factors and Table 14 for D factors.

Table 13. K Factors (Traffic Flow Diagrams)

Type	AM Conditions					PM Conditions				
	Existing	No-Build		Build		Existing	No-Build		Build	
		2011	2031	2011	2031		2011	2031	2011	2031
HOV	0.09	0.09	0.09	0.11	0.11	0.09	0.09	0.09	0.11	0.13
GP	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.06	0.06
Overall	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07

Table 14. D Factors (Traffic Flow Diagrams)

Type	AM Conditions					PM Conditions				
	Existing	No-Build		Build		Existing	No-Build		Build	
		2011	2031	2011	2031		2011	2031	2011	2031
HOV	0.82	0.82	0.82	0.84	0.79	0.7	0.7	0.7	0.72	0.68
GP	0.59	0.59	0.59	0.59	0.61	0.57	0.57	0.57	0.57	0.57
Overall	0.61	0.61	0.62	0.61	0.62	0.58	0.58	0.58	0.58	0.58

The overall K and D factors for the traffic flow diagrams shown in Tables 13 and 14 are closely in-line for all Existing, No-Build and Build scenarios.

3.2 Build Alternative

HOT lanes are limited-access managed lanes for general use by buses and other HOV but open to single occupant vehicles (SOV) for a fee. The number of vehicles using these lanes can be controlled through dynamic pricing via electronic toll collection or other means so as to maintain free-flowing traffic in them at all times, even during peak travel times.

Dynamic pricing is a method of charging drivers a toll for using the HOT lane or designated lanes of a road during periods of heaviest use. The fee is set to maintain free-flowing traffic and provide reliable trip times. This would allow single occupant vehicles to use the HOT lane for a fee. The fee would subject to change based on the severity of traffic conditions on the corridor and/or the availability of capacity on the HOT lane. For instance, under severe congested conditions, the fee would be relatively higher in order to help preserve the service of traffic flow on the HOT lane. The preservation of HOT lane capacity and quality of service would also include increasing the occupancy requirements from two (2) to three (3) or more persons per vehicle.

Thermo-plastic HOT Lane Separation

The I-85 corridor currently has double stripe thermo-plastic striping separating HOV lanes from adjacent general-purpose lanes. The thickness of the thermo-plastic striping is generally two feet at minimum. This type of lane separation is proposed for the I-85 corridor HOT conversion between Chamblee-Tucker Road and Old Peachtree Road.

As thermo-plastic striped lane separation will consist of no physical barrier between the HOT lane and GP lanes, they may be susceptible to both occupancy and access violators. However, increased law enforcement in conjunction with technological enforcement systems will be employed to decrease the potential for violators.

Striped systems are the least expensive form of lane separation between managed lanes and general-purpose lanes. They generally require minimal right-of-way and thus minimal impacts on existing bridge spans and overall cost. As striped systems don't have a physical barrier in place, emergency management services and response units have unhindered accessibility to incidents, which can be a concern with a barrier type system. Maintenance costs associated with thermo-plastic striping is minimal compared to other separation techniques. For further discussion on this type of HOT lane separation, please see Appendix D for a Managed Lane Separation Whitepaper entitled, "Managed Lane Separation Techniques and Cost Estimates for Metro Atlanta."

HOT Lane Typical Section

Federal Highway Administration's (FHWA) *A Guide for HOT Lane Development* specifies general HOT lane cross-section guidance for travel lanes, shoulder widths, and separation widths between HOT lanes and general-purpose lanes. The cross-section guidance for HOT lanes are similar to those of HOV lanes and general-purpose lanes. The cross-sectional guidelines for HOT lanes are shown in Table 15:

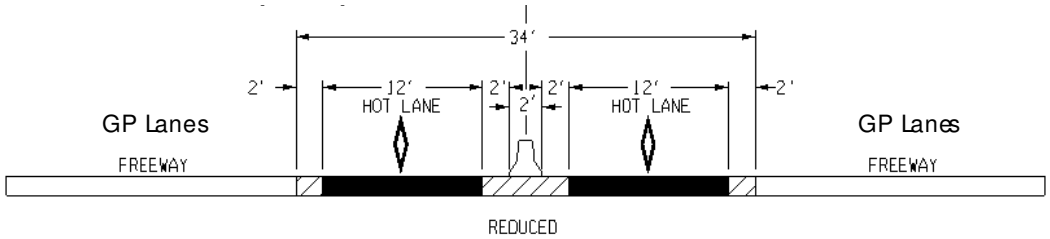
Table 15. Guidelines for HOT Lane Cross-sections

Cross Section Element	Standard	
Lane Width	12 feet	
Shoulder Width (Right and left)	10 feet	Desirable
	2 feet	Minimum
Separation Width (for non-barrier separated)	4 feet	Desirable
	2 feet	Minimum

Source: FHWA, *A Guide for HOT Lane Development*

As shown in Table 15, under desirable and minimal conditions, a 12 foot travel lane is recommended. Standard shoulders (desirable) are 10 feet. Minimum shoulders are 2 feet. The desirable buffer between the HOT lane and the adjacent general-purpose lane is 4 feet. The minimum buffer area between a HOT lane and a GP lane is 2 feet. The typical section for the proposed HOT lanes on I-85 is shown in Figure 4.

Figure 4. HOT Lane Typical Section for I-85



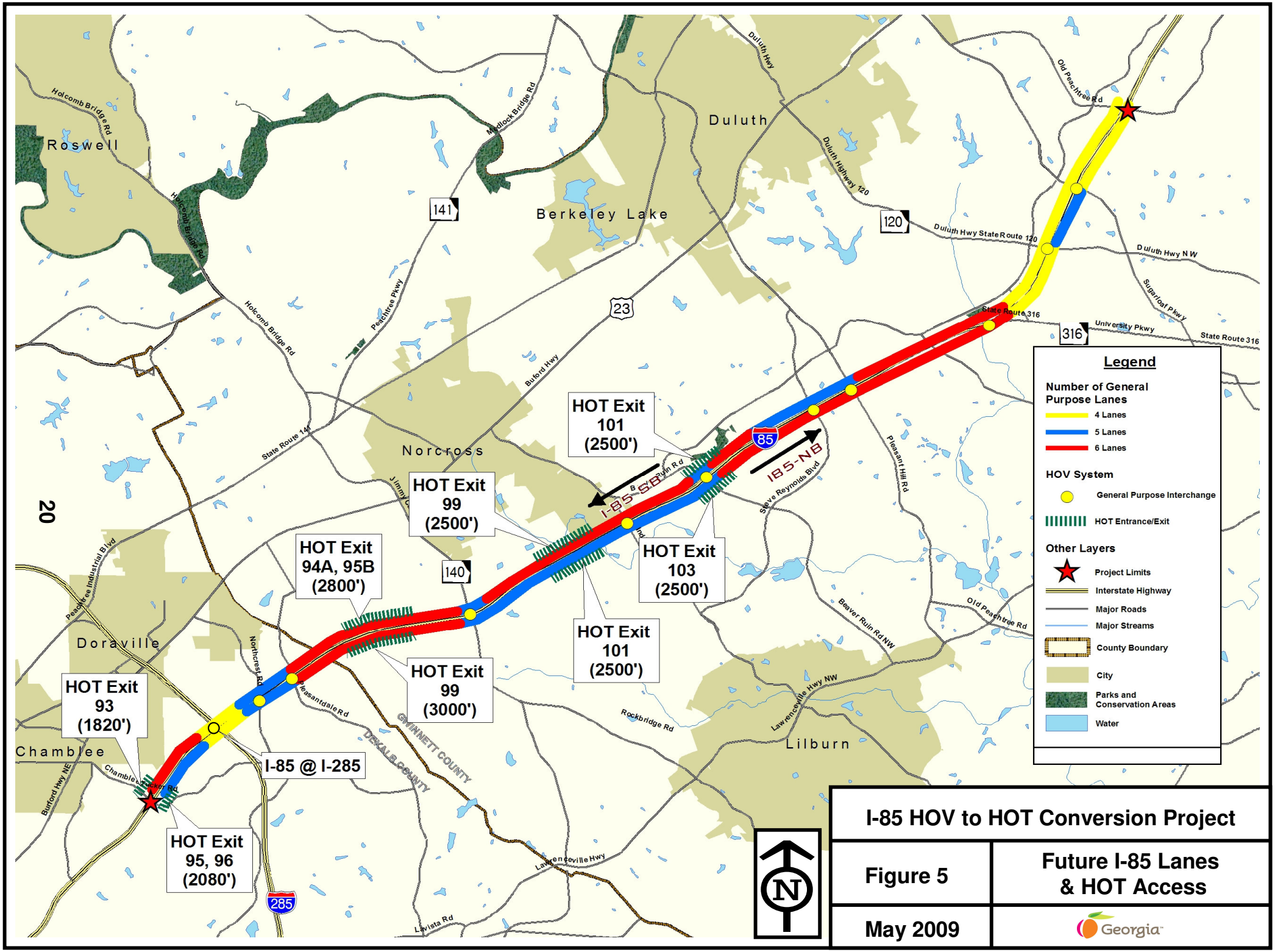
HOT Lane Access

The proposed access points for the proposed HOT lanes on I-85 are shown in Figure 5. Two sources were reviewed for recommended spacing for the access points. Guidelines from the Texas Transportation Institute (TTI) and the FHWA were reviewed. The review resulted in the following findings shown in Table 16.

Table 16. Guidelines for HOT Lane Spacing

Source	Report	Weaving area (ft)		Distance Between Weave and Interchange (ft)	
		Minimum	Desirable	Minimum	Desirable
TTI	Managed Lane Weaving, Ramp and Design Issues	500	1,000	2,500	4,000
FHWA	A Guide for HOT Lane Development	1,300	1,500	1,000/lane	1,000/lane

The existing HOV weave sections shown in Figure 2 previously were also reviewed for weaving area length. On average, the existing HOV weaving area lengths were between 1,800 and 2,500 feet. Because of the heavy traffic flows on I-85, these weaving area distances were retained for the HOT lane access lengths. The proposed HOT lane access points are shown in Figure 5. The weaving area lengths were kept to a minimum of 2,500 feet (with the exception of Chamblee-Tucker weave due to on/off-ramp constraints), with slightly longer weaving areas recommended for the location south of Jimmy Carter Boulevard that serves I-285. Spacing of 2,500 feet between the weaving area and adjacent interchanges were retained where roadway geometrics allowed, with a minimum spacing of 2,000 feet in all locations. Where possible, existing HOV weaving area placements were retained as part of the HOT system. The proposed access points for the proposed HOT lanes on I-85 are shown in Figure 5.



I-85 HOV to HOT Conversion Project	
Figure 5	Future I-85 Lanes & HOT Access
May 2009	Georgia

4 MICROSIMULATION MODELING & LEVEL-OF-SERVICE (LOS)

In order to evaluate existing and future year performance along the I-85 corridor, application of a traffic simulation model was recommended. The results of this model was used to evaluate the operational characteristics of converting the existing HOV lane to a HOT facility. This section describes the need for a simulation model and identifies how the recommended software was selected based on a comparative review of four microscopic simulation model platforms.

4.1 Microsimulation Model Selection

FHWA's Traffic Analysis Tools Program was used to help select the most appropriate analysis tool for the needed level of detail and required applications for the I-85 HOV to HOT conversion project. This program includes the *Decision Support Methodology for Selecting Traffic Analysis Tools,* hereafter referred to as the Decision Support Methodology. Based on the results from the Decision Support Methodology, simulation modeling packages were compared for potential application on I-85.

The Decision Support Methodology was used as an important step in identifying the appropriate traffic analysis tool for the I-85 HOV to HOT conversion project, as detailed below.

Traffic Analysis Tools Program

The Decision Support Methodology uses seven basic questions that answer the criteria to identify when various types of analysis tools are appropriate. The seven basic questions are as follows:

- What is your study area?
- Which facility type do you want to include?
- Which travel modes do you want to include?
- Which management strategies should be analyzed?
- Which traveler responses should be analyzed?
- What performance measures are needed?
- What operational characteristic are necessary?

The associated FHWA automated toolbox for traffic analysis tool selection calculates a weighted subtotal for each model type. Based on these seven basic questions the traffic analysis tools are then ranked. For the I-85 HOV to HOT conversion project, the following results were calculated for each model type:

1. Microscopic Simulation Models (score of 1071)

   Microscopic simulation models perform calculations for individual cars based on car-following and lane-changing theories. These models must be calibrated to field conditions but allow for precise modeling on origin-destination information and types of facilities, vehicles and drivers. Microscopic models are the sources for most simulation displays of traffic systems and allow exploration of the expected effects of traffic movements, volumes and incidents on Measures of Effectiveness (MOE's) such as travel time, density and expected delay.

2. Mesoscopic Simulation Models (score of 827)

Mesoscopic simulation models combine elements of microscopic and macroscopic models. As with microscopic simulation models, calculations are based on the individual vehicle rather than platoons and mesoscopic simulation models also allow for detailed assignment for roadway, vehicle and driver characteristics. However, mesoscopic travel prediction is performed for aggregate data and does not consider dynamic speed/volume relationships.

3. Macroscopic Simulation Models (score of 667)

Macroscopic simulation models are performed on a section-by-section basis using platoons of vehicles rather than by tracking individual vehicles. Based on aggregate speed/volume and demand/capacity relationships rather than individual vehicles, macroscopic models give more overview results than microscopic models.

4. Travel Demand Models (score of 613)

Travel demand models predict travel demand and patterns, mode choice, time-of-day travel choice, and route choice. Future traffic volumes are estimated and assigned to the roadway network based on current conditions, projected future transportation system projects and future socio-economic estimates. However, travel demand models only have limited capabilities to evaluate operational characteristics such as speed, delay, and queuing.

5. Traffic Signal Optimization Tools (score of 173)

Traffic signal optimization tools are mostly based on Highway Capacity Manual (HCM) procedures to develop optimal signal phasing and timing plans. These tools would not be applicable to freeway segments.

6. Sketch-Planning Tools (score of -296)

Sketch-planning tools provide overall order-of-magnitude estimates of travel demand and traffic operations based on simplified analysis and highly-aggregated data. Sketch-planning tools are typically used to test various project alternatives before conducting a detailed engineering analysis.

7. Deterministic/Analytical Tools: HCM-Based (score of -471)

Most traffic analytical/deterministic tools use HCM methodology and are macroscopic; they predict average operating conditions for a given time period. The low rating of the deterministic/analytical tools for this particular task is based in part on HCM methodology limitations of analyzing HOV or HOT facilities. HCM methodologies are limited for evaluations of networks or systems, as opposed to isolated segments or intersections. HCM methodologies are also limited in evaluating situations such as lane changes in preparation for exit ramps, congestion and low travel speeds from over-capacity conditions, and weaving segment assumptions.

Decision Support Methodology Conclusion

The Decision Support Methodology indicates microscopic simulation modeling is the most appropriate model type to explore the detailed operations related to the proposed I-85 HOT lanes. As indicated above, simulation modeling is necessary to effectively examine HOV/HOT facilities, vehicle weaving, lane changes in preparation for exits, and conditions that are over-capacity. Four (4) microscopic simulation model programs were identified and explored further: SimTraffic (with Synchro support), CORSIM, VISSIM and TransModeler. These packages were then investigated in more detail for applicability.

Microscopic Simulation Model Detailed Evaluation

Short descriptions of the four identified microscopic simulation model programs are included below.

SimTraffic (with Synchro)

SimTraffic is a microscopic model supported by the macroscopic traffic software program Synchro; both programs are distributed by the firm TrafficWare. SimTraffic performs 2D animation of vehicular traffic. With SimTraffic, Individual vehicles are modeled and displayed traversing a street network. SimTraffic does have freeway section modeling capability. though Synchro is used primarily for intersection analysis.

TSIS—CORSIM

Developed by the Federal Highway Administration and distributed by McTrans, TSIS-CORSIM (Traffic Software Integrated System - Corridor Simulation) is a microscopic traffic simulation software package that pairs NETSIM and FRESIM so arterial and freeway systems may both be modeled. The Traffic Software Integrated System (TSIS) is a collection of software tools that improve the ease of coding, validating and displaying CORSIM results. CORSIM includes the ability to simulate HOV lanes and ramp metering. Outputs from TSIS are text reports for typical MOEs and 2D simulation displays.

VISSIM

VISSIM is a microscopic multi-purpose traffic simulation program supported by PTV Vision. VISSIM allows a high level of precision for network and stochastic elements and sophisticated vehicle behavior modeling in order to accurately calibrate to actual field conditions. VISSIM will model networks of all sizes and allows route choice to be determined for each vehicle type, facilitating the modeling of HOV and HOT lanes. Typical VISSIM MOEs include delay, travel time, stops, queues, speeds, and density. Vehicle movements can be animated in either 2D or 3D displays and a free VISSIM-Viewer program is available for display of short simulations.

TransModeler

Designed by Caliper Corporation, TransModeler can simulate a wide selection of traffic planning and modeling tasks in microscopic, mesoscopic and macroscopic modes. TransModeler can simulate various types of roadway networks and is suitable for modeling large multimodal networks. Its traffic simulations can be modeled in either 2D or 3D displays and study MOEs can be presented in

various formats. TransModeler supports a large set of ITS traffic management strategies, including congestion pricing, transit priorities, and time-variant lane access control. TransModeler can model HOV lanes and toll facilities, including HOT facilities, and can integrate simulation reports directly with travel demand modeling software.

Simulation Model Comparison Matrix

A matrix of important design elements was developed in order to identify the preferred modeling program. These four models were then compared based on twelve criteria applicable to the I-85 HOV to HOT Conversion project, as shown in Tables 17 through 19.

Table 17. Characteristics of Simulation Models: Interface and Level of Effort

Model	Direct Input from Travel Demand Model	GIS Interface	Effort Required for Coding	Effort Required for Post Processing and Iterative Application
Simtraffic	No	None	Low	More
CORSIM	No	None	High	More
VISSIM	Yes	Limited	High	Less
TransModeler	Yes	Fully integrated	Mid	Less

Table 18. Characteristics of Simulation Models: Design

Model	Model Level of Detail				Designed for Freeway Application
	Macro	Meso	Micro	Hybrid	
Simtraffic	Yes*	No	Yes	No	No**
CORSIM	No	No	Yes	No	Yes
VISSIM	Yes	Yes	Yes	No	Yes
TransModeler	Yes	Yes	Yes	Yes	Yes

* With Synchro support

** Simtraffic was considered not appropriate for this level of freeway application

Table 19. Characteristics of Simulation Models: Capabilities and Detail

Model	Direct HOV Coding Capability	Direct HOT Coding Capability	Full Number of Freeway Lanes Available	Simulation Detail	3D Simulation Available
Simtraffic	No	No	Yes	Low	No
CORSIM	Yes	No	With Auxiliary Lanes	Mid	No
VISSIM	Yes	Yes	Yes	High	Yes
TransModeler	Yes	Yes	Yes	Mid	Yes

Final Evaluation and Decision

Coordination was performed with GDOT Office of Planning and Cambridge Systematics (Cambridge) concerning the VISSIM modeling being performed for the Atlanta Radial Freeways including I-85. The I-85 VISSIM model is currently in calibration for their base year conditions. Based on estimates from Cambridge staff, the completion date for their base and future year models is estimated as the end of April 2009. Given the required HOV to HOT conversion project schedule, JACOBS had to complete modeling efforts before the resulting Cambridge VISSIM model was available. Cambridge

has provided JACOBS with traffic count data along the I-85 study corridor in order to share data between the two projects.

Based on the characteristic matrices shown in Tables 17 through 19 and the required project schedule, TransModeler was selected as the most appropriate model for the I-85 HOV to HOT conversion project. This selection was approved by GDOT on February 19, 2009

TransModeler allows for full integration with existing GIS data for the corridor and full interface with the ARC travel demand model. When the pre- and post-processing requirements are aggregated, TransModeler is considered the simplest and quickest model to use. TransModeler includes explicit HOV lane coding, HOT lane coding, full freeway cross-section coding capability, and all three model (microscopic, mesoscopic and macroscopic) levels of detail. Although the simulation detail is considered mid-range, demonstration TransModeler models have sufficient detail to demonstrate future operations to viewers outside the transportation field. TransModeler has a number of potential outputs based on the simulation results from multiple runs; these outputs include statistics, charts, maps and reports. GIS tools and utilities allow in-depth analysis of the project work. Additionally, 3D traffic simulation is available if needed for presentations.

4.2 Modeling Methodology

Simulation models for the I-85 corridor were developed for various scenarios. Models were developed for existing conditions, 2011 and 2031 No-Build conditions, and 2011 and 2031 Build conditions. The Build simulation models include high occupancy/toll lanes (HOT). Each condition has model runs for the AM and PM peak hour. Thus, a total of 10 model runs were developed for operational examination.

The initial model network was created based on the Atlanta Regional Commission (ARC) travel demand model network. Thus, the simulation model network includes all attributes of the ARC model network. The base year network was developed by refining the initial network to reflect existing roadway conditions such as lanes, ramps, HOV lane weaving areas, auxiliary lanes, deceleration lanes, acceleration lanes, and speed limits. The refinement of the base model was made possible through the use of aerial photography, a video recording of the corridor, signing, pavement marking plans, and numerous field visits beginning in January 2009 through April 2009.

Traffic volumes for each scenario were developed as shown in Appendix A, B, and C. The traffic volumes from the traffic flow diagrams were entered into the model network. A tool of TransModeler, O-D Matrix Estimation (ODME), was utilized to obtain an origin-destination (OD) trip matrix in order to assign trip patterns to individual vehicles in the model. Total trip OD matrix and HOV trip matrix were developed. The HOV trip matrix was used to distinguish between HOV 2 (two passenger vehicles) and HOV 3+ (three or more passenger vehicles). A selected link analysis was conducted to obtain truck movements using the ARC model which was applied to the total trip OD matrix to develop the OD trip matrix for trailer trucks. The bus data was replicated based on current and planned routes and frequency and was used for the bus OD trip matrix. The final OD matrix for the TransModeler simulation model consists of five sub matrixes: HOV2, HOV3+, bus, truck, and other. The other includes passenger cars (high, median, low performance cars), motorcycles, pickups, vans, and single unit trucks (mostly service trucks).

After running the simulation models, the next step involved gathering output statistics to analyze traffic flow conditions. TransModeler provides various outputs such as vehicular density, average speed and flow, intersection delay, and queue lengths in various formats such as reports, maps, and charts. In this project, speed, volume throughput, and vehicular density by segment for the HOV lanes and general purpose (GP) lanes were extracted from the model runs.

4.3 Calibration to Existing Conditions

Model validation is the process of demonstrating that the model output reasonably replicates observed travel behavior. In order to validate the base year model, an iterative calibration process was conducted. The calibration involved but was not limited to adjusting model parameters such as driver group behavior, speed factors, and lane change model factors.

Figures 6 through 9 provide the summaries for the AM and PM model validation. The figures feature the existing condition speeds extracted from the model in conjunction with speed data from other existing condition different sources including Cambridge Systematics, GDOT TMC data, and travel time runs performed by JACOBS. The calibration process was iterative, and the goal was to have the model results fall within a reasonable range of the multiple sources of data. Given the model is a dynamically driven simulation model (with random number seeds), and the existing data sources for speeds are not significant, complete matching of the model speeds and other data sources was not deemed a reasonable objective in the calibration process.

In summary, the speeds shown in the Figures 6 through 9 illustrate that the simulation model was reasonably calibrated and validated system-wide based on existing data sources.

Figure 6. I-85 Southbound AM – HOV Lane Model Comparison

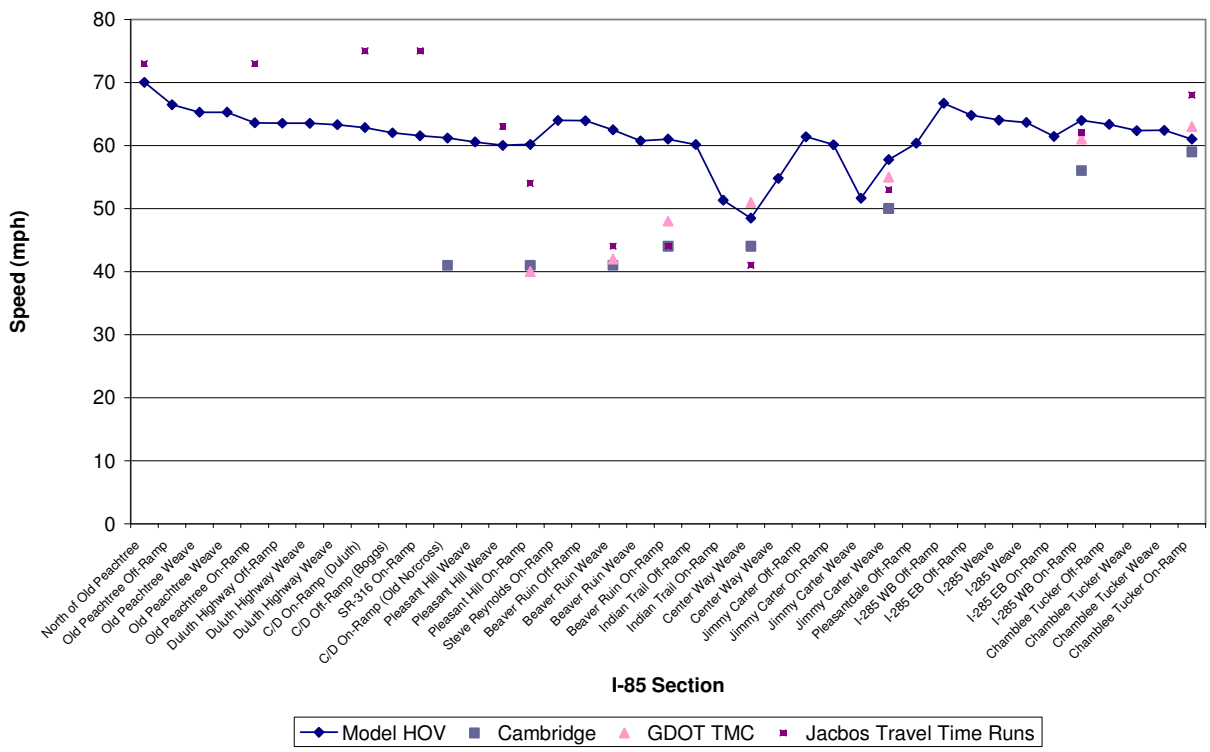


Figure 7. I-85 Southbound AM – General Purpose Lanes Model Comparison

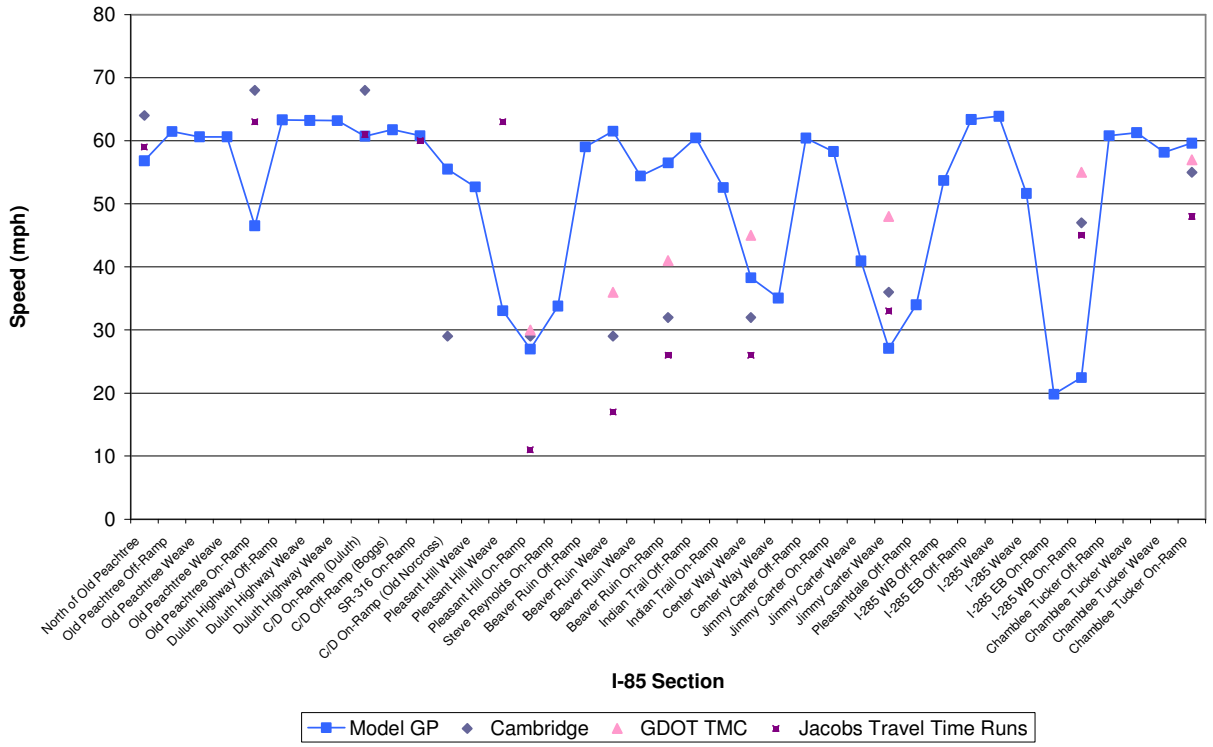


Figure 8. I-85 Northbound PM – HOV Lane Model Comparison

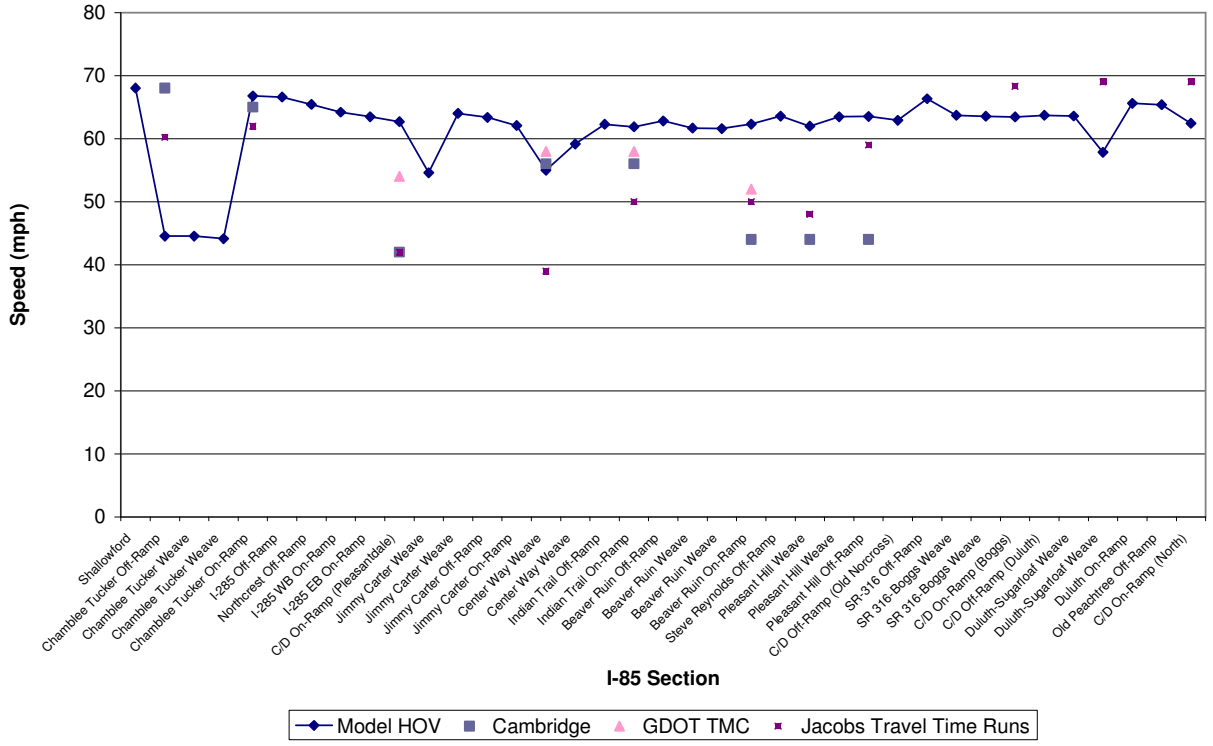
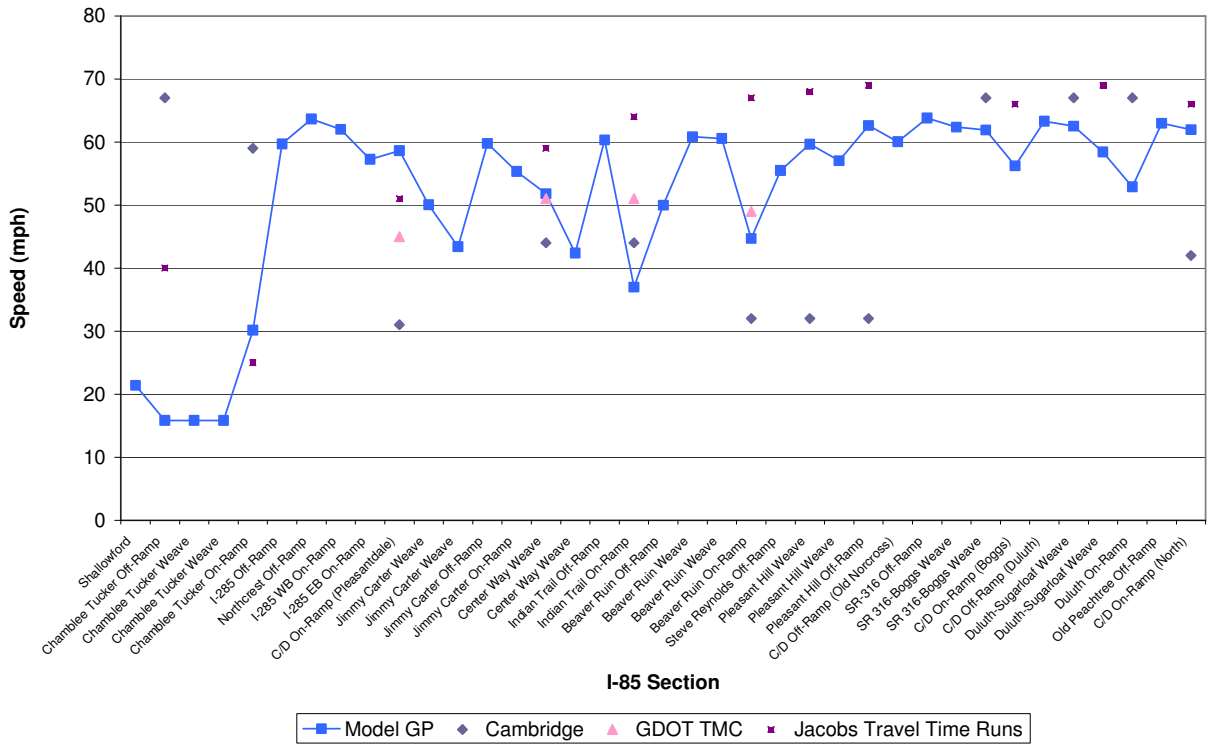


Figure 9. I-85 Northbound PM – General Purpose Lanes Model Comparison



It should be noted that since the model simulation runs are seeded randomly and that the output results and speeds in particular can change from run to run. Moreover, the model simulates driver behavior. In that regard, speeds are noted to increase after a congestion choke point given that drivers in reality try to make up for lost time from bumper-to-bumper traffic or slow segments of travel.

4.4 Model Development with HOT Lanes

The HOT lane provides drivers an option to save travel time for a potential fee. The lane remains free for HOV 3+, buses, vanpools, motorcycles, and alternative fuel vehicles and on-call emergency vehicles. The purpose of the HOT lanes are to provide the most effective use of the managed lanes in order to provide reliable travel times on the corridor. The price for use on the HOT lane varies depending on traffic congestion levels. The simulation model for HOT lanes includes a pricing policy that keeps travel speeds at least at 45 MPH by moderating traffic on the HOT lanes.

The build model network was created using a base year network by revising toll sections, weaving areas, and toll message signs for Opening Year 2011 and Design Year 2031. Two important factors that affect a drivers' decision to use the HOT lane are toll pricing and their value of time (VOT) cost. Users can chose fixed pricing, time-dependent pricing, traffic responsive pricing, or user-programmed pricing in the TransModeler simulation model. In this study, traffic responsive pricing was selected to simulate the HOT lane operation. The toll pricing varies depending on traffic

conditions on the HOT lane in order to provide reliable travel speeds in this corridor. VOT was set at $15 in accordance with the ARC model.

4.5 Level-of-Service (LOS) Methodology

An analysis of existing peak hour traffic conditions was performed to determine the LOS for the proposed project. The HCM 2000 provides ranges of delay for each LOS definition, spanning from very minimal delays (LOS A) to high delays (LOS F). LOS F is considered unacceptable for most drivers.

LOS for Freeway Segments

A freeway segment can be characterized by three performance measures: density, speed, and volume. Density represents passenger cars per mile per lane (pc/mi/ln). Speed represents the mean passenger-car speed. The volume is the volume of traffic on the lane per unit time period. These three measures are an indication of how well traffic flow is being accommodated by the freeway. The HCM uses density to estimate Level of Service.

The specification of maximum densities for LOS A through D is based on the collective professional judgment of the members of the Committee on Highway Capacity and Quality of Service of the Transportation Research Board. The upper LOS E value (45 pc/mi/ln) is the maximum density at which sustained flows at capacity are expected to occur. LOS F represents traffic breakdowns and when queues begin to form on the freeway. It should be noted that the methodology does not specifically reflect HOV lanes, ramp metering effects, demand conditions greater than capacity, influence of queuing on the segment, or facilities with free flow speeds of greater than 75 mph. The HCM2000 LOS thresholds for basic freeway segments are shown in Table 20.

Table 20. LOS for Freeway Segments

LOS	Maximum Density (pc/mi/ln)	Minimum Speed (mph)	Maximum V/C	Maximum Flow Rate (pc/h/ln)
A	11	75.0	0.34	820
B	18	74.8	0.56	1350
C	26	70.6	0.76	1830
D	35	62.2	0.90	2170
E	45	53.3	1.00	2400
F	>45	-	-	-

From HCM2000, Exhibit 23-2

Free Flow Speed (FFS) is the mean speed of passenger cars measured during low to moderate flows (up to 1300 pc/hr/ln). This can be determined using field measurements or estimation methods in HCM 2000. The FFS should represent speeds typical of weekday off-peak hours with low to moderate flows of traffic.

LOS for Weaving Segments

The LOS for a freeway weaving segment is determined with the vehicular density of that segment. Generally, this criteria permits higher densities compared with thresholds specified for basic freeway segments (without weaving). This is based on the understanding that drivers may expect and will

accept higher densities on weaving segments versus non-weaving segments. However, for LOS E and F, the criteria permits lower densities compared with the thresholds specified for basic freeway segments. This is based on the understanding that due to the additional friction on weaving segments, freeway breakdown occurs at lower densities compared to basic freeway segments without weaving. It should be noted that the methodology and criteria established for weaving sections in the HCM2000 does not specifically reflect HOV lanes, ramp metering effects, and specific demand conditions greater than capacity. The density and LOS criteria for freeway weaving segments are shown in Table 21.

Table 21. LOS for Weaving Segments

LOS	Density (pc/mi/ln)
A	<10
B	10-20
C	20-28
D	28-35
E	35-43
F	>43

From HCM2000, Exhibit 24-2

4.6 Existing (2008) LOS Results

LOS for Freeway Segments – 2008 Existing

A freeway segment analysis of existing peak hour traffic conditions was performed to determine the LOS for the I-85 corridor. The Federal Highway Administration's (FHWA) *HCM 2000* provides ranges of vehicular density for each LOS definition, spanning from very minimal vehicular density (LOS A) to high density (LOS F). LOS F is considered unacceptable for most drivers. The methodology and Level-of-Service (LOS) vehicular density thresholds for evaluating freeway segments were described earlier in Section 4.5.

LOS for a Freeway Segment

The peak direction for the weekday AM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the southbound direction into Atlanta. For the southbound AM peak hour, the speed profile for Existing conditions is shown in Figure 10. As shown in Figure 10, there is stop-and-go traffic beginning at SR 316 and ending just south of I-285.

The peak direction for the weekday PM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the northbound direction out of Atlanta. For the northbound PM peak hour, the speed profile for Existing conditions is shown in Figure 11. As shown in Figure 11, there is stop-and-go traffic beginning south of I-285 and ending just north of Pleasant Hill Road.

HOV Lane (Southbound)

The LOS results for the southbound AM and PM peak hour (HOV lane) are shown in Table 22. More detailed TransModeler simulation output data can be found in Appendix E.

As shown in Table 22, the HOV lane in the southbound direction in the AM peak hour operates with LOS D or better through the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The LOS D values are primarily focused in the vicinity of the Jimmy Carter Boulevard interchange and Pleasantdale Road interchange. The average system-wide speed for the AM peak hour was calculated to be approximately 61 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 70 mph north of Old Peachtree Road. From field observations, there are short distances where speeds in the HOV drop below 45 mph. However, the minimum speed in the model was found to be 48 mph just north of the Jimmy Carter Boulevard interchange.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 65 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOV lane on I-85 in the southbound direction was determined to be approximately plus/minus 4 mph in the AM peak hour.

Figure 10. Existing 2008 - Southbound AM Peak Hour Speed Profiles

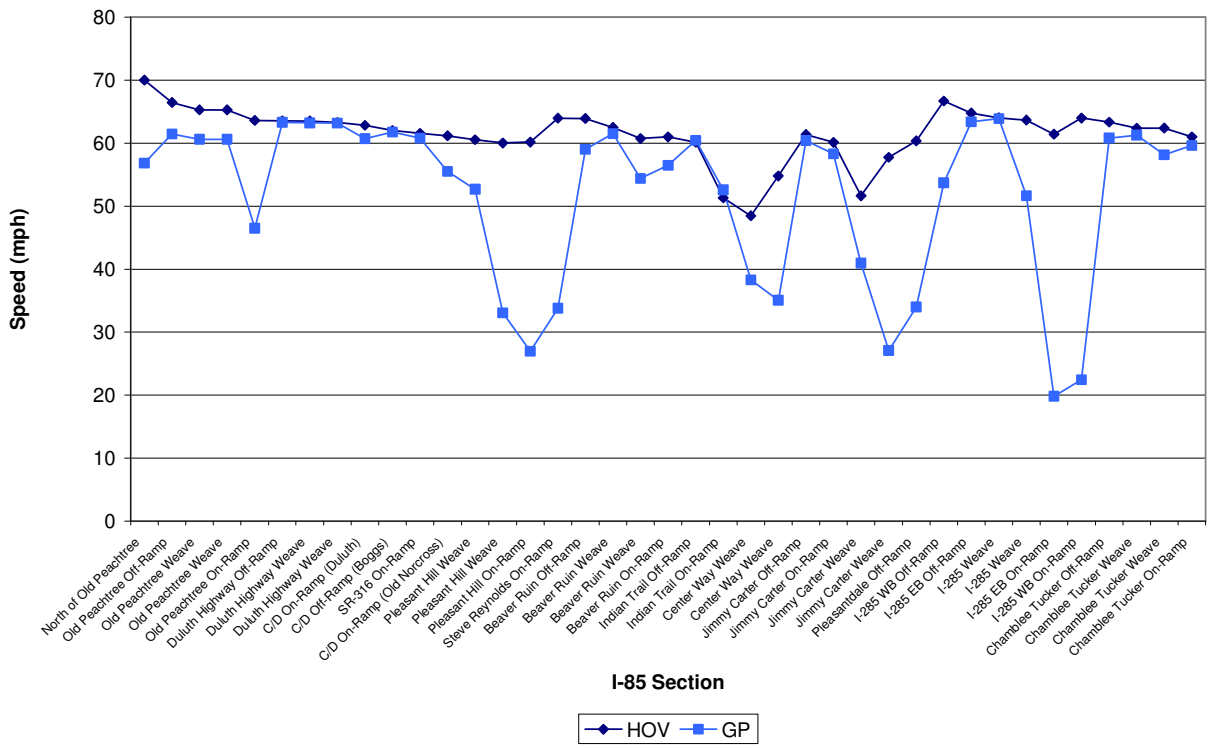
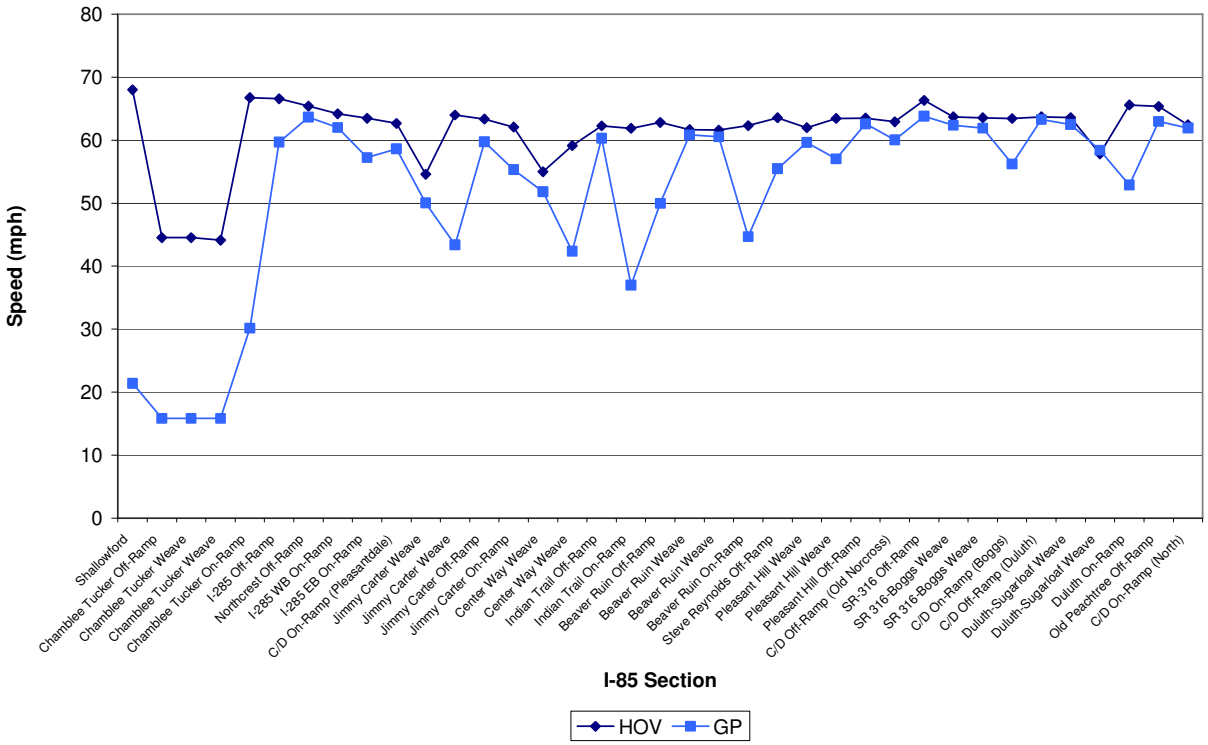


Figure 11. Existing 2008 - Northbound PM Peak Hour Speed Profiles



The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 64 mph in the AM peak hour. The 15th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 60 mph in the AM peak hour.

In the PM peak hour, as shown in Table 22, the HOV lane in the southbound direction operates with LOS B or better through the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The southbound HOV lane serves the off-peak direction of traffic during the PM peak hour. The LOS B value is primarily focused in the vicinity of the Jimmy Carter Boulevard interchange. The average system-wide speed for the PM peak hour was calculated to be approximately 66 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 72 mph north of Old Peachtree Road, while the minimum speed was found to be 58 mph just south of the Indian Trail Road interchange.

Table 22. Existing (2008) Southbound – HOV

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	70	8	A	72	3	A
Old Peachtree Off-Ramp	*Old Peachtree Weave*	66	9	A	70	3	A
Old Peachtree Weave	*Old Peachtree Weave*	65	10	A	69	4	A
Old Peachtree Weave	Old Peachtree On-Ramp	65	10	A	69	4	A
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	64	11	A	68	3	A
Duluth Highway Off-Ramp	*Duluth Highway Weave*	64	11	A	68	3	A
Duluth Highway Weave	*Duluth Highway Weave*	64	12	B	68	4	A
Duluth Highway Weave	C/D On-Ramp (Duluth)	63	12	B	68	4	A
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	63	12	B	68	3	A
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	62	12	B	67	3	A
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	62	17	B	67	5	A
C/D On-Ramp (Old Norcross)	*Pleasant Hill Weave*	61	17	B	67	5	A
Pleasant Hill Weave	*Pleasant Hill Weave*	61	21	C	67	7	A
Pleasant Hill Weave	Pleasant Hill On-Ramp	60	22	C	67	7	A
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	60	23	C	66	7	A
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	64	19	C	66	7	A
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	64	19	C	66	7	A
Beaver Ruin Weave	*Beaver Ruin Weave*	62	23	C	66	9	A
Beaver Ruin Weave	Beaver Ruin On-Ramp	61	23	C	66	8	A
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	61	22	C	66	8	A
Indian Trail Off-Ramp	Indian Trail On-Ramp	60	22	C	66	8	A
Indian Trail On-Ramp	*Center Way Weave*	51	26	D	58	9	A
Center Way Weave	*Center Way Weave*	48	33	D	59	11	B
Center Way Weave	Jimmy Carter Off-Ramp	55	28	D	63	9	A
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	61	25	C	66	9	A
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	60	25	C	65	9	A
Jimmy Carter Weave	*Jimmy Carter Weave*	52	32	D	60	10	A
Jimmy Carter Weave	Pleasantdale Off-Ramp	58	28	D	67	9	A
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	60	23	C	67	7	A
I-285 WB Off-Ramp	I-285 EB Off-Ramp	67	15	B	68	5	A
I-285 EB Off-Ramp	*I-285 Weave*	65	15	B	67	5	A
I-285 Weave	*I-285 Weave*	64	15	B	67	5	A
I-285 Weave	I-285 EB On-Ramp	64	16	B	67	5	A
I-285 EB On-Ramp	I-285 WB On-Ramp	61	16	B	66	5	A
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	64	13	B	66	4	A
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	63	14	B	66	4	A
Chamblee Tucker Weave	*Chamblee Tucker Weave*	62	16	B	67	7	A
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	62	16	B	67	7	A
Chamblee Tucker On-Ramp	Shallowford	61	16	B	66	7	A

The mode speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 69 mph in the PM peak hour. The standard deviation speed for the HOV lane on I-85 in the southbound direction was determined to be approximately plus/minus 3 mph in the PM peak hour. The 85th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 68 mph in the PM peak hour. The 15th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 66 mph in the PM peak hour.

General Purpose Lanes (Southbound)

The LOS results for the southbound AM and PM peak hour (general purpose lanes) are shown in Table 23. More detailed TransModeler simulation output data can be found in Appendix E.

As shown in Table 23, the general purpose lanes in the southbound direction in the AM peak hour operates with LOS E and F in some section of the I-85 corridor between Old Peachtree Road and

Chamblee-Tucker Road. The LOS E and F values are primarily focused in the vicinity of the following interchanges along I-85: Pleasant Hill Road, Steve Reynolds Boulevard, Beaver Ruin Road, Jimmy Carter Boulevard, Pleasantdale Road, and I-285. The average system-wide speed for the AM peak hour was calculated to be approximately 50 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 64 mph just after a choke point of congestion in the area of I-285, while the minimum speed was found to be 20 mph in the same vicinity of I-285.

Table 23. Existing (2008) Southbound – General Purpose Lanes

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	57	23	C	55	15	B
Old Peachtree Off-Ramp	*Old Peachtree Weave*	61	21	C	65	11	A
Old Peachtree Weave	*Old Peachtree Weave*	61	21	C	63	11	A
Old Peachtree Weave	Old Peachtree On-Ramp	61	21	C	63	11	A
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	47	26	C	52	14	B
Duluth Highway Off-Ramp	*Duluth Highway Weave*	63	17	B	66	10	A
Duluth Highway Weave	*Duluth Highway Weave*	63	17	B	65	10	A
Duluth Highway Weave	C/D On-Ramp (Duluth)	63	21	C	65	12	B
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	61	17	B	63	10	A
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	62	18	B	63	11	B
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	61	18	B	62	13	B
C/D On-Ramp (Old Norcross)	*Pleasant Hill Weave*	55	21	C	53	17	B
Pleasant Hill Weave	*Pleasant Hill Weave*	53	26	D	61	17	B
Pleasant Hill Weave	Pleasant Hill On-Ramp	33	42	E	49	21	C
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	27	56	F	57	21	C
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	34	41	E	46	26	C
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	59	26	D	60	21	C
Beaver Ruin Weave	*Beaver Ruin Weave*	62	24	C	62	20	C
Beaver Ruin Weave	Beaver Ruin On-Ramp	54	30	D	58	23	C
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	56	26	D	54	22	C
Indian Trail Off-Ramp	Indian Trail On-Ramp	60	25	C	61	19	C
Indian Trail On-Ramp	*Center Way Weave*	53	28	D	54	22	C
Center Way Weave	*Center Way Weave*	38	38	E	50	23	C
Center Way Weave	Jimmy Carter Off-Ramp	35	41	E	46	25	C
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	60	25	C	62	19	C
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	58	26	D	60	19	C
Jimmy Carter Weave	*Jimmy Carter Weave*	41	36	E	55	21	C
Jimmy Carter Weave	Pleasantdale Off-Ramp	27	53	F	51	22	C
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	34	40	E	53	20	C
I-285 WB Off-Ramp	I-285 EB Off-Ramp	54	23	C	57	16	B
I-285 EB Off-Ramp	*I-285 Weave*	63	19	C	64	12	B
I-285 Weave	*I-285 Weave*	64	18	B	64	12	B
I-285 Weave	I-285 EB On-Ramp	52	24	C	64	13	B
I-285 EB On-Ramp	I-285 WB On-Ramp	20	72	F	61	18	B
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	22	58	F	48	20	C
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	61	24	C	60	18	B
Chamblee Tucker Weave	*Chamblee Tucker Weave*	61	22	C	62	16	B
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	58	24	C	62	17	B
Chamblee Tucker On-Ramp	Shallowford	60	26	C	62	18	B

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 61 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 13 mph in the AM peak hour. This indicates the proclivity for speed fluctuations along the I-85 corridor in the AM peak hour heading south into Atlanta.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 62 mph in the AM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 34 mph in the AM peak hour.

In the PM peak hour, as shown in Table 23, the general purpose lanes in the southbound direction operates with LOS C or better through the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The southbound general purpose lanes serve the off-peak direction of traffic during the PM peak hour. The LOS C values are primarily focused in the vicinity between the Pleasant Hill Road interchange and the Pleasantdale Road interchange. The average system-wide speed for the PM peak hour was calculated to be approximately 57 mph. This is average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 66 mph in the area of Duluth Highway, while the minimum speed was found to be 46 mph just north of the Jimmy Carter Boulevard interchange.

The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 63 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 6 mph in the PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 64 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 52 mph in the PM peak hour.

HOV Lane (Northbound)

The LOS results for the northbound AM and PM peak hour (HOV lane) are shown in Table 24. More detailed TransModeler simulation output data can be found in Appendix E.

As shown in Table 24, the HOV lane in the northbound direction in the AM peak hour operates with LOS A through the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road on the north. The average system-wide speed for the AM peak hour was calculated to be approximately 68 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 73 mph south of I-285, while the minimum speed was found to be 62 mph in the area of Duluth Highway.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 73 mph in the AM peak hour.

Table 24. Existing (2008) Northbound – HOV

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Shallowford	Chamblee Tucker Off-Ramp	73	3	A	68	13	B
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	73	3	A	45	27	D
Chamblee Tucker Weave	*Chamblee Tucker Weave*	73	3	A	45	27	D
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	72	2	A	44	38	E
Chamblee Tucker On-Ramp	I-285 Off-Ramp	73	2	A	67	20	C
I-285 Off-Ramp	Northcrest Off-Ramp	72	1	A	67	10	A
Northcrest Off-Ramp	I-285 WB On-Ramp	72	1	A	65	10	A
I-285 WB On-Ramp	I-285 EB On-Ramp	71	1	A	64	10	A
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	71	1	A	63	11	A
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	70	2	A	63	11	B
Jimmy Carter Weave	*Jimmy Carter Weave*	68	5	A	55	22	C
Jimmy Carter Weave	Jimmy Carter Off-Ramp	70	4	A	64	17	B
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	68	4	A	63	17	B
Jimmy Carter On-Ramp	*Center Way Weave*	67	4	A	62	18	B
Center Way Weave	*Center Way Weave*	63	6	A	55	23	C
Center Way Weave	Indian Trail Off-Ramp	67	5	A	59	20	C
Indian Trail Off-Ramp	Indian Trail On-Ramp	66	5	A	62	19	C
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	66	5	A	62	18	C
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	67	4	A	63	17	B
Beaver Ruin Weave	*Beaver Ruin Weave*	67	5	A	62	19	C
Beaver Ruin Weave	Beaver Ruin On-Ramp	67	5	A	62	19	C
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	67	5	A	62	18	B
Steve Reynolds Off-Ramp	*Pleasant Hill Weave*	66	5	A	64	16	B
Pleasant Hill Weave	*Pleasant Hill Weave*	66	5	A	62	17	B
Pleasant Hill Weave	Pleasant Hill Off-Ramp	68	4	A	63	15	B
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	68	4	A	64	15	B
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	67	4	A	63	16	B
SR-316 Off-Ramp	*SR 316-Boggs Weave*	70	2	A	66	10	A
SR 316-Boggs Weave	*SR 316-Boggs Weave*	68	2	A	64	11	A
SR 316-Boggs Weave	C/D On-Ramp (Boggs)	68	2	A	64	10	A
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	68	2	A	63	10	A
C/D Off-Ramp (Duluth)	*Duluth-Sugarloaf Weave*	68	2	A	64	9	A
Duluth-Sugarloaf Weave	*Duluth-Sugarloaf Weave*	69	3	A	64	10	A
Duluth-Sugarloaf Weave	Duluth On-Ramp	62	3	A	58	12	B
Duluth On-Ramp	Old Peachtree Off-Ramp	70	2	A	66	9	A
Old Peachtree Off-Ramp	C/D On-Ramp (North)	70	2	A	65	9	A
C/D On-Ramp (North)	North	68	2	A	62	9	A

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOV lane on I-85 in the northbound direction was determined to be approximately plus/minus 3 mph in the AM peak hour.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 72 mph in the AM peak hour. The 15th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 66 mph in the AM peak hour.

In the PM peak hour, as shown in Table 24, the HOV lane in the northbound direction operates with LOS E or better through the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound HOV lane serves the peak direction of traffic during the PM peak hour. The LOS E value is primarily focused in the vicinity of the I-285 interchange. The average system-wide speed for the PM peak hour was calculated to be approximately 60 mph. This is average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 68 mph south of Chamblee-Tucker Road, while the minimum speed was found to be 44 mph just north of Chamblee-Tucker Road.

The mode speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 45 mph in the PM peak hour. The standard deviation speed for the HOV lane on I-85 in the northbound direction was determined to be approximately plus/minus 6 mph in the PM peak hour. This standard deviation speed indicates that speeds along the HOV in the northbound PM peak hour direction can fluctuate. The 85th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 65 mph in the PM peak hour. The 15th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 58 mph in the PM peak hour.

General Purpose Lanes (Northbound)

The LOS results for the northbound AM and PM peak hour (general purpose lanes) are shown in Table 25. More detailed TransModeler simulation output data can be found in Appendix E.

As shown in Table 25, the general purpose lanes in the northbound direction in the AM peak hour operates with LOS C and better for the I-85 corridor between Chamblee-Tucker Road and Old Peachtree Road. The average system-wide speed for the AM peak hour was calculated to be approximately 58 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 65 mph just north of SR 316, while the minimum speed was found to be 45 mph near the Jimmy Carter Boulevard interchange.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 63 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 5 mph in the AM peak hour. This indicates the proclivity for speed fluctuations along the I-85 corridor in the AM peak hour heading south into Atlanta.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 64 mph in the AM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 53 mph in the AM peak hour.

Table 25. Existing (2008) Northbound – General Purpose Lanes

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Shallowford	Chamblee Tucker Off-Ramp	64	16	B	21	68	F
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	63	15	B	16	82	F
Chamblee Tucker Weave	*Chamblee Tucker Weave*	63	15	B	16	82	F
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	63	15	B	16	82	F
Chamblee Tucker On-Ramp	I-285 Off-Ramp	51	17	B	30	41	E
I-285 Off-Ramp	Northcrest Off-Ramp	60	11	A	60	17	B
Northcrest Off-Ramp	I-285 WB On-Ramp	64	10	A	64	16	B
I-285 WB On-Ramp	I-285 EB On-Ramp	63	12	B	62	17	B
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	57	15	B	57	20	C
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	60	16	B	59	21	C
Jimmy Carter Weave	*Jimmy Carter Weave*	50	19	C	50	25	C
Jimmy Carter Weave	Jimmy Carter Off-Ramp	45	21	C	43	29	D
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	60	16	B	60	22	C
Jimmy Carter On-Ramp	*Center Way Weave*	58	19	C	55	27	D
Center Way Weave	*Center Way Weave*	53	22	C	52	29	D
Center Way Weave	Indian Trail Off-Ramp	46	25	C	42	35	D
Indian Trail Off-Ramp	Indian Trail On-Ramp	62	16	B	60	23	C
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	57	18	C	37	37	E
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	54	19	C	50	27	D
Beaver Ruin Weave	*Beaver Ruin Weave*	62	18	B	61	23	C
Beaver Ruin Weave	Beaver Ruin On-Ramp	61	23	C	61	29	D
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	51	20	C	45	29	D
Steve Reynolds Off-Ramp	*Pleasant Hill Weave*	55	19	C	55	25	C
Pleasant Hill Weave	*Pleasant Hill Weave*	59	17	B	60	21	C
Pleasant Hill Weave	Pleasant Hill Off-Ramp	55	15	B	57	19	C
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	64	12	B	63	17	B
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	61	11	A	60	17	B
SR-316 Off-Ramp	*SR 316-Boggs Weave*	65	8	A	64	15	B
SR 316-Boggs Weave	*SR 316-Boggs Weave*	64	8	A	62	15	B
SR 316-Boggs Weave	C/D On-Ramp (Boggs)	63	9	A	62	15	B
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	58	11	A	56	16	B
C/D Off-Ramp (Duluth)	*Duluth-Sugarloaf Weave*	65	9	A	63	15	B
Duluth-Sugarloaf Weave	*Duluth-Sugarloaf Weave*	64	9	A	62	15	B
Duluth-Sugarloaf Weave	Duluth On-Ramp	60	9	A	58	15	B
Duluth On-Ramp	Old Peachtree Off-Ramp	53	10	A	53	17	B
Old Peachtree Off-Ramp	C/D On-Ramp (North)	64	8	A	63	15	B
C/D On-Ramp (North)	North	63	10	A	62	17	B

In the PM peak hour, as shown in Table 25, the general purpose lanes in the northbound direction operates with LOS E and F on specific stretches of the I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound general purpose lanes serve the peak direction of traffic during the PM peak hour. The LOS E and F values are primarily focused in the vicinity of the following interchanges: Chamblee-Tucker Road, I-285, Indian Trail Road, and Beaver Ruin Road. The average system-wide speed for the PM peak hour was calculated to be approximately 50 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 64 mph after the congestion hotspot at Chamblee-Tucker Road and north of SR 316, while the minimum speed was found to be 16 mph in the area of the Chamblee-Tucker Road interchange.

The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 16 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 15 mph in the PM peak hour. This standard deviation speed indicates the proclivity of the corridor to

have fluctuations in travel speeds in the northbound PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 62 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 39 mph in the PM peak hour.

LOS for Weaving Segments – 2008 Existing

The LOS for a freeway weaving segment is determined with the vehicular density of that segment as discussed in Section 4.5. The HOV weaving segments on the I-85 corridor were examined under existing (2008) conditions. The results are shown in Table 26 for the southbound direction and Table 27 for the northbound direction.

Table 26. Existing (2008) Weaving Segments - Southbound

HOV Lane						
I-85 Section (SB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Old Peachtree Weave	65	10	B	68	4	A
Duluth Highway Weave	63	12	B	68	4	A
Pleasant Hill Weave	59	22	C	67	7	A
Beaver Ruin Weave	61	24	C	66	9	A
Center Way Weave	43	39	E	57	11	B
Jimmy Carter Weave	49	33	D	57	11	B
I-285 Weave	60	18	B	60	5	A
Chamblee Tucker Weave	57	18	B	62	7	A
Adjacent General Purpose Lane						
I-85 Section (SB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Old Peachtree Weave	63	26	C	66	14	B
Duluth Highway Weave	65	23	C	68	11	B
Pleasant Hill Weave	49	32	D	68	11	B
Beaver Ruin Weave	67	26	C	69	18	B
Center Way Weave	39	45	F	59	21	C
Jimmy Carter Weave	52	34	D	59	21	C
I-285 Weave	67	20	C	72	10	A
Chamblee Tucker Weave	67	24	C	72	9	A

As shown in Table 26, the HOV access weave section near Center Way in the southbound direction during the AM peak hour operates with LOS E and F under existing conditions. This is due to the high amount of traffic in both the HOV lane and the adjacent general purpose lane.

As shown in Table 27, the HOV access weave section near Chamblee-Tucker Road in the northbound direction during the PM peak hour operates with LOS E and F under existing conditions. This is due to the high amount of traffic in both the HOV lane and the adjacent general purpose lane.

Table 27. Existing (2008) Weaving Segments - Northbound

HOV Lane						
I-85 Section (NB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Chamblee Tucker Weave	72	3	A	40	43	E
Jimmy Carter Weave	66	5	A	56	21	C
Center Way Weave	65	5	A	55	22	C
Beaver Ruin Weave	67	6	A	62	19	B
Pleasant Hill Weave	66	4	A	60	17	B
SR 316-Boggs Weave	69	2	A	63	11	B
Duluth-Sugarloaf Weave	70	2	A	63	10	B
Adjacent General Purpose Lane						
I-85 Section (NB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Chamblee Tucker Weave	68	17	B	28	58	F
Jimmy Carter Weave	60	12	B	54	27	C
Center Way Weave	63	14	B	57	28	D
Beaver Ruin Weave	69	15	B	65	26	C
Pleasant Hill Weave	68	13	B	62	23	C
SR 316-Boggs Weave	72	7	A	67	15	B
Duluth-Sugarloaf Weave	73	5	A	67	13	B

4.7 Opening Year (2011) & Design Year (2031) No-Build LOS Results

LOS for Freeway Segments – 2011 No-Build

A freeway segment analysis of No-Build 2011 peak hour traffic conditions was performed to determine the LOS for the I-85 corridor. The FHWA HCM 2000 provides ranges of vehicular density for each LOS definition, spanning from very minimal vehicular density (LOS A) to high density (LOS F). LOS F is considered unacceptable for most drivers. The methodology and Level-of-Service (LOS) vehicular density thresholds for evaluating freeway segments were described earlier in Section 4.5.

The peak direction for the weekday AM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the southbound direction into Atlanta. For the southbound AM peak hour, the speed profile for 2011 No-Build conditions is shown in Figure 12. As shown in Figure 12, there are slow travel speeds between SR 316 and Jimmy Carter Boulevard, especially in the GP lanes with speeds below 20 mph.

The peak direction for the weekday PM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the northbound direction out of Atlanta. For the northbound PM peak hour, the speed profile for 2011 No-Build conditions is shown in Figure 13. As shown in Figure 13, there are slow speeds throughout the corridor, with dips in speed near Jimmy Carter Boulevard and at Indian Trail Road.

Figure 12. 2011 No-Build Conditions - Southbound AM Peak Hour Speed Profiles

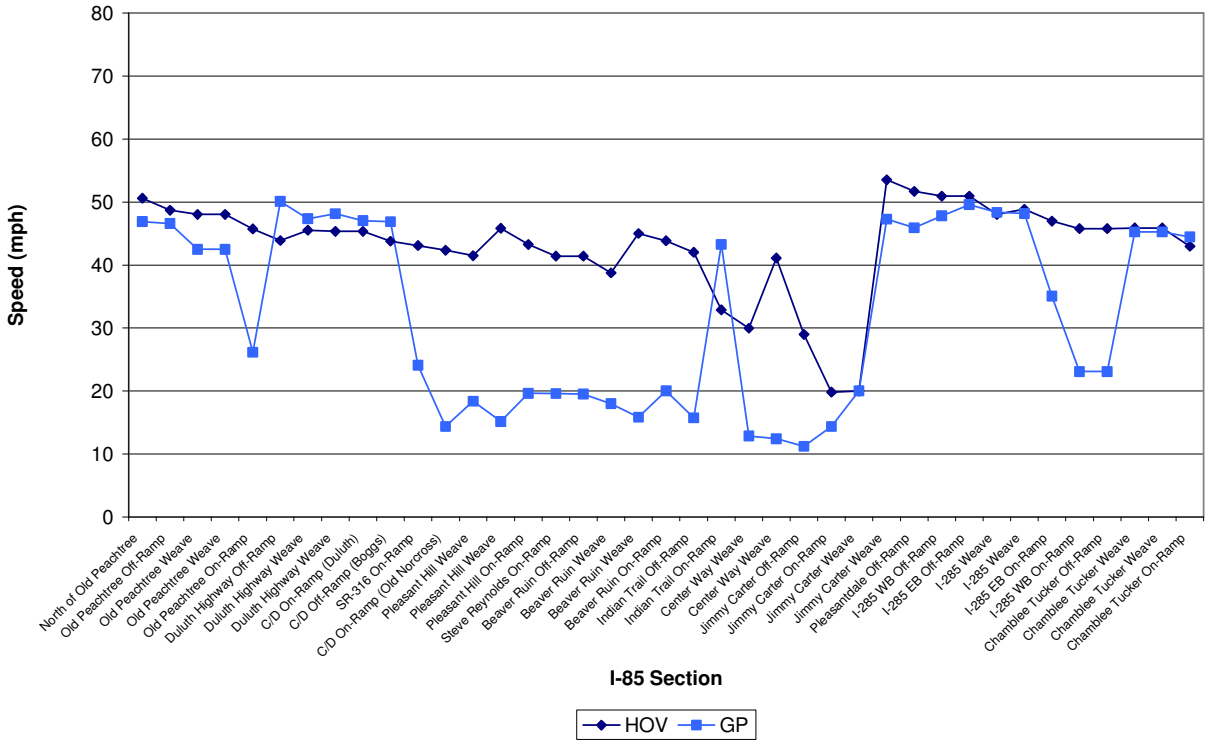
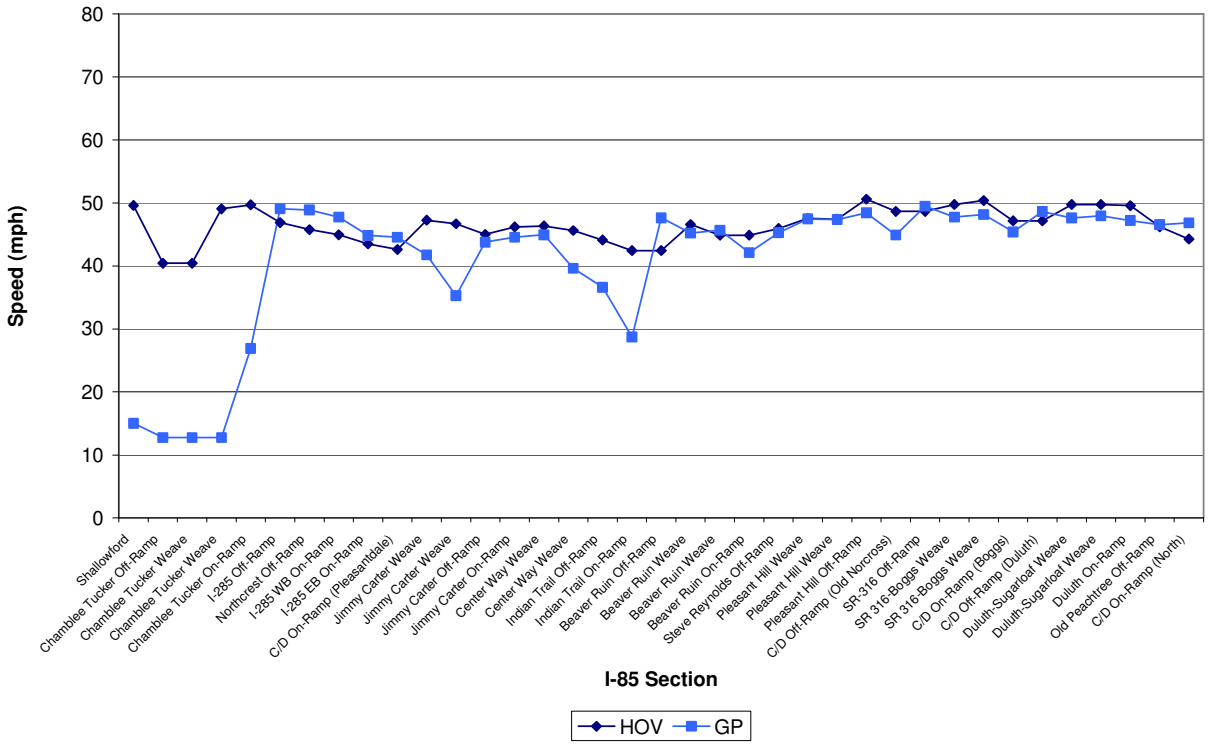


Figure 13. 2011 No-Build Conditions - Northbound PM Peak Hour Speed Profiles



HOV Lane (Southbound)

The LOS results for the southbound AM and PM peak hour (HOV lane) are shown in Table 28. More detailed TransModeler simulation output data can be found in Appendix F.

Table 28. No-Build (2011) Southbound – HOV

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	51	7	A	52	4	A
Old Peachtree Off-Ramp	*Old Peachtree Weave*	49	8	A	51	4	A
Old Peachtree Weave	*Old Peachtree Weave*	48	14	B	52	3	A
Old Peachtree Weave	Old Peachtree On-Ramp	48	14	B	52	3	A
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	46	15	B	52	3	A
Duluth Highway Off-Ramp	*Duluth Highway Weave*	44	15	B	51	3	A
Duluth Highway Weave	*Duluth Highway Weave*	46	15	B	50	4	A
Duluth Highway Weave	C/D On-Ramp (Duluth)	45	15	B	52	3	A
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	45	15	B	52	3	A
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	44	15	B	50	3	A
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	43	20	C	49	6	A
C/D On-Ramp (Old Norcross)	*Pleasant Hill Weave*	42	21	C	48	6	A
Pleasant Hill Weave	*Pleasant Hill Weave*	41	27	D	50	7	A
Pleasant Hill Weave	Pleasant Hill On-Ramp	46	25	C	51	8	A
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	43	26	D	49	8	A
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	41	27	D	46	8	A
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	41	27	D	46	8	A
Beaver Ruin Weave	*Beaver Ruin Weave*	39	27	D	50	6	A
Beaver Ruin Weave	Beaver Ruin On-Ramp	45	23	C	51	6	A
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	44	24	C	50	6	A
Indian Trail Off-Ramp	Indian Trail On-Ramp	42	25	C	48	6	A
Indian Trail On-Ramp	*Center Way Weave*	33	31	D	46	7	A
Center Way Weave	*Center Way Weave*	30	36	E	49	8	A
Center Way Weave	Jimmy Carter Off-Ramp	41	24	C	48	9	A
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	29	35	D	47	9	A
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	20	47	F	46	9	A
Jimmy Carter Weave	*Jimmy Carter Weave*	20	47	F	46	9	A
Jimmy Carter Weave	Pleasantdale Off-Ramp	54	12	B	55	9	A
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	52	13	B	53	10	A
I-285 WB Off-Ramp	I-285 EB Off-Ramp	51	13	B	53	10	A
I-285 EB Off-Ramp	*I-285 Weave*	51	13	B	53	10	A
I-285 Weave	*I-285 Weave*	48	13	B	50	3	A
I-285 Weave	I-285 EB On-Ramp	49	13	B	52	3	A
I-285 EB On-Ramp	I-285 WB On-Ramp	47	13	B	51	3	A
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	46	13	B	51	3	A
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	46	13	B	51	3	A
Chamblee Tucker Weave	*Chamblee Tucker Weave*	46	17	B	49	7	A
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	46	17	B	49	7	A
Chamblee Tucker On-Ramp	Shallowford	43	19	C	46	7	A

As shown in Table 28, the HOV lane in the southbound direction in the AM peak hour operates with LOS E and F on one segment of the I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The LOS E and F values are found in the vicinity of the Jimmy Carter Boulevard interchange. The average system-wide speed for the AM peak hour was calculated to be approximately 42 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 54 mph just south of the congestion hotspot at Jimmy Carter Boulevard, while the minimum speed was found to be 20 mph at Jimmy Carter Boulevard interchange.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 48 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOV lane on I-85 in the southbound direction was determined to be approximately plus/minus 8 mph in the AM peak hour.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 49 mph in the AM peak hour. The 15th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 40 mph in the AM peak hour.

In the PM peak hour, as shown in Table 28, the HOV lane in the southbound direction operates with LOS A through the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The southbound HOV lane serves the off-peak direction of traffic during the PM peak hour. The average system-wide speed for the PM peak hour was calculated to be approximately 50 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 55 mph, while the minimum speed was found to be 46 mph.

The mode speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 52 mph in the PM peak hour. The standard deviation speed for the HOV lane on I-85 in the southbound direction was determined to be approximately plus/minus 2 mph in the PM peak hour. The 85th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 52 mph in the PM peak hour. The 15th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 46 mph in the PM peak hour.

General Purpose Lanes (Southbound)

The LOS results for the southbound AM and PM peak hour (general purpose lanes) are shown in Table 29. More detailed TransModeler simulation output data can be found in Appendix F.

As shown in Table 29, the general purpose lanes in the southbound direction in the AM peak hour operates with LOS E and F throughout the I-85 corridor between Old Peachtree Road and Chamblee-Tucker Road. The LOS E and F values are primarily focused in the vicinity between SR 316 and Jimmy Carter Boulevard. The average system-wide speed for the AM peak hour was calculated to be approximately 31 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 50 mph near I-285, while the minimum speed was found to be 11 mph in the vicinity of Jimmy Carter Boulevard.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 42 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 15 mph in the AM peak hour. This indicates the proclivity for speed fluctuations along the I-85 corridor in the AM peak hour heading south into Atlanta.

Table 29. No-Build (2011) Southbound – General Purpose Lanes

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	47	33	D	50	21	C
Old Peachtree Off-Ramp	*Old Peachtree Weave*	47	33	D	50	17	B
Old Peachtree Weave	*Old Peachtree Weave*	42	31	D	48	15	B
Old Peachtree Weave	Old Peachtree On-Ramp	42	31	D	48	15	B
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	26	63	F	45	24	C
Duluth Highway Off-Ramp	*Duluth Highway Weave*	50	26	C	51	16	B
Duluth Highway Weave	*Duluth Highway Weave*	47	24	C	49	14	B
Duluth Highway Weave	C/D On-Ramp (Duluth)	48	30	D	49	20	C
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	47	24	C	49	16	B
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	47	27	D	48	18	B
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	24	49	F	46	21	C
C/D On-Ramp (Old Norcross)	*Pleasant Hill Weave*	14	85	F	25	42	E
Pleasant Hill Weave	*Pleasant Hill Weave*	18	73	F	33	34	D
Pleasant Hill Weave	Pleasant Hill On-Ramp	15	92	F	22	61	F
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	20	73	F	48	29	D
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	20	65	F	44	31	D
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	20	105	F	48	45	F
Beaver Ruin Weave	*Beaver Ruin Weave*	18	73	F	46	26	D
Beaver Ruin Weave	Beaver Ruin On-Ramp	16	86	F	41	36	E
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	20	75	F	47	35	E
Indian Trail Off-Ramp	Indian Trail On-Ramp	16	78	F	46	30	D
Indian Trail On-Ramp	*Center Way Weave*	43	28	D	42	32	D
Center Way Weave	*Center Way Weave*	13	90	F	45	26	D
Center Way Weave	Jimmy Carter Off-Ramp	12	86	F	39	33	D
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	11	100	F	26	52	F
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	14	79	F	18	69	F
Jimmy Carter Weave	*Jimmy Carter Weave*	20	53	F	22	48	F
Jimmy Carter Weave	Pleasantdale Off-Ramp	47	24	C	47	24	C
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	46	22	C	46	22	C
I-285 WB Off-Ramp	I-285 EB Off-Ramp	48	20	C	48	19	C
I-285 EB Off-Ramp	*I-285 Weave*	50	22	C	50	19	C
I-285 Weave	*I-285 Weave*	48	20	C	48	16	B
I-285 Weave	I-285 EB On-Ramp	48	20	C	49	19	C
I-285 EB On-Ramp	I-285 WB On-Ramp	35	36	E	48	24	C
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	23	56	F	38	28	D
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	23	56	F	38	28	D
Chamblee Tucker Weave	*Chamblee Tucker Weave*	45	28	D	48	21	C
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	45	28	D	48	21	C
Chamblee Tucker On-Ramp	Shallowford	44	32	D	46	23	C

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 47 mph in the AM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 16 mph in the AM peak hour.

In the PM peak hour, as shown in Table 29, the general purpose lanes in the southbound direction operates with LOS D or better with some sections having LOS E and F on the I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The LOS E and F values are primarily focused in the vicinity between the Pleasant Hill Road interchange and the Jimmy Carter Boulevard interchange. The average system-wide speed for the PM peak hour was calculated to be approximately 42 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 51 mph in the area of Duluth Highway, while the minimum speed was found to be 18 mph just north of the Jimmy Carter Boulevard interchange.

The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 48 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 9 mph in the PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 49 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 37 mph in the PM peak hour.

HOV Lane (Northbound)

The LOS results for the northbound AM and PM peak hour (HOV lane) are shown in Table 30. More detailed TransModeler simulation output data can be found in Appendix F.

As shown in Table 30, the HOV lane in the northbound direction in the AM peak hour operates with LOS A through the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road on the north. The average system-wide speed for the AM peak hour was calculated to be approximately 50 mph. The maximum speed found on the corridor was identified to be 53 mph near Duluth Highway and Pleasant Hill Road, while the minimum speed was found to be 47 mph in the area of Indian Trail Road.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 50 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOV lane on I-85 in the northbound direction was determined to be approximately plus/minus 2 mph in the AM peak hour.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 53 mph in the AM peak hour. The 15th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 48 mph in the AM peak hour.

Table 30. No-Build (2011) Northbound – HOV

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Shallowford	Chamblee Tucker Off-Ramp	51	2	A	50	9	A
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	50	2	A	40	12	B
Chamblee Tucker Weave	*Chamblee Tucker Weave*	50	2	A	40	12	B
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	52	2	A	49	6	A
Chamblee Tucker On-Ramp	I-285 Off-Ramp	53	2	A	50	6	A
I-285 Off-Ramp	Northcrest Off-Ramp	52	2	A	47	7	A
Northcrest Off-Ramp	I-285 WB On-Ramp	52	2	A	46	7	A
I-285 WB On-Ramp	I-285 EB On-Ramp	52	1	A	45	7	A
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	51	2	A	44	7	A
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	51	1	A	43	7	A
Jimmy Carter Weave	*Jimmy Carter Weave*	51	4	A	47	13	B
Jimmy Carter Weave	Jimmy Carter Off-Ramp	50	5	A	47	15	B
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	48	5	A	45	15	B
Jimmy Carter On-Ramp	*Center Way Weave*	49	5	A	46	14	B
Center Way Weave	*Center Way Weave*	49	5	A	46	16	B
Center Way Weave	Indian Trail Off-Ramp	50	5	A	46	18	B
Indian Trail Off-Ramp	Indian Trail On-Ramp	48	5	A	44	18	C
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	47	5	A	42	19	C
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	47	5	A	42	19	C
Beaver Ruin Weave	*Beaver Ruin Weave*	48	6	A	47	13	B
Beaver Ruin Weave	Beaver Ruin On-Ramp	48	6	A	45	14	B
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	48	6	A	45	14	B
Steve Reynolds Off-Ramp	*Pleasant Hill Weave*	50	6	A	46	13	B
Pleasant Hill Weave	*Pleasant Hill Weave*	50	6	A	48	16	B
Pleasant Hill Weave	Pleasant Hill Off-Ramp	50	6	A	47	18	B
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	53	4	A	51	8	A
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	53	2	A	49	6	A
SR-316 Off-Ramp	*SR 316-Boggs Weave*	53	2	A	49	6	A
SR 316-Boggs Weave	*SR 316-Boggs Weave*	51	2	A	50	5	A
SR 316-Boggs Weave	C/D On-Ramp (Boggs)	51	2	A	50	5	A
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	48	2	A	47	5	A
C/D Off-Ramp (Duluth)	*Duluth-Sugarloaf Weave*	48	2	A	47	5	A
Duluth-Sugarloaf Weave	*Duluth-Sugarloaf Weave*	53	2	A	50	8	A
Duluth-Sugarloaf Weave	Duluth On-Ramp	53	2	A	50	8	A
Duluth On-Ramp	Old Peachtree Off-Ramp	53	2	A	50	6	A
Old Peachtree Off-Ramp	C/D On-Ramp (North)	52	2	A	46	7	A
C/D On-Ramp (North)	North	47	2	A	44	7	A

In the PM peak hour, as shown in Table 30, the HOV lane in the northbound direction operates with LOS C or better throughout the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound HOV lane serves the peak direction of traffic during the PM peak hour. The average system-wide speed for the PM peak hour was calculated to be approximately 46 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 51 mph. The minimum speed was found to be 40 mph.

The mode speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 40 mph in the PM peak hour. The standard deviation speed for the HOV lane on I-85 in the northbound direction was determined to be approximately plus/minus 3 mph in the PM peak hour. The 85th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 50 mph in the PM peak hour. The 15th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 44 mph in the PM peak hour.

General Purpose Lanes (Northbound)

The LOS results for the northbound AM and PM peak hour (general purpose lanes) are shown in Table 31. More detailed TransModeler simulation output data can be found in Appendix F.

As shown in Table 31, the general purpose lanes in the northbound direction in the AM peak hour operate with LOS E or better for the I-85 corridor between Chamblee-Tucker Road and Old Peachtree Road. The section between Center Way and Indian Trail Road has LOS E. The remainder of the corridor has LOS D or better. The average system-wide speed for the AM peak hour was calculated to be approximately 45 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 50 mph just north of SR 316, while the minimum speed was found to be 37 mph near the Jimmy Carter Boulevard.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 47 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 3 mph in the AM peak hour.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 49 mph in the AM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 43 mph in the AM peak hour.

In the PM peak hour, as shown in Table 31, the general purpose lanes in the northbound direction operates with LOS E and F on specific stretches of the I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound general purpose lanes serve the peak direction of traffic during the PM peak hour. The LOS E and F values are primarily focused in the vicinity between of Chamblee-Tucker Road and Beaver Ruin Road. The average system-wide speed for the PM peak hour was calculated to be approximately 40 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 49 mph near SR 316, while the minimum speed was found to be 13 mph in the area of the Chamblee-Tucker Road interchange.

The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 13 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 11 mph in the PM peak hour. This standard deviation speed indicates the proclivity of the corridor to have fluctuations in travel speeds in the northbound PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 48 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 31 mph in the PM peak hour.

Table 31. No-Build (2011) Northbound – General Purpose Lanes

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Shallowford	Chamblee Tucker Off-Ramp	48	22	C	15	82	F
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	47	20	C	13	85	F
Chamblee Tucker Weave	*Chamblee Tucker Weave*	47	20	C	13	85	F
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	47	20	C	13	85	F
Chamblee Tucker On-Ramp	I-285 Off-Ramp	40	26	D	27	44	E
I-285 Off-Ramp	Northcrest Off-Ramp	49	17	B	49	19	C
Northcrest Off-Ramp	I-285 WB On-Ramp	49	18	C	49	22	C
I-285 WB On-Ramp	I-285 EB On-Ramp	49	19	C	48	23	C
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	45	25	C	45	27	D
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	45	27	D	45	30	D
Jimmy Carter Weave	*Jimmy Carter Weave*	43	25	C	42	28	D
Jimmy Carter Weave	Jimmy Carter Off-Ramp	37	33	D	35	37	E
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	45	28	D	44	31	D
Jimmy Carter On-Ramp	*Center Way Weave*	45	33	D	45	35	E
Center Way Weave	*Center Way Weave*	44	29	D	45	32	D
Center Way Weave	Indian Trail Off-Ramp	39	38	E	40	39	E
Indian Trail Off-Ramp	Indian Trail On-Ramp	47	28	D	37	38	E
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	40	31	D	29	48	F
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	48	34	D	48	39	E
Beaver Ruin Weave	*Beaver Ruin Weave*	46	27	D	45	31	D
Beaver Ruin Weave	Beaver Ruin On-Ramp	46	35	D	46	41	E
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	43	28	D	42	32	D
Steve Reynolds Off-Ramp	*Pleasant Hill Weave*	40	34	D	45	33	D
Pleasant Hill Weave	*Pleasant Hill Weave*	49	27	D	47	29	D
Pleasant Hill Weave	Pleasant Hill Off-Ramp	49	21	C	47	25	C
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	49	19	C	48	24	C
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	47	17	B	45	23	C
SR-316 Off-Ramp	*SR 316-Boggs Weave*	50	14	B	49	21	C
SR 316-Boggs Weave	*SR 316-Boggs Weave*	49	11	B	48	18	C
SR 316-Boggs Weave	C/D On-Ramp (Boggs)	49	15	B	48	22	C
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	46	17	B	45	24	C
C/D Off-Ramp (Duluth)	*Duluth-Sugarloaf Weave*	49	16	B	49	23	C
Duluth-Sugarloaf Weave	*Duluth-Sugarloaf Weave*	49	13	B	48	20	C
Duluth-Sugarloaf Weave	Duluth On-Ramp	48	12	B	48	17	B
Duluth On-Ramp	Old Peachtree Off-Ramp	48	13	B	47	20	C
Old Peachtree Off-Ramp	C/D On-Ramp (North)	48	14	B	47	22	C
C/D On-Ramp (North)	North	48	17	B	47	26	D

LOS for a Weaving Segments – 2011 No-Build

The LOS for a freeway weaving segment is determined with the vehicular density of that segment as discussed in Section 4.5. The HOV weaving segments on the I-85 corridor were examined under No-Build (2011) conditions. The results are shown in Table 32 for the southbound direction and Table 33 for the northbound direction.

As shown in Table 32 the HOV access weave sections between Old Peachtree Road and Jimmy Carter Boulevard in the southbound direction during the AM peak hour operates with LOS E and F under 2011 No-Build conditions. This is due to the high amount of traffic in both the HOV lane and the adjacent general purpose lane. In the PM peak hour, the weaving areas near Jimmy Carter Boulevard and I-285 are forecast to operate with LOS F and E, respectively.

As shown in Table 33, the HOV access weave section near Chamblee-Tucker Road and Beaver Ruin Road in the northbound direction during the PM peak hour operates with LOS F under 2011 No-Build conditions. This is due to the high amount of traffic in both the HOV lane and the adjacent general purpose lane.

Table 32. No-Build (2011) Weaving Segments - Southbound

HOV Lane						
I-85 Section (SB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Old Peachtree Weave	48	12	B	51	3	A
Duluth Highway Weave	47	13	B	50	3	A
Pleasant Hill Weave	42	27	C	50	7	A
Beaver Ruin Weave	40	25	C	50	5	A
Center Way Weave	31	35	D	49	8	A
Jimmy Carter Weave	31	23	C	32	18	B
I-285 Weave	47	13	B	52	3	A
Chamblee Tucker Weave	45	17	B	49	6	A
Adjacent General Purpose Lane						
I-85 Section (SB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Old Peachtree Weave	46	39	E	51	21	C
Duluth Highway Weave	48	36	E	51	16	B
Pleasant Hill Weave	35	48	F	51	17	B
Beaver Ruin Weave	31	54	F	50	25	C
Center Way Weave	27	41	E	51	21	C
Jimmy Carter Weave	14	91	F	17	77	F
I-285 Weave	48	33	D	46	35	E
Chamblee Tucker Weave	49	29	D	49	23	C

Table 33. No-Build (2011) Weaving Segments - Northbound

HOV Lane						
I-85 Section (NB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Chamblee Tucker Weave	49	2	A	41	12	B
Jimmy Carter Weave	50	4	A	47	12	B
Center Way Weave	49	5	A	45	18	B
Beaver Ruin Weave	49	6	A	47	13	B
Pleasant Hill Weave	51	6	A	47	18	B
SR 316-Boggs Weave	53	2	A	50	6	A
Duluth-Sugarloaf Weave	52	2	A	50	8	A
Adjacent General Purpose Lane						
I-85 Section (NB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Chamblee Tucker Weave	50	25	C	16	97	F
Jimmy Carter Weave	50	16	B	48	28	D
Center Way Weave	51	18	B	47	28	C
Beaver Ruin Weave	52	18	B	42	45	F
Pleasant Hill Weave	53	16	B	52	24	C
SR 316-Boggs Weave	56	8	A	53	18	B
Duluth-Sugarloaf Weave	57	6	A	54	13	B

LOS for Freeway Segments – 2031 No-Build

A freeway segment analysis of No-Build 2031 peak hour traffic conditions was performed to determine the LOS for the I-85 corridor. The Federal Highway Administration's (FHWA) *Highway Capacity Manual (HCM) 2000* provides ranges of vehicular density for each LOS definition, spanning from very minimal vehicular density (LOS A) to high density (LOS F). LOS F is considered unacceptable for most drivers. The methodology and Level-of-Service (LOS) vehicular density thresholds for evaluating freeway segments were described earlier in Section 4.5. *LOS for a Freeway Segment*

The peak direction for the weekday AM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the southbound direction into Atlanta. For the southbound AM peak hour, the speed profile for 2031 No-Build conditions is shown in Figure 14. As shown in Figure 14, there are slow speeds between SR 316 and Jimmy Carter Boulevard, below 20 mph. There are also low speeds identified near Old Peachtree Road and I-285.

The peak direction for the weekday PM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the northbound direction out of Atlanta. For the northbound PM peak hour, the speed profile for 2031 No-Build conditions is shown in Figure 15. As shown in Figure 15, there are slow speeds along the corridor with dips in speed at Chamblee-Tucker Road and at Indian Trail Road.

HOV Lane (Southbound)

The LOS results for the southbound AM and PM peak hour (HOV lane) are shown in Table 34. More detailed TransModeler simulation output data can be found in Appendix F.

As shown in Table 34, the HOV lane in the southbound direction in the AM peak hour operates with LOS E and F in one stretch of the I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The LOS E and F values are found in the vicinity of the Jimmy Carter Boulevard and Pleasant Hill Road interchange. The average system-wide speed for the AM peak hour was calculated to be approximately 39 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 52 mph south of the congestion hotspot at Jimmy Carter Boulevard, while the minimum speed was found to be 16 mph in the vicinity of the Jimmy Carter Boulevard interchange.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 47 mph in the AM peak hour.

Figure 14. 2031 No-Build Conditions - Southbound AM Peak Hour Speed Profiles

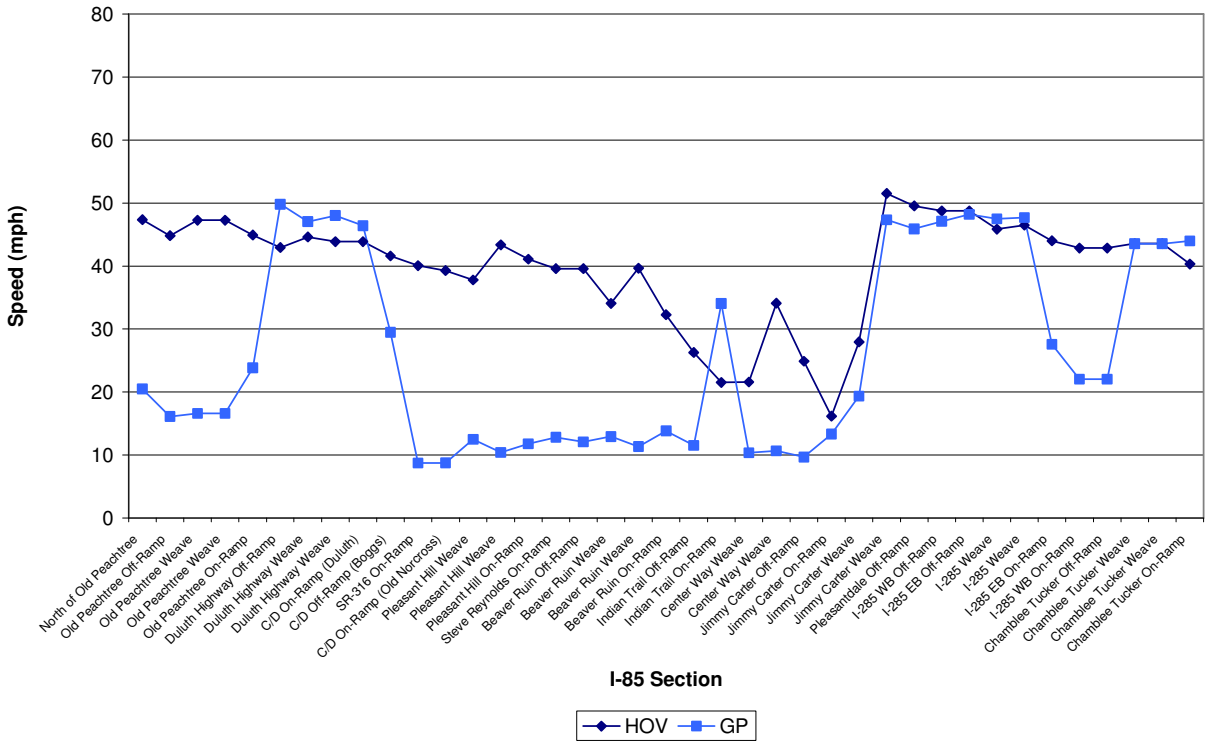


Figure 15. 2031 No-Build Conditions - Northbound PM Peak Hour Speed Profiles

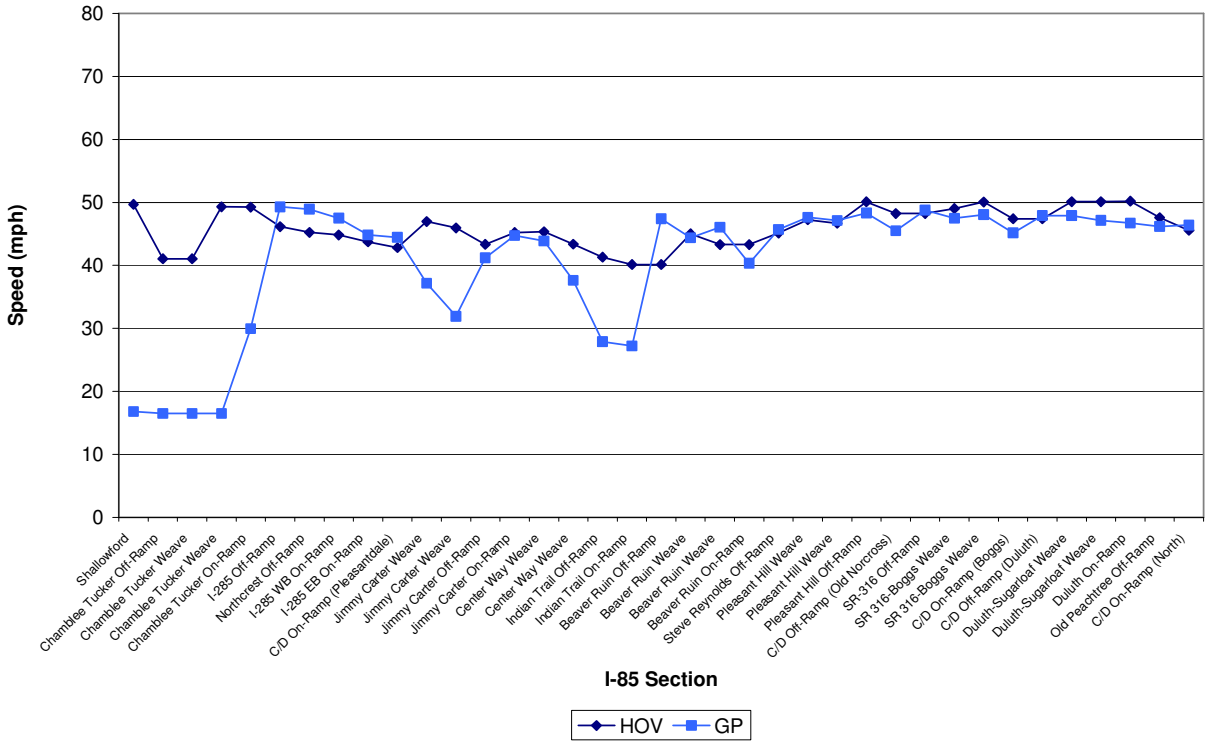


Table 34. No-Build (2031) Southbound – HOV

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	47	21	C	52	2	A
Old Peachtree Off-Ramp	*Old Peachtree Weave*	45	22	C	51	2	A
Old Peachtree Weave	*Old Peachtree Weave*	47	17	B	52	2	A
Old Peachtree Weave	Old Peachtree On-Ramp	47	17	B	52	2	A
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	45	18	C	52	2	A
Duluth Highway Off-Ramp	*Duluth Highway Weave*	43	19	C	50	2	A
Duluth Highway Weave	*Duluth Highway Weave*	45	19	C	50	2	A
Duluth Highway Weave	C/D On-Ramp (Duluth)	44	19	C	50	2	A
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	44	19	C	50	2	A
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	42	20	C	49	2	A
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	40	31	D	47	4	A
C/D On-Ramp (Old Norcross)	*Pleasant Hill Weave*	39	32	D	46	4	A
Pleasant Hill Weave	*Pleasant Hill Weave*	38	35	E	49	5	A
Pleasant Hill Weave	Pleasant Hill On-Ramp	43	31	D	48	5	A
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	41	33	D	46	5	A
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	40	33	D	43	5	A
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	40	33	D	43	5	A
Beaver Ruin Weave	*Beaver Ruin Weave*	34	40	E	49	3	A
Beaver Ruin Weave	Beaver Ruin On-Ramp	40	34	D	50	3	A
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	32	41	E	49	3	A
Indian Trail Off-Ramp	Indian Trail On-Ramp	26	48	F	48	3	A
Indian Trail On-Ramp	*Center Way Weave*	22	54	F	46	3	A
Center Way Weave	*Center Way Weave*	22	56	F	48	4	A
Center Way Weave	Jimmy Carter Off-Ramp	34	31	D	47	5	A
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	25	42	E	45	5	A
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	16	59	F	44	5	A
Jimmy Carter Weave	*Jimmy Carter Weave*	28	27	D	32	6	A
Jimmy Carter Weave	Pleasantdale Off-Ramp	52	14	B	54	4	A
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	50	14	B	52	4	A
I-285 WB Off-Ramp	I-285 EB Off-Ramp	49	14	B	52	4	A
I-285 EB Off-Ramp	*I-285 Weave*	49	14	B	52	4	A
I-285 Weave	*I-285 Weave*	46	17	B	51	2	A
I-285 Weave	I-285 EB On-Ramp	46	17	B	51	2	A
I-285 EB On-Ramp	I-285 WB On-Ramp	44	17	B	51	2	A
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	43	18	B	50	2	A
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	43	18	B	50	2	A
Chamblee Tucker Weave	*Chamblee Tucker Weave*	44	27	D	50	4	A
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	44	27	D	50	4	A
Chamblee Tucker On-Ramp	Shallowford	40	31	D	47	5	A

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOV lane on I-85 in the southbound direction was determined to be approximately plus/minus 8 mph in the AM peak hour.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 47 mph in the AM peak hour. The 15th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 31 mph in the AM peak hour.

In the PM peak hour, as shown in Table 34, the HOV lane in the southbound direction operates with LOS A throughout the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The southbound HOV lane serves the off-peak direction of traffic during the PM peak hour. The average system-wide speed for the PM peak hour was calculated to be approximately 48 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 54 mph, while the minimum speed was found to be 32 mph.

The mode speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 52 mph in the PM peak hour. The standard deviation speed for the HOV lane on I-85 in the southbound direction was determined to be approximately plus/minus 4 mph in the PM peak hour. The 85th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 52 mph in the PM peak hour. The 15th percentile speed for the HOV lane on I-85 in the southbound direction was determined to be approximately 46 mph in the PM peak hour.

General Purpose Lanes (Southbound)

The LOS results for the southbound AM and PM peak hour (general purpose lanes) are shown in Table 35. More detailed TransModeler simulation output data can be found in Appendix F.

As shown in Table 35, the general purpose lanes in the southbound direction in the AM peak hour operates with LOS E and F for most of the I-85 corridor between Old Peachtree Road and Chamblee-Tucker Road. The average system-wide speed for the AM peak hour was calculated to be approximately 26 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 50 mph near Duluth Highway, while the minimum speed was found to be 9 mph in the vicinity of SR 316 and Pleasant Hill Road.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 17 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 16 mph in the AM peak hour. This indicates the proclivity for speed fluctuations along the I-85 corridor in the AM peak hour heading south into Atlanta.

Table 35. No-Build (2031) Southbound – General Purpose Lanes

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	20	68	F	49	17	B
Old Peachtree Off-Ramp	*Old Peachtree Weave*	16	85	F	49	14	B
Old Peachtree Weave	*Old Peachtree Weave*	17	78	F	48	12	B
Old Peachtree Weave	Old Peachtree On-Ramp	17	78	F	48	12	B
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	24	67	F	43	20	C
Duluth Highway Off-Ramp	*Duluth Highway Weave*	50	25	C	50	14	B
Duluth Highway Weave	*Duluth Highway Weave*	47	24	C	48	11	A
Duluth Highway Weave	C/D On-Ramp (Duluth)	48	32	D	49	19	C
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	46	24	C	48	12	B
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	29	42	E	47	15	B
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	9	112	F	41	18	B
C/D On-Ramp (Old Norcross)	*Pleasant Hill Weave*	9	114	F	23	38	E
Pleasant Hill Weave	*Pleasant Hill Weave*	12	96	F	29	32	D
Pleasant Hill Weave	Pleasant Hill On-Ramp	10	111	F	22	47	F
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	12	101	F	46	24	C
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	13	86	F	33	32	D
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	12	152	F	49	38	E
Beaver Ruin Weave	*Beaver Ruin Weave*	13	93	F	46	21	C
Beaver Ruin Weave	Beaver Ruin On-Ramp	11	105	F	39	30	D
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	14	94	F	47	26	C
Indian Trail Off-Ramp	Indian Trail On-Ramp	12	96	F	46	23	C
Indian Trail On-Ramp	*Center Way Weave*	34	40	E	40	25	C
Center Way Weave	*Center Way Weave*	10	108	F	44	20	C
Center Way Weave	Jimmy Carter Off-Ramp	11	97	F	38	25	C
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	10	114	F	30	34	D
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	13	87	F	23	41	E
Jimmy Carter Weave	*Jimmy Carter Weave*	19	56	F	23	33	D
Jimmy Carter Weave	Pleasantdale Off-Ramp	47	24	C	47	23	C
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	46	24	C	46	18	B
I-285 WB Off-Ramp	I-285 EB Off-Ramp	47	22	C	48	18	C
I-285 EB Off-Ramp	*I-285 Weave*	48	24	C	50	28	D
I-285 Weave	*I-285 Weave*	47	21	C	48	12	B
I-285 Weave	I-285 EB On-Ramp	48	23	C	50	13	B
I-285 EB On-Ramp	I-285 WB On-Ramp	28	48	F	48	17	B
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	22	61	F	37	22	C
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	22	61	F	37	22	C
Chamblee Tucker Weave	*Chamblee Tucker Weave*	44	33	D	45	17	B
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	44	33	D	45	17	B
Chamblee Tucker On-Ramp	Shallowford	44	36	E	47	17	B

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 47mph in the AM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 11 mph in the AM peak hour.

In the PM peak hour, as shown in Table 35, the general purpose lanes in the southbound direction operates with LOS E and F on a few sections of the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The LOS E and F values are primarily focused in the vicinity near Pleasant Hill Road and at Jimmy Carter Boulevard. The average system-wide speed for the PM peak hour was calculated to be approximately 41 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 50mph in the area of Duluth Highway, while the minimum speed was found to be 22 mph near Pleasant Hill Road.

The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 48 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 8 mph in the PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 49 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 32 mph in the PM peak hour.

HOV Lane (Northbound)

The LOS results for the northbound AM and PM peak hour (HOV lane) are shown in Table 36. More detailed TransModeler simulation output data can be found in Appendix F.

Table 36. No-Build (2031) Northbound – HOV

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Shallowford	Chamblee Tucker Off-Ramp	51	6	A	50	6	A
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	43	7	A	41	8	A
Chamblee Tucker Weave	*Chamblee Tucker Weave*	43	7	A	41	8	A
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	49	4	A	49	4	A
Chamblee Tucker On-Ramp	I-285 Off-Ramp	50	4	A	49	5	A
I-285 Off-Ramp	Northcrest Off-Ramp	48	4	A	46	5	A
Northcrest Off-Ramp	I-285 WB On-Ramp	48	4	A	45	5	A
I-285 WB On-Ramp	I-285 EB On-Ramp	47	4	A	45	5	A
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	46	4	A	44	5	A
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	45	4	A	43	5	A
Jimmy Carter Weave	*Jimmy Carter Weave*	49	7	A	47	8	A
Jimmy Carter Weave	Jimmy Carter Off-Ramp	48	8	A	46	9	A
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	45	8	A	43	9	A
Jimmy Carter On-Ramp	*Center Way Weave*	47	8	A	45	8	A
Center Way Weave	*Center Way Weave*	48	7	A	45	10	A
Center Way Weave	Indian Trail Off-Ramp	48	8	A	43	11	A
Indian Trail Off-Ramp	Indian Trail On-Ramp	46	8	A	41	11	A
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	45	8	A	40	11	B
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	45	8	A	40	11	B
Beaver Ruin Weave	*Beaver Ruin Weave*	47	9	A	45	8	A
Beaver Ruin Weave	Beaver Ruin On-Ramp	47	9	A	43	8	A
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	47	9	A	43	8	A
Steve Reynolds Off-Ramp	*Pleasant Hill Weave*	49	8	A	45	8	A
Pleasant Hill Weave	*Pleasant Hill Weave*	50	8	A	47	9	A
Pleasant Hill Weave	Pleasant Hill Off-Ramp	50	8	A	47	10	A
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	50	4	A	50	4	A
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	51	2	A	48	3	A
SR-316 Off-Ramp	*SR 316-Boggs Weave*	51	2	A	48	3	A
SR 316-Boggs Weave	*SR 316-Boggs Weave*	52	2	A	49	3	A
SR 316-Boggs Weave	C/D On-Ramp (Boggs)	51	2	A	50	3	A
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	49	2	A	47	3	A
C/D Off-Ramp (Duluth)	*Duluth-Sugarloaf Weave*	49	2	A	47	3	A
Duluth-Sugarloaf Weave	*Duluth-Sugarloaf Weave*	51	2	A	50	4	A
Duluth-Sugarloaf Weave	Duluth On-Ramp	51	2	A	50	4	A
Duluth On-Ramp	Old Peachtree Off-Ramp	51	3	A	50	3	A
Old Peachtree Off-Ramp	C/D On-Ramp (North)	50	3	A	48	3	A
C/D On-Ramp (North)	North	48	3	A	46	3	A

As shown in Table 36, the HOV lane in the northbound direction in the AM peak hour operates with LOS A through the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road on the north. The average system-wide speed for the AM peak hour was calculated to be approximately 48

mph. This is average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 52 mph, while the minimum speed was found to be 43 mph.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 43 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOV lane on I-85 in the northbound direction was determined to be approximately plus/minus 2 mph in the AM peak hour.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 51 mph in the AM peak hour. The 15th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 46 mph in the AM peak hour.

In the PM peak hour, as shown in Table 36, the HOV lane in the northbound direction operates with LOS B or better through the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound HOV lane serves the peak direction of traffic during the PM peak hour. The average system-wide speed for the PM peak hour was calculated to be approximately 45 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 50 mph. The minimum speed was found to be 40 mph.

The mode speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 41 mph in the PM peak hour. The standard deviation speed for the HOV lane on I-85 in the northbound direction was determined to be approximately plus/minus 3 mph in the PM peak hour. This standard deviation speed indicates that speeds along the HOV in the northbound PM peak hour direction can fluctuate. The 85th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 50 mph in the PM peak hour. The 15th percentile speed for the HOV lane on I-85 in the northbound direction was determined to be approximately 43 mph in the PM peak hour.

General Purpose Lanes (Northbound)

The LOS results for the northbound AM and PM peak hour (general purpose lanes) are shown in Table 37. More detailed TransModeler simulation output data can be found in Appendix F.

As shown in Table 37, the general purpose lanes in the northbound direction in the AM peak hour operates with LOS E and F along the majority of the I-85 corridor. The congestion and low speeds are found between Chamblee-Tucker Road and Pleasant Hill Road. The average system-wide speed for the AM peak hour was calculated to be approximately 38 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 50 mph just north of I-285 and north of SR 316, while the minimum speed was found to be 13 mph near the Chamblee-Tucker Road.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 13 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 11 mph in the AM peak hour. This indicates the proclivity for speed fluctuations along the I-85 corridor in the AM peak hour heading south into Atlanta.

Table 37. No-Build (2031) Northbound – General Purpose Lanes

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Shallowford	Chamblee Tucker Off-Ramp	15	80	F	17	57	F
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	13	82	F	16	66	F
Chamblee Tucker Weave	*Chamblee Tucker Weave*	13	82	F	16	66	F
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	13	82	F	16	66	F
Chamblee Tucker On-Ramp	I-285 Off-Ramp	26	44	E	30	36	E
I-285 Off-Ramp	Northcrest Off-Ramp	49	19	C	49	15	B
Northcrest Off-Ramp	I-285 WB On-Ramp	50	19	C	49	17	B
I-285 WB On-Ramp	I-285 EB On-Ramp	48	22	C	47	19	C
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	40	30	D	45	27	D
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	43	31	D	44	24	C
Jimmy Carter Weave	*Jimmy Carter Weave*	29	40	E	37	25	C
Jimmy Carter Weave	Jimmy Carter Off-Ramp	34	39	E	32	31	D
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	44	31	D	41	30	D
Jimmy Carter On-Ramp	*Center Way Weave*	44	36	E	45	27	D
Center Way Weave	*Center Way Weave*	35	40	E	44	26	C
Center Way Weave	Indian Trail Off-Ramp	33	48	F	38	31	D
Indian Trail Off-Ramp	Indian Trail On-Ramp	30	48	F	28	39	E
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	31	44	E	27	38	E
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	47	38	E	47	28	D
Beaver Ruin Weave	*Beaver Ruin Weave*	46	30	D	44	24	C
Beaver Ruin Weave	Beaver Ruin On-Ramp	45	42	E	46	32	D
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	34	40	E	40	25	C
Steve Reynolds Off-Ramp	*Pleasant Hill Weave*	33	46	F	46	23	C
Pleasant Hill Weave	*Pleasant Hill Weave*	47	30	D	48	22	C
Pleasant Hill Weave	Pleasant Hill Off-Ramp	47	24	C	47	21	C
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	49	21	C	48	18	C
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	46	20	C	46	16	B
SR-316 Off-Ramp	*SR 316-Boggs Weave*	50	16	B	49	15	B
SR 316-Boggs Weave	*SR 316-Boggs Weave*	48	13	B	47	18	C
SR 316-Boggs Weave	C/D On-Ramp (Boggs)	48	17	B	48	16	B
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	46	18	C	45	16	B
C/D Off-Ramp (Duluth)	*Duluth-Sugarloaf Weave*	49	18	B	48	16	B
Duluth-Sugarloaf Weave	*Duluth-Sugarloaf Weave*	48	15	B	48	14	B
Duluth-Sugarloaf Weave	Duluth On-Ramp	48	14	B	47	14	B
Duluth On-Ramp	Old Peachtree Off-Ramp	47	16	B	47	14	B
Old Peachtree Off-Ramp	C/D On-Ramp (North)	47	16	B	46	16	B
C/D On-Ramp (North)	North	47	19	C	46	19	C

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 48 mph in the AM peak hour. The 15th percentile

speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 29 mph in the AM peak hour.

In the PM peak hour, as shown in Table 37, the general purpose lanes in the northbound direction operates with LOS E and F on specific stretches of the I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound general purpose lanes serve the peak direction of traffic during the PM peak hour. The LOS E and F values are primarily focused in the vicinity of Chamblee-Tucker Road and Indian Trail Road. The average system-wide speed for the PM peak hour was calculated to be approximately 40 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 49 mph after the congestion hotspot at Chamblee-Tucker Road, while the minimum speed was found to be 16 mph in the area of the Chamblee-Tucker Road interchange.

The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 16 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 10 mph in the PM peak hour. This standard deviation speed indicates the proclivity of the corridor to have fluctuations in travel speeds in the northbound PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 48 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 29 mph in the PM peak hour.

LOS for Weaving Segments – 2031 No-Build

The LOS for a freeway weaving segment is determined with the vehicular density of that segment as discussed in Section 4.5. The HOV weaving segments on the I-85 corridor were examined under No-Build (2031) conditions. The results are shown in Table 38 for the southbound direction and Table 39 for the northbound direction.

Table 38. No-Build (2031) Weaving Segments - Southbound

HOV Lane						
I-85 Section (SB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Old Peachtree Weave	43	24	C	52	4	A
Duluth Highway Weave	45	19	B	50	5	A
Pleasant Hill Weave	39	34	D	48	10	A
Beaver Ruin Weave	36	37	E	49	8	A
Center Way Weave	21	57	F	46	10	B
Jimmy Carter Weave	27	30	D	30	26	C
I-285 Weave	46	17	B	50	4	A
Chamblee Tucker Weave	44	27	C	49	9	A
Adjacent General Purpose Lane						
I-85 Section (SB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Old Peachtree Weave	20	84	F	49	25	C
Duluth Highway Weave	48	34	D	51	18	B
Pleasant Hill Weave	28	58	F	50	20	C
Beaver Ruin Weave	26	55	F	49	34	D
Center Way Weave	28	26	C	37	40	E
Jimmy Carter Weave	10	117	F	14	87	F
I-285 Weave	47	33	D	45	39	E
Chamblee Tucker Weave	48	33	D	49	26	C

As shown in Table 38 the HOV access weave sections between Old Peachtree Road and Jimmy Carter Boulevard in the southbound direction during the AM peak hour operates with LOS E and F under 2031 No-Build conditions. This is due to the high amount of traffic in both the HOV lane and the adjacent general purpose lane. In the PM peak hour, there are weaving issues between Center Way and I-285 due to high volumes in the GP lane.

Table 39. No-Build (2031) Weaving Segments - Northbound

HOV Lane						
I-85 Section (NB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Chamblee Tucker Weave	44	7	A	40	16	B
Jimmy Carter Weave	49	7	A	47	16	B
Center Way Weave	49	8	A	45	21	C
Beaver Ruin Weave	47	9	A	46	15	B
Pleasant Hill Weave	49	8	A	47	20	C
SR 316-Boggs Weave	52	2	A	51	5	A
Duluth-Sugarloaf Weave	53	3	A	50	8	A
Adjacent General Purpose Lane						
I-85 Section (NB)	AM Peak Hour			PM Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Chamblee Tucker Weave	19	85	F	18	85	F
Jimmy Carter Weave	47	26	C	45	30	D
Center Way Weave	46	31	D	45	35	E
Beaver Ruin Weave	48	34	D	38	51	F
Pleasant Hill Weave	50	29	D	52	25	C
SR 316-Boggs Weave	53	15	B	51	21	C
Duluth-Sugarloaf Weave	54	11	B	53	14	B

As shown in Table 39, the HOV access weave section at Chamblee-Tucker Road in the AM peak hour in the northbound direction will operate with LOS F due to high GP traffic. In the PM peak hour, the weave areas at Chamblee-Tucker Road, Center Way, and Beaver Ruin Road in the northbound direction during the PM peak hour operate with LOS F under 2031 No-Build conditions. This is due to the high amount of traffic in the adjacent general purpose lane.

4.8 Opening Year (2011) & Design Year (2031) Build LOS Results

LOS for Freeway Segments – 2011 Build

A freeway segment analysis of Build 2011 peak hour traffic conditions was performed to determine the LOS for the I-85 corridor. The Federal Highway Administration's (FHWA) *Highway Capacity Manual (HCM) 2000* provides ranges of vehicular density for each LOS definition, spanning from very minimal vehicular density (LOS A) to high density (LOS F). LOS F is considered unacceptable for most drivers. The methodology and Level-of-Service (LOS) vehicular density thresholds for evaluating freeway segments were described earlier in Section 4.5.

The peak direction for the weekday AM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the southbound direction into Atlanta. For the southbound AM peak hour, the speed profile for 2011 Build conditions is shown in Figure 16. As shown in Figure 16, there are congested travel speeds on the general purpose lanes throughout the entire corridor. However, the HOT lanes are showing speeds greater than 50 mph

The peak direction for the weekday PM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the northbound direction out of Atlanta. For the northbound PM peak hour, the speed profile for 2011 Build conditions is shown in Figure 17. As shown in Figure 17, there are congestion hotspots at Chamblee-Tucker Road and at Beaver Ruin Road for the general purpose lanes. The HOT lanes, however, are showing speeds greater than 50 mph for the entire corridor.

Figure 16. 2011 Build Conditions - Southbound AM Peak Hour Speed Profiles

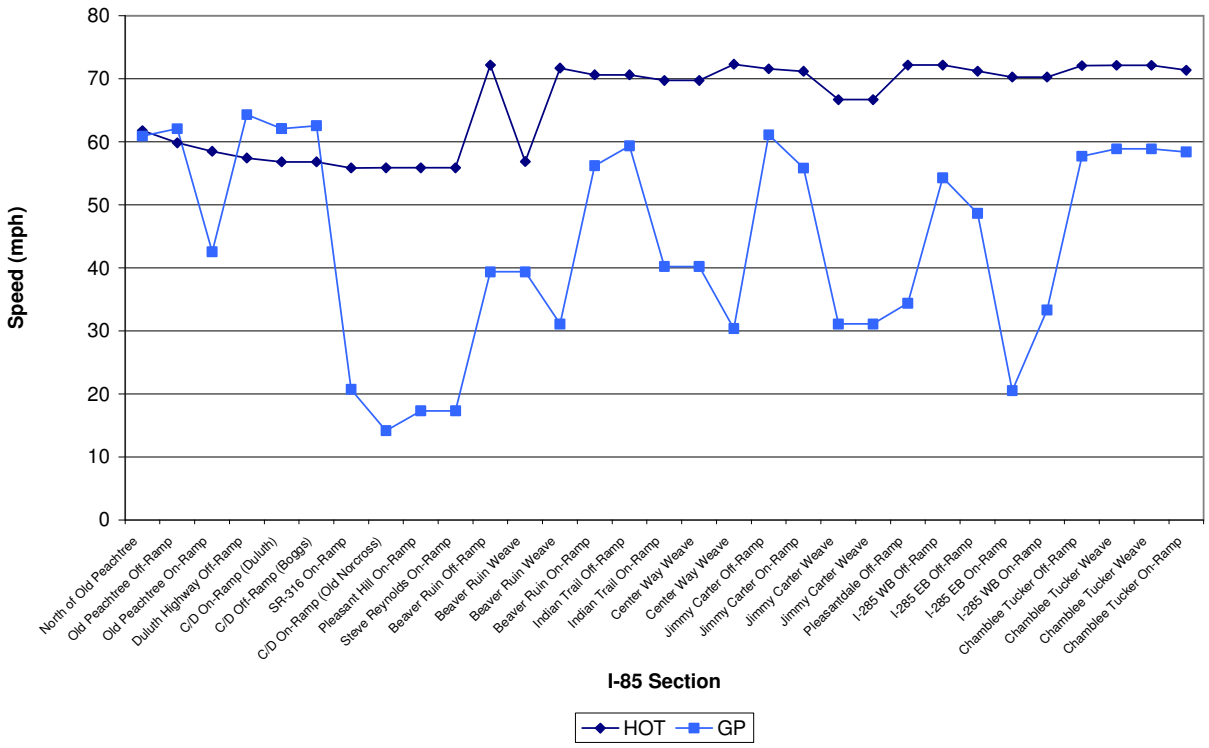
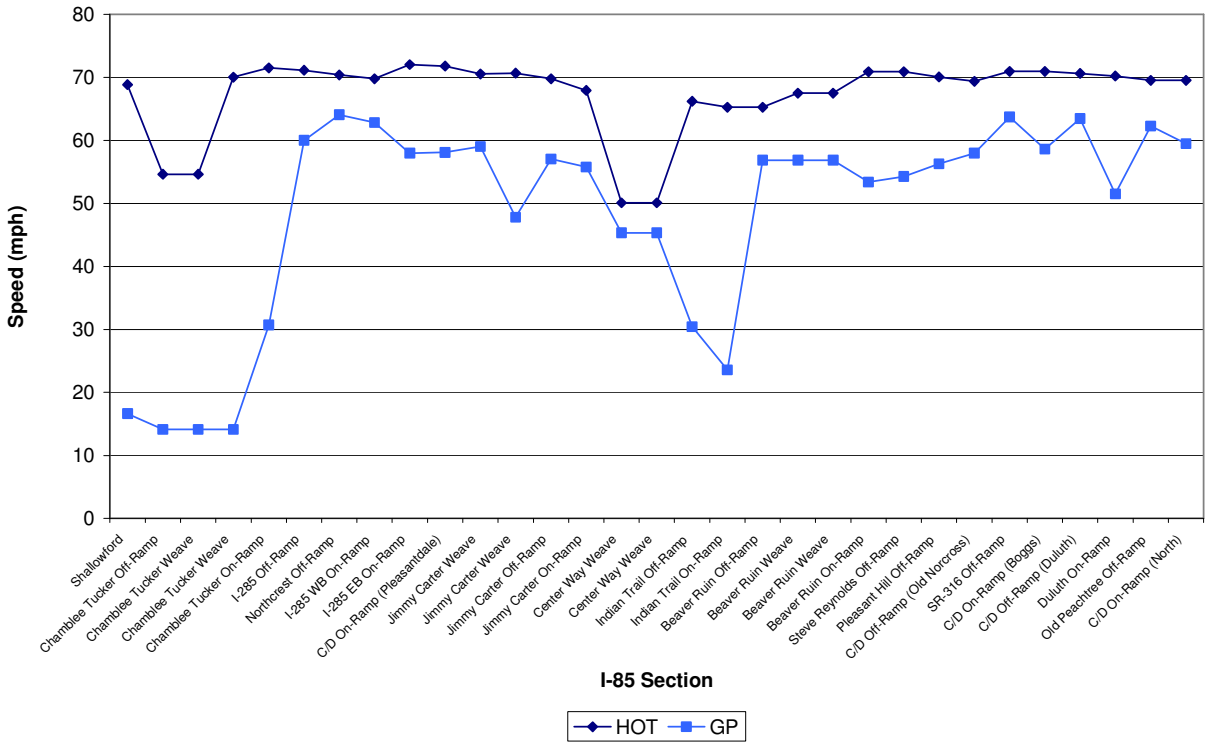


Figure 17. 2011 Build Conditions - Northbound PM Peak Hour Speed Profiles



HOT Lane (Southbound)

The LOS results for the southbound AM and PM peak hour (HOT lane) are shown in Table 40. More detailed TransModeler simulation output data can be found in Appendix G.

As shown in Table 40, the HOT lane in the southbound direction in the AM peak hour operates with LOS C or better through the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The average system-wide speed for the AM peak hour was calculated to be approximately 61 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 72 mph, while the minimum speed was found to be 56 mph between SR 316 and Pleasant Hill Road.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 56 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOT lane on I-85 in the southbound direction was determined to be approximately plus/minus 7 mph in the AM peak hour.

Table 40. Build (2011) Southbound – HOT

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	62	20	C	73	1	A
Old Peachtree Off-Ramp	Old Peachtree On-Ramp	60	21	C	72	1	A
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	59	21	C	71	1	A
Duluth Highway Off-Ramp	C/D On-Ramp (Duluth)	57	22	C	71	1	A
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	57	22	C	71	1	A
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	57	22	C	71	1	A
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	56	23	C	72	2	A
C/D On-Ramp (Old Norcross)	Pleasant Hill On-Ramp	56	23	C	71	2	A
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	56	23	C	71	2	A
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	56	23	C	71	2	A
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	72	5	A	73	5	A
Beaver Ruin Weave	*Beaver Ruin Weave*	57	6	A	73	2	A
Beaver Ruin Weave	Beaver Ruin On-Ramp	72	4	A	74	2	A
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	71	4	A	74	2	A
Indian Trail Off-Ramp	Indian Trail On-Ramp	71	4	A	74	2	A
Indian Trail On-Ramp	*Center Way Weave*	70	5	A	74	2	A
Center Way Weave	*Center Way Weave*	70	5	A	74	2	A
Center Way Weave	Jimmy Carter Off-Ramp	72	4	A	75	2	A
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	72	4	A	75	2	A
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	71	4	A	74	2	A
Jimmy Carter Weave	*Jimmy Carter Weave*	67	3	A	74	1	A
Jimmy Carter Weave	Pleasantdale Off-Ramp	67	3	A	74	1	A
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	72	3	A	73	1	A
I-285 WB Off-Ramp	I-285 EB Off-Ramp	72	3	A	73	1	A
I-285 EB Off-Ramp	I-285 EB On-Ramp	71	3	A	73	1	A
I-285 EB On-Ramp	I-285 WB On-Ramp	70	3	A	73	1	A
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	70	3	A	73	1	A
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	72	3	A	74	1	A
Chamblee Tucker Weave	*Chamblee Tucker Weave*	72	3	A	74	1	A
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	72	3	A	74	1	A
Chamblee Tucker On-Ramp	Shallowford	71	4	A	73	1	A

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 72 mph in the AM peak hour. The 15th percentile speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 57 mph in the AM peak hour.

In the PM peak hour, as shown in Table 40, the HOT lane in the southbound direction operates with LOS A through the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The southbound HOT lane serves the off-peak direction of traffic during the PM peak hour. The average system-wide speed for the PM peak hour was calculated to be approximately 73 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 75 mph, while the minimum speed was found to be 71 mph.

The mode speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 71 mph in the PM peak hour. The standard deviation speed for the HOT lane on I-85 in the southbound direction was determined to be approximately plus/minus 1 mph in the PM peak hour. The 85th percentile speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 74 mph in the PM peak hour. The 15th percentile speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 71 mph in the PM peak hour.

General Purpose Lanes (Southbound)

The LOS results for the southbound AM and PM peak hour (general purpose lanes) are shown in Table 41. More detailed TransModeler simulation output data can be found in Appendix G.

As shown in Table 41, the general purpose lanes in the southbound direction in the AM peak hour operates with LOS E and F on segments of the I-85 corridor between Old Peachtree Road and Chamblee-Tucker Road. The LOS E and F values are primarily focused in the vicinity between SR 316 and Chamblee-Tucker Road. The average system-wide speed for the AM peak hour was calculated to be approximately 37 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 64 mph near Duluth Highway, while the minimum speed was found to be 14 mph in the vicinity of Pleasant Hill Road.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 17 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 16 mph in the AM peak hour. This indicates the proclivity for speed fluctuations along the I-85 corridor in the AM peak hour heading south into Atlanta.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 61 mph in the AM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 26 mph in the AM peak hour.

In the PM peak hour, as shown in Table 41, the general purpose lanes in the southbound direction operates with LOS F on one section of the I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The LOS F values are primarily focused in the vicinity between the Pleasant Hill Road interchange and the Beaver Ruin Road interchange. The average system-wide speed for the PM peak hour was calculated to be approximately 47 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 66 mph in the area of Duluth Highway, while the minimum speed was found to be 18 mph just north of the Beaver Ruin Road interchange.

Table 41. Build (2011) Southbound – General Purpose Lanes

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	61	21	C	62	17	B
Old Peachtree Off-Ramp	Old Peachtree On-Ramp	62	20	C	65	13	B
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	43	32	D	59	18	B
Duluth Highway Off-Ramp	C/D On-Ramp (Duluth)	64	15	B	66	12	B
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	62	15	B	64	12	B
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	63	16	B	63	14	B
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	21	50	F	60	16	B
C/D On-Ramp (Old Norcross)	Pleasant Hill On-Ramp	14	85	F	23	56	F
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	17	75	F	18	79	F
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	17	75	F	18	79	F
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	39	31	D	43	31	D
Beaver Ruin Weave	*Beaver Ruin Weave*	39	31	D	43	31	D
Beaver Ruin Weave	Beaver Ruin On-Ramp	31	41	E	62	19	C
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	56	29	D	57	30	D
Indian Trail Off-Ramp	Indian Trail On-Ramp	59	24	C	62	22	C
Indian Trail On-Ramp	*Center Way Weave*	40	33	D	60	20	C
Center Way Weave	*Center Way Weave*	40	33	D	60	20	C
Center Way Weave	Jimmy Carter Off-Ramp	30	44	E	57	22	C
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	61	24	C	61	23	C
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	56	25	C	60	21	C
Jimmy Carter Weave	*Jimmy Carter Weave*	31	39	E	56	20	C
Jimmy Carter Weave	Pleasantdale Off-Ramp	31	39	E	56	20	C
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	34	36	E	52	23	C
I-285 WB Off-Ramp	I-285 EB Off-Ramp	54	22	C	56	18	C
I-285 EB Off-Ramp	I-285 EB On-Ramp	49	24	C	64	15	B
I-285 EB On-Ramp	I-285 WB On-Ramp	20	64	F	60	20	C
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	33	40	E	51	22	C
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	58	24	C	59	19	C
Chamblee Tucker Weave	*Chamblee Tucker Weave*	59	21	C	60	17	B
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	59	21	C	60	17	B
Chamblee Tucker On-Ramp	Shallowford	58	23	C	60	18	C

The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 18 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 13 mph in the PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 62 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 47 mph in the PM peak hour.

HOT Lane (Northbound)

The LOS results for the northbound AM and PM peak hour (HOT lane) are shown in Table 42. More detailed TransModeler simulation output data can be found in Appendix G.

As shown in Table 42, the HOT lane in the northbound direction in the AM peak hour operates with LOS A through the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road on the north. The average system-wide speed for the AM peak hour was calculated to be approximately 73 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 76 mph, while the minimum speed was found to be 71.

Table 42. Build (2011) Northbound – HOT

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Shallowford	Chamblee Tucker Off-Ramp	71	0	A	69	4	A
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	72	0	A	55	7	A
Chamblee Tucker Weave	*Chamblee Tucker Weave*	72	0	A	55	7	A
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	73	0	A	70	2	A
Chamblee Tucker On-Ramp	I-285 Off-Ramp	74	0	A	72	2	A
I-285 Off-Ramp	Northcrest Off-Ramp	74	0	A	71	2	A
Northcrest Off-Ramp	I-285 WB On-Ramp	73	0	A	70	2	A
I-285 WB On-Ramp	I-285 EB On-Ramp	73	0	A	70	2	A
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	76	0	A	72	2	A
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	75	0	A	72	2	A
Jimmy Carter Weave	*Jimmy Carter Weave*	74	0	A	71	2	A
Jimmy Carter Weave	Jimmy Carter Off-Ramp	72	1	A	71	4	A
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	72	1	A	70	4	A
Jimmy Carter On-Ramp	*Center Way Weave*	71	1	A	68	4	A
Center Way Weave	*Center Way Weave*	73	1	A	50	9	A
Center Way Weave	Indian Trail Off-Ramp	73	1	A	50	9	A
Indian Trail Off-Ramp	Indian Trail On-Ramp	72	1	A	66	9	A
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	72	1	A	65	9	A
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	72	1	A	65	9	A
Beaver Ruin Weave	*Beaver Ruin Weave*	75	1	A	68	3	A
Beaver Ruin Weave	Beaver Ruin On-Ramp	75	1	A	68	3	A
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	74	1	A	71	3	A
Steve Reynolds Off-Ramp	Pleasant Hill Off-Ramp	74	1	A	71	3	A
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	74	1	A	70	3	A
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	73	1	A	69	3	A
SR-316 Off-Ramp	C/D On-Ramp (Boggs)	72	0	A	71	1	A
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	72	0	A	71	1	A
C/D Off-Ramp (Duluth)	Duluth On-Ramp	72	0	A	71	1	A
Duluth On-Ramp	Old Peachtree Off-Ramp	72	0	A	70	1	A
Old Peachtree Off-Ramp	C/D On-Ramp (North)	71	0	A	70	1	A
C/D On-Ramp (North)	North	71	0	A	70	1	A

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 72 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOT lane on I-85 in the northbound direction was determined to be approximately plus/minus 1 mph in the AM peak hour.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 74 mph in the AM peak hour. The 15th percentile speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 72 mph in the AM peak hour.

In the PM peak hour, as shown in Table 42, the HOT lane in the northbound direction operates with LOS A throughout the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound HOT lane serves the peak direction of traffic during the PM peak hour. The average system-wide speed for the PM peak hour was calculated to be approximately 65 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 72 mph. The minimum speed was found to be 50 mph.

The mode speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 55 mph in the PM peak hour. The standard deviation speed for the HOT lane on I-85 in the northbound direction was determined to be approximately plus/minus 6 mph in the PM peak hour. This standard deviation speed indicates that speeds along the HOT in the northbound PM peak hour direction can fluctuate. The 85th percentile speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 71 mph in the PM peak hour. The 15th percentile speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 65 mph in the PM peak hour.

General Purpose Lanes (Northbound)

The LOS results for the northbound AM and PM peak hour (general purpose lanes) are shown in Table 43. More detailed TransModeler simulation output data can be found in Appendix G.

As shown in Table 43, the general purpose lanes in the northbound direction in the AM peak hour operates with LOS D and better for the I-85 corridor between Chamblee-Tucker Road and Old Peachtree Road. The average system-wide speed for the AM peak hour was calculated to be approximately 58 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 65 mph just north of SR 316, while the minimum speed was found to be 46 mph near Beaver Ruin Road. This minimum speed corresponds with the last access point location in the Beaver Ruin Road vicinity.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 62 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 5 mph in the AM peak hour. This indicates the proclivity for speed fluctuations along the I-85 corridor in the AM peak hour heading south into Atlanta.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 63 mph in the AM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 53 mph in the AM peak hour.

Table 43. Build (2011) Northbound – General Purpose Lanes

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Shallowford	Chamblee Tucker Off-Ramp	63	17	B	17	76	F
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	62	15	B	14	80	F
Chamblee Tucker Weave	*Chamblee Tucker Weave*	62	15	B	14	80	F
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	62	15	B	14	80	F
Chamblee Tucker On-Ramp	I-285 Off-Ramp	50	20	C	31	41	E
I-285 Off-Ramp	Northcrest Off-Ramp	61	14	B	60	17	B
Northcrest Off-Ramp	I-285 WB On-Ramp	65	13	B	64	18	C
I-285 WB On-Ramp	I-285 EB On-Ramp	64	14	B	63	19	C
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	59	19	C	58	22	C
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	56	18	C	58	21	C
Jimmy Carter Weave	*Jimmy Carter Weave*	60	17	B	59	21	C
Jimmy Carter Weave	Jimmy Carter Off-Ramp	54	22	C	48	29	D
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	61	20	C	57	25	C
Jimmy Carter On-Ramp	*Center Way Weave*	59	23	C	56	30	D
Center Way Weave	*Center Way Weave*	53	22	C	45	32	D
Center Way Weave	Indian Trail Off-Ramp	53	22	C	45	32	D
Indian Trail Off-Ramp	Indian Trail On-Ramp	61	21	C	30	49	F
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	46	25	C	24	60	F
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	61	18	C	57	25	C
Beaver Ruin Weave	*Beaver Ruin Weave*	61	18	C	57	25	C
Beaver Ruin Weave	Beaver Ruin On-Ramp	61	18	C	57	25	C
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	58	20	C	53	28	D
Steve Reynolds Off-Ramp	Pleasant Hill Off-Ramp	48	27	D	54	30	D
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	55	17	B	56	21	C
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	62	12	B	58	18	B
SR-316 Off-Ramp	C/D On-Ramp (Boggs)	65	10	A	64	17	B
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	61	9	A	59	15	B
C/D Off-Ramp (Duluth)	Duluth On-Ramp	64	11	B	63	18	B
Duluth On-Ramp	Old Peachtree Off-Ramp	54	11	B	52	19	C
Old Peachtree Off-Ramp	C/D On-Ramp (North)	64	10	A	62	18	B
C/D On-Ramp (North)	North	62	12	B	60	22	C

In the PM peak hour, as shown in Table 43, the general purpose lanes in the northbound direction operates with LOS E and F on specific stretches of the I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound general purpose lanes serve the peak direction of traffic during the PM peak hour. The LOS E and F values are primarily focused in the vicinity of Chamblee-Tucker Road, I-285 and Beaver Ruin Road. The average system-wide speed for the PM peak hour was calculated to be approximately 38 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 64 mph after the congestion hotspot at Chamblee-Tucker Road, while the minimum speed was found to be 14 mph in the area of the Chamblee-Tucker Road interchange.

The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 14 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 16 mph in the PM peak hour. This standard deviation speed indicates the proclivity of the corridor to have fluctuations in travel speeds in the northbound PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 61 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 27 mph in the PM peak hour.

LOS for Weaving Segments -2011 Build

The LOS for a freeway weaving segment is determined with the vehicular density of that segment as discussed in Section 4.5. The HOT weaving segments on the I-85 corridor were examined under Build (2011) conditions. The results are shown in Table 44 for the southbound direction and Table 45 for the northbound direction.

Table 44. Build (2011) Weaving Segments - Southbound

HOT Lane						
I-85 Section (SB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Beaver Ruin Weave	57	6	A	73	2	A
Center Way Weave	70	5	A	74	2	A
Jimmy Carter Weave	67	3	A	74	1	A
Chamblee Tucker Weave	72	3	A	74	1	A
Adjacent General Purpose Lane						
I-85 Section (SB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Beaver Ruin Weave	40	34	D	73	11	B
Center Way Weave	54	24	C	71	12	B
Jimmy Carter Weave	47	30	D	70	13	B
Chamblee Tucker Weave	66	23	C	74	7	A

As shown in Table 44 the HOT access weave sections are forecast to operate with adequate traffic operations for the southbound direction in the Year 2011.

Table 45. Build (2011) Weaving Segments - Northbound

HOT Lane						
I-85 Section (NB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Chamblee Tucker Weave	72	0	A	55	7	A
Jimmy Carter Weave	74	0	A	71	2	A
Center Way Weave	73	1	A	50	9	A
Beaver Ruin Weave	75	1	A	68	3	A
Adjacent General Purpose Lane						
I-85 Section (NB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Chamblee Tucker Weave	66	19	B	17	92	F
Jimmy Carter Weave	68	9	A	63	21	C
Center Way Weave	68	11	B	51	32	D
Beaver Ruin Weave	69	13	B	55	38	E

As shown in Table 45, the HOT access weave sections at Chamblee-Tucker Road and Beaver Ruin Road in the northbound direction during the PM peak hour operates with LOS F and E under 2011 Build conditions, respectively. This is primarily due to the high amount of traffic in the adjacent general purpose lane.

LOS for Freeway Segments – 2031 Build

A freeway segment analysis of Build 2031 peak hour traffic conditions was performed to determine the LOS for the I-85 corridor. The Federal Highway Administration's (FHWA) *Highway Capacity Manual (HCM) 2000* provides ranges of vehicular density for each LOS definition, spanning from very minimal vehicular density (LOS A) to high density (LOS F). LOS F is considered unacceptable for most drivers. The methodology and Level-of-Service (LOS) vehicular density thresholds for evaluating freeway segments were described earlier in Section 4.5.

The peak direction for the weekday AM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the southbound direction into Atlanta. For the southbound AM peak hour, the speed profile for 2031 Build conditions is shown in Figure 18. As shown in Figure 18, there are severely congested travel speeds throughout the entire corridor on the general purpose lanes. However, the HOT lanes are showing speeds greater than 50 mph, with one section at 45 mph.

The peak direction for the weekday PM peak hour on I-85 between Chamblee-Tucker Road and Old Peachtree Road is the northbound direction out of Atlanta. For the northbound PM peak hour, the speed profile for 2031 Build conditions is shown in Figure 19. As shown in Figure 19, there are slow speeds beginning at Chamblee-Tucker Road and between Jimmy Carter Boulevard and Beaver Ruin Road for the general purpose lanes. However, the HOT lanes are showing speeds greater than 50 mph for the entire corridor.

It should be noted that since the model simulation runs are seeded randomly and that the output results and speeds in particular can change from run to run. Moreover, the model simulates driver behavior. In that regard, speeds are noted to increase after a congestion choke point given that drivers in reality try to make up for lost time from bumper-to-bumper traffic or slow segments of travel.

HOT Lane (Southbound)

The LOS results for the southbound AM and PM peak hour (HOT lane) are shown in Table 46. More detailed TransModeler simulation output data can be found in Appendix G.

As shown in Table 46, the HOT lane in the southbound direction in the AM peak hour operates with LOS C or better through the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The average system-wide speed for the AM peak hour was calculated to be approximately 60 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 72 mph, while the minimum speed was found to be 45 mph.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 56 mph in the AM peak hour.

Figure 18. 2031 Build Conditions - Southbound AM Peak Hour Speed Profiles

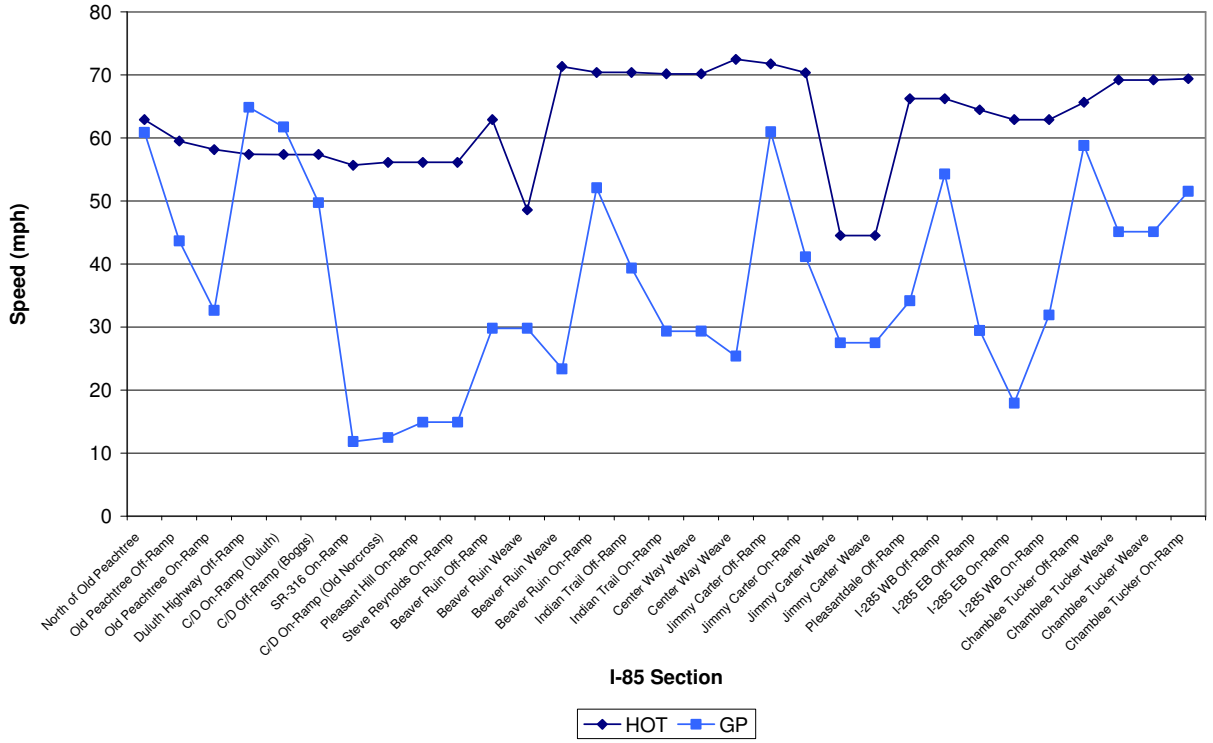
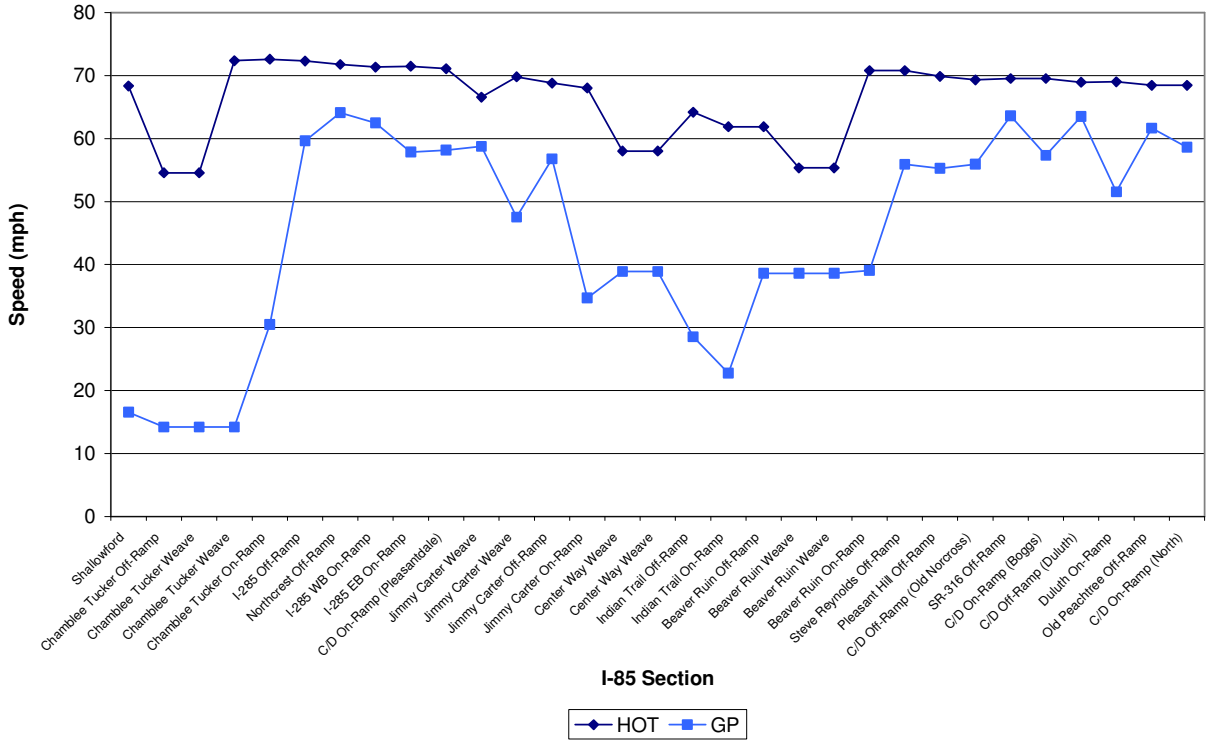


Figure 19. 2031 Build Conditions - Northbound PM Peak Hour Speed Profiles



Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOT lane on I-85 in the southbound direction was determined to be approximately plus/minus 8 mph in the AM peak hour.

Table 46. Build (2031) Southbound – HOT

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	63	23	C	70	9	A
Old Peachtree Off-Ramp	Old Peachtree On-Ramp	60	24	C	66	10	A
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	58	24	C	65	10	A
Duluth Highway Off-Ramp	C/D On-Ramp (Duluth)	57	24	C	63	10	A
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	57	23	C	62	10	A
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	57	23	C	62	10	A
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	56	25	C	61	10	A
C/D On-Ramp (Old Norcross)	Pleasant Hill On-Ramp	56	24	C	62	10	A
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	56	24	C	62	10	A
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	56	24	C	62	10	A
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	63	9	A	67	7	A
Beaver Ruin Weave	*Beaver Ruin Weave*	49	11	B	68	2	A
Beaver Ruin Weave	Beaver Ruin On-Ramp	71	5	A	74	2	A
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	70	5	A	73	2	A
Indian Trail Off-Ramp	Indian Trail On-Ramp	70	5	A	73	2	A
Indian Trail On-Ramp	*Center Way Weave*	70	5	A	74	2	A
Center Way Weave	*Center Way Weave*	70	5	A	74	2	A
Center Way Weave	Jimmy Carter Off-Ramp	72	5	A	74	2	A
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	72	5	A	74	2	A
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	70	5	A	73	2	A
Jimmy Carter Weave	*Jimmy Carter Weave*	45	12	B	72	1	A
Jimmy Carter Weave	Pleasantdale Off-Ramp	45	12	B	72	1	A
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	66	10	A	73	1	A
I-285 WB Off-Ramp	I-285 EB Off-Ramp	66	10	A	73	1	A
I-285 EB Off-Ramp	I-285 EB On-Ramp	64	10	A	73	1	A
I-285 EB On-Ramp	I-285 WB On-Ramp	63	10	A	73	1	A
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	63	10	A	73	1	A
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	66	10	A	73	1	A
Chamblee Tucker Weave	*Chamblee Tucker Weave*	69	6	A	72	1	A
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	69	6	A	72	1	A
Chamblee Tucker On-Ramp	Shallowford	69	8	A	72	2	A

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 70 mph in the AM peak hour. The 15th percentile speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 56 mph in the AM peak hour.

In the PM peak hour, as shown in Table 46, the HOT lane in the southbound direction operates with LOS A through the entire I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The southbound HOT lane serves the off-peak direction of traffic during the PM peak hour. The average system-wide speed for the PM peak hour was calculated to be approximately 66 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 74 mph, while the minimum speed was found to be 61 mph.

The mode speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 61mph in the PM peak hour. The standard deviation speed for the HOT lane on I-85 in the southbound direction was determined to be approximately plus/minus 5 mph in the PM peak hour. The 85th percentile speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 73 mph in the PM peak hour. The 15th percentile speed for the HOT lane on I-85 in the southbound direction was determined to be approximately 62 mph in the PM peak hour.

General Purpose Lanes (Southbound)

The LOS results for the southbound AM and PM peak hour (general purpose lanes) are shown in Table 47. More detailed TransModeler simulation output data can be found in Appendix G.

As shown in Table 47, the general purpose lanes in the southbound direction in the AM peak hour operates with LOS E and F for the majority of segments on the I-85 corridor between Old Peachtree Road and Chamblee-Tucker Road. The average system-wide speed for the AM peak hour was calculated to be approximately 30 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 65 mph near Duluth Highway, while the minimum speed was found to be 12 mph in the vicinity of Pleasant Hill Road.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 15 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 16 mph in the AM peak hour. This indicates the proclivity for speed fluctuations along the I-85 corridor in the AM peak hour heading south into Atlanta.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 57 mph in the AM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 21 mph in the AM peak hour.

In the PM peak hour, as shown in Table 47, the general purpose lanes in the southbound direction operates with LOS F for a few segments of the I-85 corridor from Old Peachtree Road on the north to Chamblee-Tucker Road on the south. The area between Pleasant Hill Road and Beaver Ruin Road is forecast to operate with LOS F. The average system-wide speed for the PM peak hour was calculated to be approximately 43 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 66 mph in the area of Duluth Highway, while the minimum speed was found to be 14 mph at Pleasant Hill Road.

Table 47. Build (2031) Southbound – General Purpose Lanes

I-85 Section (SB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Old Peachtree	Old Peachtree Off-Ramp	61	18	C	62	17	B
Old Peachtree Off-Ramp	Old Peachtree On-Ramp	44	25	C	65	13	B
Old Peachtree On-Ramp	Duluth Highway Off-Ramp	33	41	E	59	19	C
Duluth Highway Off-Ramp	C/D On-Ramp (Duluth)	65	16	B	66	12	B
C/D On-Ramp (Duluth)	C/D Off-Ramp (Boggs)	62	16	B	64	12	B
C/D Off-Ramp (Boggs)	SR-316 On-Ramp	50	22	C	63	14	B
SR-316 On-Ramp	C/D On-Ramp (Old Norcross)	12	88	F	39	26	D
C/D On-Ramp (Old Norcross)	Pleasant Hill On-Ramp	12	98	F	14	89	F
Pleasant Hill On-Ramp	Steve Reynolds On-Ramp	15	90	F	16	86	F
Steve Reynolds On-Ramp	Beaver Ruin Off-Ramp	15	90	F	16	86	F
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	30	43	E	39	34	D
Beaver Ruin Weave	*Beaver Ruin Weave*	30	43	E	39	34	D
Beaver Ruin Weave	Beaver Ruin On-Ramp	23	58	F	60	21	C
Beaver Ruin On-Ramp	Indian Trail Off-Ramp	52	36	E	57	30	D
Indian Trail Off-Ramp	Indian Trail On-Ramp	39	40	E	61	25	C
Indian Trail On-Ramp	*Center Way Weave*	29	49	F	59	22	C
Center Way Weave	*Center Way Weave*	29	49	F	59	22	C
Center Way Weave	Jimmy Carter Off-Ramp	25	58	F	54	25	C
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	61	27	D	61	25	C
Jimmy Carter On-Ramp	*Jimmy Carter Weave*	41	39	E	60	23	C
Jimmy Carter Weave	*Jimmy Carter Weave*	27	51	F	54	23	C
Jimmy Carter Weave	Pleasantdale Off-Ramp	27	51	F	54	23	C
Pleasantdale Off-Ramp	I-285 WB Off-Ramp	34	40	E	48	27	D
I-285 WB Off-Ramp	I-285 EB Off-Ramp	54	24	C	56	20	C
I-285 EB Off-Ramp	I-285 EB On-Ramp	29	46	F	62	17	B
I-285 EB On-Ramp	I-285 WB On-Ramp	18	79	F	57	22	C
I-285 WB On-Ramp	Chamblee Tucker Off-Ramp	32	46	F	43	30	D
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	59	27	D	58	19	C
Chamblee Tucker Weave	*Chamblee Tucker Weave*	45	31	D	60	18	C
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	45	31	D	60	18	C
Chamblee Tucker On-Ramp	Shallowford	52	30	D	59	20	C

The mode speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 16 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately plus/minus 14 mph in the PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 62 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the southbound direction was determined to be approximately 39 mph in the PM peak hour.

HOT Lane (Northbound)

The LOS results for the northbound AM and PM peak hour (HOT lane) are shown in Table 48. More detailed TransModeler simulation output data can be found in Appendix G.

As shown in Table 48, the HOT lane in the northbound direction in the AM peak hour operates with LOS A through the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road on the north. The average system-wide speed for the AM peak hour was calculated to be approximately 72 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 73 mph, while the minimum speed was found to be 70 mph.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 73 mph in the AM peak hour.

Table 48. Build (2031) Northbound – HOT

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Shallowford	Chamblee Tucker Off-Ramp	73	1	A	68	5	A
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	73	1	A	55	7	A
Chamblee Tucker Weave	*Chamblee Tucker Weave*	73	1	A	55	7	A
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	72	1	A	72	2	A
Chamblee Tucker On-Ramp	I-285 Off-Ramp	72	1	A	73	2	A
I-285 Off-Ramp	Northcrest Off-Ramp	72	1	A	72	2	A
Northcrest Off-Ramp	I-285 WB On-Ramp	72	1	A	72	2	A
I-285 WB On-Ramp	I-285 EB On-Ramp	72	1	A	71	2	A
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	73	1	A	72	2	A
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	72	1	A	71	2	A
Jimmy Carter Weave	*Jimmy Carter Weave*	71	1	A	67	4	A
Jimmy Carter Weave	Jimmy Carter Off-Ramp	73	2	A	70	6	A
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	73	2	A	69	6	A
Jimmy Carter On-Ramp	*Center Way Weave*	72	2	A	68	5	A
Center Way Weave	*Center Way Weave*	72	2	A	58	17	B
Center Way Weave	Indian Trail Off-Ramp	72	2	A	58	17	B
Indian Trail Off-Ramp	Indian Trail On-Ramp	72	2	A	64	15	B
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	71	2	A	62	15	B
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	71	2	A	62	15	B
Beaver Ruin Weave	*Beaver Ruin Weave*	71	1	A	55	6	A
Beaver Ruin Weave	Beaver Ruin On-Ramp	71	1	A	55	6	A
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	72	1	A	71	3	A
Steve Reynolds Off-Ramp	Pleasant Hill Off-Ramp	72	1	A	71	3	A
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	71	1	A	70	3	A
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	71	1	A	69	3	A
SR-316 Off-Ramp	C/D On-Ramp (Boggs)	71	0	A	70	2	A
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	71	0	A	70	2	A
C/D Off-Ramp (Duluth)	Duluth On-Ramp	71	0	A	69	2	A
Duluth On-Ramp	Old Peachtree Off-Ramp	70	0	A	69	2	A
Old Peachtree Off-Ramp	C/D On-Ramp (North)	70	0	A	68	2	A
C/D On-Ramp (North)	North	70	0	A	68	2	A

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the HOT lane on I-85 in the northbound direction was determined to be approximately plus/minus 1 mph in the AM peak hour.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 73 mph in the AM peak hour. The 15th percentile speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 71 mph in the AM peak hour.

In the PM peak hour, as shown in Table 48, the HOT lane in the northbound direction operates with LOS B or better through the entire I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound HOT lane serves the peak direction of traffic during the PM peak hour. The average

system-wide speed for the PM peak hour was calculated to be approximately 64 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 73 mph. The minimum speed was found to be 55 mph.

The mode speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 55 mph in the PM peak hour. The standard deviation speed for the HOT lane on I-85 in the northbound direction was determined to be approximately plus/minus 6 mph in the PM peak hour. This standard deviation speed indicates that speeds along the HOT in the northbound PM peak hour direction can fluctuate. The 85th percentile speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 71 mph in the PM peak hour. The 15th percentile speed for the HOT lane on I-85 in the northbound direction was determined to be approximately 58 mph in the PM peak hour.

General Purpose Lanes (Northbound)

The LOS results for the northbound AM and PM peak hour (general purpose lanes) are shown in Table 49. More detailed TransModeler simulation output data can be found in Appendix G.

As shown in Table 49, the general purpose lanes in the northbound direction in the AM peak hour operates with LOS D and better for the I-85 corridor between Chamblee-Tucker Road and Old Peachtree Road. The average system-wide speed for the AM peak hour was calculated to be approximately 57 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 65 mph just north of SR 316, while the minimum speed was found to be 45 mph near Beaver Ruin Road.

Modal Speed is a measure of the central tendency of speeds along a system. The mode speed is defined as the single value of speed that occurs most frequently. The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 61 mph in the AM peak hour.

Standard deviation was calculated as a measure of dispersion of speeds. It is a measure of how far data spreads around the average speed. It is the average value of the difference in the speeds compared to the average speed. It is a direct measure of the magnitude of dispersion. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 5 mph in the AM peak hour.

The 85th percentile and 15th percentile speeds offer a general indication of the high and low speeds along the corridor. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 63 mph in the AM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 53 mph in the AM peak hour.

Table 49. Build (2031) Northbound – General Purpose Lanes

I-85 Section (NB)		AM Peak Hour			PM Peak Hour		
To	From	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	#N/A
Shallowford	Chamblee Tucker Off-Ramp	62	19	C	17	76	F
Chamblee Tucker Off-Ramp	*Chamblee Tucker Weave*	61	18	C	14	80	F
Chamblee Tucker Weave	*Chamblee Tucker Weave*	61	18	C	14	80	F
Chamblee Tucker Weave	Chamblee Tucker On-Ramp	61	18	C	14	80	F
Chamblee Tucker On-Ramp	I-285 Off-Ramp	46	26	C	30	41	E
I-285 Off-Ramp	Northcrest Off-Ramp	61	16	B	60	18	B
Northcrest Off-Ramp	I-285 WB On-Ramp	65	15	B	64	18	C
I-285 WB On-Ramp	I-285 EB On-Ramp	63	16	B	62	19	C
I-285 EB On-Ramp	C/D On-Ramp (Pleasantdale)	58	21	C	58	22	C
C/D On-Ramp (Pleasantdale)	*Jimmy Carter Weave*	59	18	C	58	23	C
Jimmy Carter Weave	*Jimmy Carter Weave*	59	20	C	59	22	C
Jimmy Carter Weave	Jimmy Carter Off-Ramp	53	25	C	48	29	D
Jimmy Carter Off-Ramp	Jimmy Carter On-Ramp	57	24	C	57	26	D
Jimmy Carter On-Ramp	*Center Way Weave*	58	27	D	35	48	F
Center Way Weave	*Center Way Weave*	52	26	C	39	37	E
Center Way Weave	Indian Trail Off-Ramp	52	26	C	39	37	E
Indian Trail Off-Ramp	Indian Trail On-Ramp	61	24	C	29	51	F
Indian Trail On-Ramp	Beaver Ruin Off-Ramp	45	30	D	23	62	F
Beaver Ruin Off-Ramp	*Beaver Ruin Weave*	61	22	C	39	38	E
Beaver Ruin Weave	*Beaver Ruin Weave*	61	22	C	39	38	E
Beaver Ruin Weave	Beaver Ruin On-Ramp	61	22	C	39	38	E
Beaver Ruin On-Ramp	Steve Reynolds Off-Ramp	56	25	C	39	38	E
Steve Reynolds Off-Ramp	Pleasant Hill Off-Ramp	46	33	D	56	28	D
Pleasant Hill Off-Ramp	C/D Off-Ramp (Old Norcross)	54	21	C	55	22	C
C/D Off-Ramp (Old Norcross)	SR-316 Off-Ramp	61	16	B	56	20	C
SR-316 Off-Ramp	C/D On-Ramp (Boggs)	65	12	B	64	18	C
C/D On-Ramp (Boggs)	C/D Off-Ramp (Duluth)	59	12	B	57	17	B
C/D Off-Ramp (Duluth)	Duluth On-Ramp	64	14	B	64	19	C
Duluth On-Ramp	Old Peachtree Off-Ramp	53	14	B	52	21	C
Old Peachtree Off-Ramp	C/D On-Ramp (North)	64	12	B	62	20	C
C/D On-Ramp (North)	North	62	16	B	59	24	C

In the PM peak hour, as shown in Table 49, the general purpose lanes in the northbound direction operates with LOS E and F on specific stretches of the I-85 corridor from Chamblee-Tucker Road to Old Peachtree Road. The northbound general purpose lanes serve the peak direction of traffic during the PM peak hour. The LOS E and F values are primarily focused in the vicinity between Chamblee-Tucker Road and Steve Reynolds Boulevard. The average system-wide speed for the PM peak hour was calculated to be approximately 35 mph. The average speed represents a weighted-average by volume. The maximum speed found on the corridor was identified to be 64 mph after the congestion hotspot at Chamblee-Tucker Road, while the minimum speed was found to be 14 mph in the area of the Chamblee-Tucker Road interchange.

The mode speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 14 mph in the PM peak hour. The standard deviation speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately plus/minus 17 mph in the PM peak hour. This standard deviation speed indicates the proclivity of the corridor to have fluctuations in travel speeds in the northbound PM peak hour. The 85th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 61 mph in the PM peak hour. The 15th percentile speed for the general purpose lanes on I-85 in the northbound direction was determined to be approximately 26 mph in the PM peak hour.

LOS for Weaving Segments -2031 Build

The LOS for a freeway weaving segment is determined with the vehicular density of that segment as discussed in Section 4.5. The HOT weaving segments on the I-85 corridor were examined under Build (2011) conditions. The results are shown in Table 50 for the southbound direction and Table 51 for the northbound direction.

Table 50. Build (2031) Weaving Segments - Southbound

HOT Lane						
I-85 Section (SB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Beaver Ruin Weave	49	11	B	68	2	A
Center Way Weave	70	5	A	74	2	A
Jimmy Carter Weave	45	12	B	72	1	A
Chamblee Tucker Weave	69	6	A	72	1	A
Adjacent General Purpose Lane						
I-85 Section (SB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Beaver Ruin Weave	32	49	F	61	23	C
Center Way Weave	44	37	E	67	20	B
Jimmy Carter Weave	36	46	F	66	19	B
Chamblee Tucker Weave	51	38	E	70	14	B

As shown in Table 50 the all of the HOT lane access weave sections in the southbound direction during the AM peak hour are forecast to operate with LOS E and F under 2031 Build conditions. This is primarily due to the high amount of traffic in the general purpose lane.

Table 51. Build (2031) Weaving Segments - Northbound

HOT Lane						
I-85 Section (NB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Chamblee Tucker Weave	73	1	A	55	7	A
Jimmy Carter Weave	71	1	A	67	4	A
Center Way Weave	72	2	A	36	19	B
Beaver Ruin Weave	71	1	A	55	6	A
Adjacent General Purpose Lane						
I-85 Section (NB)	AM Peak Hour Speed (mph)	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Speed (mph)	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
Chamblee Tucker Weave	65	23	C	18	90	F
Jimmy Carter Weave	66	14	B	62	22	C
Center Way Weave	65	18	B	42	40	E
Beaver Ruin Weave	66	21	C	42	47	F

As shown in Table 51, 3 of the 4 HOT lane access weave sections in the northbound direction during the PM peak hour are forecast to operate with LOS E and F conditions. This is primarily due to the high amount of traffic in the adjacent general purpose lane.

5 SUMMARY & CONCLUSIONS

As part of the concept report for the HOV to HOT conversion project on I-85, this traffic analysis report identifies and examines existing and future traffic conditions on the I-85 corridor, including Build scenarios that simulate potential HOT lane operations. The Opening and Design Year for the HOT lanes were identified to be Year 2011 and Year 2031, respectively.

Traffic Analysis Methodology

The task of evaluating existing traffic conditions on the I-85 corridor began with field reviews of the system between Chamblee-Tucker Road and Old Peachtree Road. The field reviews consisted of travel time runs during the weekday peak hours, video logging, documenting lane configurations, interchange ramps, HOV exit/entry points, HOV weaving lengths, signage, and milepost information. Existing traffic volume and speed data on the corridor was obtained from various data sources. Safety data and incident data was also obtained and evaluated to identify crash statistics along the corridor.

The process of forecasting future traffic volumes and travel conditions began with the examination of historical traffic volumes on the corridor to identify growth trends in traffic. The Atlanta Regional Commission (ARC) travel demand model was also used to extract potential growth trends in traffic with the consideration of anticipated land use changes in the region that may impact the traffic demand on the corridor. The growth rates for the corridor were developed for the I-85 general purpose lanes, HOV lanes, and for the HOT lanes scenario. Using the growth rates, future traffic volumes with and without the HOT lanes were derived (i.e. Build and No-Build, respectively). The micro-simulation model, TransModeler, was identified as the most appropriate software for simulating freeway corridor operations with HOV lanes and dynamically-priced HOT lanes. The forecasted traffic volumes served as key inputs into the microsimulation model. Calibrating the model to existing conditions was an important step in the process and was accomplished by referencing other sources of speed data along the corridor. After model calibration to existing conditions was complete, the model was built and run for future conditions. The simulation model provided various performance measure outputs for the existing and future scenarios with and without the HOT lane. Performance measure outputs included vehicular speeds, vehicular density, and traffic volumes. These are key performance measures that can assist in identifying freeway corridor conditions. These performance measures are also used to calculate Level-of-Service (LOS) in accordance with Federal Highway Administration's (FHWA) *Highway Capacity Manual 2000* (HCM 2000) Quality of Service thresholds. Given the performance measures provided from the model, the future traffic operations of I-85 with HOV lanes and with HOT lanes could be measured and evaluated.

Existing Conditions

In the AM peak hour, the HOV lane in the southbound direction operates with LOS D or better on the I-85 corridor. The LOS D values are primarily focused in the vicinity of the Jimmy Carter Boulevard and Pleasantdale Road interchanges. The average system-wide speed for the HOV lane in the AM peak hour was calculated to be approximately 61 mph. The general purpose lanes in the southbound direction during the AM peak hour operate with LOS E and F in some sections of the I-85 corridor.

The LOS E and F values are primarily focused in the vicinity of the following interchanges along I-85: Pleasant Hill Road, Steve Reynolds Boulevard, Beaver Ruin Road, Jimmy Carter Boulevard, Pleasantdale Road, and I-285. The average system-wide speed for the general purpose lanes in the AM peak hour was calculated to be approximately 50 mph.

In the PM peak hour, the HOV lane in the northbound direction operates with LOS E or better on the I-85 corridor. The LOS E value is primarily focused in the vicinity of the I-285 interchange. The average system-wide speed for the HOV lane in the PM peak hour was calculated to be approximately 60 mph. The general purpose lanes in the northbound direction operate with LOS E and F on specific stretches of the I-85 corridor. The LOS E and F values are primarily focused in the vicinity of the following interchanges: Chamblee-Tucker Road, I-285, Indian Trail Road, and Beaver Ruin Road. The average system-wide speed for the general purpose lanes in PM peak hour was calculated to be approximately 50 mph.

2011 No-Build Conditions

For the southbound AM peak hour, there are slow travel speeds between SR 316 and Jimmy Carter Boulevard, especially in the GP lanes with speeds below 20 mph. For the northbound PM peak hour, there are slow speeds throughout the corridor, with dips in speed near Jimmy Carter Boulevard and at Indian Trail Road.

In the AM peak hour, the HOV lane in the southbound direction operates with LOS E and F on the I-85 corridor. The average system-wide speed for the AM peak hour was calculated to be approximately 42 mph. The general purpose lanes in the southbound direction in the AM peak hour operates with LOS E and F throughout the I-85. The LOS E and F values are primarily focused in the vicinity between SR 316 and Jimmy Carter Boulevard. The average system-wide speed for the AM peak hour was calculated to be approximately 31 mph.

In the PM peak hour, the HOV lane in the northbound direction operates with LOS C or better throughout the entire I-85 corridor. The average system-wide speed for the PM peak hour was calculated to be approximately 46 mph. The general purpose lanes in the northbound direction operate with LOS E and F on specific stretches of the I-85 corridor. The LOS E and F values are primarily focused in the vicinity between of Chamblee-Tucker Road and Beaver Ruin Road. The average system-wide speed for the PM peak hour was calculated to be approximately 40 mph.

2031 No-Build Conditions

For the southbound AM peak hour, there are slow speeds between SR 316 and Jimmy Carter Boulevard, below 20 mph. There are also low speeds identified near Old Peachtree Road and I-285. For the northbound PM peak hour, there are slow speeds along the corridor with dips in speed at Chamblee-Tucker Road and at Indian Trail Road.

In the AM peak hour, the HOV lane in the southbound direction operates with LOS E and F throughout the entire I-85 corridor. The LOS E and F values are found in the vicinity of the Jimmy Carter Boulevard and Pleasant Hill Road interchange. The average system-wide speed for the AM peak hour was calculated to be approximately 39 mph. The general purpose lanes operate with LOS

E and F throughout the entire I-85 corridor. The average system-wide speed for the AM peak hour was calculated to be approximately 26 mph.

In the PM peak hour, the HOV lane in the northbound direction operates with LOS B or better through the entire I-85 corridor. The average system-wide speed for the PM peak hour was calculated to be approximately 45 mph. The general purpose lanes in the northbound direction operate with LOS E and F on specific stretches of the I-85 corridor. The LOS E and F values are primarily focused in the vicinity of Chamblee-Tucker Road and Indian Trail Road. The average system-wide speed for the PM peak hour was calculated to be approximately 40 mph.

2011 Build Conditions

For the southbound AM peak hour, there are congested travel speeds on the general purpose lanes throughout the entire corridor. However, the HOT lanes are showing speeds greater than 50 mph. For the northbound PM peak hour, there are congestion hotspots at Chamblee-Tucker Road and at Beaver Ruin Road for the general purpose lanes. The HOT lanes, however, are showing speeds greater than 50 mph for the entire corridor.

In the AM peak hour, the HOT lane in the southbound direction operate with LOS C or better throughout the entire I-85 corridor. The average system-wide speed for the AM peak hour was calculated to be approximately 61 mph. The general purpose lanes in the southbound direction in the AM peak hour operate with LOS E and F in some sections of the I-85 corridor. The LOS E and F values are primarily focused in the vicinity between SR 316 and Chamblee-Tucker Road. The average system-wide speed for the AM peak hour was calculated to be approximately 37 mph.

In the PM peak hour, the HOT lane in the northbound direction operates with LOS A throughout the entire I-85 corridor. The average system-wide speed for the PM peak hour was calculated to be approximately 65 mph. The general purpose lanes in the northbound direction operate with LOS E and F on specific stretches of the I-85 corridor. The LOS E and F values are primarily focused in the vicinity of Chamblee-Tucker Road, I-285 and Beaver Ruin Road. The average system-wide speed for the PM peak hour was calculated to be approximately 38 mph.

The HOT access weave sections are forecast to operate with adequate traffic operations for the southbound direction in the Year 2011. However, the HOT access weave sections at Chamblee-Tucker Road and Beaver Ruin Road in the northbound direction during the PM peak hour operates with LOS F and E under 2011 Build conditions, respectively. This is primarily due to the high amount of traffic in the adjacent general purpose lane.

2031 Build Conditions

For the southbound AM peak hour, there are severely congested travel speeds throughout the entire corridor on the general purpose lanes. However, the HOT lanes are showing speeds greater than 50 mph, with one section at 45 mph. For the northbound PM peak hour, there are slow speeds beginning at Chamblee-Tucker Road and between Jimmy Carter Boulevard and Beaver Ruin Road for the general purpose lanes. However, the HOT lanes are showing speeds greater than 50 mph for the entire corridor.

In the AM peak hour, the HOT lane in the southbound direction in the AM peak hour operate with LOS C or better through the entire I-85 corridor. The average system-wide speed for the AM peak hour was calculated to be approximately 60 mph. The general purpose lanes in the southbound direction in the AM peak hour operate with LOS E and F throughout the entire I-85 corridor. The average system-wide speed for the AM peak hour was calculated to be approximately 30 mph.

In the PM peak hour, the HOT lane in the northbound direction operates with LOS B or better through the entire I-85 corridor. The average system-wide speed for the PM peak hour was calculated to be approximately 64 mph. The general purpose lanes in the northbound direction operate with LOS E and F on specific stretches of the I-85 corridor. The LOS E and F values are primarily focused in the vicinity between Chamblee-Tucker Road and Steve Reynolds Boulevard. The average system-wide speed for the PM peak hour was calculated to be approximately 35 mph.

All of the HOT lane access weave sections in the southbound direction during the AM peak hour are forecast to operate with LOS E and F under 2031 Build conditions. This is primarily due to the high amount of traffic in the general purpose lane. Three (3) of the four (4) HOT lane access weave sections in the northbound direction during the PM peak hour are forecast to operate with LOS E and F conditions. This is primarily due to the high amount of traffic in the adjacent general purpose lane. The heavy volumes and congestion in the adjacent general purpose lane will impact HOT operating conditions at the access points.

Conclusions

Existing traffic conditions on the I-85 corridor between Chamblee-Tucker Road and Old Peachtree Road are severely congested during the weekday peak hours. In the southbound direction during the AM peak hour commute into Atlanta, traffic congestion is evident between SR 316 and I-285 with stop-and-go traffic, low vehicular speeds, and poor levels-of-service. In the northbound direction during the PM peak hour, the same overall segment of I-85 between I-285 and SR 316 endure similar low levels-of-service and travel speeds. These weekday peak hour conditions on I-85 are expected to worsen in the future.

Based on travel demands generated by future growth in conjunction with model simulations, the I-85 corridor is forecast to operate with severe traffic congestion in both the general purpose lanes and HOV lanes. Between the two, the general purpose lanes on I-85 are forecast to have slower travel speeds and lower levels-of-service compared to the HOV lanes - as they do today. However, due to the increased demand for travel along the key metro Atlanta corridor, the HOV lanes are not anticipated to provide the speeds and reliable travel times expected from managed lanes.

In order to preserve the vehicular lane capacity and levels-of-service of the managed lanes on I-85 in the future, the potential impacts and benefits from a HOV to HOT conversion was examined in detail for the corridor under projected Year 2011 and Year 2031 traffic conditions. Based on simulated traffic conditions, the HOT lanes are expected to provide more reliable trip times and better overall levels-of-service for commuters on the I-85 corridor. The conditions on the HOT lanes particularly in the southbound AM peak hour into Atlanta (and vice versa in the northbound PM peak hour) are substantially better than projected conditions for the No-Build conditions if the managed lane were to remain HOV2+. Given the severely congested conditions anticipated on the corridor for the general purpose lanes, the HOT lanes are forecast to not only provide adequate travel speeds and travel time reliability, but the HOT lanes will also provide regular commuters (less than 3+) with the

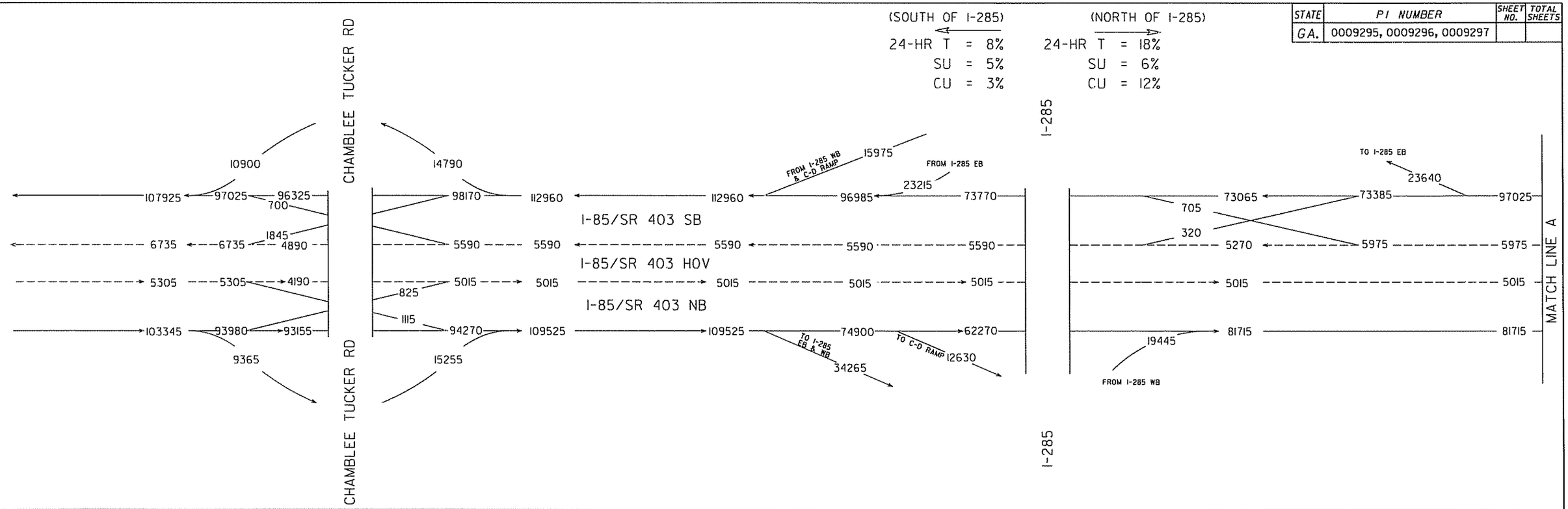
option to use the HOT lane when conditions and personal circumstances deem it necessary. While the HOT lanes are forecast to provide adequate levels-of-service and travel speeds during the weekday peak hour commute times, the HOT lane access points proposed and examined in the model simulations are forecast to operate with inadequate operations, primarily due to the high volumes anticipated to travel on the GP lanes, particularly the GP lane adjacent to the HOT lane.

Mitigation treatments are currently being examined in the microsimulation modeling of the HOT lanes scenario for the Year 2011 and Year 2031, with particular focus on the peak direction of travel in the AM and the PM peak hours. Preliminary treatments to preclude any operational deficiencies at the HOT lane access points include the following: adding more HOT lane access points, reducing HOT lane access points, and increasing the length of the weaving areas, shifting the location of the proposed access points to provide more time and opportunity for vehicles in the HOT lane to enter back in the adjacent GP lanes.

With careful mitigation of the HOT lane access/weaving issues identified in the study under Year 2011 and Year 2031 simulated traffic conditions, the HOV to HOT conversion should provide commuters with a transportation alternative that offers more reliable travel times on the I-85 corridor.

APPENDIX A – Existing Traffic Flow Diagrams

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		

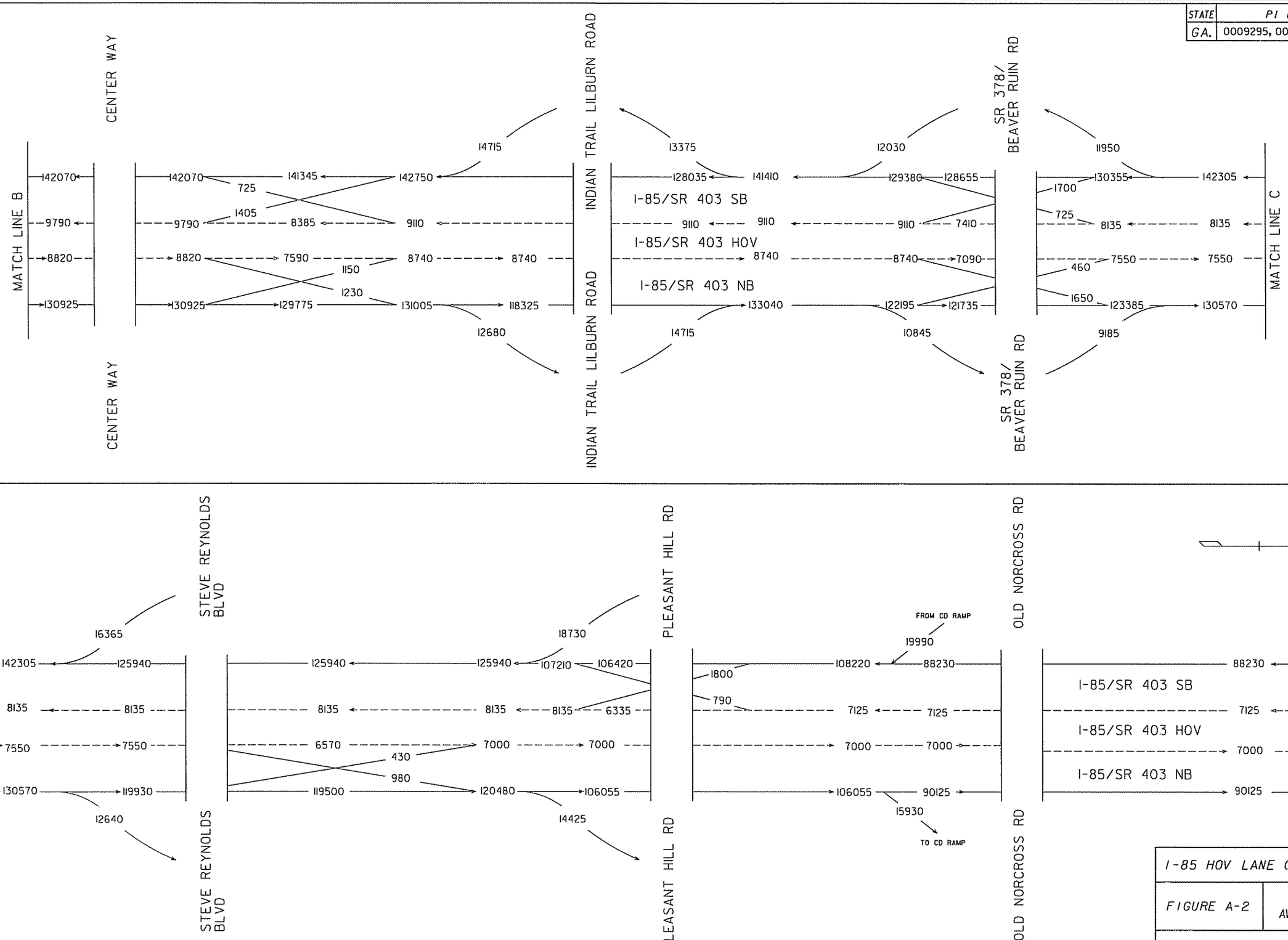


SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE A-1	2008 EXISTING YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

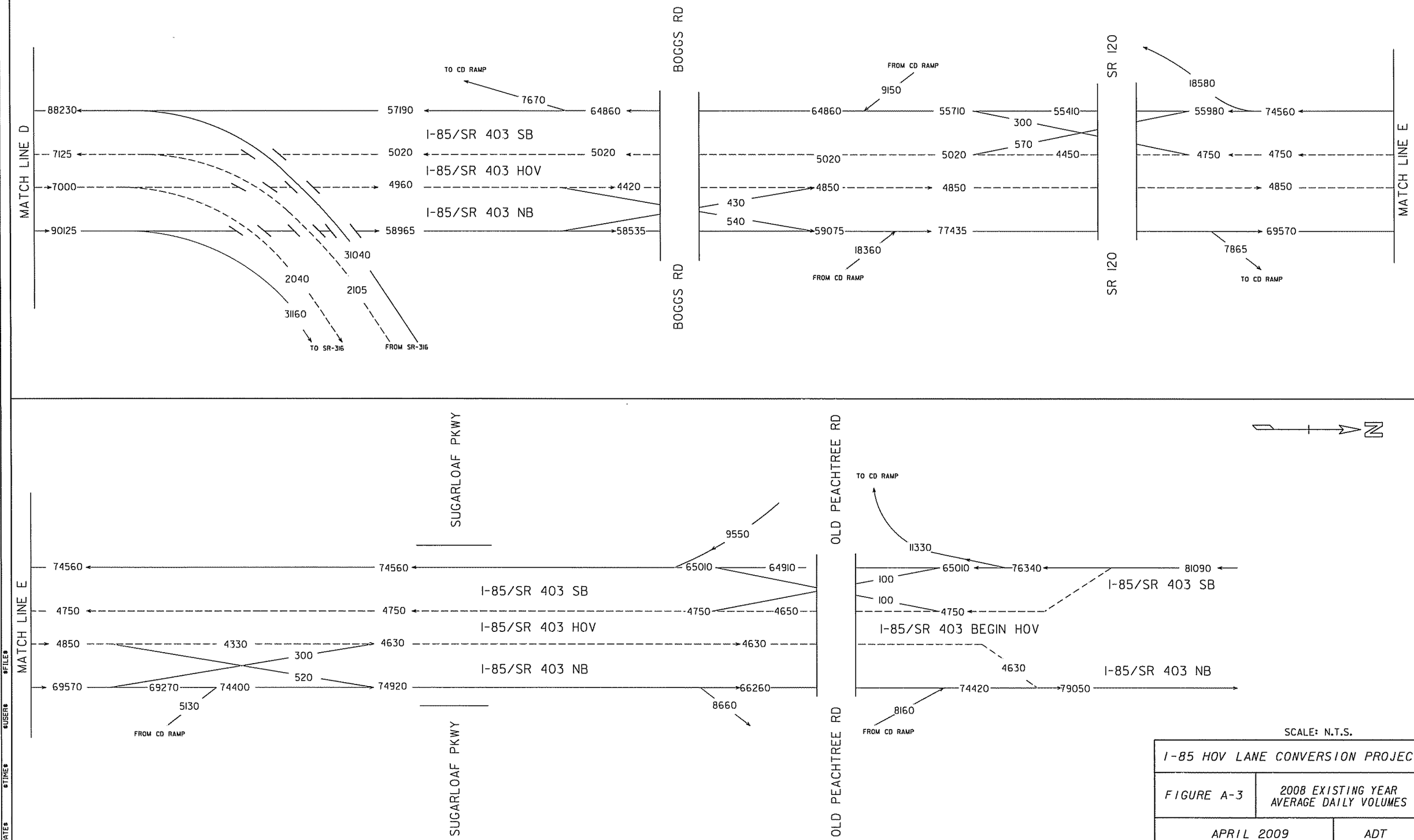
STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



I-85 HOV LANE CONVERSION PROJECT	
FIGURE A-2	2008 EXISTING YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		

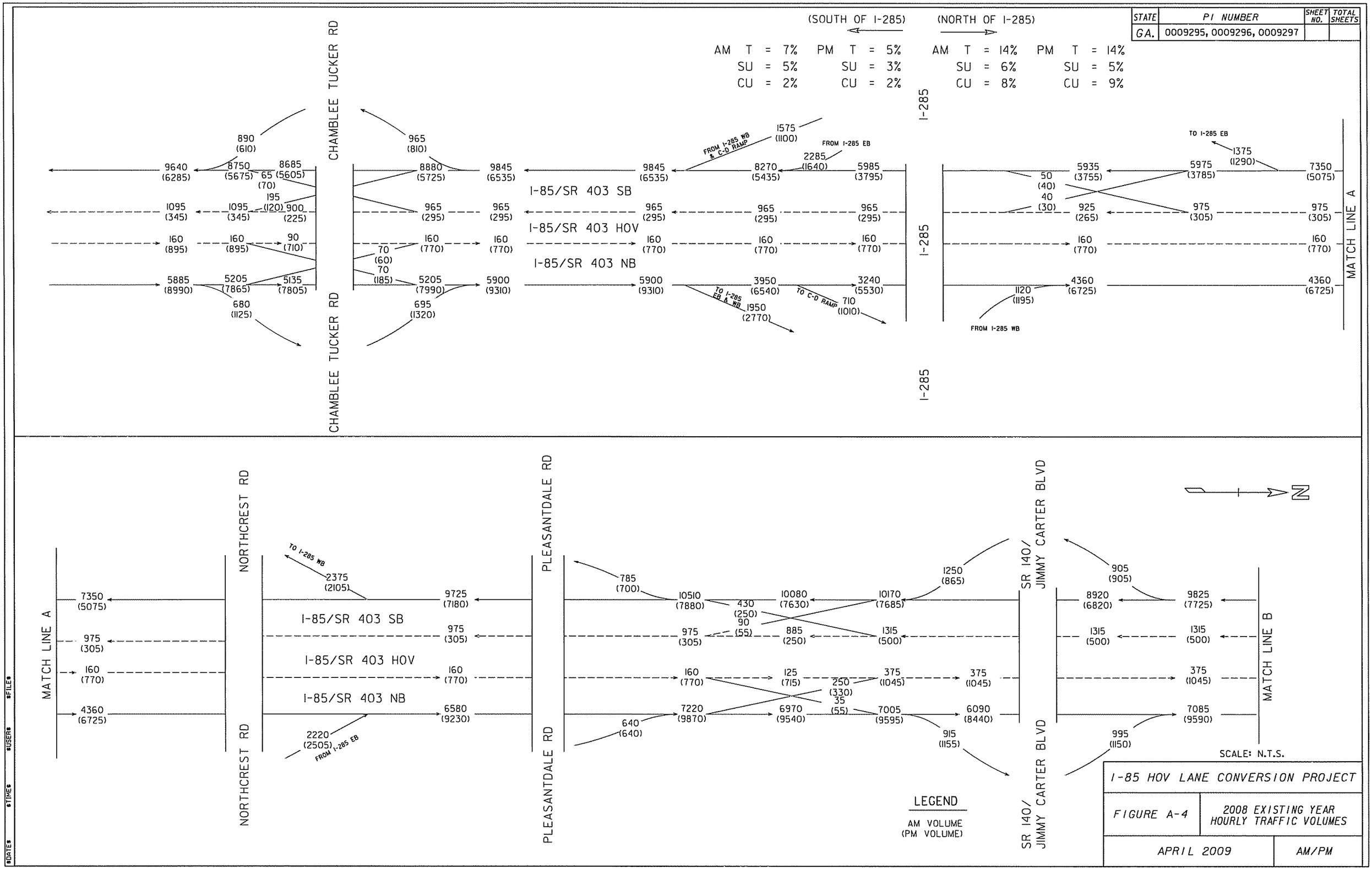


SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE A-3	2008 EXISTING YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		

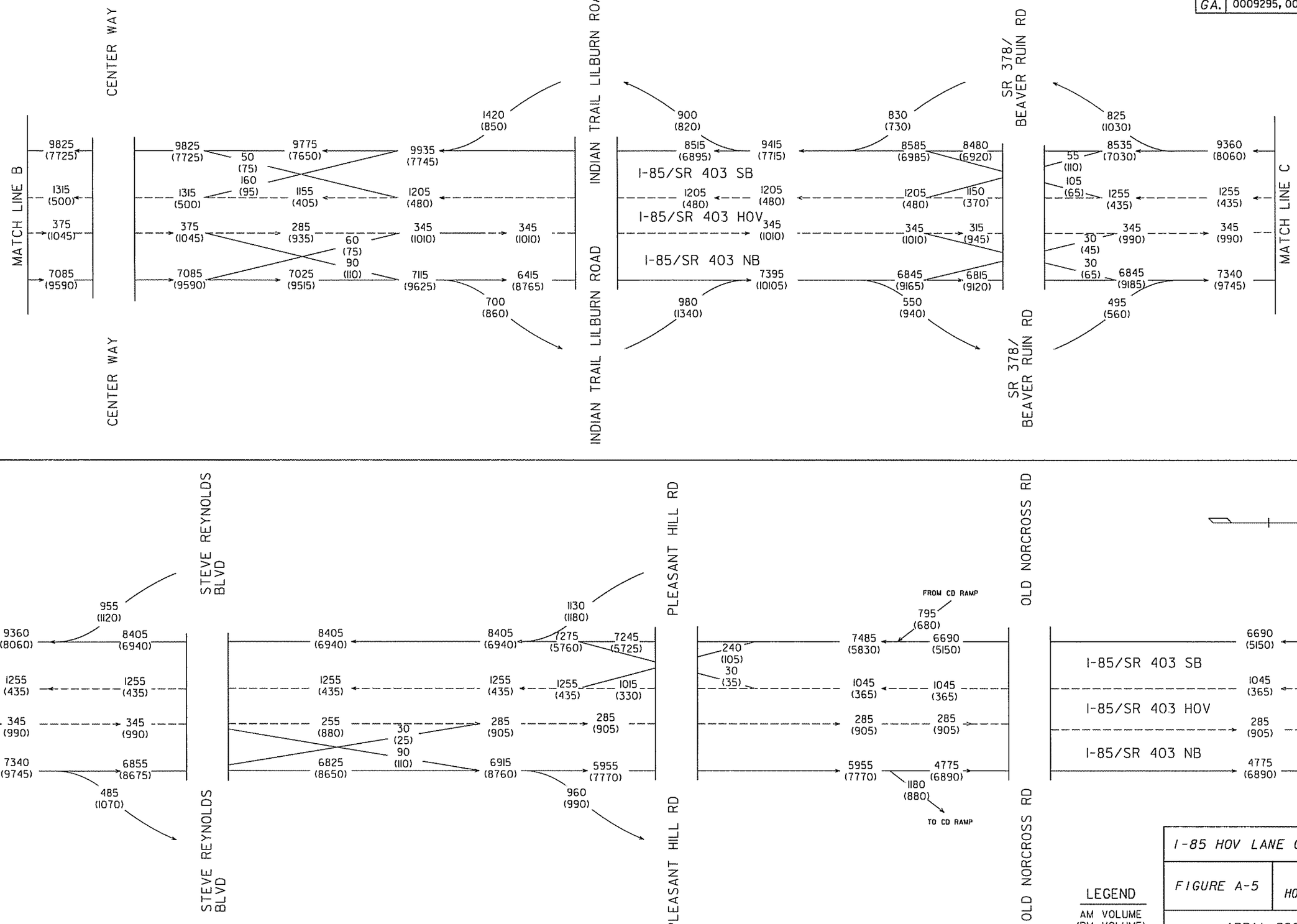


I-85 HOV LANE CONVERSION PROJECT

FIGURE A-4 — 2008 EXISTING YEAR HOURLY TRAFFIC VOLUMES

APRIL 2009 — AM/PM

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



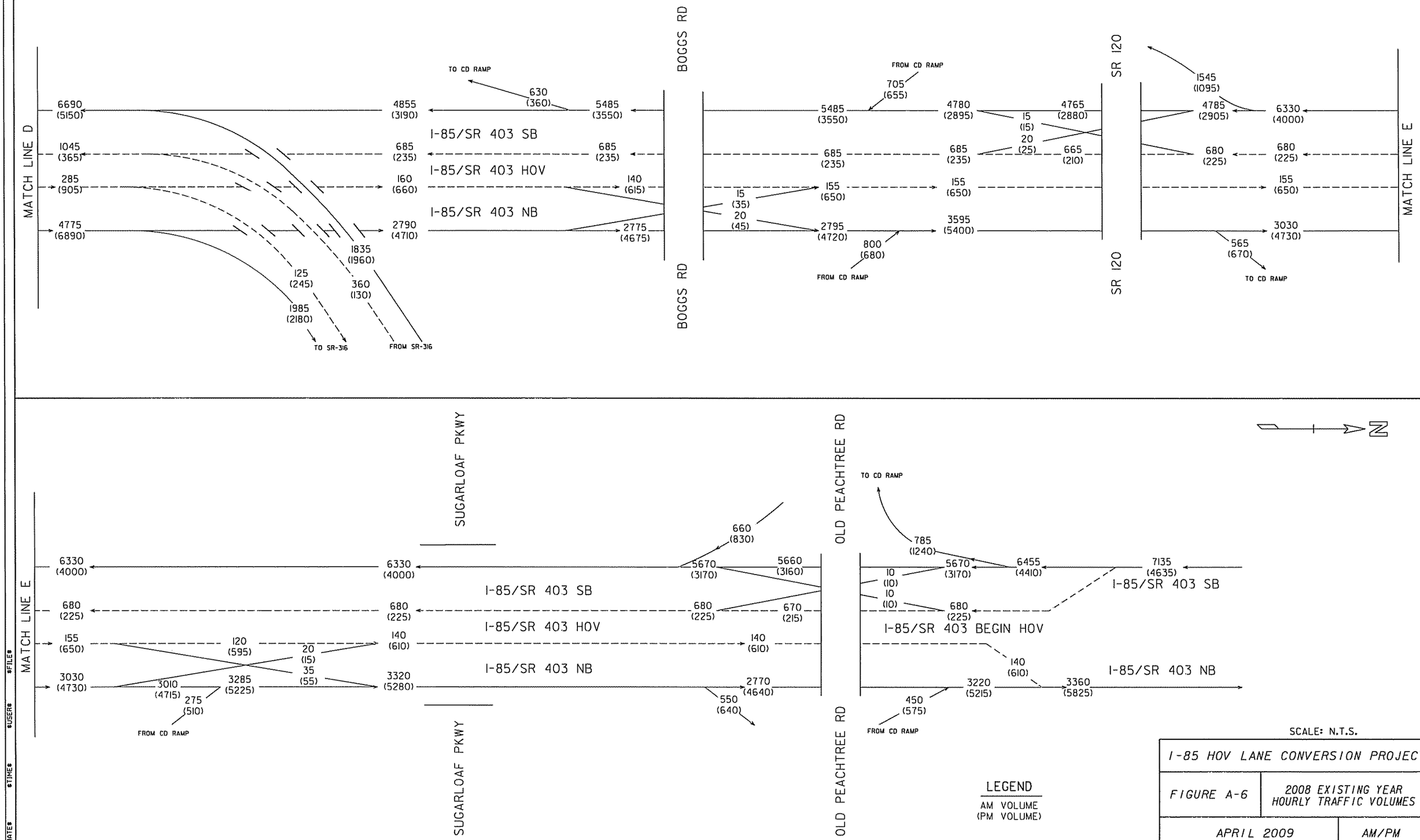
LEGEND

AM VOLUME
(PM VOLUME)

I-85 HOV LANE CONVERSION PROJECT		
FIGURE A-5	2008 EXISTING YEAR HOURLY TRAFFIC VOLUMES	
APRIL 2009		AM/PM

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



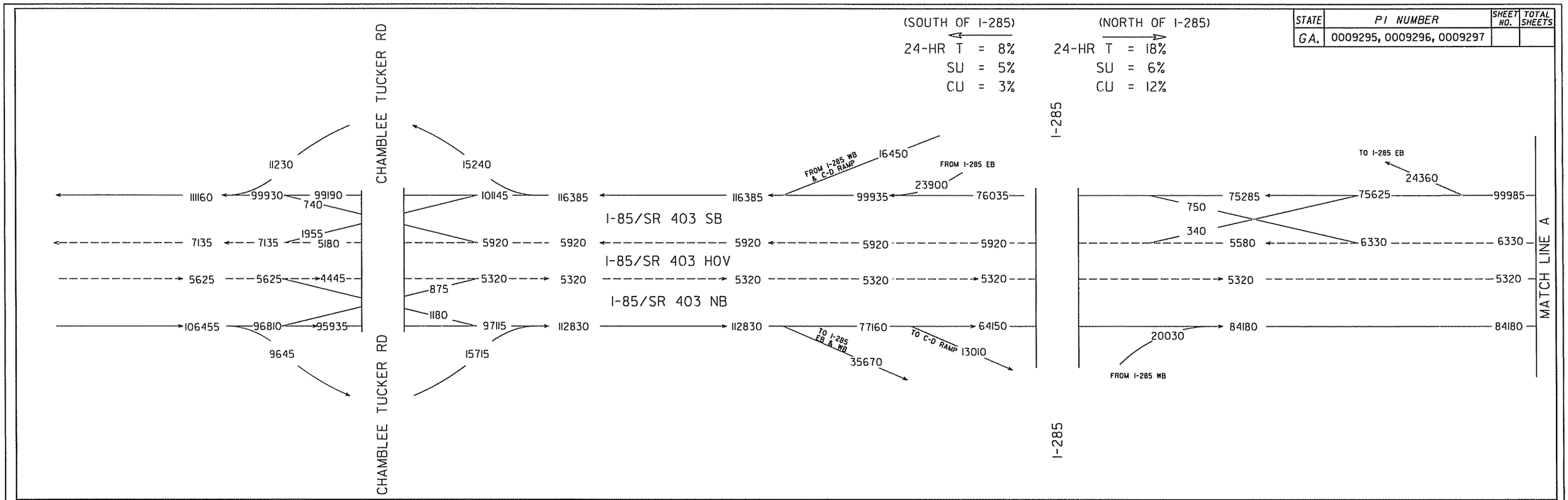
SCALE: N.T.S.

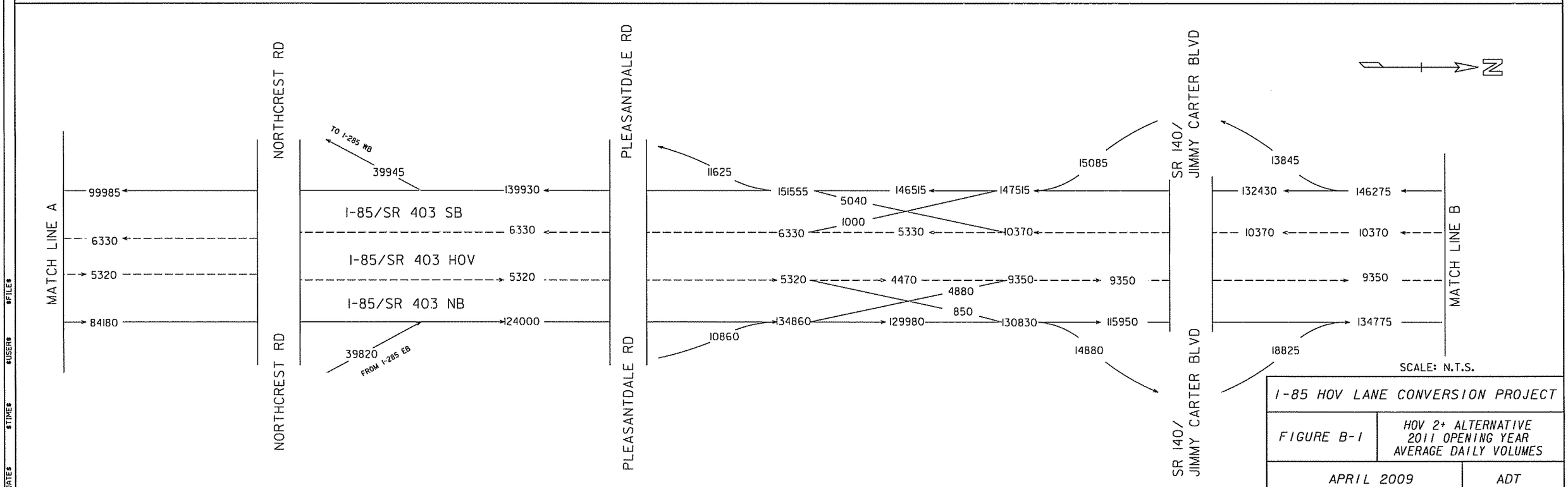
I-85 HOV LANE CONVERSION PROJECT	
FIGURE A-6	2008 EXISTING YEAR HOURLY TRAFFIC VOLUMES
APRIL 2009	AM/PM

$DATE$ $TIME$ $USER$ $FILE$

APPENDIX B – 2011 & 2031 No-Build Traffic Flow Diagrams

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		





I-85 HOV LANE CONVERSION PROJECT

FIGURE B-1

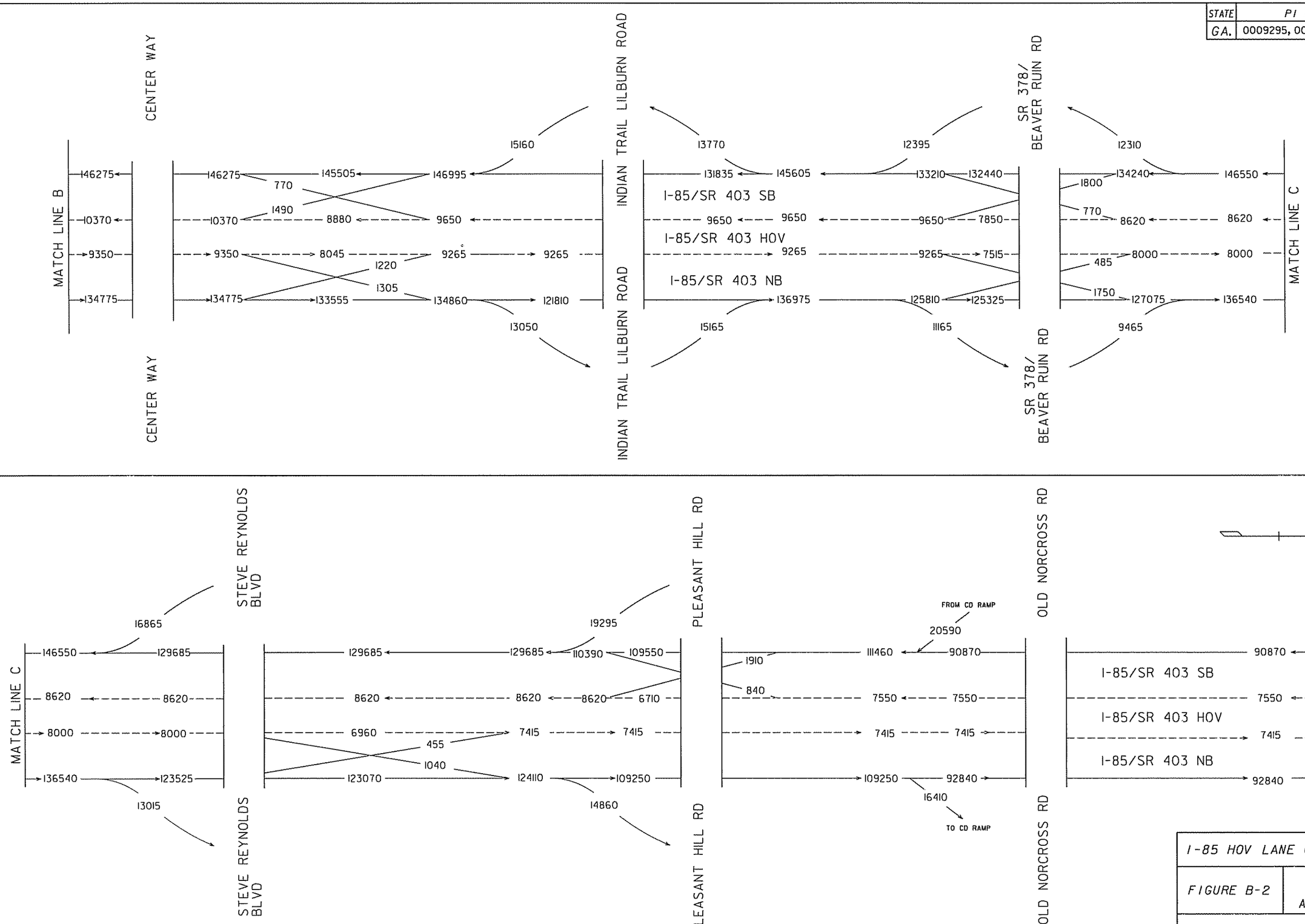
HOV 2+ ALTERNATIVE
2011 OPENING YEAR
AVERAGE DAILY VOLUMES

APRIL 2009

ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		

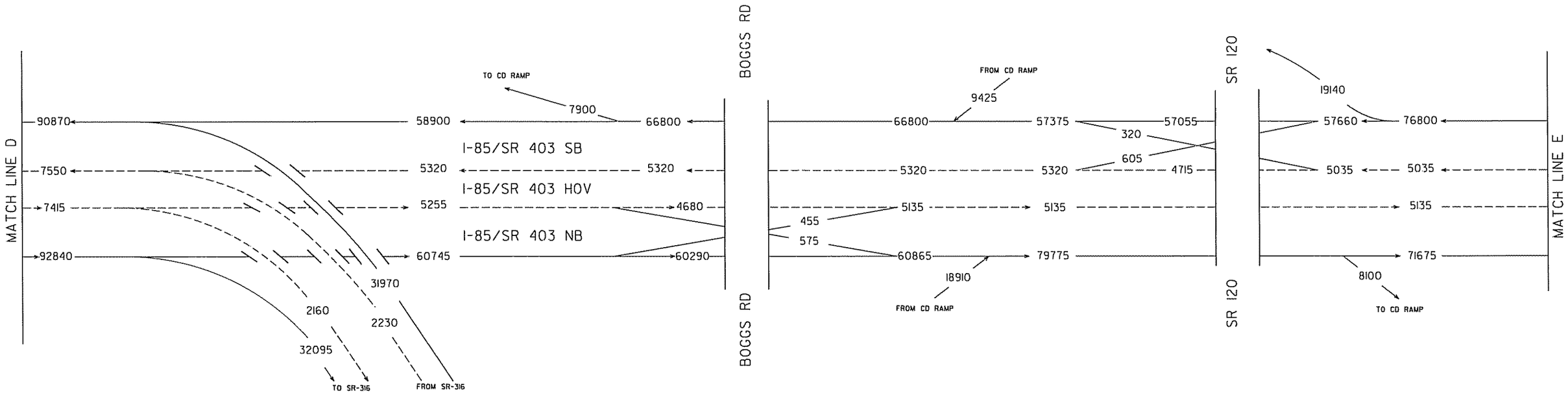


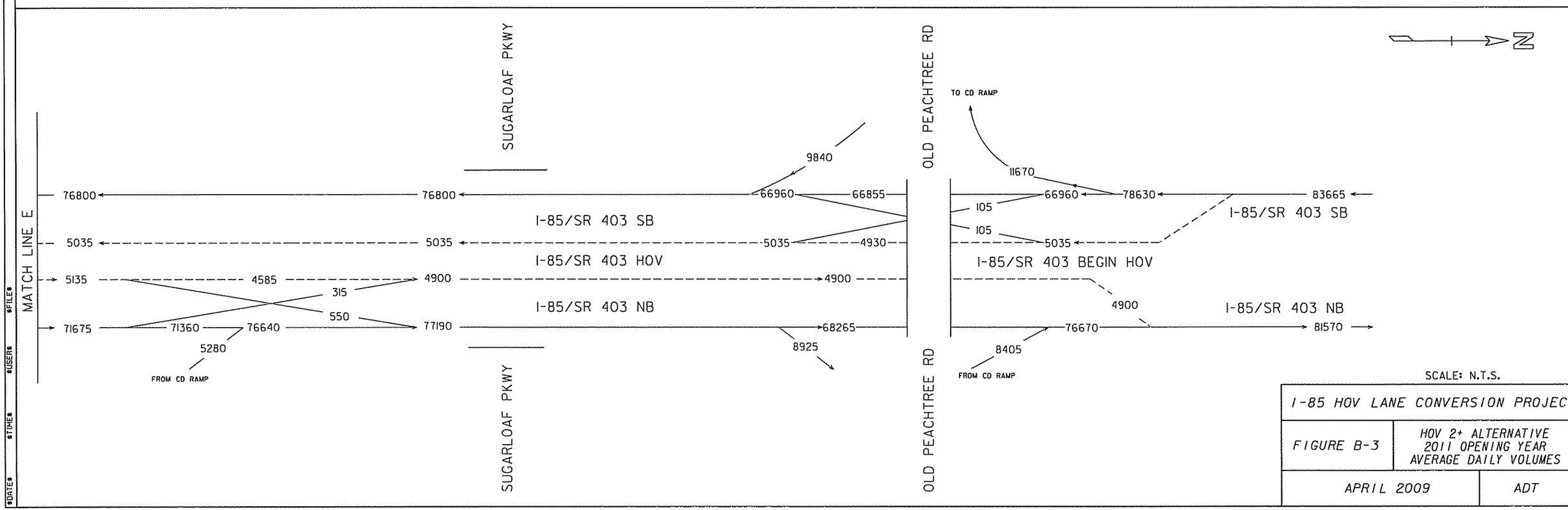
I-85 HOV LANE CONVERSION PROJECT

FIGURE B-2	HOV 2+ ALTERNATIVE 2011 OPENING YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



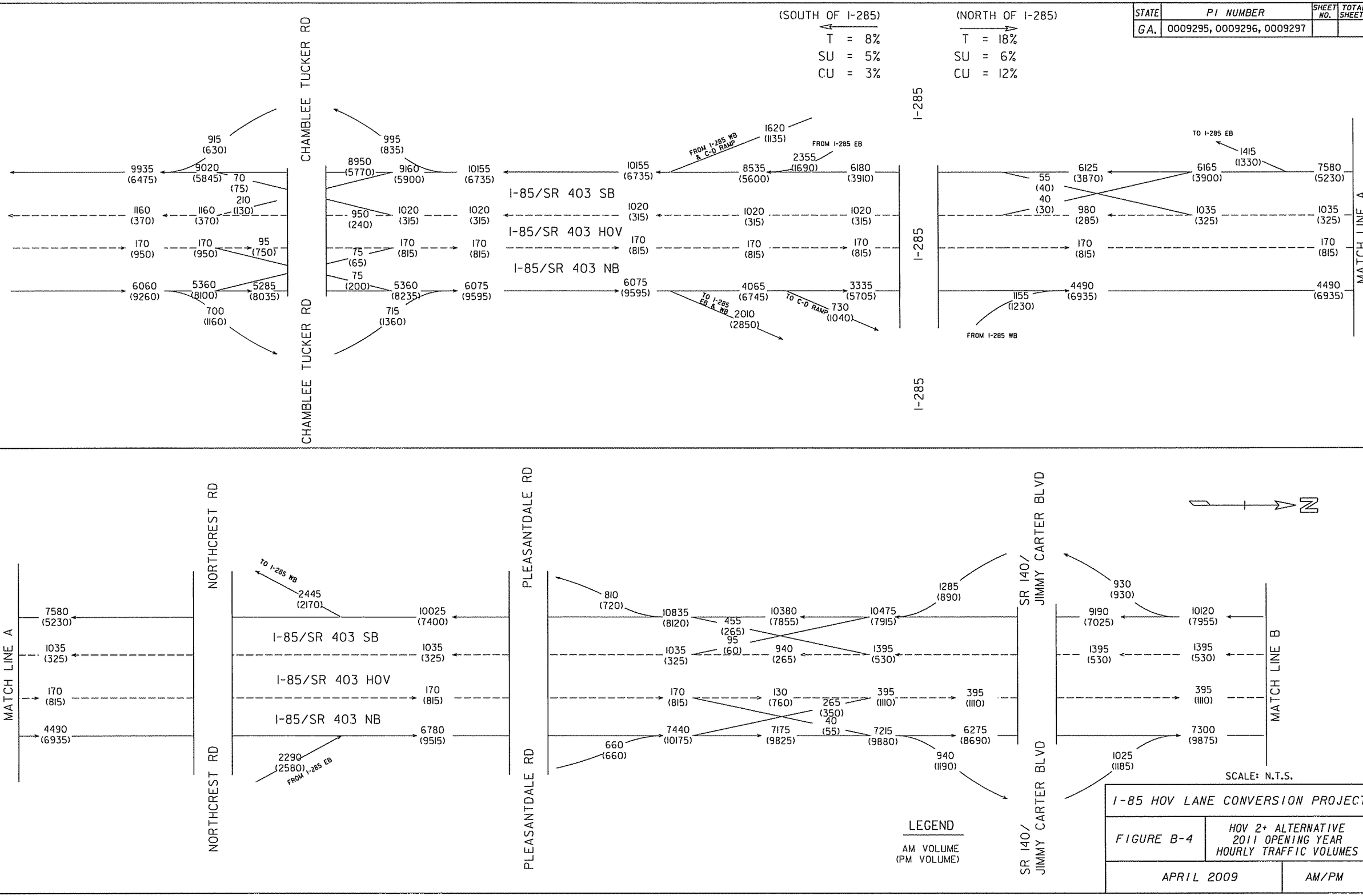


SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE B-3	HOV 2+ ALTERNATIVE 2011 OPENING YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



I-85 HOV LANE CONVERSION PROJECT

FIGURE B-4

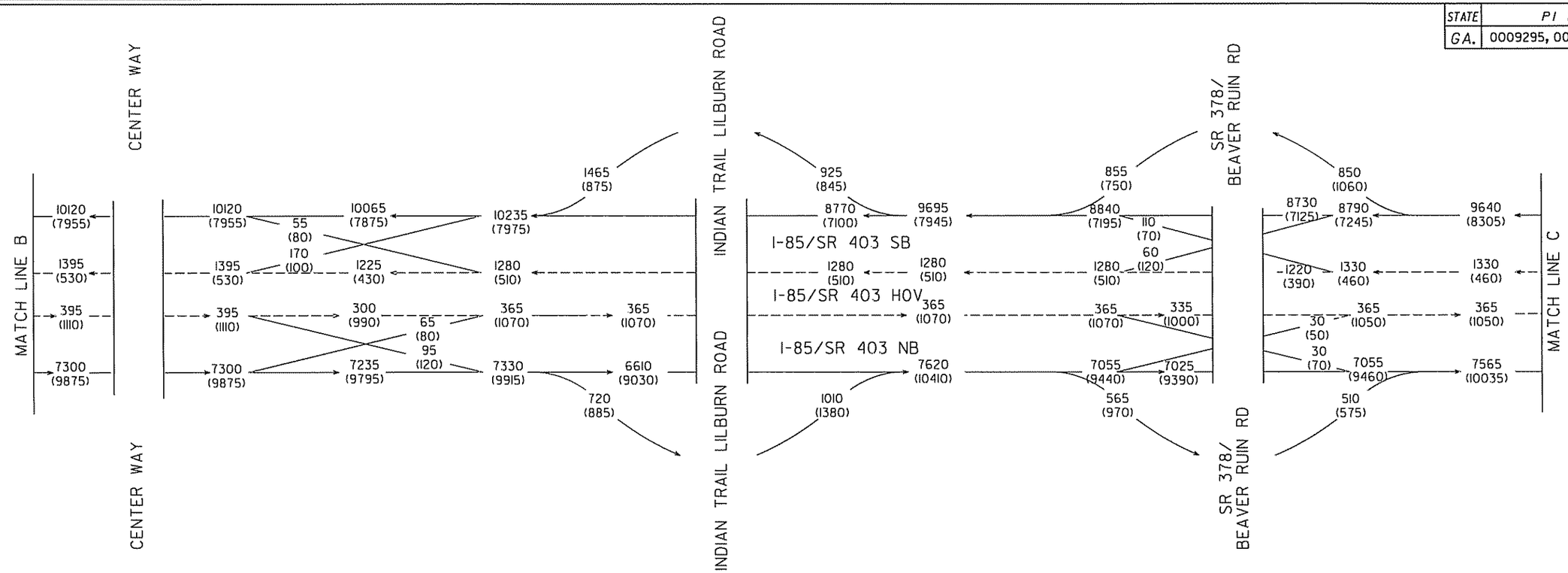
HOV 2+ ALTERNATIVE
2011 OPENING YEAR
HOURLY TRAFFIC VOLUMES

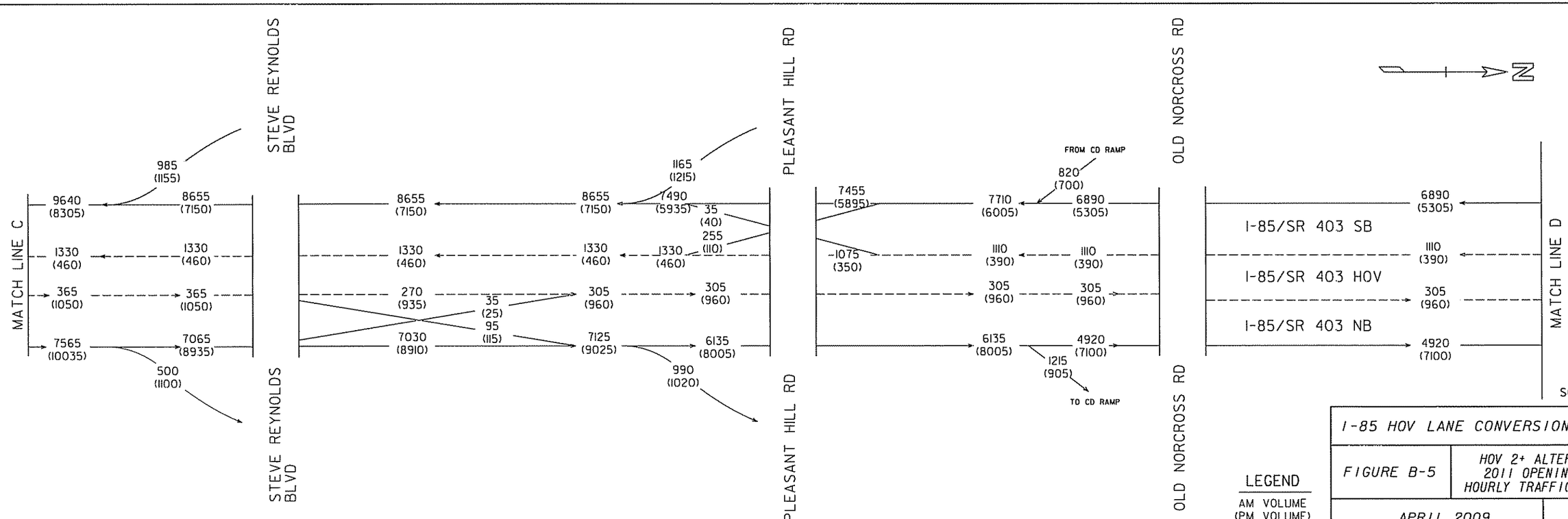
APRIL 2009

AM/PM

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		





SCALE: N.T.S.

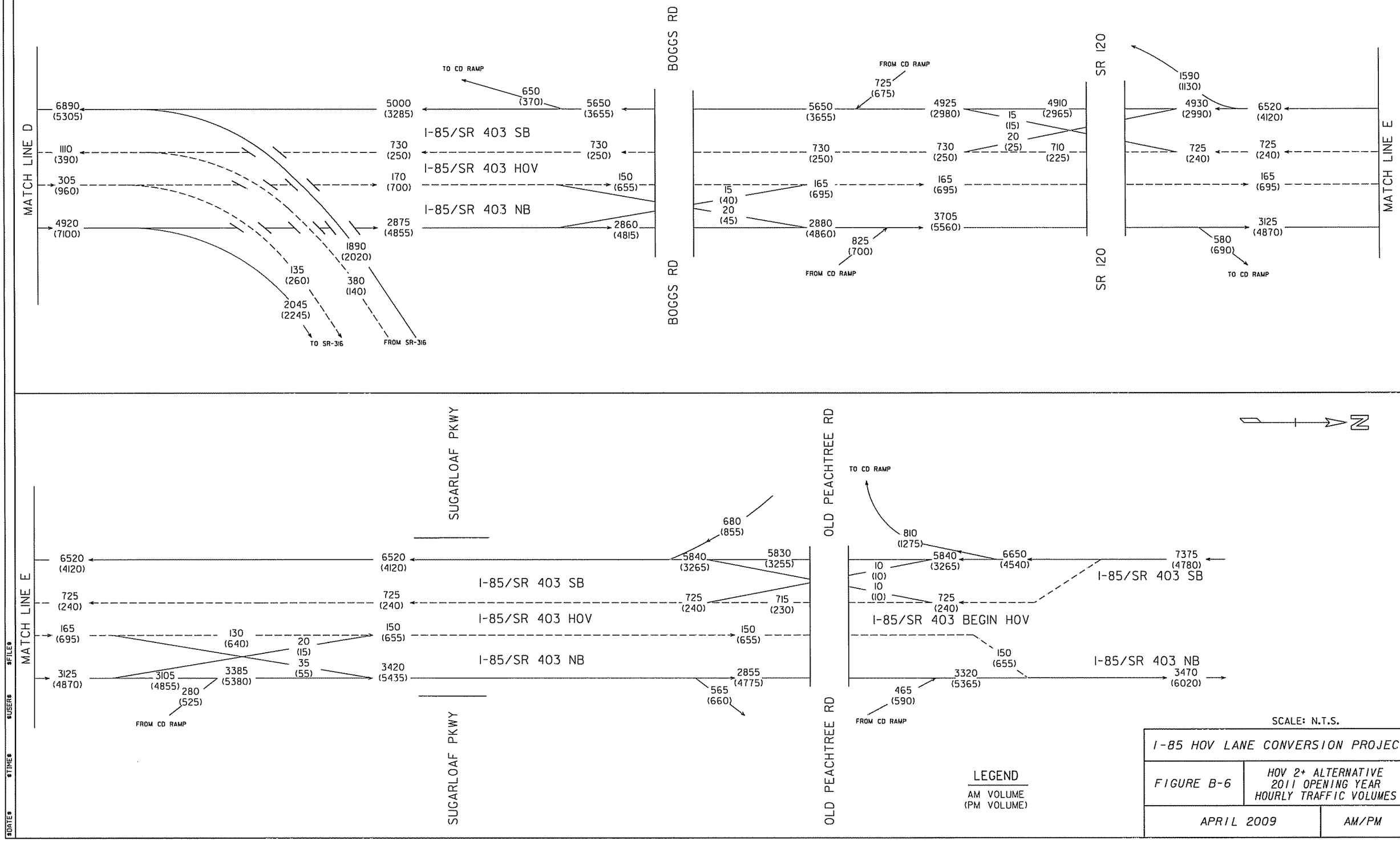
LEGEND

AM VOLUME
(PM VOLUME)

I-85 HOV LANE CONVERSION PROJECT		
FIGURE B-5	HOV 2+ ALTERNATIVE 2011 OPENING YEAR HOURLY TRAFFIC VOLUMES	
APRIL 2009		AM/PM

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		

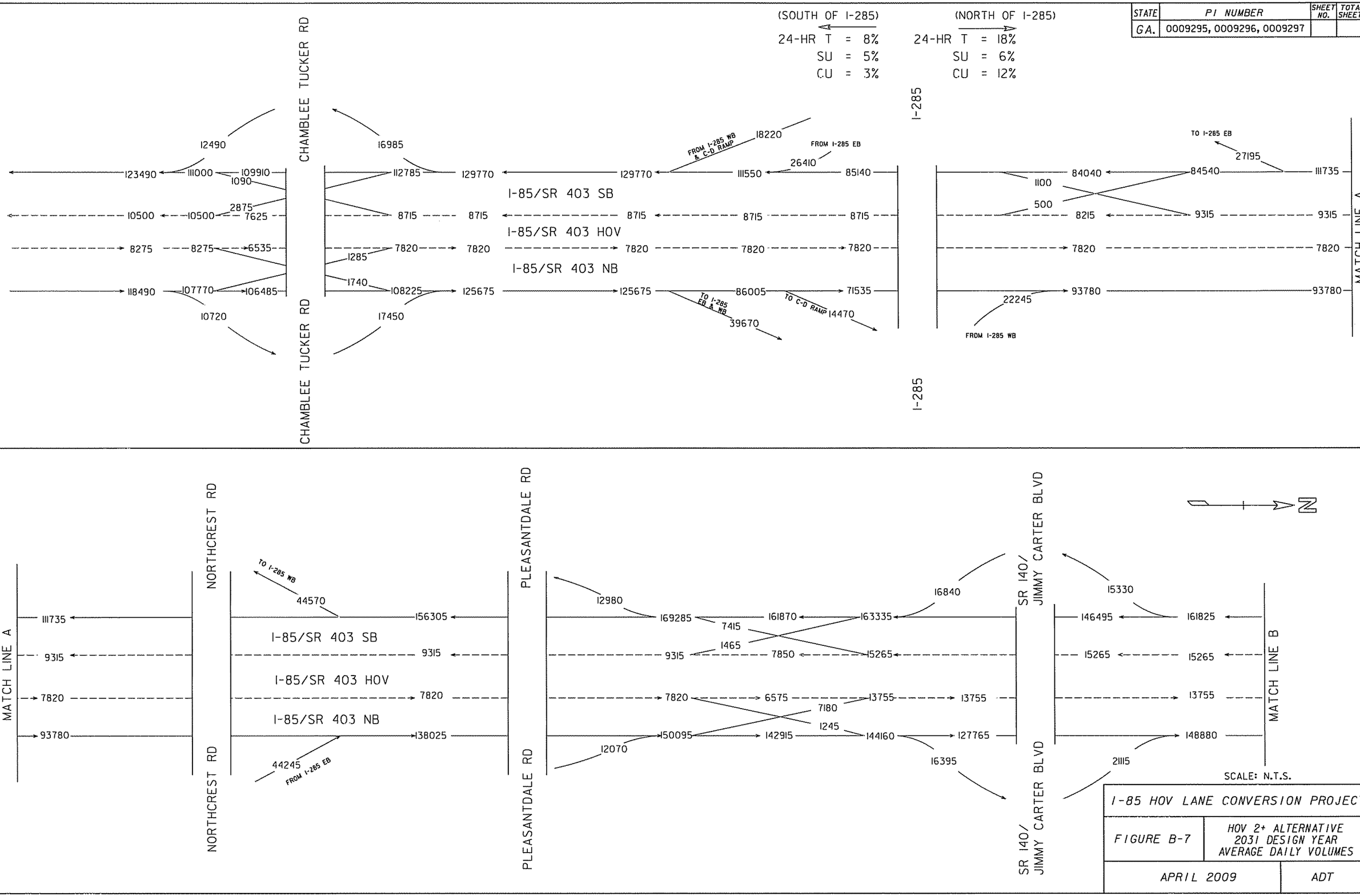


SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE B-6	HOV 2+ ALTERNATIVE 2011 OPENING YEAR HOURLY TRAFFIC VOLUMES
APRIL 2009	AM/PM

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT

FIGURE B-7

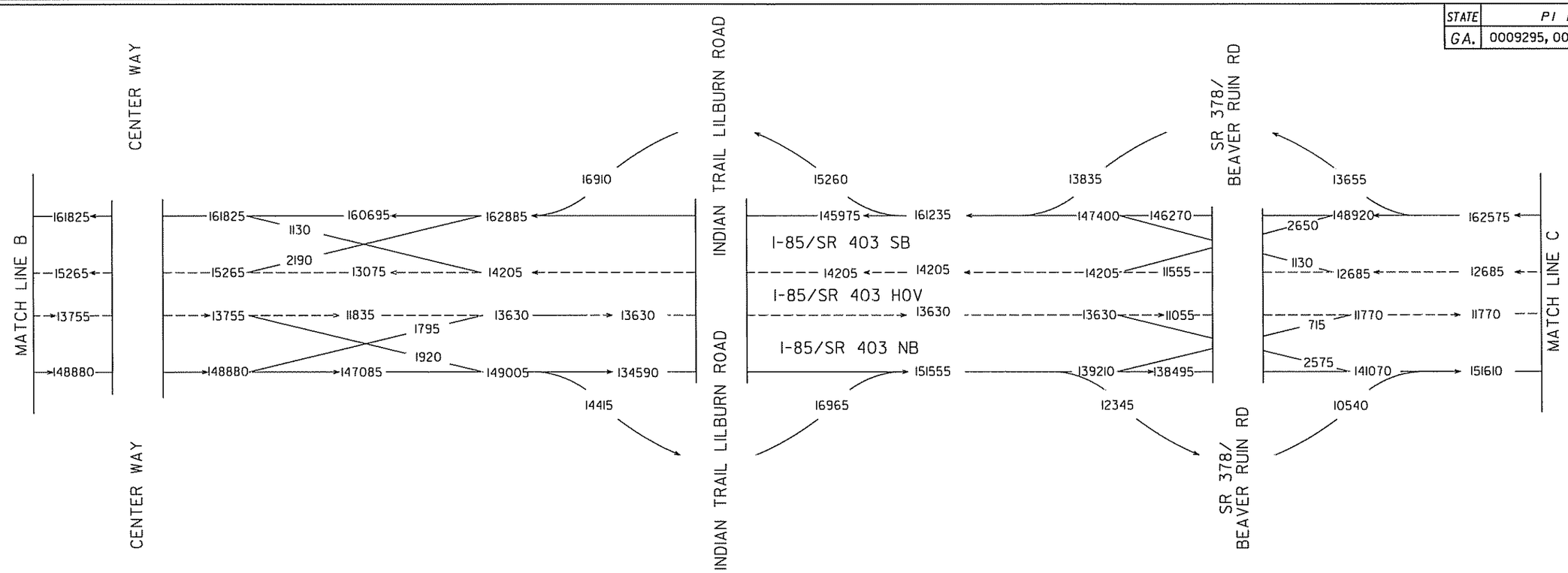
HOV 2+ ALTERNATIVE
2031 DESIGN YEAR
AVERAGE DAILY VOLUMES

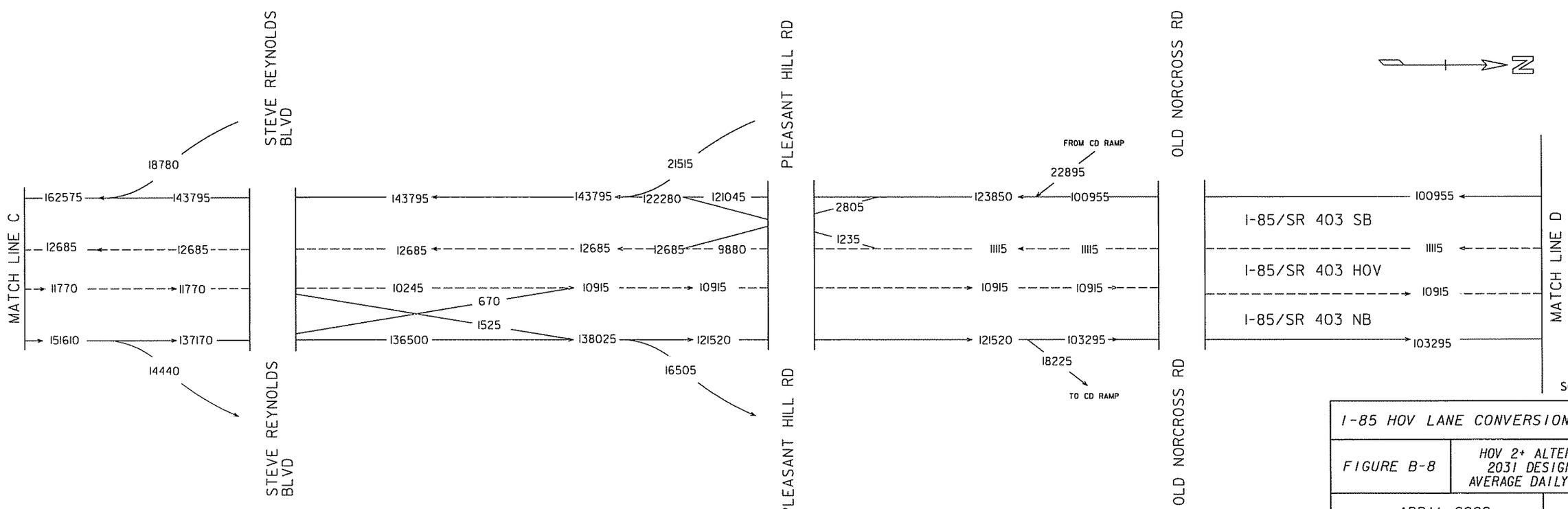
APRIL 2009

ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



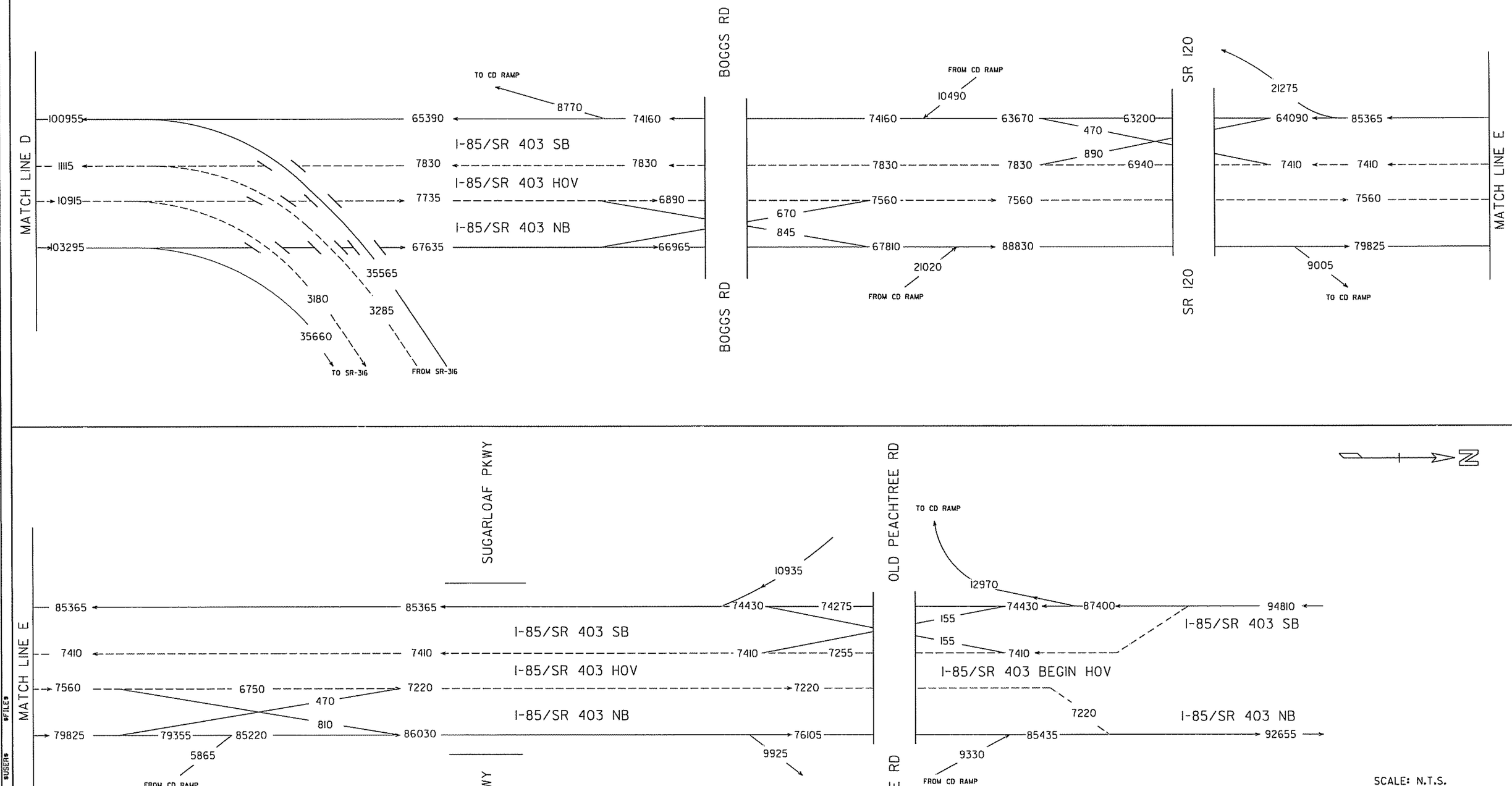


SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE B-8	HOV 2+ ALTERNATIVE 2031 DESIGN YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		

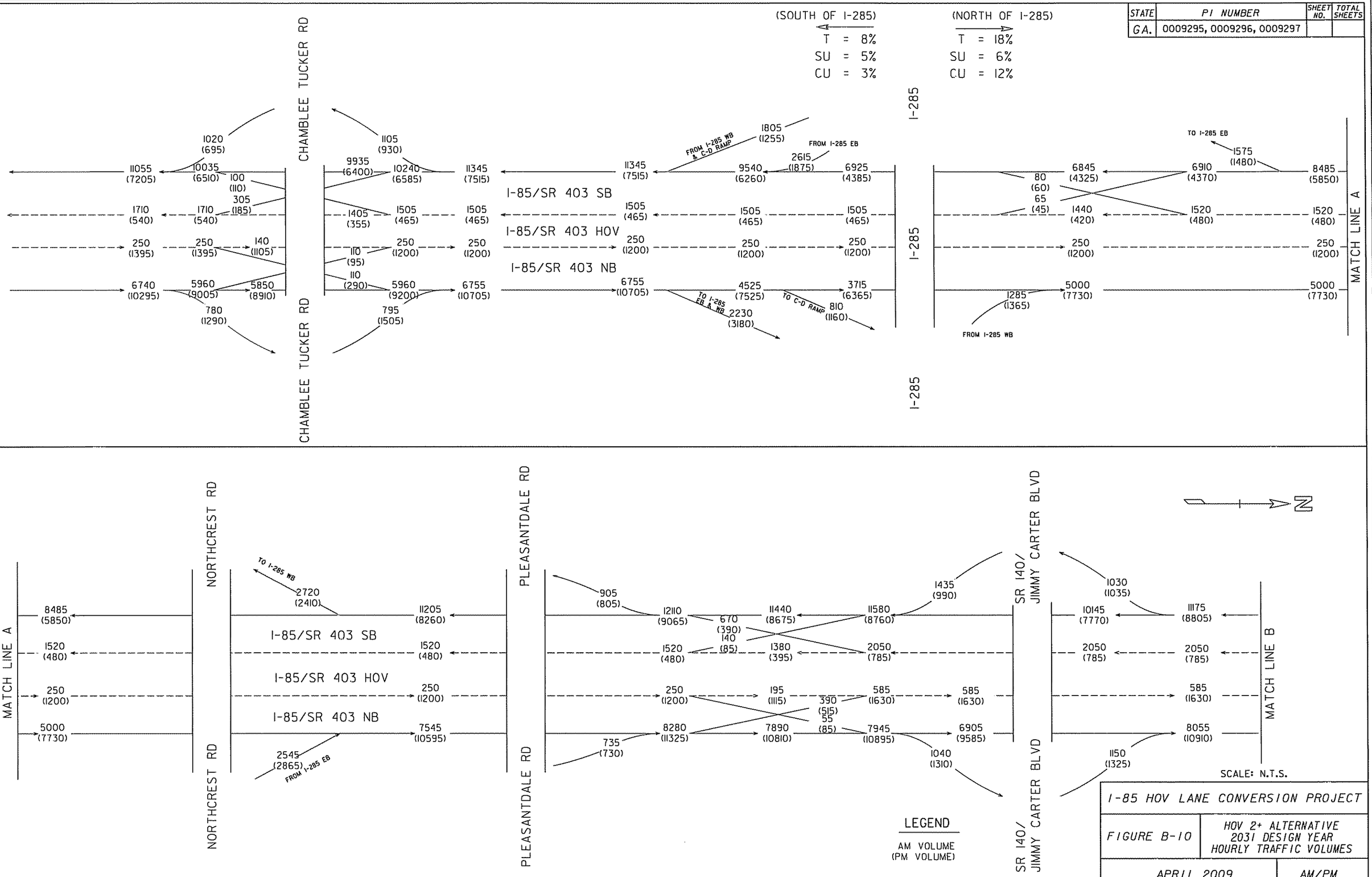


SCALE: N.T.S.

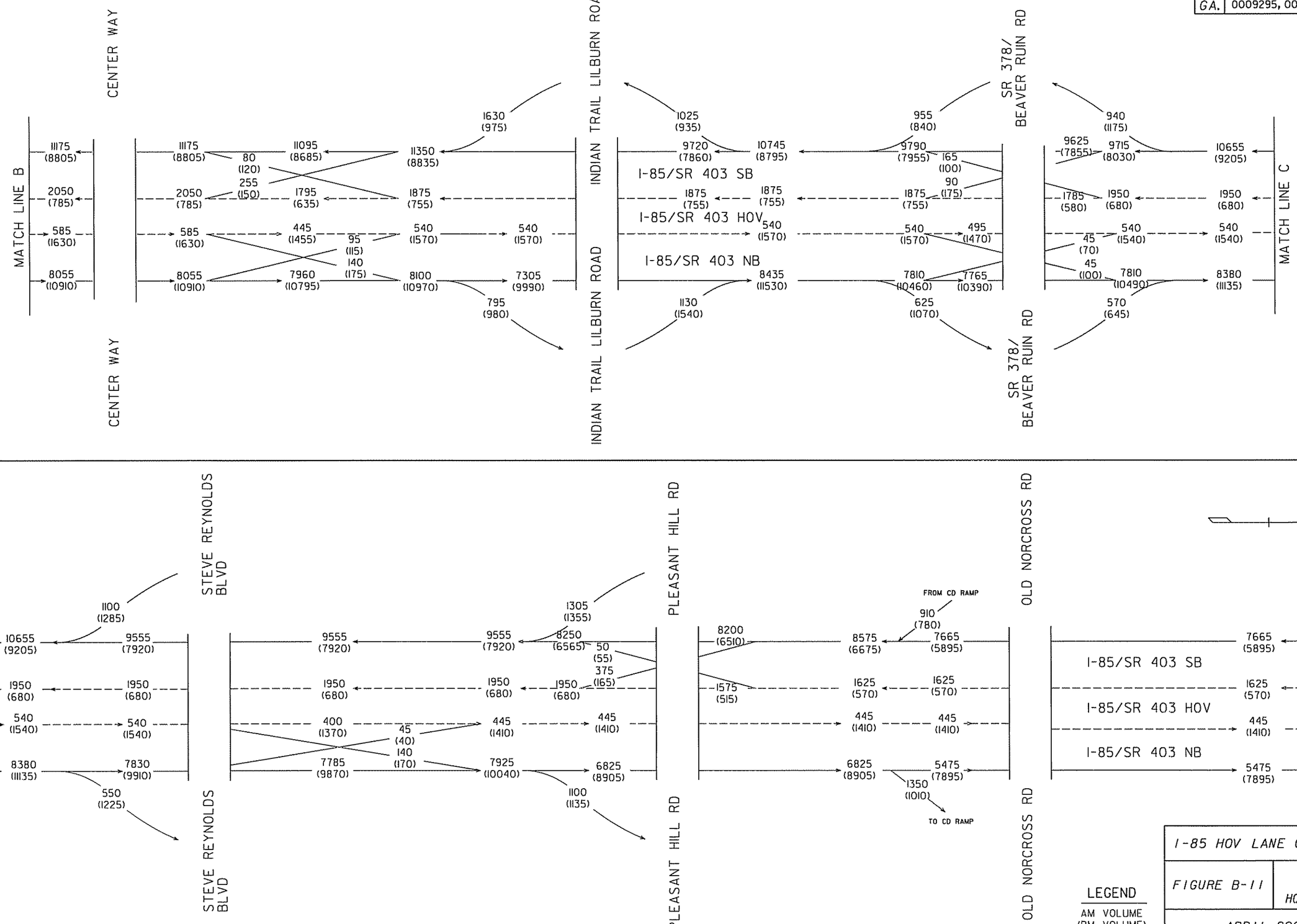
I-85 HOV LANE CONVERSION PROJECT	
FIGURE B-9	HOV 2+ ALTERNATIVE 2031 DESIGN YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



I-85 HOV LANE CONVERSION PROJECT

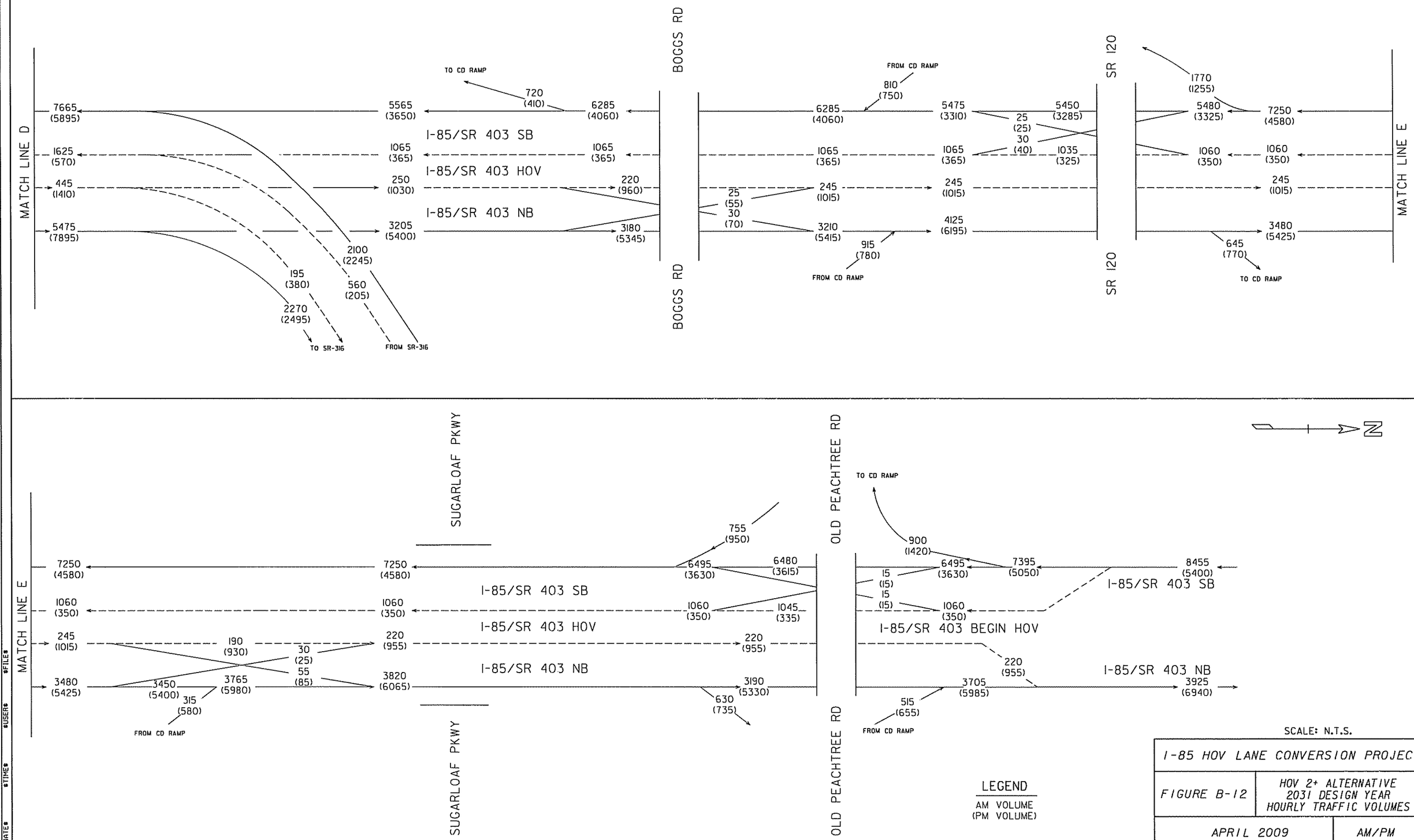
FIGURE B-11

HOV 2+ ALTERNATIVE
2031 DESIGN YEAR
HOURLY TRAFFIC VOLUMES

APRIL 2009

AM/PM

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



LEGEND

AM VOLUME
(PM VOLUME)

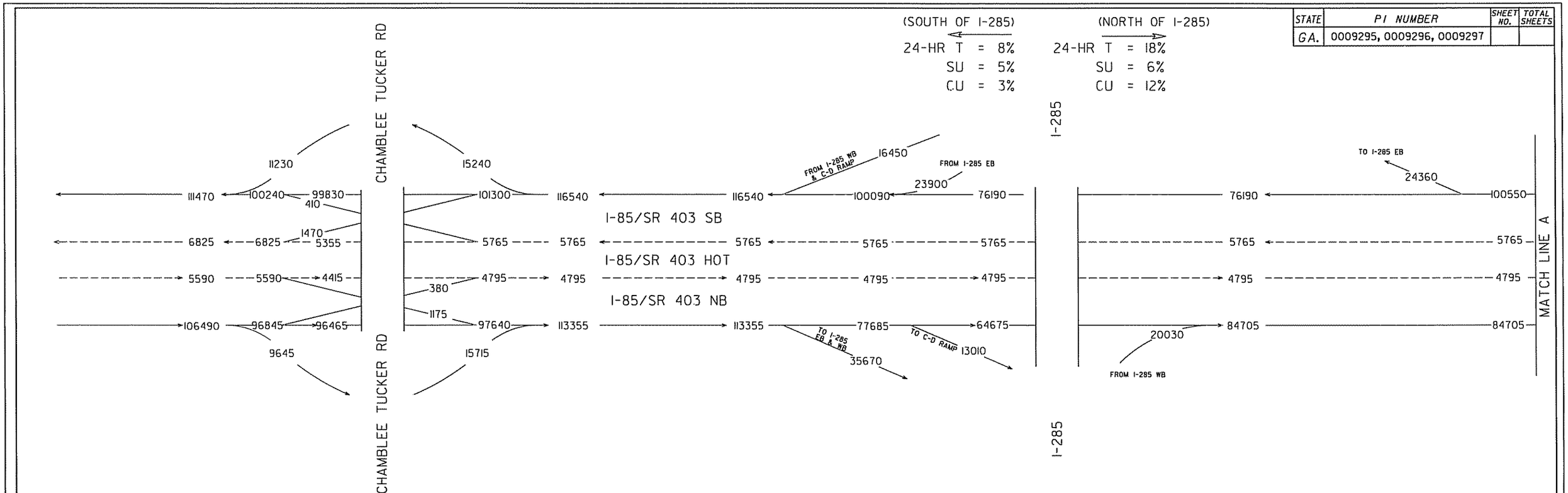
SCALE: N.T.S.

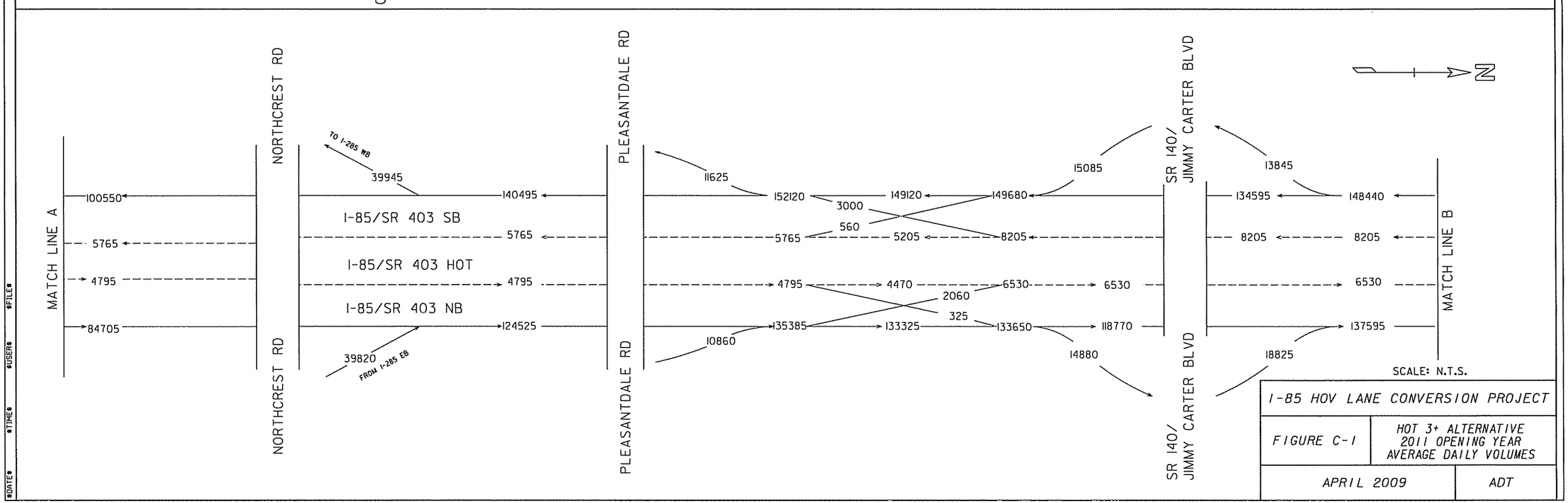
I-85 HOV LANE CONVERSION PROJECT	
FIGURE B-12	HOV 2+ ALTERNATIVE 2031 DESIGN YEAR HOURLY TRAFFIC VOLUMES
APRIL 2009	AM/PM

$DATE$ $TIME$ $USER$ $FILE$

APPENDIX C – 2011 & 2031 Build Traffic Flow Diagrams

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		





I-85 HOV LANE CONVERSION PROJECT

FIGURE C-1

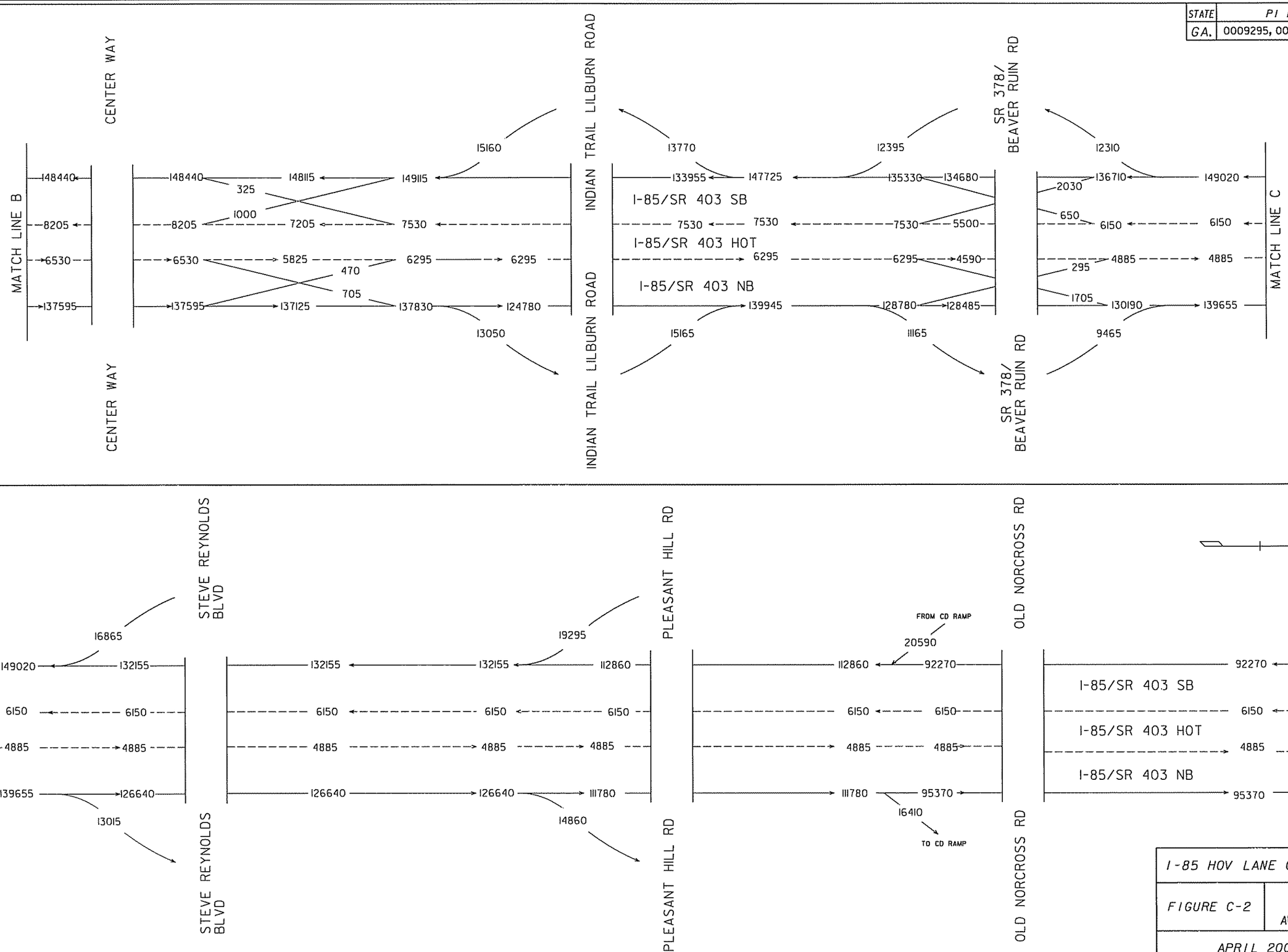
HOT 3+ ALTERNATIVE
2011 OPENING YEAR
AVERAGE DAILY VOLUMES

APRIL 2009

ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



I-85 HOV LANE CONVERSION PROJECT

FIGURE C-2

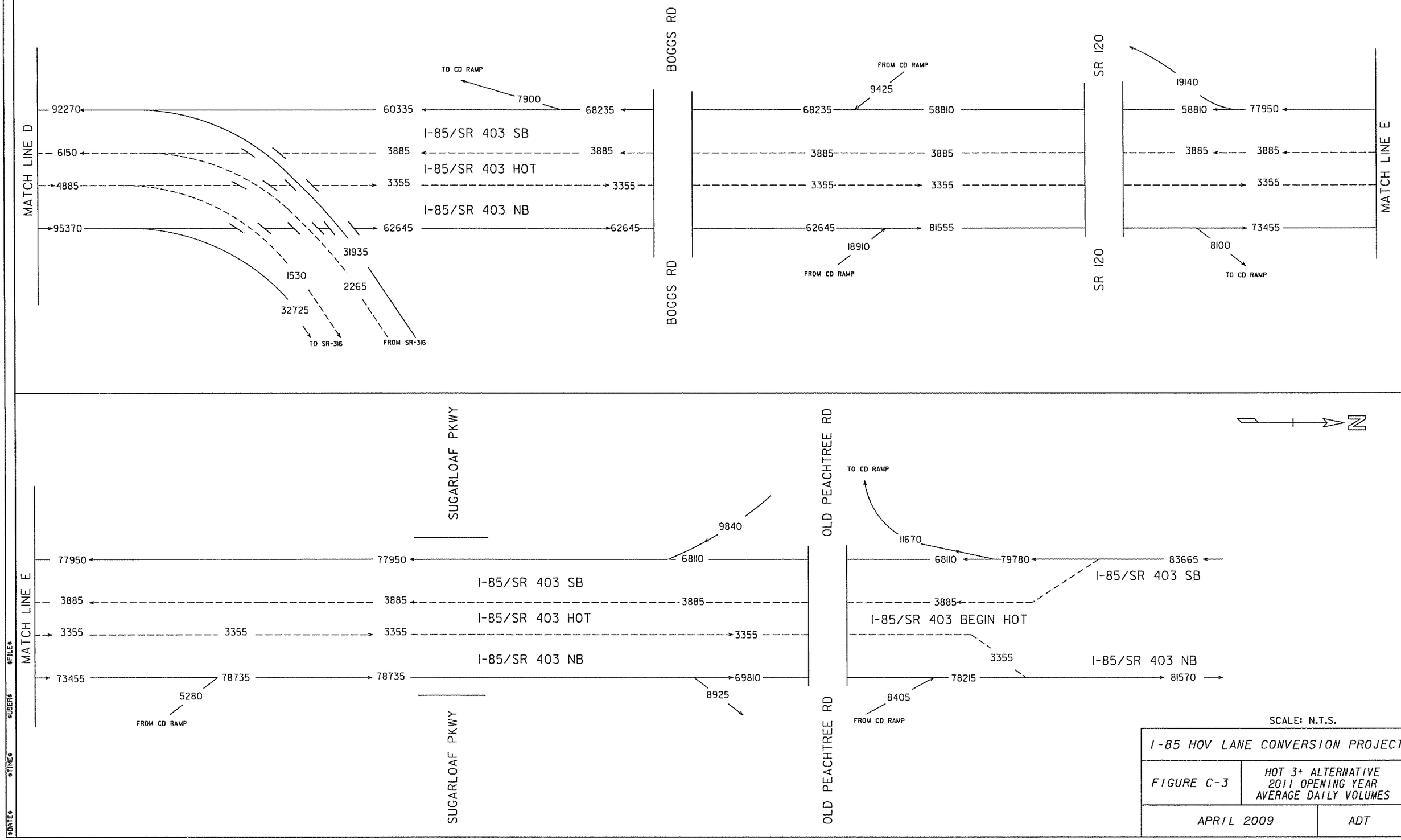
HOT 3+ ALTERNATIVE
2011 OPENING YEAR
AVERAGE DAILY VOLUMES

APRIL 2009

ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		

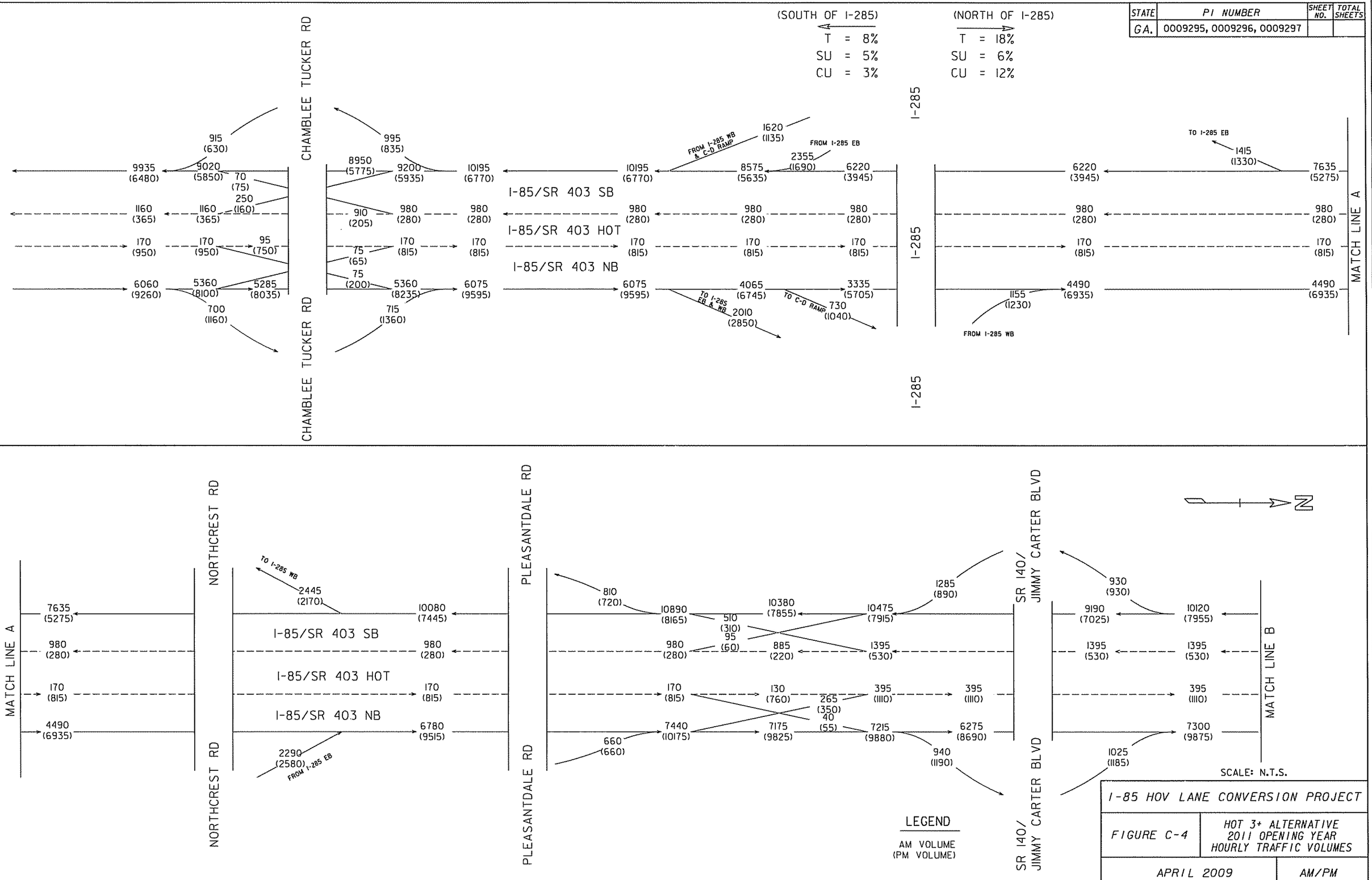


SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE C-3	HOT 3+ ALTERNATIVE 2011 OPENING YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



I-85 HOV LANE CONVERSION PROJECT

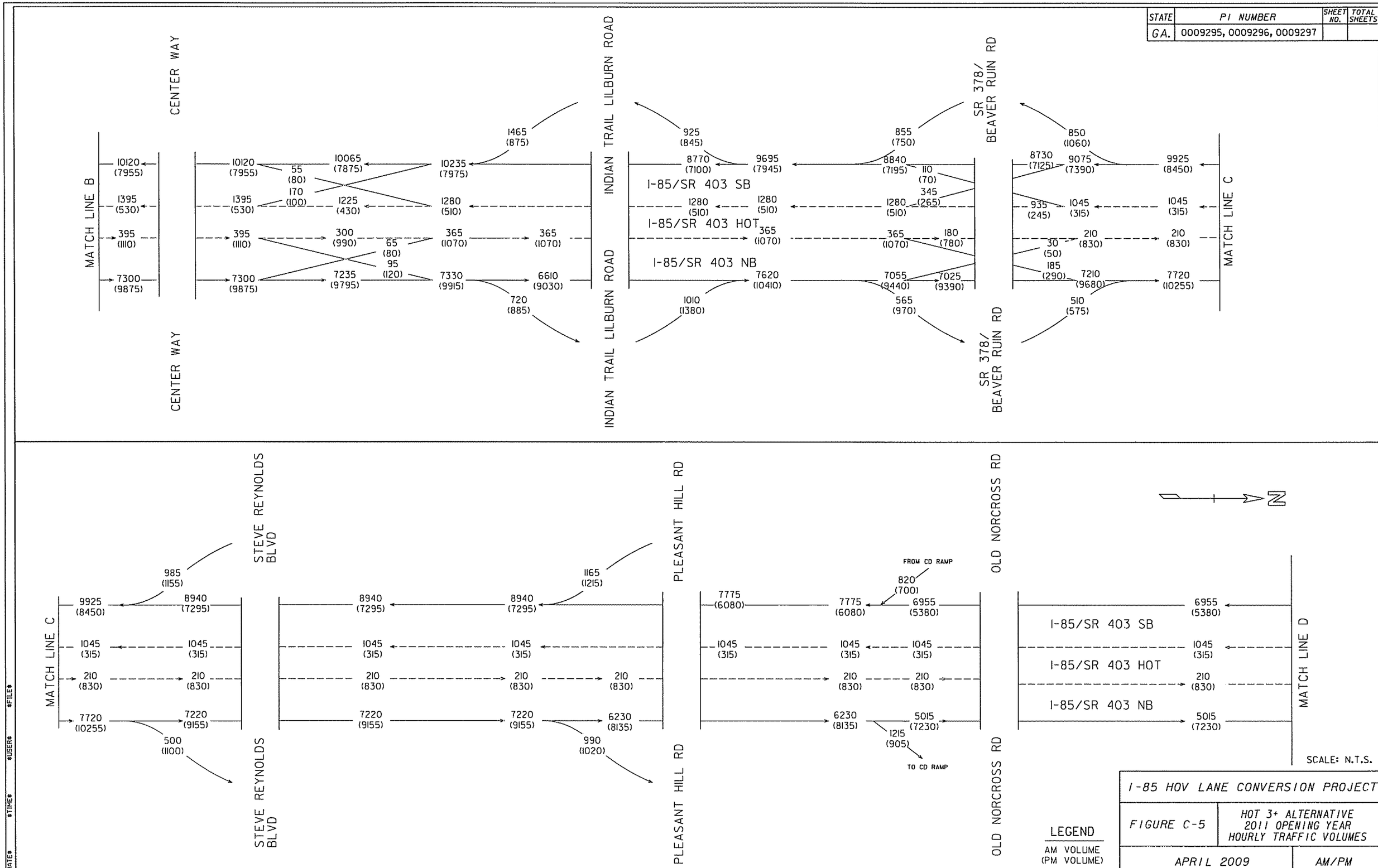
FIGURE C-4

HOT 3+ ALTERNATIVE
2011 OPENING YEAR
HOURLY TRAFFIC VOLUMES

APRIL 2009

AM/PM

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



I-85 HOV LANE CONVERSION PROJECT

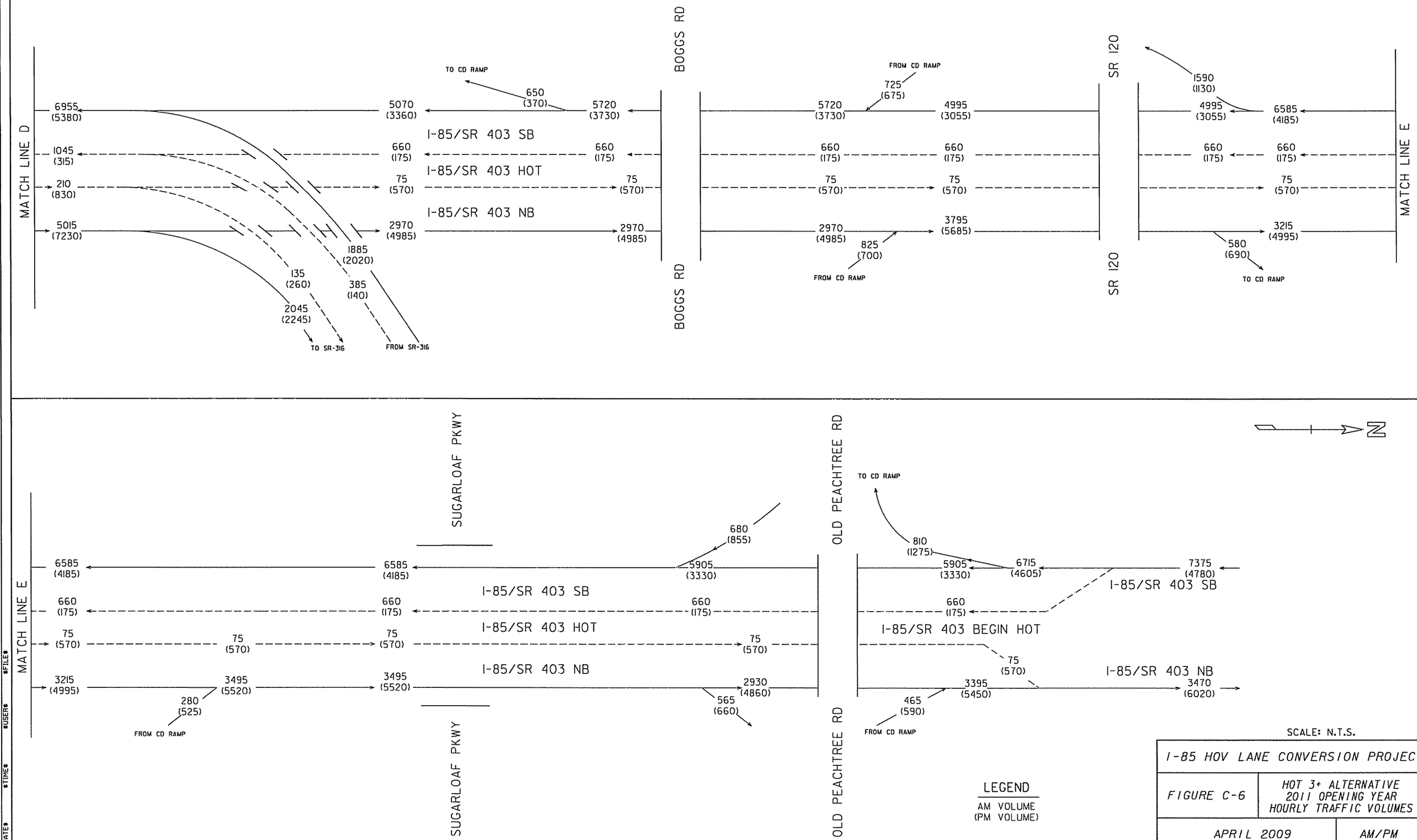
FIGURE C-5

HOT 3+ ALTERNATIVE
2011 OPENING YEAR
HOURLY TRAFFIC VOLUMES

APRIL 2009

AM/PM

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		

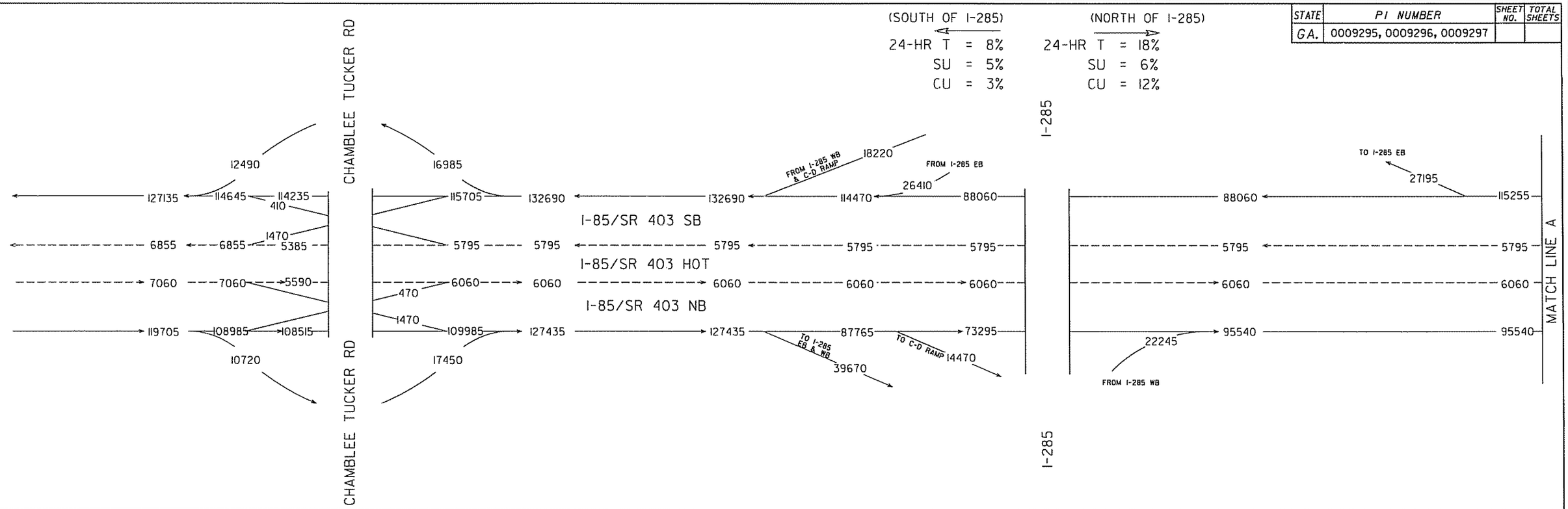


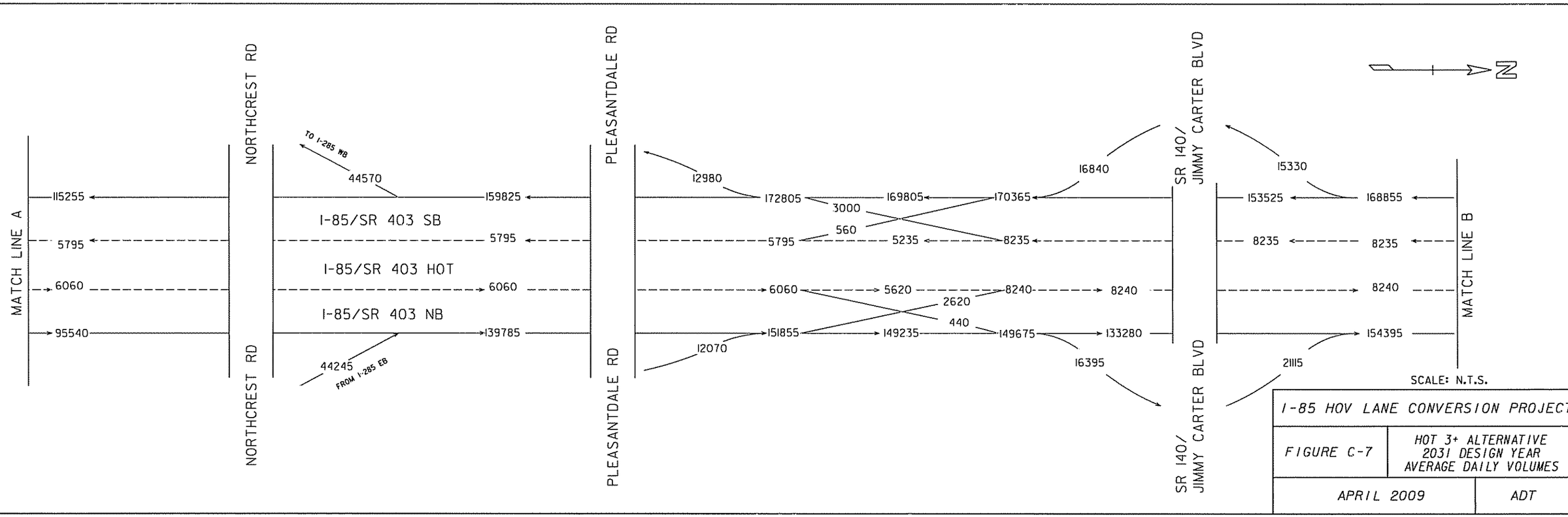
SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE C-6	HOT 3+ ALTERNATIVE 2011 OPENING YEAR HOURLY TRAFFIC VOLUMES
APRIL 2009	AM/PM

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		





I-85 HOV LANE CONVERSION PROJECT

FIGURE C-7

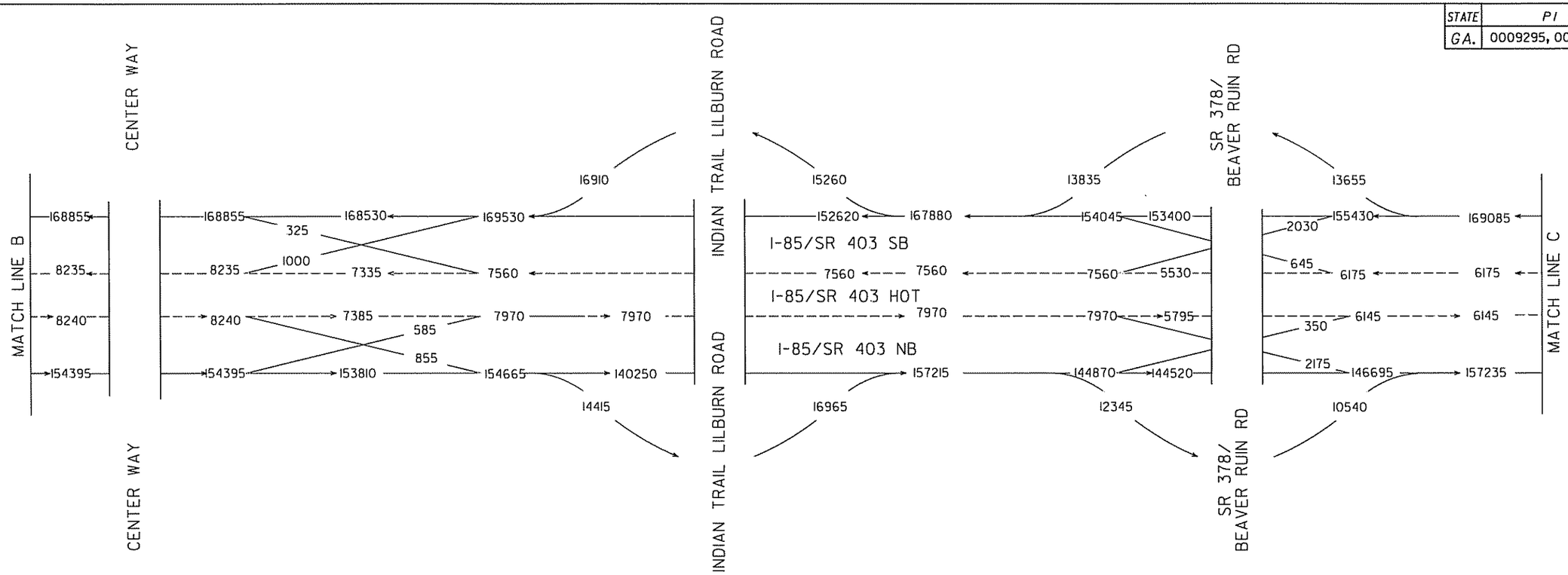
HOT 3+ ALTERNATIVE
2031 DESIGN YEAR
AVERAGE DAILY VOLUMES

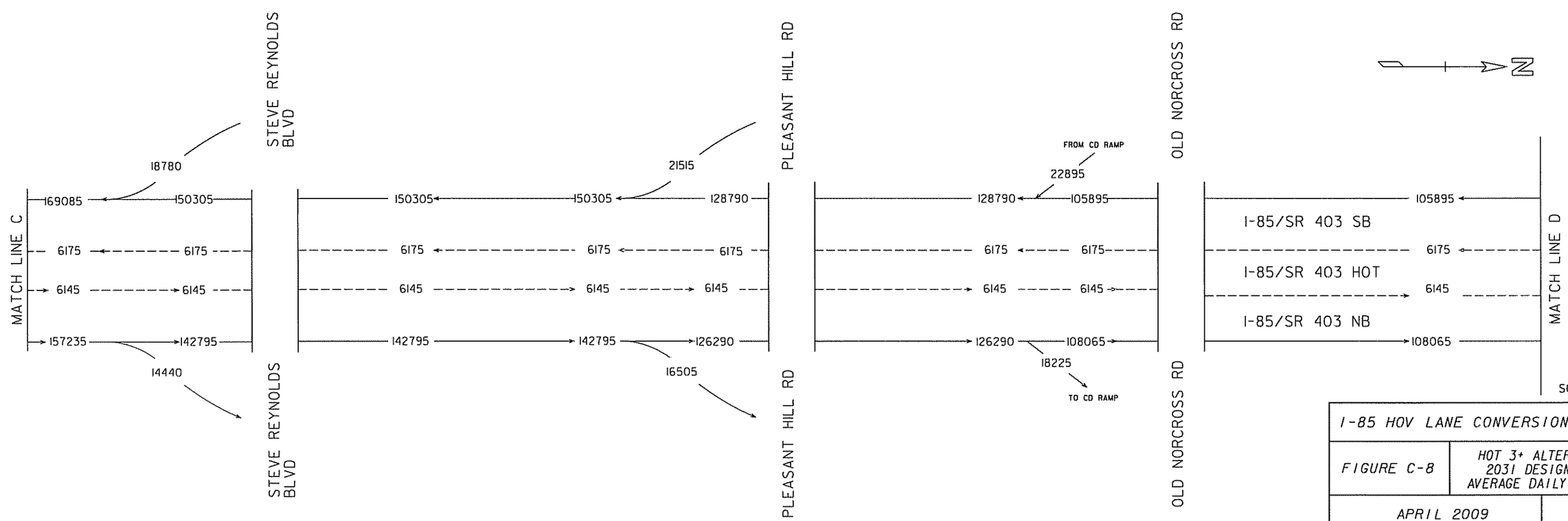
APRIL 2009

ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



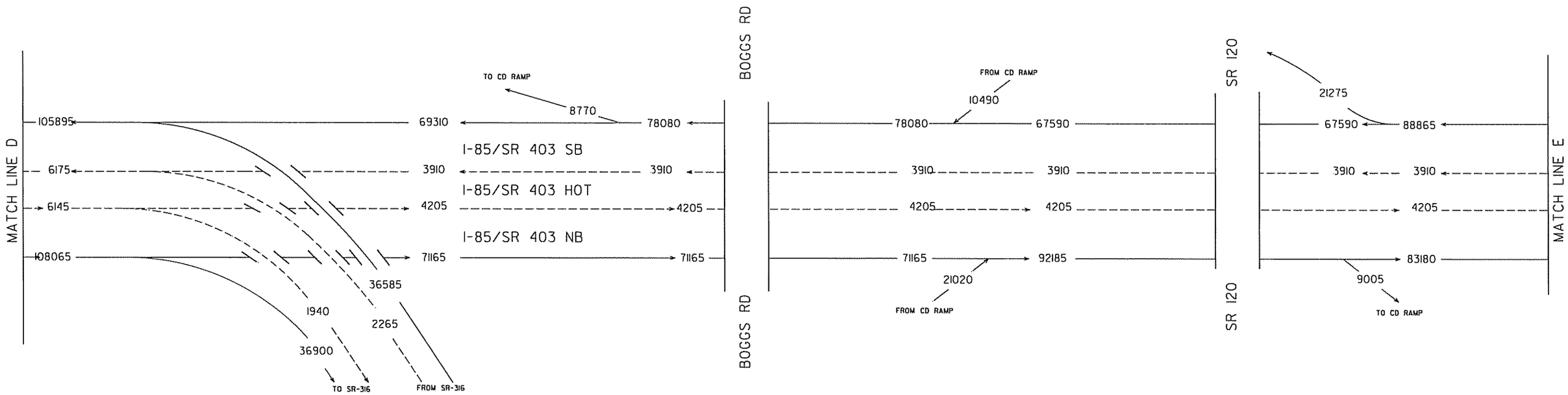


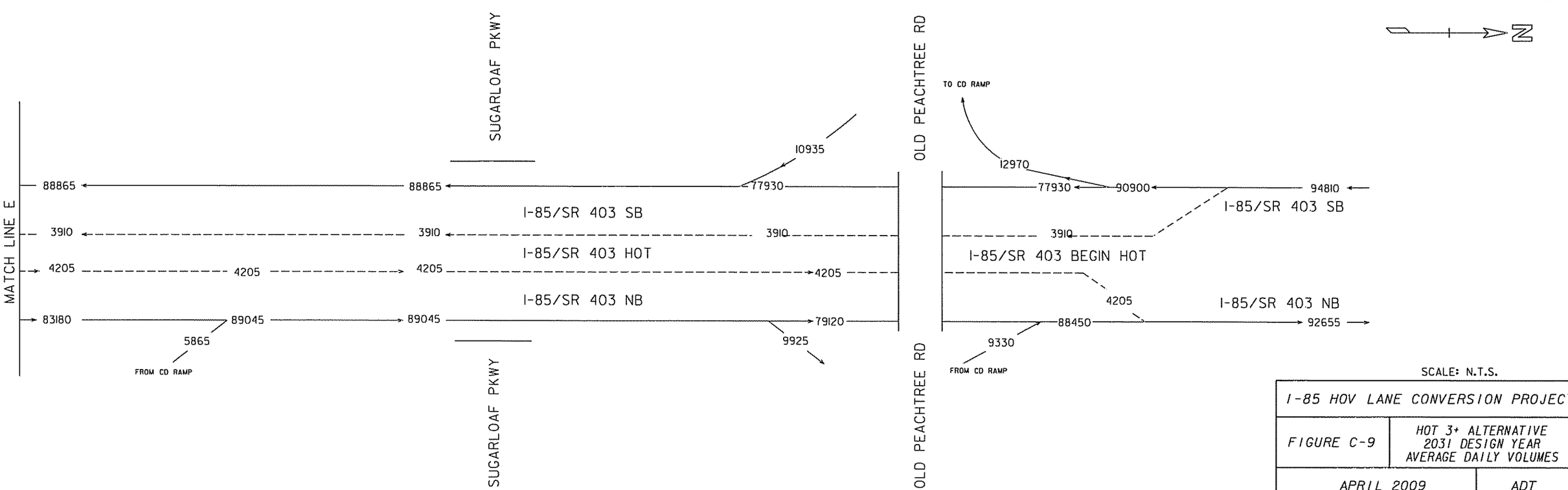
SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE C-8	HOT 3+ ALTERNATIVE 2031 DESIGN YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



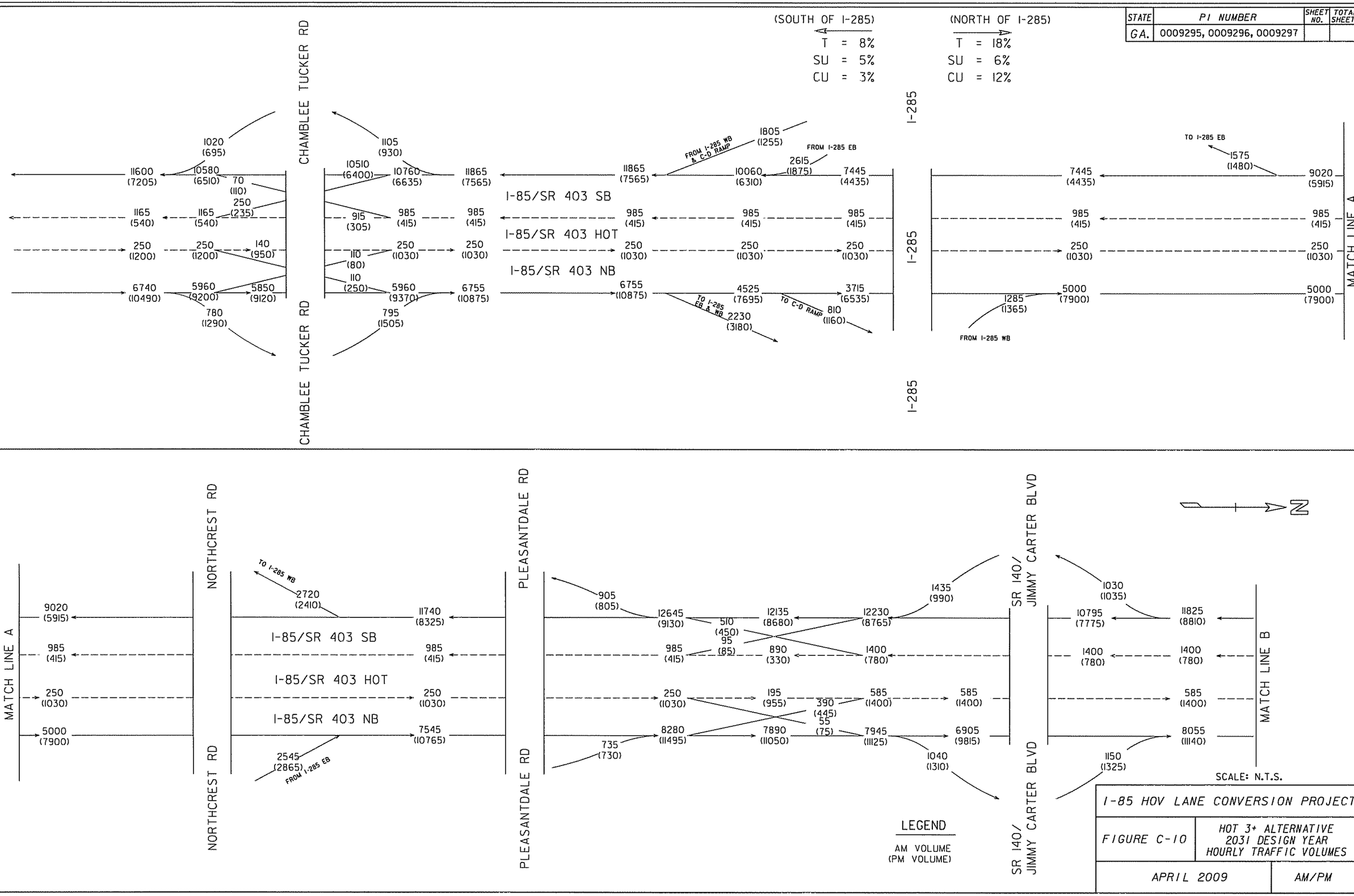


SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE C-9	HOT 3+ ALTERNATIVE 2031 DESIGN YEAR AVERAGE DAILY VOLUMES
APRIL 2009	ADT

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



I-85 HOV LANE CONVERSION PROJECT

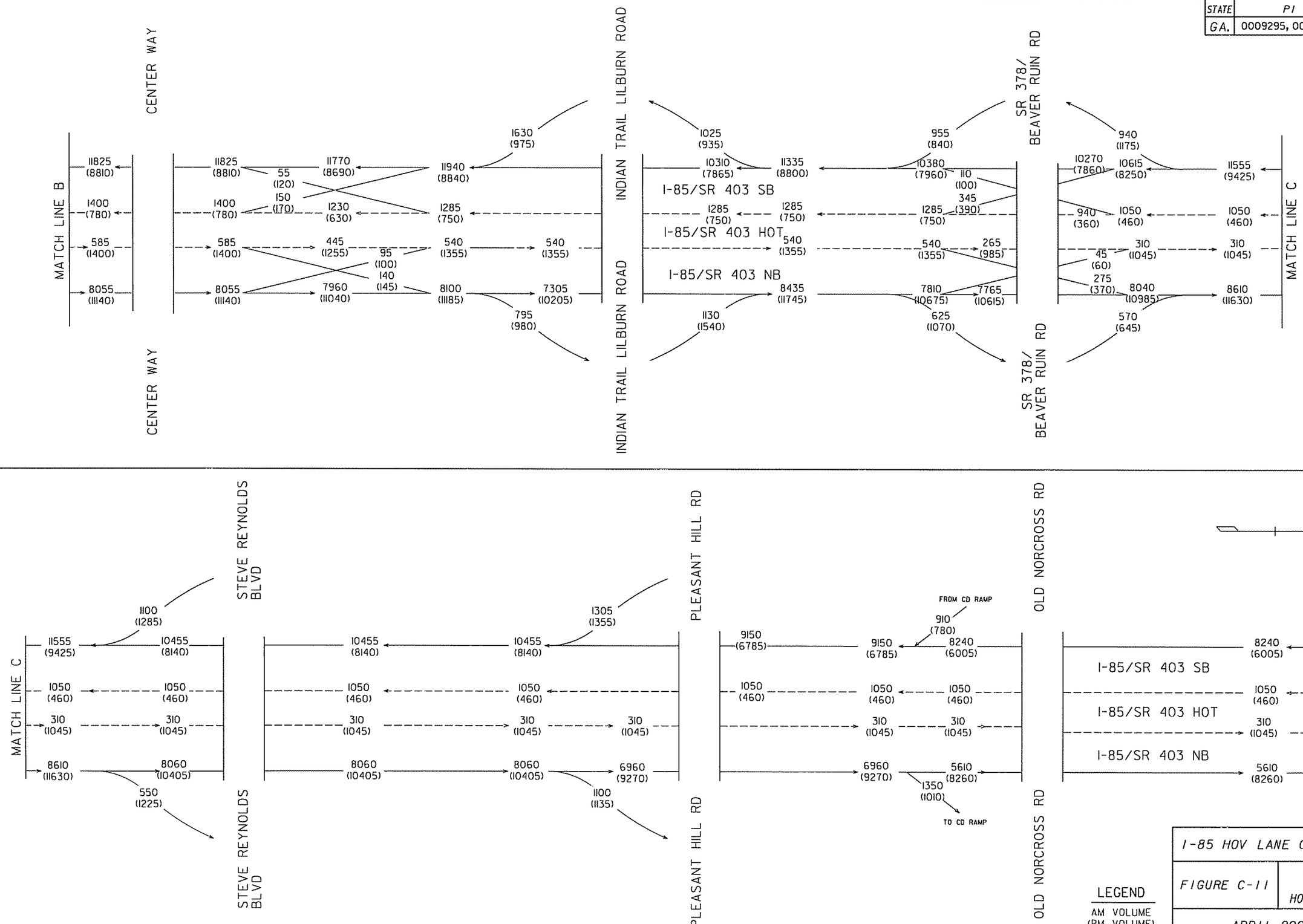
FIGURE C-10

HOT 3+ ALTERNATIVE
2031 DESIGN YEAR
HOURLY TRAFFIC VOLUMES

APRIL 2009

AM/PM

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		



LEGEND

AM VOLUME
(PM VOLUME)

I-85 HOV LANE CONVERSION PROJECT

FIGURE C-11

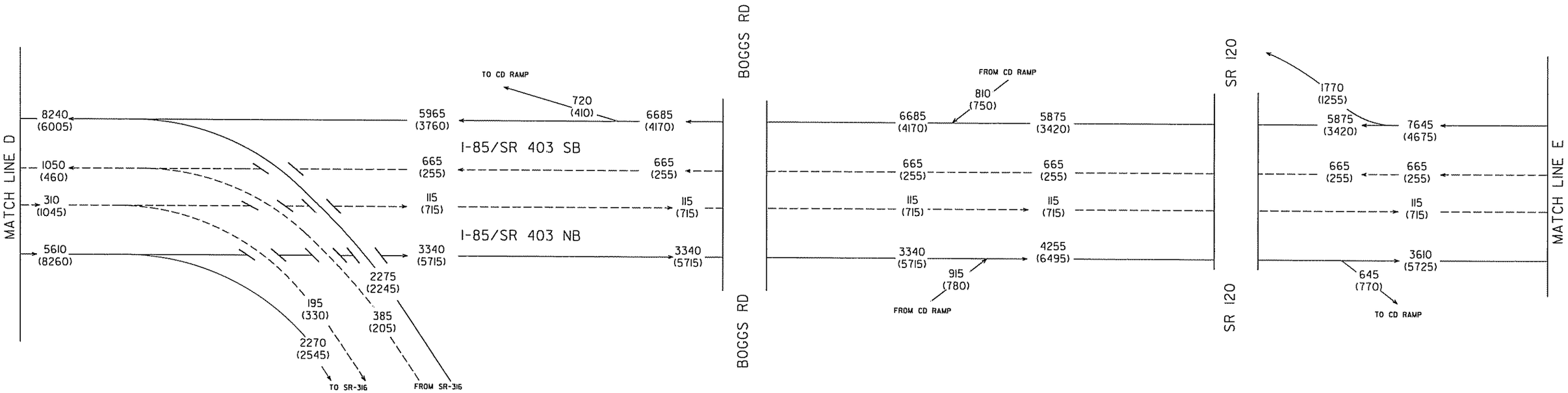
HOT 3+ ALTERNATIVE
2031 DESIGN YEAR
HOURLY TRAFFIC VOLUMES

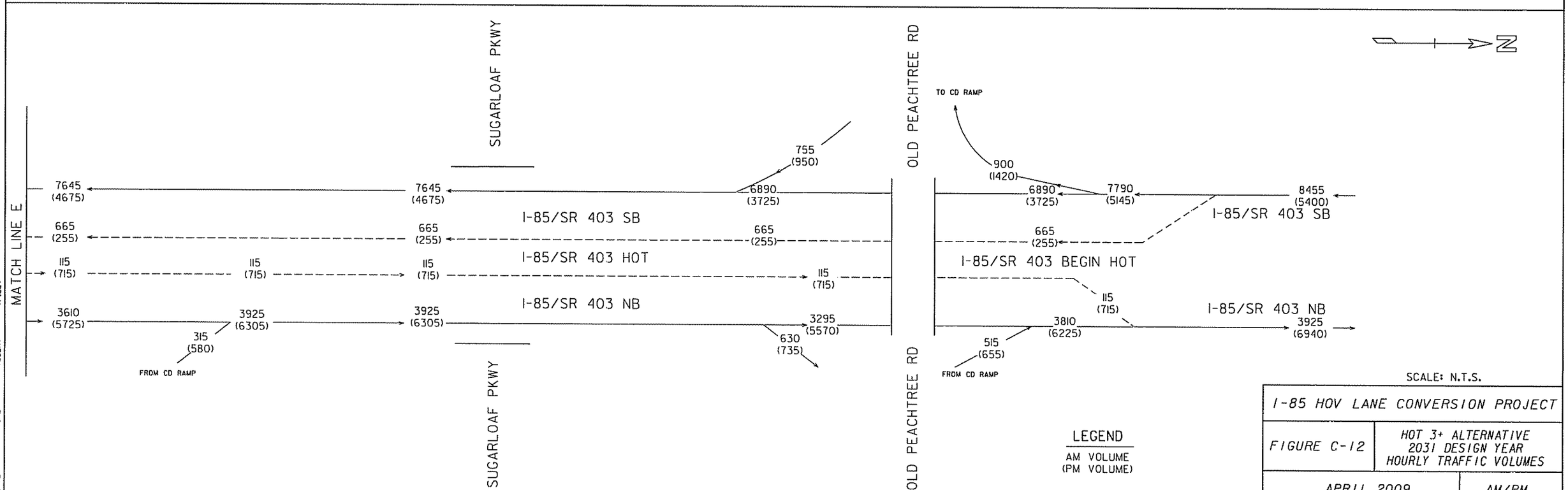
APRIL 2009

AM/PM

$DATE$ $TIME$ $USER$ $FILE$

STATE	PI NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009295, 0009296, 0009297		





LEGEND

AM VOLUME
(PM VOLUME)

SCALE: N.T.S.

I-85 HOV LANE CONVERSION PROJECT	
FIGURE C-12	HOT 3+ ALTERNATIVE 2031 DESIGN YEAR HOURLY TRAFFIC VOLUMES
APRIL 2009	AM/PM

$DATE$ $TIME$ $USER$ $FILE$

APPENDIX D – Managed Lane Separation Techniques & Cost Estimates

Managed Lane Separation Whitepaper

Managed Lane Separation Techniques and Cost Estimates for Metro Atlanta

DRAFT

3-16-09

Prepared for,
Georgia Department of Transportation (GDOT)

Prepared by,

JACOBS™

INTRODUCTION

The managed lanes strategy to fight traffic congestion in urban areas has been a popular mitigation approach that uses designated roadway lanes to encourage modes of travel other than the single occupant vehicle. Existing managed lane systems in the US have a variety of common lane separation techniques that separate managed lanes from adjacent general-purpose lanes. Metro Atlanta currently has over 50 centerline miles of High-Occupancy Vehicle (HOV) lanes with thermo-plastic striping separating HOV lanes from adjacent general-purpose lanes. Given metro Atlanta's plans to convert its HOV lanes to High-Occupancy Toll (HOT) lanes, this paper explores separation techniques commonly employed in other managed lane systems and provides cost estimates for each system for application on Atlanta's roadways.

There are three (3) primary types of lane separation systems currently used across the nation: barrier-separated (i.e. concrete barriers), buffer-separated (i.e. plastic pylon markers), and thermo-plastic striping. This paper discuses the functional characteristics and operations for each of the three lane separation techniques and provides planning-level cost estimates for specific application to metro Atlanta.

It is important to note that since this paper drives towards the development of planning-level cost estimates for each lane separation system, the safety attributes for each separation technique is the focus in another whitepaper prepared by Jacobs Engineering for the Georgia Department of Transportation (GDOT), dated March 16, 2009: *Safety and Separation Techniques between Managed Lanes and General-Purpose Lanes.* This paper can be found in *Appendix A*.

DRAFT

BARRIER-SEPARATED SYSTEMS

Barrier-separated lane systems provide physical separation between managed lanes and general-purpose travel lanes. These systems generally consist of a series of concrete barriers spanning the corridor with designated ingress/egress points. There are two (2) general types of barrier separation systems that are used: fixed-barriers and movable barriers.

Fixed-barriers separate the lanes permanently and are generally used in fixed lane systems. This type is the most common form of barrier system used as it has relatively minimal operations and maintenance costs. Concrete barriers can cost just over $50 per linear foot of placement.

Moveable barriers are more sophisticated and dynamic than the fixed-barrier system. Moveable barriers are typically seen in reversible-flow systems. These systems maximize the existing lane capacity of the roadway in order to better serve traffic demand in the peak period direction. This is accomplished by mobilizing barriers on the travel lanes (that correspond to the non-peak direction of traffic) to temporarily increase lane capacity for the peak direction of travel. Thus, inbound city traffic is served with more capacity in the morning and the same is provided for outbound city traffic in the evening. A moveable barrier system requires trucks and time to re-position the barriers.

Advantages

Barrier-separated systems can provide good access control for managed lane systems. The physical separation of the managed lanes and the general-purpose lanes can be more effective at reducing violations (both occupancy violations and non-designated ingress/egress violations) and maintaining free flowing traffic speeds. Under a moveable system, the barriers can be used to re-designate lane direction and add more lane capacity in the peak direction of travel while utilizing existing roadway infrastructure. This would help reduce recurring congestion for commuters without having to invest in constructing additional travel lanes.

Disadvantages

Barrier-separation is expensive to construct and may require additional right-of-way if existing roadway cross-sections are not adequate. Further, existing bridge structures along the corridor may be impacted. Inclement weather such as snow storms, roadway icing, or flooding can be difficult to manage under barrier-separation. Snow/ice removal can be difficult unless adequate shoulder width is provided. Mitigating floods may be a challenge if proper drainage hasn't been installed and maintained regularly. For the moveable barrier system, while it optimizes the existing roadway width to provide better traffic operations in the peak periods, this effectiveness comes at the cost of substantial maintenance and operation requirements.

DRAFT

BUFFER-SEPARATED SYSTEMS

Buffer systems separate managed lanes from general-purpose lanes with a buffer area that contains a physical marker that is less durable but more flexible than those used in barrier-separated systems. The buffer areas in buffer-separated systems are generally four-feet in width. There are three (3) common types of markers used in buffer-separated systems: Tubular Markers, Mountable Curb Markers, and Retractable Markers.

Tubular Markers

Tubular markers, pylons, stanchions, or plastic bollards are one type of marker used in buffer-separated systems. They consist of a series of painted lightweight plastic tubes, often with reflecting coating. Tubular markers stand approximately three-feet high and 18-inches in diameter and are generally placed in regular twenty-foot intervals along the length of a buffer area. The Federal Highway Administration's (FHWA) *A Guide for HOT Lane Development* suggests 18-inches of buffer on either side of the tubular marker. These markers are attached to the roadway with adhesive. Although the pylons are not as durable as concrete, they are flexible and they can be hit a certain number of times before they breakdown.

Plastic pylons can cost approximately $60 per unit. If spaced at twenty-foot intervals, one mile of pylons would cost approximately $16,000. Tubular markers generally have a life expectancy of one year and need to be replaced annually.

Advantages

Tubular markers can require less right-of-way compared to barrier systems and thus have a relatively lower implementation cost. Tubular markers can reduce occupancy violations or access violations at non-designated ingress/egress points and can allow emergency and maintenance vehicles to drive over them as necessary in response to incidents.

Disadvantages

Tubular markers need to be replaced annually which adds to the maintenance costs of the system. Tubular marker systems do not provide the physical protection of a barrier. During times of inclement weather, snow/ice removal operations can damage the markers. Roadway debris can build up over time within the buffer and needs to be regularly removed. While tubular markers can deter occupancy violators and non-designated access violators, vehicles have been reported to weave in and out of the tubular markers to avoid tolls and congestion on general-purpose lanes.

Mountable Curb Markers

Mountable curb markers are similar to tubular markers except they are only 4-inches high and 10- to 12-inches wide. These curb markers can be round or flat with reflective sheeting and they rebound when hit by vehicles. The replacement rate for mountable curb markers is approximately 15% per year.

Advantages

Mountable curb markers can require less right-of-way compared to barrier systems and allow emergency and maintenance vehicles to drive over them as necessary in response to incidents. Mountable curb markers provide some physical deterrent for occupancy and access violators. Compared to tubular markers, which have a life expectancy of one year, mountable curb markers are more durable and some systems have experienced an annual replacement rate of 15%.

Disadvantages

Mountable curb markers have not been widely tested in high speed lane separation situations. There is a cost of maintenance and replacement for these markers (annual replacement of 15% of the markers). Inclement weather such as snow or ice storms may be an issue and could make the markers inconspicuous. Snow/ice removal operations could damage the markers. Roadway debris can collectively build up in buffer area needs to be removed on a regular basis. Like tubular markers, vehicles weaving in and out of the mountable markers could occur.

Retractable Markers

Retractable markers are electronically operated pylons that retract into the ground as necessary. Retractable pylons are tubular markers recessed in the roadway and can be raised or lowered from a remote location. Like movable barrier systems, retractable markers can be used in reversible-flow operations or enable daily conversions of the managed lane to a general purpose lane during non-peak hours of traffic. Retractable

DRAFT

markers cost approximately $25,000 for eight units. For one-mile of retractable markers, at a spacing of twenty-feet per marker, the cost would be $825,000.

Advantages

Like other buffer-separated systems, these markers can require less right-of-way compared to barrier systems. Retractable markers can reduce occupancy violations or access violations at non-designated ingress/egress points. During inclement weather like snow or ice storms, unlike regular tubular markers, these markers can recede into the pavement and avoid damage. The retraction feature can also be advantageous if the lane is open to the general public during non-peak hours and weekends.

Disadvantages

Retractable marker systems are expensive and do not provide the physical protection of a barrier. There can be expensive maintenance and replacement costs for these markers. Roadway debris build-up in the buffer area would increase the need for regular maintenance to prevent damage when the markers retract/rise. Vehicles weaving in and out of the tubular markers can also occur as they do not fully guard against access violations or occupancy violations.

THERMO-PLASTIC STRIPED SYSTEMS

There are two general types of thermo-plastic striped lanes: double stripe (which are currently used on metro Atlanta HOV facilities) and single stripe, where there is continual open access between general-purpose lanes and the managed lane. The thickness of the thermo-plastic striping is generally two-feet, at minimum. Thermo-plastic striping can cost over $20,000 per linear mile.

Advantages

Striped systems are the least expensive form of lane separation between managed lanes and general-purpose lanes. They generally require minimal right-of-way and thus minimal impacts on existing bridge spans and overall cost. As striped systems don't have a physical barrier in place, emergency management services and response units have unhindered accessibility to incidents, which can be a concern with a barrier type system. Maintenance costs associated with thermo-plastic striping is minimal compared to other separation techniques.

Disadvantages

Since thermo-plastic striped separation has no physical barrier or buffer between managed lanes and general-purpose lanes, they are susceptible to both occupancy and access violators.

DRAFT

FHWA HIGH-OCCUPANCY TOLL (HOT) LANE GUIDANCE

Federal Highway Administration's (FHWA) *A Guide for HOT Lane Development* specifies general HOT lane cross-section guidance for travel lanes, shoulder widths, and separation widths between HOT lanes and general-purpose lanes. The cross-section guidance for HOT lanes are similar to those of HOV lanes and general-purpose lanes. The cross-sectional guidelines for HOT lanes are shown in Table 1:

Table 1. Guidelines for HOT Lane Cross-sections

Cross Section Element	Standard	
Lane Width	12 feet	
Shoulder Width (Right and left)	10 feet	Preferable
	2 feet	Minimum
Separation Width (for non-barrier separated)	4 feet	
	2 feet	Minimum

Source: FHWA, *A Guide for HOT Lane Development*

Figure 1 shows the cross-sectional guidelines for a median-based concurrent flow system. Under desirable and minimal conditions, a 12-foot travel lane is recommended. Shoulders for law enforcement (on the left side of the HOT lane), if they should be provided, are 14-feet. Standard shoulders (desirable) are 10-feet. Minimum shoulders are 2-feet. The desirable buffer between the HOT lane and the adjacent general-purpose lane is 4-feet, which may contain tubular markers. The minimum buffer area between a HOT lane and a general-purpose lane is 2-feet.

DRAFT

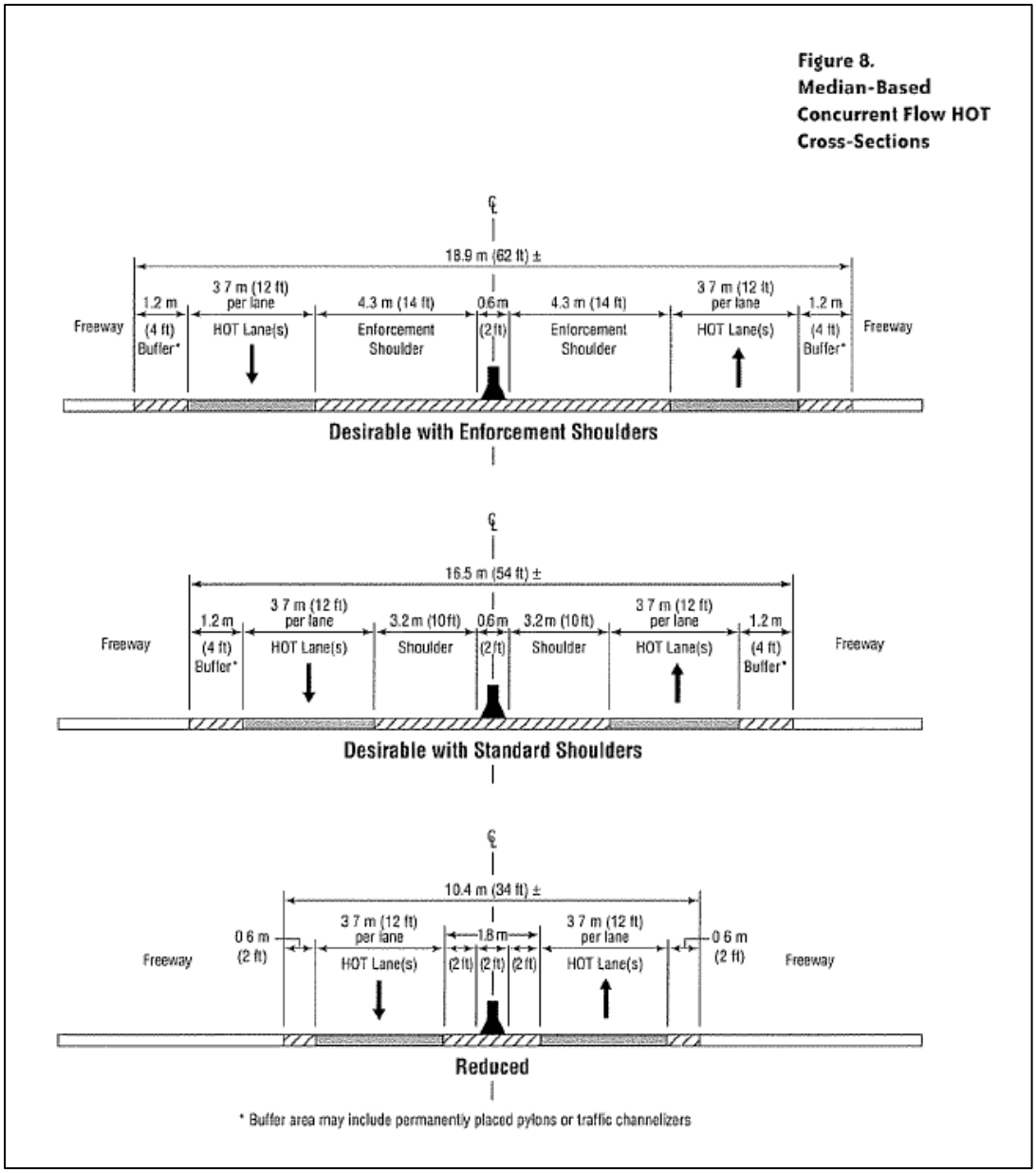
EXISTING HOV SYSTEM IN METRO ATLANTA

Metro Atlanta has over 50 centerline miles of HOV lanes on its interstate system. HOV lanes are identified with diamond pavement markings and overhead signs located on Interstates 20, 75 and 85. Continuous double-white lines separate the HOV lane from the adjacent general-purpose lanes. Motorists have access to the HOV lane where the double-white lines are intermittently broken. The HOV lanes are currently designated for vehicles carrying two or more occupants, certified alternative fuel vehicles, motorcycles and emergency vehicles. The HOV lanes in metro Atlanta are located on the interstate corridors shown in Table 2.

Table 2. Existing HOV Corridors in Metro Atlanta

Facility	Description	Distance (mi)
I-85 North	14th St (Fulton County) to Old Peachtree Rd (Gwinnett County)	23.6
I-75 North	14th St (Fulton County) to Akers Mill Rd (Cobb County)	7.9
I-85/I-75 Connector	14th St (Fulton County) to south split (Fulton County)	7.6
I-75 South	South split (Fulton County) to I-285 (Clayton County)	3.4
I-20 East	Boulveard Dr (Fulton County) to I-285 (DeKalb County)	8.2
	Total Centerline Miles of HOV	**50.7**

Figure 1. FHWA Guidance on Cross-Sections for HOT Lanes



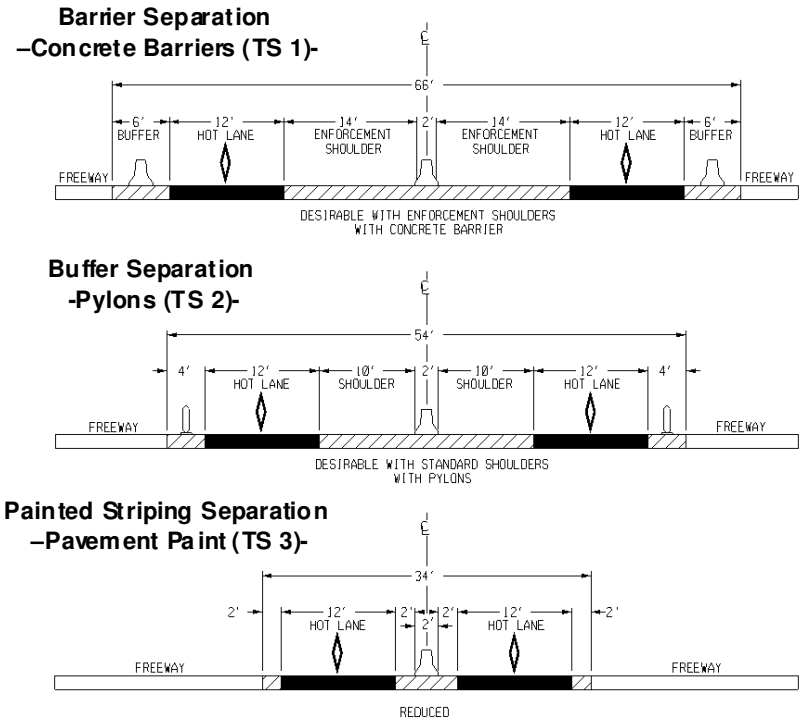
Source: Excerpt from FHWA, *A Guide for HOT Lane Development*

COST ESTIMATES FOR METRO ATLANTA

Cost estimates were developed for the three (3) types of lane separation commonly used in managed lane systems for specific application to metro Atlanta. Figure 2 shows the typical sections assumed for each lane separation system. The cross-section dimensions shown for the separation systems were selected in accordance with Federal Highway Administration's *A Guide for HOT Lane Development*.

Three (3) mutually exclusive cost estimates for potential application on over 50 centerline miles of managed lanes in Metro Atlanta were prepared at a planning-level and include construction costs for roadway widening and resurfacing. These costs also include the cost for concrete barriers (in the barrier separation scenario) and the pylons (in the buffer separation scenario). Impacted interchange/bridge costs and estimated right-of-way costs were also considered at the planning-level. Utility relocations and costs were not assessed for any of the separation systems.

Figure 2. Typical Sections (TS) for Three Lane Separation Techniques



Methodology for Estimating Right-of-Way and Bridge Impact Costs

To determine estimated required right-of-way costs and identify potential bridge impacts, the HOV lanes in metro Atlanta (along I-85, I-75, I-75/85, and I-20) were surveyed. Each corridor was reviewed using existing bridges along each facility as a point of reference for all measurements. The method included measuring the combined existing travel lanes and shoulder widths from aerial photography, and comparing the existing widths to the required overall widths as shown in the three (3) lane separation cross-sections as shown in Figure 2. A locally derived average unit cost of $8.0 million per lane-mile for new roadway construction was assumed. This average unit cost was based on estimated costs from local Georgia roadway projects. The unit cost estimate includes costs for sub-base, base, drainage, grading, earthwork, traffic control, and erosion control. Right-of-way areas were then determined per corridor by averaging the sufficient or deficient calculated widths and multiplying the average calculated widths by the length of each corridor (i.e. resulting in distance-based weighted-average values). It should be noted that the right-of-way values (at market rates) were obtained from appropriate jurisdictions tax assessor data for cost estimation development and were factored up by 2.7 in accordance with standard GDOT general procedures concerning right-of-way value estimates.

In conjunction with right-of-way needs, the number of impacted bridge structures was also determined by comparing the required width for the typical sections to the existing available shoulder width. A margin of error of plus/minus three-feet was assumed in determining the bridge replacement calculations due to the measurements being made from aerial photography and not field surveyed data. Furthermore, some of the interchange locations were considered for a design exception at the bridge by modifying the proposed cross-section. The design exception modifications were accomplished by reducing shoulder and lane widths in order to avoid reconstruction of the bridge and/or the interchange. This approach was consistent for all three (3) lane separation systems under evaluation. Engineering fees were assumed to be 10% of the estimated construction costs. For detailed cost estimate calculations and assumptions, please refer to the *Appendix B* of this paper. The cost estimates for the three (3) lane separation systems considered for metro Atlanta are shown in Table 3.

Table 3. Lane Separation Cost Estimates for HOT Lanes in Metro Atlanta

Barrier Separation	
Typical Section 1 (TS1)	**Cost**
CONSTRUCTION	
Roadway	$626,000,000
Barrier	$27,200,000
Bridge Structures/Interchanges	$240,000,000
Const. Total	**$893,200,000**
RIGHT-OF-WAY	$27,000,000
ENGINEERING	$89,320,000
UTILITY	TBD
TOTAL	**$1,009,520,000**

Buffer Separation with Pylons	
Typical Section 2 (TS2)	**Cost**
CONSTRUCTION	
Roadway	$247,800,000
Pylon	$1,600,000
Bridge Structures/Interchanges	$63,000,000
Const. Total	**$312,400,000**
RIGHT-OF-WAY	$5,200,000
ENGINEERING	$31,240,000
UTILITY	TBD
TOTAL	**$348,840,000**

Thermo-plastic Striping Separation	
Typical Section 3 (TS3)	**Cost**
CONSTRUCTION	
Roadway (Milling and Overlay for HOT Lane)	$2,200,000
Thermo-plastic Striping	$2,040,000
Bridge Structure/Interchange	$0
Const. Total	**$4,240,000**
RIGHT-OF-WAY	$0
ENGINEERING	$424,000
UTILITY	TBD
TOTAL	**$4,664,000**

DRAFT

FINDINGS

In response to the recurring traffic congestion that impairs metro Atlanta commuters, the Georgia Department of Transportation (GDOT) has plans to provide commuters with an additional transportation modal choice through the conversion of existing HOV lanes to High-Occupancy Toll (HOT) lanes. Existing HOT lane systems in the United States showcase a variety of lane separation techniques that separate managed lanes from adjacent general-purpose lanes. Metro Atlanta has over 50 centerline miles of HOV lanes with thermo-plastic striping separating HOV lanes from adjacent general-purpose lanes. With plans to convert metro Atlanta's existing HOV lanes to HOT lanes, this paper explored the potential application of three (3) different types of lane separation systems currently employed in other systems across the nation: barrier-separated (i.e. concrete barriers), buffer-separated (i.e. plastic pylon markers), and thermo-plastic striping. This paper examined the functional characteristics and operations for these lane separation techniques and developed planning-level cost estimates for specific application to metro Atlanta.

The typical cross-sections assumed for each of the lane separation systems evaluated were developed in accordance with FHWA's *A Guide for HOT Lane Development*. The planning-level cost estimates for each lane separation system are as follows:

- Barrier separation (concrete barriers) cost - $1 billion dollars
- Buffer separation (plastic pylons) cost - $350 million dollars
- Thermo-plastic striping separation cost - $5 million dollars

Thermo-plastic striping lane separation would cost the least of the three (3) separation systems examined for metro Atlanta, at an estimated cost of $5 million dollars. There would be relatively small roadway pavement construction required and no right-of-way costs or impacts to existing bridge structures associated with thermo-plastic striping separation.

The buffer separation scenario would cost approximately $350 million dollars and the barrier separation would be expected to cost over $1 billion dollars. Both these scenarios would require substantial right-of-way and would have impacts on specific bridge structures. It should be noted that the buffer separation with pylons would involve an estimated annual maintenance cost of $1.6 million dollars for pylon replacement. For detailed cost estimate calculations and assumptions, please refer to the *Appendix B* of this paper.

DRAFT

APPENDIX A

(Safety paper)

DRAFT

Safety Research Analysis Whitepaper

Safety and Separation Techniques between Managed Lanes and General-Purpose Lanes

DRAFT

3-16-09

Prepared for,
Georgia Department of Transportation (GDOT)

Prepared by,

JACOBS™

INTRODUCTION

The managed lanes strategy to fight traffic congestion in urban areas has been a popular mitigation approach that uses designated roadway lanes to encourage modes of travel other than the single occupant vehicle. Existing managed lane systems in the US have a variety of common lane separation techniques that separate managed lanes from adjacent general-purpose lanes. This paper explores the vehicular safety aspects of various separation techniques employed for existing managed lane systems in the US.

There are three primary types of lane separation systems currently in use across the nation: barrier-separated (i.e. concrete barriers), buffer-separated (i.e. plastic pylons), and striping. This paper identifies safety issues related to the operations of managed lanes and particularly, identifies safety issues associated with the most common types of separation techniques used in the US. This paper consists of a literature review of safety studies performed on existing managed lane systems; a discussion on High-Occupancy Vehicle (HOV) safety feedback received from transportation professionals around the country; and, an inventory of lane separation techniques for existing and planned High-Occupancy Toll (HOT) systems in the US. This white paper concludes with a review of the potential safety issues associated with each type of lane separation along with a discussion of mitigation strategies that can help minimize each of the potential hazards.

This safety paper can be viewed as a subset of another whitepaper prepared by Jacobs Engineering for the Georgia Department of Transportation (GDOT), dated March 16, 2009: *Managed Lane Separation Techniques and Cost Estimates for Metro Atlanta.*

DRAFT

LITERATURE REVIEW

Numerous research papers and planning studies on managed lanes (HOV/HOT) from around the country were reviewed, including the Federal Highway Administration's (FHWA) "A Guide for HOT Lane Development", an informational document derived from collective HOT lane experiences in the US. Given the safety focus of this white paper, the following papers and studies were selected from the overall literature review as a good resource on the topic of managed lane safety and the common types of separation used in managed lanes today. Under each resource, a brief summary of the contents follow.

(1) A. Scott Cothron, Stephen E. Ranft, Carol H. Walters, David W. Fenno, and Dominique Lord (May 2004). Crash Analysis of Selected High-occupancy vehicle facilities in Texas: Methodology, Findings, and Recommendation. *Texas Transportation Institute, FHWA/TX-04/0-4434-1.*

This report is a research paper that studied safety issues for barrier-separated and buffer-separated HOV lanes in Texas. Crash reports were reviewed on selected HOV corridors with before-and-after crash data. This paper also included a HOV questionnaire that was sent to transportation professionals across the US.

The findings from the report indicated that the moveable barrier-separated counter flow HOV lane on I-30 did not show a change in injury crash rate. The study discovered that

most of the crashes in the HOV lane on this corridor occurred at the access points. For the barrier-separated system in the Dallas area, they recommend a 10-foot shoulder at minimum.

For the buffer-separated HOV lanes on I-35E North and I-635, an increase in injury crash rates were identified. The study determined that the increase in injury crash rates might be due to the vehicular speed difference between the HOV lane and the adjacent general-purpose lanes. In response to this finding, the report recommended a four-foot minimum width buffer between the HOV lane and general-purpose lanes for the corridors in the Dallas area.

(2) Thomas F. Golob, Wilfred W. Recker, Douglas W. Levine (December 1989). Safety of High-Occupancy Vehicle Lanes Without Physical Separation*. American Society of Civil Engineers, Journal of Transportation Engineering, Vol. 115, No. 6*, pp. 591-607.

This study examined before-and-after crash data for buffer/striped-separated HOV lanes in California. Over one year of crash data with HOV lane operations was compared to six years of crash data prior to the HOV lane opening. The findings from the study indicated that the HOV lane had no adverse effect on safety conditions of the corridors. The crash locations and frequencies were found to be subject to the time and location of traffic congestion along the freeways and not directly attributed to the presence of the HOV lanes.

(3) Kitae Jang, Ching-Yao Chan (2009). High-Occupancy-Vehicle Lane Configurations and Safety Performance of California Freeways: Investigation of Differential Distributions and Statistical Analysis. *University of California, Berkeley.*

This paper investigated the safety for limited-access HOV lanes and continuous-access HOV lanes in California. The study revealed that limited-access HOV lanes may have a "safety performance disadvantage" compared to continuous-access HOV lanes. Several statistical analyses were performed on the crash data: empirical cumulative density function (CDF), Kolmogorov-Smirnov Tests, and comparison of means based on Poisson Distributed Samples. In addition to the statistical tests, the historical crash data for the HOV lanes and the general-purpose lanes were compared and offered supporting evidence that limited-access HOV lanes may have a safety disadvantage compared to continuous-access HOV lanes. Under the limited-access HOV system, crashes tended to be concentrated near the access points.

(4) Sullivan, E C, Devadoss, N (1993). High-Occupancy-Vehicle Facility Safety in California. *TRB Transportation Research Record No. 1394.*

Freeway safety and crash frequencies were examined for facilities with and without HOV lanes on selected California freeways. The purpose of the paper was to determine if HOV lanes have a negative impact on the safety of freeways. The findings from the paper indicated that the crash rates on freeways with HOV facilities are sensitive to variations in traffic congestion - in the same manner that crash rates are influenced by congestion on general-purpose lane facilities. The resulting analysis revealed no systematic differences in the crash locations or other factors that could be attributed

DRAFT

directly to the presence of HOV facilities. The report concludes that crashes on freeways, with or without HOV facilities, appear to be characterized and driven by the presence of peak period localized congestion.

(5) R.B. Case (1997). The Safety of Concurrent-lane HOV projects. *American Society of Civil Engineers, Traffic Congestion and Traffic Safety in the 21st Century: Challenges, Innovations, and Opportunities,* pp. 410-416.

This research examined the safety effects of various buffer widths between HOV lanes and adjacent general-purpose lanes. Before-and-after crash data were obtained and analyzed for various corridors. The study concluded that the crash rates were higher with the 0'-2' buffer width compared to the other widths. The results for the 3'-8' buffer widths were determined to be inconclusive and the 8' wide or greater buffers had lower crash rates.

(6) Cooner, Scott A; Ranft, Stephen E (2006). Safety Evaluation of Buffer-Separated High-Occupancy Vehicle Lanes in Texas. *TRB Transportation Research Record No. 1959,pp.168-177.*

Vehicular safety was examined for barrier and buffer-separated concurrent-flow HOV lanes on I-35 East and I-635 in Dallas. Injury crash data from each corridor were examined for crash rates and trends. Police reports were also reviewed. The analysis and study considered design elements, including buffer width, shoulder width, and lane width. The corridors in this study showed an increase in crash rates after implementation of the HOV lane. The increase in crashes was primarily focused on the HOV lane and the adjacent general-purpose lane. The research paper recommended a greater cross-sectional width for the HOV facilities (including shoulder and buffer) than currently existing on the two freeways in the Dallas area. For the buffer-separated systems in the Dallas area, the study recommends a 4-foot buffer between the managed lane and the general purpose lane, and a minimum 2-foot shoulder between the concurrent-flow dividing barrier and the managed lane (10-foot is desirable).

(7) Kitae Jang, Koohong Chung, David R. Ragland, Ching-Yao Chan (2009). Safety Performance of High-Occupancy-Vehicle Facilities: Evaluation of HOV Lane Configurations in California. *University of California, Berkeley, CALTRANS, Traffic Safety Center.*

Crash data for freeway corridors in California with continuous access HOV facilities and limited access HOV facilities were examined in this paper. The relationship between collision rates in the HOV lanes was investigated with respect to shoulder width, length of access, and the proximity of access to interchange ramps. The findings from the study indicate that HOV facilities with limited access offer no safety advantages over those facilities with continuous access. Higher crash rates were discovered to be concentrated on the ingress/egress locations of the limited access HOV lanes.

SAFETY FEEDBACK FROM TRANSPORTATION PROFESSIONALS

Issues and attitudes on HOV lane safety from the perspectives of transportation professionals from around the country was compiled and summarized in "Crash Analysis

DRAFT

of Selected High-occupancy Vehicle Facilities in Texas: Methodology, Findings, and Recommendation", prepared by *Texas Transportation Institute* in 2004. Feedback from these professionals include pertinent anecdotal experiences on safety and the different types of separation systems employed.

There were twenty-three (23) respondents to the safety survey. Approximately half of the respondents were from states that operate buffer/striping-separated HOV lanes; the other half were assumed to be familiar with barrier-separated systems. The problems identified and described for barrier-separated and buffer-separated systems were grouped as follows: ingress/egress difficulty; illegal crossings of the buffer; speed differentials between the HOV lane and the adjacent general-purpose lanes; and narrow inside shoulders.

The ingress/egress concerns typically result from traffic congestion in the adjacent general-purpose lanes. This can occur under barrier-separated and buffer/striped separated systems. In some instances, it can be difficult for vehicles in the managed lane to find an acceptable gap in traffic to merge back into the general-purpose lanes. This merging issue can cause these vehicles to slow or stop in the transition area and affect the flow and speed of traffic in the managed lane. Some of the respondents indicated that this merging issue can be mitigated by lengthening the transition areas at the ingress/egress locations.

Illegal crossings of the buffer (i.e. double solid white lines or plastic pylons) can involve both occupancy violators and non-occupancy violators. These illegal crossings can occur under the buffer/striping-separation system. Violators have been known to illegally cross the buffer into the managed lane to bypass congestion on the general-purpose lanes and then return across the buffer after the adjacent congestion is relieved. These violators may be familiar with typical enforcement practices in the area and may perform illegal lane changes in areas that lack regular enforcement. The survey respondents indicated that an increase in law enforcement, steep fines, and license "points" can be effective mitigation measures to deter illegal crossings.

Speed differential issues involve free-flowing vehicular speeds in the managed lane and slower congested speeds in the adjacent general-purpose lanes. This issue can occur under the buffer/striping-separation system. As indicated in the ingress/egress discussion above, vehicles merging into or out of the managed lane would need adequate access lane length (i.e. transition area) in order to merge safely and find available gaps in congested traffic without holding up the flow and speed of the managed lanes. Another issue with speed differentials can be introduced with violators in the general-purpose lanes who illegally cross the buffer or double white striping to access the faster moving managed lane. This dangerous and illegal maneuver may result in side-swipe or rear-end crashes. The regular presence of law enforcement can minimize and deter violators.

The survey respondents indicated that narrow pavement shoulders on the left side of the HOV lanes can affect the flow and safety of the lane. This can occur under barrier-separated and buffer/striped separated systems. With narrow shoulders, disabled vehicles on the HOV lane may either partially or completely block the lane. Some disabled vehicles have been noted to park in the HOV lane during non-peak hours of traffic. Respondents indicated that adequate shoulder space should be provided to enable emergency vehicles to reach incident locations.

DRAFT

Lack of enforcement and excessive speeding was an issue identified by some respondents for barrier-separated systems. The design of ingress/egress points in particular for concrete barrier systems were also noted as a safety issue for vehicles potentially crashing head-on into concrete barriers. Barrier separation could cause issues with limited sight distance at access points, particularly during non-daylight hours of the day.

EXISTING AND PLANNED HOT SYSTEMS IN THE U.S.

At the time of this paper, there are ten (10) areas in the US with operational HOT facilities. Excluding Georgia, there are seven (7) other areas with plans to implement HOT lanes. These areas are listed in Table 1, along with their respective corridors and type of HOT lane separation system they have in place (or will have in place).

Table 1. Existing and Planned HOT Systems in the US.

Freeway - Location	Separation Type	
Existing		
SR 91 – Orange County, CA	Plastic Pylons	
I-394 – Minneapolis, MN	Striping	
I-15 – San Diego, CA	Concrete Barrier	Reversible
US 290– Houston, TX	Concrete Barrier	Reversible
I-10– Houston, TX	Plastic Pylons	
I-25, I-36, C-470 – Denver, CO	Concrete Barrier	Reversible
I-15 Express – Salt Lake City, UT	Striping	
SR 167 – Seattle, WA	Striping	
I-95 – Miami, FL	Plastic Pylons	
I-680 and I-880 – Alameda, CA	Striping	
Planned		
I-95 – Maryland	Concrete Barrier	
I-495 – Virginia	Concrete Barrier	
I-595 – Ft. Lauderdale, FL	Concrete Barrier	Reversible
I-40 – Raleigh, NC	Not Decided	
I-30 and I-635 – Dallas, TX	Not Decided	
Hwy 217 – Portland, OR	Not Decided	
Hwy 1 – Santa Cruz, CA	Not Decided	

DRAFT

As shown in Table 1, of the existing HOT systems, three (3) have concrete barrier separation primarily involving reversible peak flow operations, four (4) have buffer striping, and three (3) have plastic pylon separation. For the HOT systems that will be coming on-line in the near future, three (3) will be separated with a concrete barrier and the remaining areas are undecided.

SAFETY REVIEW

Managed lane safety and the three (3) most common types of lane separation systems typically used in the US were examined. The following discussion summarizes the findings of this research.

For barrier-separated systems, such as concrete barriers, the physically enclosed environment can induce excessive speeding for vehicles traveling in managed lanes. This can be a particular safety hazard if speeds in the managed lane are relatively uniform with exception of a few speeding vehicles. This issue can also be exacerbated in cases where incidents occur within the managed lane in the vicinity of horizontal or vertical curves and limited sight distance. The presence of law enforcement to moderate vehicular speeds in the managed lanes could be an effective mitigation strategy.

Various safety studies indicate that crashes in a managed lane system tend be concentrated near the ingress/egress points. This trend applies to all three types of lane separation systems. Providing adequate transition lengths, especially in areas with horizontal and vertical sight distance issues, should be considered to minimize these ingress/egress crash trends.

Crash severity at the ingress/egress points along a managed lane system with barrier-separation can also be a safety issue if the access points and transition areas are not properly designed and equipped with appropriate safety measures. During peak hour congestion or in the non-daylight hours of the day, vehicles weaving from the managed lane into the general-purpose lanes, or vice versa, may be subject to difficult maneuvering parameters and an unforgiving concrete barrier design may elevate the crash severity in the event of a barrier collision. For concrete barrier designs, a forgiving roadway feature that cushions the ingress points in a concrete barrier system should be considered (i.e. a fully re-directive, non-gating system), in conjunction with providing adequate transition areas for vehicles to enter and exit the managed lane.

Illegal lane weaving between managed lanes and general-purpose lanes can occur under buffer-separated (plastic pylons) systems and striped systems. Vehicles in Florida on I-95 were reported to weave in and out of the plastic pylons in order to avoid congestion and avoid paying the toll fees. An increase in law enforcement would be an effective mitigation strategy to deter violators.

The safety issue with speed differential crashes is a combined effect with illegal lane weaving between managed lanes and general-purpose lanes in striped systems. With no physical barrier separating the managed lanes and the general-purpose lanes, this is a safety concern that could result in severe vehicular crashes proportional to the magnitude of the speed differential. As suggested to minimize illegal lane weaving, an increase in law enforcement would also help reduce the potential for speed differential crashes between managed lanes and adjacent general-purpose lanes.

Emergency vehicles unable to access incidents in a timely fashion in either the general-purpose lanes or managed lanes is a serious safety issue under a concrete barrier system that doesn't provide for sufficient shoulder widths or provide an adequate number of access points along the barrier system that would enable EMS vehicles to conveniently reach an incident. Offering multiple entry/exit points in a barrier system in conjunction with adequate shoulder widths can help minimize this problem.

DRAFT

For buffer-separated systems, roadway debris, such as blown-out tires and garbage, can accumulate on the buffer area. If such debris is not removed in a regular and timely fashion, it can build up near the edge of traveling lanes and impose a safety hazard for vehicles that may need to swerve in order to avoid hitting such debris. In these cases, debris removal crews should be regularly scheduled to remove such debris in order to lessen the chances of these crash-inducing occurrences.

In cases of inclement weather such as snowfall/icing and flooding, these conditions may be issue under the barrier-separated and buffer-separated systems. Providing adequate shoulder widths or storage bays to store snow (without damaging the barrier and buffer systems from slow plows) would resolve this concern. The installation of proper drainage systems would be necessary especially in areas prone to experience flooding conditions.

Table 2 summarizes the discussion above by categorizing and relating the various safety issues with the three types of separation systems used in managed lanes.

Table 2. Potential Safety Issues for Three Types of Lane Separation

Potential Safety Issues	Barrier-Separated (i.e. Concrete)	Buffer-Separated (i.e. plastic pylons)	Striping Painted
Excessive Speeding			
Crash frequency at ingress/egress locations			
Crash severity at ingress/egress locations			
Illegal lane weaving			
Speed differential crashes			
Incident management accessibility			
Debris collection on buffer area			
Inclement weather (snow, flooding)			

DRAFT

It should be noted that the above table is a “one-dimensional” comparative chart meant to summarize the key points discussed in the paper. The individual “weight” or significance of each safety issue was not objectively assessed nor was a weighted-comparison analysis performed on the various safety issues. Furthermore, the mitigation measures identified to counter the safety issues were not evaluated for their relative ease and cost of implementation.

CONCLUSIONS

As presented in this white paper, various safety issues have been identified and associated with each of the three common types of separation systems found in managed lane systems within the US. The findings from this review of collective experiences and research papers support the conclusion that the safety of all three lane separation techniques examined are a direct function of a variety of key variables that in sum determine whether a managed lane system is generally “safe”. Such key parameters include, but are not limited to, the overall design of the managed lane system, the inclusion of “forgiving” safety features, the frequency and location of the ingress/egress points, adequate pavement shoulder widths and transition areas, and the presence of law enforcement. While there is no clear separation technique that boasts exceptional safety operations, all three separation techniques can be made safer if the appropriate measures and steps are taken to mitigate any unique or common safety issues associated with them.

Appendix B

(Cost estimation calculations and assumptions)

DRAFT

COST ESTIMATE

Barrier Separation		
Typical Section 1 (TS1)		**Cost**
CONSTRUCTION		
Roadway		$626,002,538
Barrier		$27,171,144
Bridge Structures/Interchanges		$240,000,000
	Const. Total	**$893,173,682**
RIGHT-OF-WAY		$27,000,000
ENGINEERING		$89,317,368
UTILITY		TBD
	TOTAL	**$1,009,491,050**

Buffer Separation with Pylons		
Typical Section 2 (TS2)		**Cost**
CONSTRUCTION		
Roadway		$247,748,304
Pylon		$1,606,200
Bridge Structures/Interchanges		$63,000,000
	Const. Total	**$312,354,504**
RIGHT-OF-WAY		$5,197,500
ENGINEERING		$31,235,450
UTILITY		TBD
	TOTAL	**$348,787,454**

Thermo-plastic Striping Separation		
Typical Section 3 (TS3)		**Cost**
CONSTRUCTION		
Roadway (Milling and Overlay for HOT Lane)		$2,200,000
Striping		$2,039,509
Bridge Structure/Interchange		$0
	Const. Total	**$4,239,509**
RIGHT-OF-WAY		$0
ENGINEERING		$423,951
UTILITY		TBD
	TOTAL	**$4,663,460**

Construction Cost
(Roadway Summary)

Corridor/Location		Segment Length (mi)	TS1 Avg. Widening Width (ft)	TS2 Avg. Widening Width (ft)	TS1 Cost	TS2 Cost
I-85 North						
	Fulton	3.9	20	8		
	Dekalb	8.4	30	18		
	Gwinnett	11.3	18	6		
					$341,794,665	$165,690,547
I-75 North						
	Fulton	6.5	15	3		
	Cobb	1.4	18	6		
					$77,458,199	$18,566,452
Connector						
	Fulton	7.6	18	6		
					$87,267,513	$30,460,230
I-75 South						
	Fulton	2.6	23	11		
	Clayton	0.8	12	0		
					$42,785,232	$17,688,840
I-20 East						
	Fulton	1.1	14	2		
	Dekalb	7.1	15	3		
					$76,696,929	$15,342,235
	Totals	**50.7**			**$626,002,538**	**$247,748,304**

Adjacent impacts caused by TS1.

85 North						
County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		SB	NB	SB	NB	
	14th Street	10	22	2	11	
	17th Street	10	11	5	0	
	I-75	15	15	4	6	
	Peachtree Rd.	11	11	4	2	
	Piedmont Rd.	12	10	1	-1	
	Lenox/ Cheshire	14	8	1	-8	Y
Dekalb						
	N. Druid Hills	9	8	-5	-8	Y
	Clairmont Rd.	9	10	-4	-7	Y
	Shallowford Rd.	8	12	-8	-3	Y
	Cham. Tucker	9	8	-6	-5	Y
	I-285	6	6	-7	-8	Y
	Northcrest Rd.	9	5	-8	-12	Y
	Pleasantdale Rd.	14	11	-1	-6	Y
Gwinnett						
	Jimmy Carter	4	3	-10	-13	Y
	Center Way	6	13	-6	5	Y
	Indian Trail	13	13	5	4	
	Beaver Ruin	14	12	4	4	
	Steve Reynolds	12	12	1	4	
	Pleasant Hill	12	12	4	4	
	Old Norcross Rd.	12	12	4	4	
	Boggs Rd.	12	12	4	4	
	Duluth Hwy	12	12	4	4	
	Sugarloaf	12	12	4	4	

Adjacent impacts caused by TS1.

75 North

County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		SB	NB	SB	NB	
	14th Street	10	22	2	11	
	17th Street	15	16	23	22	
	Deering Rd.	14	12	4	2	
	Northside Dr.	7	10	-5	0	Y
	Howell Mill Rd.	14	16	5	6	
	Collier Rd.	19	17	10	8	
	Peachtree Battle	11	16	3	7	
	W. Wesley Rd.	13	23	5	15	
	Moores Mill Rd.	21	23	13	14	
	W. Paces Ferry	19	8	9	0	
	Northside Pkwy	16	17	6	10	
	Mt. Paran Rd.	18	16	10	8	
Cobb						
	Chatt. River	25	13	16	4	
	Cumberland Blvd.	16	13	8	4	

75 South

County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		SB	NB	SB	NB	
	I-85	14	10	5	0	
	Cleveland Ave	13	12	4	-1	
	Mt. Zion Rd.	14	13	2	2	
	N. Central/Crown	15	13	3	1	
	Henry Ford	14	14	0	3	
Clayton						
	Aviation Blvd.	10	16	5	9	

Adjacent impacts caused by TS1.

Connector

County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		SB	NB	SB	NB	
	14th Street	10	22	2	11	
	10th Street	11	13	2	1	
	5th Street	14	14	5	4	
	N. Ave	7	0	-5	-13	Y
	W. Peachtree	8	9	-3	0	
	Peachtree St.	15	15	6	2	
	Ralph McGill	14	9	2	-3	
	Baker St.	14	9	4	-3	
	International Blvd.	11	19	1	8	
	Ellis St.	11	13	3	2	
	Dobbs Ave	13	14	23	24	
	Auburn Ave.	36	14	28	6	
	Edgewood Ave.	25	11	17	3	
	Bell St.	26	13	19	4	
	Decatur St.	12	15	3	5	
	MLK	16	27	5	18	
	Memorial Dr.	15	9	7	-1	
	I-20	10	22	-3	14	
	Fulton St.	20	21	7	7	
	R.D. Abernathy	12	13	1	3	
	Pryor St.	11	9	3	-3	
	RR Bridge	8	14	-2	4	
	University Ave	14	14	5	5	
	Fair Dr.	13	10	5	2	
	Langford Pkwy.	12	9	3	0	
	I-85	12	11	3	1	

20 East

County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		WB	EB	SB	NB	
	Blvd.	11	11	4	4	
	Glenwood	12	10	5	3	
Dekalb						
	Moreland Ave.	9	11	2	3	
	Maynard Terrace	11	10	3	4	
	Clifton St.	7	10	-1	3	
	Glenwood Ave.	9	12	1	5	
	Flat Shoals	10	10	3	1	
	Fayetteville Rd.	11	11	6	3	
	Gresham Rd.	10	8	3	1	
	Flat Shoals	12	11	5	3	
	Lloyd Rd.	11	10	3	2	
	Candler Rd.	13	10	4	3	
	Columbia Dr.	13	10	6	1	
	I-285	8	19	-3	10	

Adjacent impacts caused by TS2.

85 North						
County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		SB	NB	SB	NB	
	14th Street	10	22	8	17	
	17th Street	10	11	11	6	
	I-75	15	15	10	12	
	Peachtree Rd.	11	11	10	8	
	Piedmont Rd.	12	10	7	5	
	Lenox/ Cheshire	14	8	7	-2	
Dekalb						
	N. Druid Hills	9	8	1	-2	
	Clairmont Rd.	9	10	2	-1	
	Shallowford Rd.	8	12	-2	3	
	Cham. Tucker	9	8	0	1	
	I-285	6	6	-1	-2	
	Northcrest Rd.	9	5	-2	-6	Y
	Pleasantdale Rd.	14	11	5	0	
Gwinnett						
	Jimmy Carter	4	3	-4	-7	Y
	Center Way	6	13	0	11	
	Indian Trail	13	13	11	10	
	Beaver Ruin	14	12	10	10	
	Steve Reynolds	12	12	7	10	
	Pleasant Hill	12	12	10	10	
	Old Norcross Rd.	12	12	10	10	
	Boggs Rd.	12	12	10	10	
	Duluth Hwy	12	12	10	10	
	Sugarloaf	12	12	10	10	

Adjacent impacts caused by TS2.

75 North

County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		SB	NB	SB	NB	
	14th Street	10	22	8	17	
	17th Street	15	16	29	28	
	Deering Rd.	14	12	10	8	
	Northside Dr.	7	10	1	6	
	Howell Mill Rd.	14	16	11	12	
	Collier Rd.	19	17	16	14	
	Peachtree Battle	11	16	9	13	
	W. Wesley Rd.	13	23	11	21	
	Moores Mill Rd.	21	23	19	20	
	W. Paces Ferry	19	8	15	6	
	Northside Pkwy	16	17	12	16	
	Mt. Paran Rd.	18	16	16	14	
Cobb						
	Chatt. River	25	13	22	10	
	Cumberland Blvd.	16	13	14	10	

75 South

County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		SB	NB	SB	NB	
	I-85	14	10	11	6	
	Cleveland Ave	13	12	10	5	
	Mt. Zion Rd.	14	13	8	8	
	N. Central/Crown	15	13	9	7	
	Henry Ford	14	14	6	9	
Clayton						
	Aviation Blvd.	10	16	11	15	

Adjacent impacts caused by TS2.

Connector

County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		SB	NB	SB	NB	
	14th Street	10	22	9	18	
	10th Street	11	13	8	7	
	5th Street	14	14	11	10	
	N. Ave	7	0	1	-7	Y
	W. Peachtree	8	9	3	6	
	Peachtree St.	15	15	12	8	
	Ralph McGill	14	9	8	3	
	Baker St.	14	9	10	3	
	International Blvd.	11	19	7	14	
	Ellis St.	11	13	9	8	
	Dobbs Ave	13	14	29	30	
	Auburn Ave.	36	14	34	12	
	Edgewood Ave.	25	11	23	9	
	Bell St.	26	13	25	10	
	Decatur St.	12	15	9	11	
	MLK	16	27	11	24	
	Memorial Dr.	15	9	13	5	
	I-20	10	22	3	20	
	Fulton St.	20	21	13	13	
	R.D. Abernathy	12	13	7	9	
	Pryor St.	11	9	9	3	
	RR Bridge	8	14	4	10	
	University Ave	14	14	11	11	
	Fair Dr.	13	10	11	8	
	Langford Pkwy.	12	9	9	6	
	I-85	12	11	9	7	

20 East

County	Bridge Location	avl. out. shoulder		rem. out. shoulder		Bridge Required
Fulton		WB	EB	SB	NB	
	Blvd.	11	11	10.5	10.5	
	Glenwood	12	10	11	9	
Dekalb						
	Moreland Ave.	9	11	8	9	
	Maynard Terrace	11	10	9	10	
	Clifton St.	7	10	5	9	
	Glenwood Ave.	9	12	7	11	
	Flat Shoals	10	10	9	7	
	Fayetteville Rd.	11	11	12	9	
	Gresham Rd.	10	8	9	7	
	Flat Shoals	12	11	11	9	
	Lloyd Rd.	11	10	9	8	
	Candler Rd.	13	10	10	9	
	Columbia Dr.	13	10	12	7	
	I-285	8	19	3	16	

85 North

Existing HOV Facility Width					Proposed Section Widths and REQD R/W for Each					
County	Bridge Location	Measured Width		Total	TS1	REQD R/W	TS2	REQD R/W	TS3	REQD R/W
		SB	NB							
Fulton										
	14th Street	25	22	47	66	19	54	7	33	NA
	17th Street	28	22	50	66	16	54	4	34	NA
	I-75	22	24	46	66	20	54	8	34	NA
	Peachtree Rd.	26	24	50	66	16	54	4	34	NA
	Piedmont Rd.	22	22	44	66	22	54	10	34	NA
	Lenox/ Cheshire	20	17	37	66	29	54	17	34	NA
Dekalb										
	N. Druid Hills	19	17	36	66	30	54	18	34	NA
	Clairmont Rd.	20	16	36	66	30	54	18	34	NA
	Shallowford Rd.	17	18	35	66	31	54	19	34	NA
	Cham. Tucker	18	20	38	66	28	54	16	34	NA
	I-285	20	19	39	66	27	54	15	34	NA
	Northcrest Rd.	17	16	33	66	33	54	21	34	1
	Pleasantdale Rd.	18	16	34	66	32	54	20	34	0
Gwinnett										
	Jimmy Carter	19	17	36	66	30	54	18	34	NA
	Center Way	21	25	46	66	20	54	8	34	NA
	Indian Trail	25	24	49	66	17	54	5	34	NA
	Beaver Ruin	23	25	48	66	18	54	6	34	NA
	Steve Reynolds	22	25	47	66	19	54	7	34	NA
	Pleasant Hill	25	25	50	66	16	54	4	34	NA
	Old Norcross Rd.	25	25	50	66	16	54	4	34	NA
	Boggs Rd.	25	25	50	66	16	54	4	34	NA
	Duluth Hwy	25	25	50	66	16	54	4	34	NA
	Sugarloaf	25	25	50	66	16	54	4	34	NA

Totals									
Distance (ft)	TS1			TS2			TS3		
	Ave. W	SF	AC	Ave. W	SF	AC	Ave. W	SF	AC
1,798	20	414,251	9.5	8	169,775	3.9	0	0	0.0
1,740									
1,268									
9,337									
6,230									
5,914	Ave. W	SF	AC	Ave. W	SF	AC	Ave. W	SF	AC
7,521	30	1,341,176	30.8	18	807,248	18.5	0	6,356	0.1
11,857									
7,136									
6,372									
3,204									
2,490									
11,922	Ave. W	SF	AC	Ave. W	SF	AC	Ave. W	SF	AC
3,913	18	1,098,719	25.2	6	382,163	8.8	0	0	0.0
7,398									
5,876									
7,942									
2,710									
5,574									
6,028									
4,079									
4,271									
Totals	23	2,854,146	65.5	11	1,359,186	31.2	0	6,356	0.1

75 North

Existing HOV Facility Width					Proposed Section Widths and REQD R/W for Each					
County	Bridge Location	Measured Width		Total	TS1	REQD R/W	TS2	REQD R/W	TS3	REQD R/W
		SB	NB							
Fulton										
	14th Street	25	22	47	66	19	54	7	34	NA
	17th Street	41	39	80	66	NA	54	NA	34	NA
	Deering Rd.	23	23	46	66	20	54	8	34	NA
	Northside Dr.	21	23	44	66	22	54	10	34	NA
	Howell Mill Rd.	24	23	47	66	19	54	7	34	NA
	Collier Rd.	24	24	48	66	18	54	6	34	NA
	Peachtree Battle	25	24	49	66	17	54	5	34	NA
	W. Wesley Rd.	25	25	50	66	16	54	4	34	NA
	Moores Mill Rd.	25	24	49	66	17	54	5	34	NA
	W. Paces Ferry	23	25	48	66	18	54	6	34	NA
	Northside Pkwy	23	26	49	66	17	54	5	34	NA
	Mt. Paran Rd.	25	25	50	66	16	54	4	34	NA
Cobb										
	Chatt. River	24	24	48	66	18	54	6	34	NA
	Cumberland Blvd.	25	24	49	66	17	54	5	34	NA

Totals									
Distance (ft)	TS1			TS2			TS3		
	Ave. W	SF	AC	Ave. W	SF	AC	Ave. W	SF	AC
1,837	17	572,059	13.1	6	192,603	4.4	0	0	0.0
2,457									
4,518									
1,877									
2,517									
5,987									
1,056									
1,128									
6,474									
5,751									
894									
4,625	Ave. W	SF	AC	Ave. W	SF	AC	Ave. W	SF	AC
2,621	18	126,805	2.9	6	39,853	0.9	0	0	0.0
Totals	17	698,864	16.0	6	232,456	5.3	0	0	0.0

Connector

Existing HOV Facility Width					Proposed Section Widths and REQD R/W for Each					
County	Bridge Location	Measured Width SB	Measured Width NB	Total	TS1	REQD R/W	TS2	REQD R/W	TS3	REQD R/W
Fulton										
	14th Street	25	22	47	66	19	53	6	33	NA
	10th Street	24	21	45	66	21	54	9	34	NA
	5th Street	24	23	47	66	19	54	7	34	NA
	N. Ave	21	20	41	66	25	54	13	34	NA
	W. Peachtree	22	24	46	66	20	54	8	34	NA
	Peachtree St.	24	20	44	66	22	54	8	34	NA
	Ralph McGill	21	21	42	66	24	54	10	34	NA
	Baker St.	23	21	44	66	22	54	10	34	NA
	International Blvd.	23	22	45	66	21	54	9	34	NA
	Ellis St.	25	22	47	66	19	54	7	34	NA
	Dobbs Ave	43	43	86	66	NA	54	-32	34	NA
	Auburn Ave.	25	25	50	66	16	54	4	34	NA
	Edgewood Ave.	25	25	50	66	16	54	4	34	NA
	Bell St.	26	24	50	66	16	54	4	34	NA
	Decatur St.	24	23	47	66	19	54	7	34	NA
	MLK	22	24	46	66	20	54	8	34	NA
	Memorial Dr.	25	23	48	66	18	54	6	34	NA
	I-20	20	25	45	66	21	54	9	34	NA
	Fulton St.	20	19	39	66	27	54	15	34	NA
	R.D. Abernathy	22	23	45	66	21	54	9	34	NA
	Pryor St.	25	21	46	66	20	54	8	34	NA
	RR Bridge	23	23	46	66	20	54	8	34	NA
	University Ave	24	24	48	66	18	54	6	34	NA
	Fair Dr.	25	25	50	66	16	54	4	34	NA
	Langford Pkwy.	24	24	48	66	18	54	6	34	NA
	I-286	24	23	47	66	19	54	7	34	NA

Totals									
Distance (ft)	TS1			TS2			TS3		
	Ave. W	SF	AC	Ave. W	SF	AC	Ave. W	SF	AC
1,864	19	768,152	17.6	6	247,292	5.7	0	0	0.0
1,678									
2,079									
2,062									
728									
551									
990									
1,090									
386									
549									
1,012									
443									
823									
1,227									
1,024									
933									
979									
1,281									
1,860									
2,542									
1,420									
1,532									
7,508									
2,242									
3,382									
Totals	19	768,152	17.6	6	247,292	5.7	0.0	0	0.0

75 South

Existing HOV Facility Width					Proposed Section Widths and REQD R/W for Each					
County	Bridge Location	Measured Width SB	Measured Width NB	Total	TS1	REQD R/W	TS2	REQD R/W	TS3	REQD R/W
Fulton										
	I-85	24	23	47	66	19	54	7	34	NA
	Cleveland Ave	24	20	44	66	22	54	10	34	NA
	Mt. Zion Rd.	21	22	43	66	23	54	11	34	NA
	N. Central/Crown	21	21	42	66	24	54	12	34	NA
	Henry Ford	19	22	41	66	25	54	13	34	NA
Clayton										
	Aviation Blvd.	28	26	54	66	12	54	0	34	NA

Totals									
Distance (ft)	TS1			TS2			TS3		
	Ave. W	SF	AC	Ave. W	SF	AC	Ave. W	SF	AC
2,697	23	301,484	6.9	11	141,404	3.2	0	0	0.0
3,009									
7,439									
195									
4,428	Ave. W	SF	Acres	Ave. W	SF	Acres	Ave. W	SF	Acres
	12	53,136	1.2	0	0	0.0	NA	0	0.0
Totals	17	354,620	8.1	5	141,404	3.2	#VALUE!	0	0.0

20 East

Existing HOV Facility Width					Proposed Section Widths and REQD R/W for Each					
County	Bridge Location	Measured Width WB	Measured Width EB	Total	TS1	REQD R/W	TS2	REQD R/W	TS3	REQD R/W
Fulton										
	Blvd.	26	26	52	66	14	53	1	33	NA
	Glenwood	26	26	52	66	14	54	2	34	NA
Dekalb										
	Moreland Ave.	26	25	51	66	15	54	3	34	NA
	Maynard Terrace	25	27	52	66	14	54	2	34	NA
	Clifton St.	25	26	51	66	15	54	3	34	NA
	Glenwood Ave.	25	26	51	66	15	54	3	34	NA
	Flat Shoals	26	24	50	66	16	54	4	34	NA
	Fayetteville Rd.	28	25	53	66	13	54	1	34	NA
	Gresham Rd.	26	26	52	66	14	54	2	34	NA
	Flat Shoals	26	25	51	66	15	54	3	34	NA
	Lloyd Rd.	25	25	50	66	16	54	4	34	NA
	Candler Rd.	24	26	50	66	16	54	4	34	NA
	Columbia Dr.	26	24	50	66	16	54	4	34	NA
	I-285	22	24	46	66	20	54	8	34	NA

Totals									
Distance (ft)	TS1			TS2			TS3		
	Ave. W	SF	AC	Ave. W	SF	AC	Ave. W	SF	AC
3,001	14	81,382	1.9	2	8,720	0.2	0	0	0.0
2,812									
	Ave. W	SF	AC	Ave. W	SF	AC	Ave. W	SF	AC
4,567	15	579,389	13.3	3	128,405	2.9	0	0	0.0
811									
1,729									
5,347									
606									
5,573									
1,527									
6,243									
4,136									
6,156									
887									
Totals	15	660,771	15.2	2	137,125	3.1	0	0	0.0

APPENDIX E – Existing 2008 TransModeler Simulation Results

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,994	63.5	7.99	16.0
Summary	**5,994.0**	**63.5**	**7.99**	**16.0**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,145	58.2	12.34	24.1
Summary	**9,145.0**	**58.2**	**12.34**	**24.1**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,134	59.6	6.61	25.8
Summary	**9,134.0**	**59.6**	**6.61**	**25.8**

SWB on SR 316
Segment 38954

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,609	66.9	7.28	12.0
Summary	**1,609.0**	**66.9**	**7.28**	**12.0**

EB on UNIVERSITY PKY
Segment 15908

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,621	66.1	5.95	12.2
Summary	**1,621.0**	**66.1**	**5.95**	**12.2**

SWB on Segment 39333

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	282	70.8	8.00	3.9
Summary	**282.0**	**70.8**	**8.00**	**3.9**

EB on Segment 39359

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	125	69.1	6.83	1.6

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

Summary	**125.0**	**69.1**	**6.83**	**1.6**

SWB on Segment 39308

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,120	62.0	8.04	23.0
Summary	**7,120.0**	**62.0**	**8.04**	**23.0**

SWB on Segment 39329

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,127	56.8	10.63	22.9
Summary	**7,127.0**	**56.8**	**10.63**	**22.9**

NEB on Segment 39306

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,116	63.6	11.69	11.0
Summary	**3,116.0**	**63.6**	**11.69**	**11.0**

NEB on Segment 39390

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,117	62.7	8.02	9.9
Summary	**3,117.0**	**62.7**	**8.02**	**9.9**

NEB on Segment 39328

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,100	63.2	7.96	9.8
Summary	**3,100.0**	**63.2**	**7.96**	**9.8**

NEB on I-85 Segment 11344

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,267	64.4	7.94	10.3
Summary	**3,267.0**	**64.4**	**7.94**	**10.3**

NEB on I-85 Segment 11402

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

NEB on I-85 Segment 11402				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,393	62.7	7.44	11.8
Summary	**4,393.0**	**62.7**	**7.44**	**11.8**

SWB on I-85 Segment 11389				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,668	22.4	17.07	49.4
Summary	**7,668.0**	**22.4**	**17.07**	**49.4**

SWB on I-85 Segment 39349				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,539	19.8	15.60	72.2
Summary	**7,539.0**	**19.8**	**15.60**	**72.2**

SWB on I-85 Segment 11342				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,013	22.4	15.08	58.3
Summary	**9,013.0**	**22.4**	**15.08**	**58.3**

SWB on I-85 Segment 39352				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,009	49.9	13.68	26.9
Summary	**9,009.0**	**49.9**	**13.68**	**26.9**

NEB on I-85 Segment 38981				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,027	60.0	10.87	10.9
Summary	**4,027.0**	**60.0**	**10.87**	**10.9**

NEB on I-85 Segment 39080				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,028	60.2	13.97	12.6

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

Summary	**4,028.0**	**60.2**	**13.97**	**12.6**
		WB on I-85 Segment 12006		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	10,402	58.3	7.10	26.1
Summary	**10,402.0**	**58.3**	**7.10**	**26.1**
		WB on I-85 Segment 39124		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	10,198	41.0	18.00	36.2
Summary	**10,198.0**	**41.0**	**18.00**	**36.2**
		SWB on I-85 Segment 39122		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,898	27.1	16.66	53.5
Summary	**9,898.0**	**27.1**	**16.66**	**53.5**
		SWB on I-85 Segment 11383		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,070	34.0	18.66	39.9
Summary	**9,070.0**	**34.0**	**18.66**	**39.9**
		SWB on I-85 Segment 39029		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,069	53.7	13.98	23.0
Summary	**7,069.0**	**53.7**	**13.98**	**23.0**
		SWB on I-85 Segment 11386		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,885	63.4	8.21	19.3
Summary	**5,885.0**	**63.4**	**8.21**	**19.3**
		SWB on I-85 Segment 39085		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

SWB on I-85 Segment 39085				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,868	64.7	7.14	18.6
Summary	**5,868.0**	**64.7**	**7.14**	**18.6**

SWB on I-85 Segment 11335				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,858	63.9	7.70	18.0
Summary	**5,858.0**	**63.9**	**7.70**	**18.0**

SWB on I-85 Segment 39084				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,802	51.7	17.90	24.5
Summary	**5,802.0**	**51.7**	**17.90**	**24.5**

SWB on Segment 39277				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,262	60.8	8.67	24.4
Summary	**8,262.0**	**60.8**	**8.67**	**24.4**

SWB on Segment 39377				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,255	61.3	7.18	22.5
Summary	**8,255.0**	**61.3**	**7.18**	**22.5**

SWB on Segment 39392				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,253	60.2	8.51	26.8
Summary	**8,253.0**	**60.2**	**8.51**	**26.8**

NEB on I-85 Segment 31411				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,968	57.0	12.01	15.1

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

Summary	**5,968.0**	**57.0**	**12.01**	**15.1**
		NEB on I-85 Segment 11979		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,640	60.4	9.28	12.7
Summary	**6,640.0**	**60.4**	**9.28**	**12.7**
		EB on I-85 Segment 11986		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,638	59.6	7.72	16.1
Summary	**6,638.0**	**59.6**	**7.72**	**16.1**
		EB on I-85 Segment 39123		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,641	50.4	11.03	18.9
Summary	**6,641.0**	**50.4**	**11.03**	**18.9**
		EB on I-85 Segment 39125		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,641	44.8	14.73	21.4
Summary	**6,641.0**	**44.8**	**14.73**	**21.4**
		NEB on Segment 39280		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,328	63.1	9.16	14.9
Summary	**5,328.0**	**63.1**	**9.16**	**14.9**
		NEB on Segment 39327		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,321	62.8	6.96	14.8
Summary	**5,321.0**	**62.8**	**6.96**	**14.8**
		NEB on I-85 Segment 11340		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

NEB on I-85 Segment 11340				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,056	51.4	12.52	17.2
Summary	**6,056.0**	**51.4**	**12.52**	**17.2**

NEB on I-85 Segment 11989				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,824	60.5	9.00	16.3
Summary	**5,824.0**	**60.5**	**9.00**	**16.3**

NEB on I-85 Segment 12004				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,813	48.9	23.61	22.5
Summary	**6,813.0**	**48.9**	**23.61**	**22.5**

NEB on I-85 Segment 39389				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,803	57.8	9.65	19.2
Summary	**6,803.0**	**57.8**	**9.65**	**19.2**

NEB on I-85 Segment 38976				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,806	52.5	9.70	22.5
Summary	**6,806.0**	**52.5**	**9.70**	**22.5**

NEB on I-85 Segment 39144				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,786	45.7	12.89	24.6
Summary	**6,786.0**	**45.7**	**12.89**	**24.6**

NEB on I-85 Segment 11991				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,787	51.2	13.69	23.2

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

Summary	**6,787.0**	**51.2**	**13.69**	**23.2**
		NEB on I-85 Segment 11996		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,089	62.4	7.55	16.0
Summary	**6,089.0**	**62.4**	**7.55**	**16.0**
		SWB on I-85 Segment 12232		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	10,192	56.0	7.69	26.8
Summary	**10,192.0**	**56.0**	**7.69**	**26.8**
		SWB on I-85 Segment 12234		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	10,166	52.6	9.31	28.1
Summary	**10,166.0**	**52.6**	**9.31**	**28.1**
		SWB on I-85 Segment 38975		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	10,038	38.3	14.99	37.9
Summary	**10,038.0**	**38.3**	**14.99**	**37.9**
		SWB on I-85 Segment 39143		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,968	35.1	14.29	41.0
Summary	**9,968.0**	**35.1**	**14.29**	**41.0**
		SWB on I-85 Segment 39142		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,959	52.7	11.17	25.7
Summary	**9,959.0**	**52.7**	**11.17**	**25.7**
		SWB on I-85 Segment 39141		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

SWB on I-85 Segment 39141				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,956	55.5	10.75	24.2
Summary	**9,956.0**	**55.5**	**10.75**	**24.2**

WB on I-85 Segment 12001				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,159	60.4	7.05	25.2
Summary	**9,159.0**	**60.4**	**7.05**	**25.2**

SWB on I-85 Segment 38972				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,781	60.4	7.15	24.8
Summary	**8,781.0**	**60.4**	**7.15**	**24.8**

SWB on I-85 Segment 20087				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,754	59.5	6.24	24.5
Summary	**8,754.0**	**59.5**	**6.24**	**24.5**

NEB on I-85 Segment 20090				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,069	57.1	10.79	18.2
Summary	**7,069.0**	**57.1**	**10.79**	**18.2**

NEB on I-85 Segment 15893				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,058	54.0	12.46	19.2
Summary	**7,058.0**	**54.0**	**12.46**	**19.2**

NEB on I-85 Segment 15895				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,545	60.7	9.09	18.6

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

Summary	**6,545.0**	**60.7**	**9.09**	**18.6**
		NEB on I-85 Segment 39345		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,539	62.0	7.08	17.6
Summary	**6,539.0**	**62.0**	**7.08**	**17.6**
		NEB on I-85 Segment 39206		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,536	61.3	7.86	22.5
Summary	**6,536.0**	**61.3**	**7.86**	**22.5**
		NEB on I-85 Segment 15898		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,014	59.5	8.39	16.8
Summary	**7,014.0**	**59.5**	**8.39**	**16.8**
		NEB on I-85 Segment 39351		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,999	50.7	13.26	20.2
Summary	**6,999.0**	**50.7**	**13.26**	**20.2**
		NEB on I-85 Segment 22009		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,494	55.4	12.33	19.4
Summary	**6,494.0**	**55.4**	**12.33**	**19.4**
		NEB on I-85 Segment 39219		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,485	54.3	12.86	17.1
Summary	**6,485.0**	**54.3**	**12.86**	**17.1**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

NEB on I-85 Segment 39220				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,483	56.6	12.51	17.7
Summary	**6,483.0**	**56.6**	**12.51**	**17.7**

NEB on I-85 Segment 15900				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,605	58.8	10.91	16.6
Summary	**5,605.0**	**58.8**	**10.91**	**16.6**

NEB on I-85 Segment 39346				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,585	55.1	12.63	15.0
Summary	**5,585.0**	**55.1**	**12.63**	**15.0**

NEB on I-85 Segment 15903				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,586	55.8	13.36	15.7
Summary	**5,586.0**	**55.8**	**13.36**	**15.7**

NEB on I-85 Segment 15905				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,316	62.0	10.20	10.5
Summary	**4,316.0**	**62.0**	**10.20**	**10.5**

NEB on I-85 Segment 15913				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,674	65.2	8.11	8.4
Summary	**2,674.0**	**65.2**	**8.11**	**8.4**

NEB on I-85 Segment 39334				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,666	64.4	7.76	8.2

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

Summary	**2,666.0**	**64.4**	**7.76**	**8.2**
		NEB on I-85 Segment 39289		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,658	63.5	8.33	8.8
Summary	**2,658.0**	**63.5**	**8.33**	**8.8**
		SWB on I-85 Segment 22007		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,738	23.2	15.10	61.2
Summary	**9,738.0**	**23.2**	**15.10**	**61.2**
		SWB on I-85 Segment 39350		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,681	33.8	16.79	41.3
Summary	**9,681.0**	**33.8**	**16.79**	**41.3**
		SWB on I-85 Segment 15931		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,837	59.0	9.77	26.1
Summary	**8,837.0**	**59.0**	**9.77**	**26.1**
		SWB on I-85 Segment 39205		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,822	61.5	7.22	23.7
Summary	**8,822.0**	**61.5**	**7.22**	**23.7**
		SWB on I-85 Segment 39195		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,802	54.4	11.75	29.7
Summary	**8,802.0**	**54.4**	**11.75**	**29.7**
		SWB on I-85 Segment 38961		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

SWB on I-85 Segment 38961				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,177	59.2	8.49	18.0
Summary	**8,177.0**	**59.2**	**8.49**	**18.0**

SWB on I-85 Segment 39235				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,168	55.5	9.88	21.3
Summary	**8,168.0**	**55.5**	**9.88**	**21.3**

SWB on I-85 Segment 15936				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,161	58.4	7.19	24.2
Summary	**8,161.0**	**58.4**	**7.19**	**24.2**

SWB on I-85 Segment 39234				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,139	52.7	16.21	26.2
Summary	**8,139.0**	**52.7**	**16.21**	**26.2**

SWB on I-85 Segment 39221				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,067	33.0	22.46	41.7
Summary	**8,067.0**	**33.0**	**22.46**	**41.7**

SWB on I-85 Segment 15941				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,075	26.7	20.72	92.2
Summary	**9,075.0**	**26.7**	**20.72**	**92.2**

SWB on I-85 Segment 39218				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,867	27.0	18.07	56.4

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

Summary	**8,867.0**	**27.0**	**18.07**	**56.4**
		SWB on I-85 Segment 16794		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,625	47.7	14.61	28.7
Summary	**9,625.0**	**47.7**	**14.61**	**28.7**
		SWB on I-85 Segment 39186		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,626	56.5	10.65	26.0
Summary	**9,626.0**	**56.5**	**10.65**	**26.0**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,374	60.8	6.24	17.8
Summary	**7,374.0**	**60.8**	**6.24**	**17.8**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,472	63.9	7.78	11.6
Summary	**4,472.0**	**63.9**	**7.78**	**11.6**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,455	60.6	10.74	10.8
Summary	**4,455.0**	**60.6**	**10.74**	**10.8**
		SWB on Segment 39290		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,144	60.7	7.70	16.9
Summary	**6,144.0**	**60.7**	**7.70**	**16.9**
		SWB on I-85 Segment 39287		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

SWB on I-85
Segment 39287

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,503	61.7	5.99	17.9
Summary	**5,503.0**	**61.7**	**5.99**	**17.9**

NEB on Segment 39291

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,463	58.5	12.78	10.7
Summary	**3,463.0**	**58.5**	**12.78**	**10.7**

NB on Segment 39320

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,451	57.9	12.21	9.2
Summary	**3,451.0**	**57.9**	**12.21**	**9.2**

NEB on Segment 39297

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,929	64.8	7.64	9.3
Summary	**2,929.0**	**64.8**	**7.64**	**9.3**

NB on Segment 39298

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,924	64.0	8.16	9.2
Summary	**2,924.0**	**64.0**	**8.16**	**9.2**

SWB on Segment 39317

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,404	63.3	6.91	17.2
Summary	**5,404.0**	**63.3**	**6.91**	**17.2**

SB on Segment 39292

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,414	63.2	6.14	17.3

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

Summary	**5,414.0**	**63.2**	**6.14**	**17.3**

SWB on Segment 39324

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,416	63.2	6.34	21.4
Summary	**5,416.0**	**63.2**	**6.34**	**21.4**

NEB on Segment 39300

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,196	60.3	9.57	9.1
Summary	**3,196.0**	**60.3**	**9.57**	**9.1**

NEB on Segment 39302

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,178	52.7	13.18	10.3
Summary	**3,178.0**	**52.7**	**13.18**	**10.3**

NEB on Segment 39304

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,664	63.9	8.41	8.4
Summary	**2,664.0**	**63.9**	**8.41**	**8.4**

SWB on Segment 39309

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,341	61.5	5.61	21.0
Summary	**6,341.0**	**61.5**	**5.61**	**21.0**

SWB on Segment 39312

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,356	60.6	5.46	21.1
Summary	**6,356.0**	**60.6**	**5.46**	**21.1**

SWB on Segment 39315

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: I-85

SWB on Segment 39315				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,032	58.6	9.01	23.9
Summary	**7,032.0**	**58.6**	**9.01**	**23.9**

SWB on Segment 39380				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,020	53.5	8.43	27.0
Summary	**7,020.0**	**53.5**	**8.43**	**27.0**

SWB on Segment 39381				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,010	41.0	12.27	34.3
Summary	**7,010.0**	**41.0**	**12.27**	**34.3**

SB on Segment 39358				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,986	46.5	13.53	25.8
Summary	**6,986.0**	**46.5**	**13.53**	**25.8**

SWB on I-85 Segment 15910				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,782	59.5	6.91	21.0
Summary	**5,782.0**	**59.5**	**6.91**	**21.0**

SWB on I-85 Segment 15911				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,778	60.5	6.30	22.4
Summary	**5,778.0**	**60.5**	**6.30**	**22.4**

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,504	21.4	12.51	68.0
Summary	**8,504.0**	**21.4**	**12.51**	**68.0**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,480	61.9	9.77	17.2
Summary	**6,480.0**	**61.9**	**9.77**	**17.2**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,457	61.9	7.28	17.6
Summary	**6,457.0**	**61.9**	**7.28**	**17.6**

SWB on SR 316 Segment 38954

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,835	66.3	7.04	14.0
Summary	**1,835.0**	**66.3**	**7.04**	**14.0**

EB on UNIVERSITY PKY Segment 15908

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,625	65.8	6.36	12.4
Summary	**1,625.0**	**65.8**	**6.36**	**12.4**

SWB on Segment 39333

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	127	72.0	7.43	1.9
Summary	**127.0**	**72.0**	**7.43**	**1.9**

EB on Segment 39359

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	264	68.5	7.74	3.8

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

Summary	**264.0**	**68.5**	**7.74**	**3.8**

SWB on Segment 39308

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,630	63.3	9.54	14.6
Summary	**4,630.0**	**63.3**	**9.54**	**14.6**

SWB on Segment 39329

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,632	55.4	13.57	15.1
Summary	**4,632.0**	**55.4**	**13.57**	**15.1**

NEB on Segment 39306

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,080	60.1	11.64	14.3
Summary	**5,080.0**	**60.1**	**11.64**	**14.3**

NEB on Segment 39390

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,066	61.9	7.71	15.9
Summary	**5,066.0**	**61.9**	**7.71**	**15.9**

NEB on Segment 39328

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,014	61.9	6.79	16.8
Summary	**5,014.0**	**61.9**	**6.79**	**16.8**

NEB on I-85 Segment 11344

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,088	63.6	7.32	16.4
Summary	**5,088.0**	**63.6**	**7.32**	**16.4**

NEB on I-85 Segment 11402

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

NEB on I-85 Segment 11402				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,306	62.0	7.14	17.0
Summary	**6,306.0**	**62.0**	**7.14**	**17.0**

SWB on I-85 Segment 11389				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,589	57.4	11.57	15.5
Summary	**5,589.0**	**57.4**	**11.57**	**15.5**

SWB on I-85 Segment 39349				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,583	60.6	9.39	17.6
Summary	**5,583.0**	**60.6**	**9.39**	**17.6**

SWB on I-85 Segment 11342				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,670	48.5	15.09	19.9
Summary	**6,670.0**	**48.5**	**15.09**	**19.9**

SWB on I-85 Segment 39352				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,655	50.8	14.33	19.2
Summary	**6,655.0**	**50.8**	**14.33**	**19.2**

NEB on I-85 Segment 38981				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,958	59.7	10.08	16.6
Summary	**5,958.0**	**59.7**	**10.08**	**16.6**

NEB on I-85 Segment 39080				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,956	58.9	12.50	18.2

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

Summary	**5,956.0**	**58.9**	**12.50**	**18.2**
		WB on I-85 Segment 12006		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,985	60.1	7.62	19.2
Summary	**7,985.0**	**60.1**	**7.62**	**19.2**
		WB on I-85 Segment 39124		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,955	54.5	9.03	21.1
Summary	**7,955.0**	**54.5**	**9.03**	**21.1**
		SWB on I-85 Segment 39122		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,897	51.1	11.52	22.2
Summary	**7,897.0**	**51.1**	**11.52**	**22.2**
		SWB on I-85 Segment 11383		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,222	52.8	12.95	20.2
Summary	**7,222.0**	**52.8**	**12.95**	**20.2**
		SWB on I-85 Segment 39029		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,187	57.3	11.86	16.3
Summary	**5,187.0**	**57.3**	**11.86**	**16.3**
		SWB on I-85 Segment 11386		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,970	63.7	8.87	12.3
Summary	**3,970.0**	**63.7**	**8.87**	**12.3**
		SWB on I-85 Segment 39085		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

SWB on I-85 Segment 39085				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,965	64.6	7.99	11.7
Summary	**3,965.0**	**64.6**	**7.99**	**11.7**

SWB on I-85 Segment 11335				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,960	64.3	7.88	12.1
Summary	**3,960.0**	**64.3**	**7.88**	**12.1**

SWB on I-85 Segment 39084				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,950	63.8	7.67	12.9
Summary	**3,950.0**	**63.8**	**7.67**	**12.9**

SWB on Segment 39277				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,890	60.4	10.78	17.8
Summary	**5,890.0**	**60.4**	**10.78**	**17.8**

SWB on Segment 39377				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,867	62.3	8.42	16.2
Summary	**5,867.0**	**62.3**	**8.42**	**16.2**

SWB on Segment 39392				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,870	62.4	8.85	18.4
Summary	**5,870.0**	**62.4**	**8.85**	**18.4**

NEB on I-85 Segment 31411				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,100	57.2	11.23	20.4

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

Summary	**8,100.0**	**57.2**	**11.23**	**20.4**
		NEB on I-85 Segment 11979		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,753	60.2	7.68	17.1
Summary	**8,753.0**	**60.2**	**7.68**	**17.1**
		EB on I-85 Segment 11986		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,742	58.6	7.63	21.3
Summary	**8,742.0**	**58.6**	**7.63**	**21.3**
		EB on I-85 Segment 39123		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,739	50.0	10.62	25.4
Summary	**8,739.0**	**50.0**	**10.62**	**25.4**
		EB on I-85 Segment 39125		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,749	43.4	15.16	29.1
Summary	**8,749.0**	**43.4**	**15.16**	**29.1**
		NEB on Segment 39280		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,539	20.6	11.96	67.3
Summary	**7,539.0**	**20.6**	**11.96**	**67.3**
		NEB on Segment 39327		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,537	15.8	10.70	82.5
Summary	**7,537.0**	**15.8**	**10.70**	**82.5**
		NEB on I-85 Segment 11340		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

NEB on I-85 Segment 11340				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,351	30.1	19.39	40.7
Summary	**8,351.0**	**30.1**	**19.39**	**40.7**

NEB on I-85 Segment 11989				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,777	59.8	8.99	21.7
Summary	**7,777.0**	**59.8**	**8.99**	**21.7**

NEB on I-85 Segment 12004				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,884	39.5	24.17	39.0
Summary	**8,884.0**	**39.5**	**24.17**	**39.0**

NEB on I-85 Segment 39389				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,896	55.3	10.00	26.8
Summary	**8,896.0**	**55.3**	**10.00**	**26.8**

NEB on I-85 Segment 38976				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,897	51.8	8.81	28.8
Summary	**8,897.0**	**51.8**	**8.81**	**28.8**

NEB on I-85 Segment 39144				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,899	42.4	11.68	34.8
Summary	**8,899.0**	**42.4**	**11.68**	**34.8**

NEB on I-85 Segment 11991				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,902	50.5	13.25	29.7

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

Summary	**8,902.0**	**50.5**	**13.25**	**29.7**
		NEB on I-85 Segment 11996		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,185	60.3	7.47	22.7
Summary	**8,185.0**	**60.3**	**7.47**	**22.7**
		SWB on I-85 Segment 12232		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,068	57.0	8.98	19.8
Summary	**8,068.0**	**57.0**	**8.98**	**19.8**
		SWB on I-85 Segment 12234		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,059	54.2	9.52	21.9
Summary	**8,059.0**	**54.2**	**9.52**	**21.9**
		SWB on I-85 Segment 38975		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,050	50.0	9.70	23.1
Summary	**8,050.0**	**50.0**	**9.70**	**23.1**
		SWB on I-85 Segment 39143		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,035	45.6	13.12	25.3
Summary	**8,035.0**	**45.6**	**13.12**	**25.3**
		SWB on I-85 Segment 39142		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,025	55.0	12.69	19.0
Summary	**8,025.0**	**55.0**	**12.69**	**19.0**
		SWB on I-85 Segment 39141		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

SWB on I-85 Segment 39141				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,021	57.6	11.70	18.4
Summary	**8,021.0**	**57.6**	**11.70**	**18.4**

WB on I-85 Segment 12001				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,120	62.1	7.32	19.4
Summary	**7,120.0**	**62.1**	**7.32**	**19.4**

SWB on I-85 Segment 38972				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,220	60.9	7.78	19.4
Summary	**7,220.0**	**60.9**	**7.78**	**19.4**

SWB on I-85 Segment 20087				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,215	60.1	7.12	20.2
Summary	**7,215.0**	**60.1**	**7.12**	**20.2**

NEB on I-85 Segment 20090				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	9,462	37.0	16.12	36.9
Summary	**9,462.0**	**37.0**	**16.12**	**36.9**

NEB on I-85 Segment 15893				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	9,450	50.0	12.36	27.5
Summary	**9,450.0**	**50.0**	**12.36**	**27.5**

NEB on I-85 Segment 15895				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,590	58.4	8.73	25.4

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

Summary	**8,590.0**	**58.4**	**8.73**	**25.4**
		NEB on I-85 Segment 39345		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,539	60.8	7.05	23.5
Summary	**8,539.0**	**60.8**	**7.05**	**23.5**
		NEB on I-85 Segment 39206		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,530	60.5	7.50	29.4
Summary	**8,530.0**	**60.5**	**7.50**	**29.4**
		NEB on I-85 Segment 15898		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	9,096	56.7	9.31	23.3
Summary	**9,096.0**	**56.7**	**9.31**	**23.3**
		NEB on I-85 Segment 39351		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	9,089	44.7	14.21	29.2
Summary	**9,089.0**	**44.7**	**14.21**	**29.2**
		NEB on I-85 Segment 22009		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,180	55.5	11.06	24.9
Summary	**8,180.0**	**55.5**	**11.06**	**24.9**
		NEB on I-85 Segment 39219		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,174	54.7	11.94	22.2
Summary	**8,174.0**	**54.7**	**11.94**	**22.2**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

NEB on I-85 Segment 39220				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,166	56.6	11.72	22.0
Summary	**8,166.0**	**56.6**	**11.72**	**22.0**

NEB on I-85 Segment 15900				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,318	59.7	9.45	20.7
Summary	**7,318.0**	**59.7**	**9.45**	**20.7**

NEB on I-85 Segment 39346				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,282	57.0	10.39	18.6
Summary	**7,282.0**	**57.0**	**10.39**	**18.6**

NEB on I-85 Segment 15903				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,276	58.4	10.95	19.0
Summary	**7,276.0**	**58.4**	**10.95**	**19.0**

NEB on I-85 Segment 15905				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,275	61.2	9.67	15.1
Summary	**6,275.0**	**61.2**	**9.67**	**15.1**

NEB on I-85 Segment 15913				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,621	63.8	6.89	14.7
Summary	**4,621.0**	**63.8**	**6.89**	**14.7**

NEB on I-85 Segment 39334				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,610	62.4	6.92	15.3

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

Summary	**4,610.0**	**62.4**	**6.92**	**15.3**
		NEB on I-85 Segment 39289		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,601	61.9	6.85	14.7
Summary	**4,601.0**	**61.9**	**6.85**	**14.7**
		SWB on I-85 Segment 22007		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,320	57.0	9.71	21.0
Summary	**8,320.0**	**57.0**	**9.71**	**21.0**
		SWB on I-85 Segment 39350		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,319	46.3	14.28	25.9
Summary	**8,319.0**	**46.3**	**14.28**	**25.9**
		SWB on I-85 Segment 15931		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,307	60.5	8.72	20.9
Summary	**7,307.0**	**60.5**	**8.72**	**20.9**
		SWB on I-85 Segment 39205		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,296	61.9	7.22	20.2
Summary	**7,296.0**	**61.9**	**7.22**	**20.2**
		SWB on I-85 Segment 39195		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,302	58.1	9.29	22.6
Summary	**7,302.0**	**58.1**	**9.29**	**22.6**
		SWB on I-85 Segment 38961		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

SWB on I-85 Segment 38961				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,069	58.5	9.95	15.1
Summary	**6,069.0**	**58.5**	**9.95**	**15.1**

SWB on I-85 Segment 39235				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,068	53.1	12.60	16.7
Summary	**6,068.0**	**53.1**	**12.60**	**16.7**

SWB on I-85 Segment 15936				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,069	58.4	9.10	17.1
Summary	**6,069.0**	**58.4**	**9.10**	**17.1**

SWB on I-85 Segment 39234				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,063	61.2	7.68	16.7
Summary	**6,063.0**	**61.2**	**7.68**	**16.7**

SWB on I-85 Segment 39221				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,067	48.8	15.97	21.0
Summary	**6,067.0**	**48.8**	**15.97**	**21.0**

SWB on I-85 Segment 15941				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,197	26.5	19.04	75.0
Summary	**7,197.0**	**26.5**	**19.04**	**75.0**

SWB on I-85 Segment 39218				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,193	57.0	11.32	21.2

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

Summary	**7,193.0**	**57.0**	**11.32**	**21.2**
		SWB on I-85 Segment 16794		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,038	51.9	13.05	22.0
Summary	**8,038.0**	**51.9**	**13.05**	**22.0**
		SWB on I-85 Segment 39186		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,034	54.5	12.24	22.0
Summary	**8,034.0**	**54.5**	**12.24**	**22.0**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,381	61.8	6.99	12.8
Summary	**5,381.0**	**61.8**	**6.99**	**12.8**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,586	62.6	6.67	17.3
Summary	**6,586.0**	**62.6**	**6.67**	**17.3**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,558	60.1	9.17	16.5
Summary	**6,558.0**	**60.1**	**9.17**	**16.5**
		SWB on Segment 39290		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,787	63.2	7.74	10.2
Summary	**3,787.0**	**63.2**	**7.74**	**10.2**
		SWB on I-85 Segment 39287		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

SWB on I-85 Segment 39287				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,422	63.0	7.03	11.1
Summary	**3,422.0**	**63.0**	**7.03**	**11.1**

NEB on Segment 39291				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,281	56.2	11.24	16.1
Summary	**5,281.0**	**56.2**	**11.24**	**16.1**

NB on Segment 39320				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,266	57.3	11.33	14.2
Summary	**5,266.0**	**57.3**	**11.33**	**14.2**

NEB on Segment 39297				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,690	63.3	6.76	15.1
Summary	**4,690.0**	**63.3**	**6.76**	**15.1**

NB on Segment 39298				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,673	62.5	7.13	15.2
Summary	**4,673.0**	**62.5**	**7.13**	**15.2**

SWB on Segment 39317				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,123	65.9	8.03	9.7
Summary	**3,123.0**	**65.9**	**8.03**	**9.7**

SB on Segment 39292				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,125	65.3	7.63	9.6

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

Summary	**3,125.0**	**65.3**	**7.63**	**9.6**

SWB on Segment 39324

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,125	65.2	7.77	11.8
Summary	**3,125.0**	**65.2**	**7.77**	**11.8**

NEB on Segment 39300

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,181	58.4	9.35	15.2
Summary	**5,181.0**	**58.4**	**9.35**	**15.2**

NEB on Segment 39302

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,133	52.9	12.91	16.6
Summary	**5,133.0**	**52.9**	**12.91**	**16.6**

NEB on Segment 39304

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,501	63.0	7.40	14.6
Summary	**4,501.0**	**63.0**	**7.40**	**14.6**

SWB on Segment 39309

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,408	64.5	6.73	10.8
Summary	**3,408.0**	**64.5**	**6.73**	**10.8**

SWB on Segment 39312

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,405	63.5	6.45	10.8
Summary	**3,405.0**	**63.5**	**6.45**	**10.8**

SWB on Segment 39315

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: I-85

SWB on Segment 39315				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,241	62.0	9.11	12.2
Summary	**4,241.0**	**62.0**	**9.11**	**12.2**

SWB on Segment 39380				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,246	56.9	9.40	15.1
Summary	**4,246.0**	**56.9**	**9.40**	**15.1**

SWB on Segment 39381				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,261	50.5	11.35	17.3
Summary	**4,261.0**	**50.5**	**11.35**	**17.3**

SB on Segment 39358				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,261	51.9	14.16	14.1
Summary	**4,261.0**	**51.9**	**14.16**	**14.1**

SWB on I-85 Segment 15910				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,548	62.4	7.62	11.4
Summary	**3,548.0**	**62.4**	**7.62**	**11.4**

SWB on I-85 Segment 15911				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,546	62.0	6.82	12.5
Summary	**3,546.0**	**62.0**	**6.82**	**12.5**

APPENDIX F – 2011 & 2031 No-Build TransModeler Simulation Results

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,217	47.7	5.77	22.0
Summary	**6,217.0**	**47.7**	**5.77**	**22.0**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,462	38.0	13.07	34.0
Summary	**8,462.0**	**38.0**	**13.07**	**34.0**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,412	44.5	5.13	31.6
Summary	**8,412.0**	**44.5**	**5.13**	**31.6**

NEB on Segment 39327

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,499	46.8	5.77	20.3
Summary	**5,499.0**	**46.8**	**5.77**	**20.3**

NEB on I-85
Segment 11340

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,164	39.9	11.46	26.3
Summary	**6,164.0**	**39.9**	**11.46**	**26.3**

SWB on Segment 39277

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,550	47.7	6.24	28.9
Summary	**7,550.0**	**47.7**	**6.24**	**28.9**

SWB on Segment 39392

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,543	45.2	7.57	28.3

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,543.0**	**45.2**	**7.57**	**28.3**

SWB on Segment 39438

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	602	46.4	5.79	13.3
Summary	**602.0**	**46.4**	**5.79**	**13.3**

EB on Segment 39441

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	74	50.8	7.31	1.5
Summary	**74.0**	**50.8**	**7.31**	**1.5**

SWB on I-85 Segment 39466

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,442	43.7	9.33	31.3
Summary	**7,442.0**	**43.7**	**9.33**	**31.3**

NEB on I-85 Segment 11344

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,446	49.3	6.54	18.1
Summary	**3,446.0**	**49.3**	**6.54**	**18.1**

NEB on I-85 Segment 11402

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,632	48.5	5.77	19.4
Summary	**4,632.0**	**48.5**	**5.77**	**19.4**

SWB on I-85 Segment 11389

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,963	36.4	12.88	34.9
Summary	**5,963.0**	**36.4**	**12.88**	**34.9**

SWB on I-85 Segment 39349

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85 Segment 39349				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,900	35.1	14.53	36.0
Summary	**5,900.0**	**35.1**	**14.53**	**36.0**

SWB on I-85 Segment 11342				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,501	19.8	15.53	152.8
Summary	**7,501.0**	**19.8**	**15.53**	**152.8**

SWB on I-85 Segment 31407				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,455	23.1	14.27	56.0
Summary	**7,455.0**	**23.1**	**14.27**	**56.0**

NEB on I-85 Segment 38981				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,183	48.9	7.48	17.2
Summary	**4,183.0**	**48.9**	**7.48**	**17.2**

NEB on I-85 Segment 39080				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,183	48.8	7.32	23.8
Summary	**4,183.0**	**48.8**	**7.32**	**23.8**

SWB on I-85 Segment 39435				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,410	48.3	6.40	20.1
Summary	**4,410.0**	**48.3**	**6.40**	**20.1**

SWB on I-85 Segment 39439				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,777	48.2	7.36	20.0

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**3,777.0**	**48.2**	**7.36**	**20.0**
		SWB on I-85 Segment 39399		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,510	47.3	6.56	23.7
Summary	**6,510.0**	**47.3**	**6.56**	**23.7**
		SWB on I-85 Segment 11383		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,065	45.9	8.16	22.2
Summary	**6,065.0**	**45.9**	**8.16**	**22.2**
		SWB on I-85 Segment 39029		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,555	47.8	7.04	19.6
Summary	**4,555.0**	**47.8**	**7.04**	**19.6**
		SWB on I-85 Segment 39084		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,775	49.6	6.61	21.6
Summary	**3,775.0**	**49.6**	**6.61**	**21.6**
		EB on I-85 Segment 39125		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,202	44.9	5.60	27.3
Summary	**7,202.0**	**44.9**	**5.60**	**27.3**
		NEB on I-85 Segment 31411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,514	44.5	7.87	25.0
Summary	**6,514.0**	**44.5**	**7.87**	**25.0**
		NEB on I-85 Segment 11979		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on I-85
Segment 11979

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,188	41.9	8.38	28.1
Summary	**7,188.0**	**41.9**	**8.38**	**28.1**

EB on I-85
Segment 39412

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,319	42.6	8.14	25.1
Summary	**7,319.0**	**42.6**	**8.14**	**25.1**

WB on I-85
Segment 39431

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,208	20.0	16.94	53.1
Summary	**7,208.0**	**20.0**	**16.94**	**53.1**

SWB on Segment 39440

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	636	51.7	6.34	12.6
Summary	**636.0**	**51.7**	**6.34**	**12.6**

NEB on I-85
Segment 11989

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,166	45.3	7.87	27.7
Summary	**6,166.0**	**45.3**	**7.87**	**27.7**

SWB on I-85
Segment 39142

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,197	13.0	14.38	70.3
Summary	**6,197.0**	**13.0**	**14.38**	**70.3**

SWB on I-85
Segment 39141

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,165	13.2	14.44	99.2

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**6,165.0**	**13.2**	**14.44**	**99.2**
		WB on I-85 Segment 12001		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,323	11.2	12.20	100.1
Summary	**5,323.0**	**11.2**	**12.20**	**100.1**
		NEB on I-85 Segment 12004		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,199	34.6	14.16	50.3
Summary	**7,199.0**	**34.6**	**14.16**	**50.3**
		WB on I-85 Segment 39122		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,477	14.4	14.63	78.7
Summary	**6,477.0**	**14.4**	**14.63**	**78.7**
		NEB on Segment 39414		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	221	47.6	7.36	4.8
Summary	**221.0**	**47.6**	**7.36**	**4.8**
		EB on I-85 Segment 39415		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,080	36.9	13.48	33.0
Summary	**7,080.0**	**36.9**	**13.48**	**33.0**
		SWB on I-85 Segment 39427		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,237	12.4	12.07	86.5
Summary	**6,237.0**	**12.4**	**12.07**	**86.5**
		WB on Segment 39428		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

WB on Segment 39428

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	896	14.7	15.18	67.4
Summary	**896.0**	**14.7**	**15.18**	**67.4**

NEB on I-85
Segment 11996

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,387	47.2	5.60	27.8
Summary	**6,387.0**	**47.2**	**5.60**	**27.8**

SWB on I-85
Segment 38975

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,735	13.5	14.90	86.6
Summary	**6,735.0**	**13.5**	**14.90**	**86.6**

NEB on I-85
Segment 38976

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,207	44.8	6.22	33.1
Summary	**7,207.0**	**44.8**	**6.22**	**33.1**

SWB on I-85
Segment 16794

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,102	20.2	17.39	59.9
Summary	**7,102.0**	**20.2**	**17.39**	**59.9**

SWB on I-85
Segment 38972

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,687	15.7	17.21	78.4
Summary	**5,687.0**	**15.7**	**17.21**	**78.4**

NEB on I-85
Segment 39417

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,389	43.6	6.80	29.1

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,389.0**	**43.6**	**6.80**	**29.1**
		SWB on I-85 Segment 39425		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,454	12.9	13.23	89.7
Summary	**7,454.0**	**12.9**	**13.23**	**89.7**
		NEB on Segment 39420		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	255	47.7	6.77	5.4
Summary	**255.0**	**47.7**	**6.77**	**5.4**
		NEB on I-85 Segment 39419		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,093	38.8	11.12	37.8
Summary	**7,093.0**	**38.8**	**11.12**	**37.8**
		SWB on Segment 39429		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,003	33.1	15.23	30.8
Summary	**1,003.0**	**33.1**	**15.23**	**30.8**
		SWB on Segment 39422		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,078	41.1	7.87	27.1
Summary	**1,078.0**	**41.1**	**7.87**	**27.1**
		NEB on I-85 Segment 15893		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,342	40.0	11.12	31.4
Summary	**7,342.0**	**40.0**	**11.12**	**31.4**
		NEB on I-85 Segment 15895		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on I-85
Segment 15895

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,794	47.5	5.65	34.0
Summary	**6,794.0**	**47.5**	**5.65**	**34.0**

NEB on I-85
Segment 39206

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,719	46.2	6.35	34.8
Summary	**6,719.0**	**46.2**	**6.35**	**34.8**

NEB on I-85
Segment 15898

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,125	43.3	8.41	28.2
Summary	**7,125.0**	**43.3**	**8.41**	**28.2**

SWB on I-85
Segment 15931

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,627	19.5	16.52	104.6
Summary	**6,627.0**	**19.5**	**16.52**	**104.6**

SWB on I-85
Segment 39195

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,379	15.8	11.59	86.2
Summary	**6,379.0**	**15.8**	**11.59**	**86.2**

SWB on I-85
Segment 39186

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,063	20.0	19.31	74.8
Summary	**7,063.0**	**20.0**	**19.31**	**74.8**

SWB on I-85
Segment 39205

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,501	18.0	14.22	72.8

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,501.0**	**18.0**	**14.22**	**72.8**
		NEB on I-85 Segment 39345		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,002	46.0	5.76	26.9
Summary	**7,002.0**	**46.0**	**5.76**	**26.9**
		NEB on Segment 39421		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	276	48.5	7.25	5.7
Summary	**276.0**	**48.5**	**7.25**	**5.7**
		NEB on I-85 Segment 22009		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,613	40.3	10.79	33.6
Summary	**6,613.0**	**40.3**	**10.79**	**33.6**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,602	48.2	5.94	27.6
Summary	**6,602.0**	**48.2**	**5.94**	**27.6**
		NEB on I-85 Segment 15900		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,999	48.6	6.34	21.2
Summary	**5,999.0**	**48.6**	**6.34**	**21.2**
		SWB on I-85 Segment 39402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,324	19.6	14.76	65.3
Summary	**7,324.0**	**19.6**	**14.76**	**65.3**
		SWB on I-85 Segment 15941		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85 Segment 15941				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,127	17.9	11.76	81.5
Summary	**7,127.0**	**17.9**	**11.76**	**81.5**

SWB on I-85 Segment 39218				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,835	19.6	13.67	72.8
Summary	**6,835.0**	**19.6**	**13.67**	**72.8**

NEB on I-85 Segment 39447				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,871	48.6	6.17	26.6
Summary	**6,871.0**	**48.6**	**6.17**	**26.6**

NEB on Segment 39411				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	280	47.8	7.94	6.0
Summary	**280.0**	**47.8**	**7.94**	**6.0**

SWB on I-85 Segment 39423				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,414	15.2	10.58	92.1
Summary	**6,414.0**	**15.2**	**10.58**	**92.1**

NEB on I-85 Segment 15903				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,946	46.7	8.05	19.0
Summary	**5,946.0**	**46.7**	**8.05**	**19.0**

SWB on I-85 Segment 38961				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,049	13.5	13.30	84.7

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,049.0**	**13.5**	**13.30**	**84.7**
		SWB on I-85 Segment 39235		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,981	14.4	11.95	84.8
Summary	**6,981.0**	**14.4**	**11.95**	**84.8**
		SWB on I-85 Segment 39221		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,894	18.0	11.83	83.4
Summary	**6,894.0**	**18.0**	**11.83**	**83.4**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,599	24.1	18.85	48.6
Summary	**6,599.0**	**24.1**	**18.85**	**48.6**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,587	49.2	6.22	18.6
Summary	**4,587.0**	**49.2**	**6.22**	**18.6**
		NEB on Segment 39445		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	187	51.2	7.37	3.8
Summary	**187.0**	**51.2**	**7.37**	**3.8**
		SWB on Segment 39408		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	862	42.4	5.45	21.4
Summary	**862.0**	**42.4**	**5.45**	**21.4**
		NEB on I-85 Segment 39444		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on I-85
Segment 39444

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,757	49.4	7.29	25.8
Summary	**5,757.0**	**49.4**	**7.29**	**25.8**

SWB on I-85
Segment 39465

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,595	18.4	13.61	72.8
Summary	**7,595.0**	**18.4**	**13.61**	**72.8**

SWB on Segment 39333

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	233	48.6	7.84	4.7
Summary	**233.0**	**48.6**	**7.84**	**4.7**

EB on Segment 39359

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	74	53.3	7.39	1.4
Summary	**74.0**	**53.3**	**7.39**	**1.4**

NEB on I-85
Segment 39449

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,728	48.9	7.35	11.2
Summary	**2,728.0**	**48.9**	**7.35**	**11.2**

NEB on I-85
Segment 15905

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,548	49.5	7.44	16.5
Summary	**4,548.0**	**49.5**	**7.44**	**16.5**

NEB on I-85
Segment 39334

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,626	50.0	7.85	13.6

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**2,626.0**	**50.0**	**7.85**	**13.6**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,572	47.1	8.25	16.6
Summary	**4,572.0**	**47.1**	**8.25**	**16.6**
		SWB on Segment 39290		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,640	47.0	6.24	24.2
Summary	**5,640.0**	**47.0**	**6.24**	**24.2**
		SWB on I-85 Segment 15911		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,996	46.9	5.44	27.0
Summary	**4,996.0**	**46.9**	**5.44**	**27.0**
		NEB on Segment 39397		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	113	51.1	7.81	2.2
Summary	**113.0**	**51.1**	**7.81**	**2.2**
		SWB on Segment 39464		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	652	44.0	5.82	15.0
Summary	**652.0**	**44.0**	**5.82**	**15.0**
		NEB on Segment 39291		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,450	46.2	9.53	17.3
Summary	**3,450.0**	**46.2**	**9.53**	**17.3**
		NB on Segment 39320		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NB on Segment 39320

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,430	48.5	7.98	11.8
Summary	**3,430.0**	**48.5**	**7.98**	**11.8**

NEB on Segment 39297

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,918	48.9	7.56	15.6
Summary	**2,918.0**	**48.9**	**7.56**	**15.6**

NB on Segment 39298

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,980	48.7	7.68	12.9
Summary	**2,980.0**	**48.7**	**7.68**	**12.9**

SB on Segment 39324

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,879	50.1	5.19	25.6
Summary	**4,879.0**	**50.1**	**5.19**	**25.6**

NEB on Segment 39451

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	80	48.8	8.75	1.7
Summary	**80.0**	**48.8**	**8.75**	**1.7**

NEB on I-85 Segment 39452

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,635	48.8	7.69	14.8
Summary	**2,635.0**	**48.8**	**7.69**	**14.8**

SB on Segment 39462

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,540	47.3	5.31	23.8

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**5,540.0**	**47.3**	**5.31**	**23.8**

SWB on Segment 39459

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	669	44.9	5.71	15.2
Summary	**669.0**	**44.9**	**5.71**	**15.2**

SWB on Segment 39463

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,880	48.1	4.76	30.5
Summary	**4,880.0**	**48.1**	**4.76**	**30.5**

NEB on Segment 39300

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,252	48.3	7.55	12.2
Summary	**3,252.0**	**48.3**	**7.55**	**12.2**

NEB on Segment 39302

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,117	48.1	8.72	13.3
Summary	**3,117.0**	**48.1**	**8.72**	**13.3**

NEB on Segment 39304

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,613	48.3	8.22	13.8
Summary	**2,613.0**	**48.3**	**8.22**	**13.8**

SWB on Segment 39315

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,485	29.0	14.72	50.2
Summary	**6,485.0**	**29.0**	**14.72**	**50.2**

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,467	26.1	11.07	62.2
Summary	**6,467.0**	**26.1**	**11.07**	**62.2**

SWB on Segment 39406

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,481	26.1	9.17	62.9
Summary	**6,481.0**	**26.1**	**9.17**	**62.9**

SB on Segment 39358

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,481	42.3	9.56	32.1
Summary	**6,481.0**	**42.3**	**9.56**	**32.1**

SWB on Segment 39405

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	362	48.4	6.73	7.6
Summary	**362.0**	**48.4**	**6.73**	**7.6**

NEB on Segment 39455

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	93	50.7	7.77	1.9
Summary	**93.0**	**50.7**	**7.77**	**1.9**

SWB on Segment 39456

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,464	42.5	9.76	31.2
Summary	**6,464.0**	**42.5**	**9.76**	**31.2**

SWB on Segment 39308

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,349	47.5	5.67	31.4

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,349.0**	**47.5**	**5.67**	**31.4**

NEB on Segment 39328

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,143	48.4	7.50	12.9
Summary	**3,143.0**	**48.4**	**7.50**	**12.9**

NEB on Segment 39306

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,078	39.1	17.97	17.7
Summary	**3,078.0**	**39.1**	**17.97**	**17.7**

NEB on Segment 39390

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,064	47.8	8.75	17.0
Summary	**3,064.0**	**47.8**	**8.75**	**17.0**

SWB on Segment 39329

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,984	46.9	4.33	33.1
Summary	**6,984.0**	**46.9**	**4.33**	**33.1**

SWB on Segment 39312

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,141	46.6	3.81	33.5
Summary	**6,141.0**	**46.6**	**3.81**	**33.5**

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,212	15.0	7.12	81.6
Summary	**7,212.0**	**15.0**	**7.12**	**81.6**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,332	45.9	8.70	22.2
Summary	**6,332.0**	**45.9**	**8.70**	**22.2**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,313	46.2	5.67	22.7
Summary	**6,313.0**	**46.2**	**5.67**	**22.7**

SWB on SR 316 Segment 38954

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,041	50.3	6.00	20.6
Summary	**2,041.0**	**50.3**	**6.00**	**20.6**

EB on UNIVERSITY PKY Segment 15908

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,746	50.5	5.36	17.2
Summary	**1,746.0**	**50.5**	**5.36**	**17.2**

SWB on Segment 39333

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	128	49.7	7.74	2.7
Summary	**128.0**	**49.7**	**7.74**	**2.7**

EB on Segment 39359

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	140	50.1	6.55	2.7

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**140.0**	**50.1**	**6.55**	**2.7**
		SWB on Segment 39308		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,767	50.2	7.03	19.1
Summary	**4,767.0**	**50.2**	**7.03**	**19.1**
		NEB on I-85 Segment 11344		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,088	48.9	6.22	21.5
Summary	**4,088.0**	**48.9**	**6.22**	**21.5**
		NEB on I-85 Segment 11402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,322	47.7	5.33	23.0
Summary	**5,322.0**	**47.7**	**5.33**	**23.0**
		SWB on I-85 Segment 11389		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,234	46.4	8.12	22.7
Summary	**5,234.0**	**46.4**	**8.12**	**22.7**
		SWB on I-85 Segment 39349		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,214	48.2	7.18	23.9
Summary	**5,214.0**	**48.2**	**7.18**	**23.9**
		SWB on I-85 Segment 11342		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,351	49.0	7.89	51.4
Summary	**6,351.0**	**49.0**	**7.89**	**51.4**
		SWB on I-85 Segment 31407		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 31407				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,339	38.1	12.40	27.6
Summary	**6,339.0**	**38.1**	**12.40**	**27.6**

NEB on I-85 Segment 38981				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,842	49.1	7.59	19.5
Summary	**4,842.0**	**49.1**	**7.59**	**19.5**

NEB on I-85 Segment 39080				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,842	49.2	7.05	26.7
Summary	**4,842.0**	**49.2**	**7.05**	**26.7**

SWB on I-85 Segment 11383				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,084	46.1	8.18	22.5
Summary	**6,084.0**	**46.1**	**8.18**	**22.5**

SWB on I-85 Segment 39029				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,309	48.1	7.12	19.2
Summary	**4,309.0**	**48.1**	**7.12**	**19.2**

SWB on I-85 Segment 39084				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,220	50.0	6.72	18.6
Summary	**3,220.0**	**50.0**	**6.72**	**18.6**

SWB on I-85 Segment 39466				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,333	43.8	9.13	25.7

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**6,333.0**	**43.8**	**9.13**	**25.7**
		NEB on Segment 39327		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,377	12.7	6.82	85.2
Summary	**6,377.0**	**12.7**	**6.82**	**85.2**
		NEB on I-85 Segment 11340		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,866	26.9	16.53	43.9
Summary	**6,866.0**	**26.9**	**16.53**	**43.9**
		NEB on I-85 Segment 11989		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,658	43.8	9.61	30.9
Summary	**6,658.0**	**43.8**	**9.61**	**30.9**
		NEB on I-85 Segment 11996		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,786	36.6	14.76	38.3
Summary	**6,786.0**	**36.6**	**14.76**	**38.3**
		SWB on I-85 Segment 38975		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,665	46.2	5.09	29.2
Summary	**7,665.0**	**46.2**	**5.09**	**29.2**
		WB on I-85 Segment 12001		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,295	25.8	17.64	51.8
Summary	**6,295.0**	**25.8**	**17.64**	**51.8**
		NEB on I-85 Segment 12004		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on I-85 Segment 12004				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,681	30.3	14.64	63.0
Summary	**7,681.0**	**30.3**	**14.64**	**63.0**

NEB on I-85 Segment 38976				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,681	44.6	6.55	35.2
Summary	**7,681.0**	**44.6**	**6.55**	**35.2**

WB on I-85 Segment 39122				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,995	17.5	14.43	69.1
Summary	**6,995.0**	**17.5**	**14.43**	**69.1**

NEB on I-85 Segment 15893				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,074	28.7	15.02	48.5
Summary	**8,074.0**	**28.7**	**15.02**	**48.5**

NEB on I-85 Segment 15895				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,375	47.6	5.57	38.9
Summary	**7,375.0**	**47.6**	**5.57**	**38.9**

NEB on I-85 Segment 15898				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,016	42.1	8.99	32.4
Summary	**8,016.0**	**42.1**	**8.99**	**32.4**

NEB on I-85 Segment 22009				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,208	45.3	7.25	32.6

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**7,208.0**	**45.3**	**7.25**	**32.6**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,196	47.8	5.78	29.2
Summary	**7,196.0**	**47.8**	**5.78**	**29.2**
		NEB on I-85 Segment 15900		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,136	47.4	5.76	25.0
Summary	**7,136.0**	**47.4**	**5.76**	**25.0**
		NEB on I-85 Segment 15903		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,084	45.6	6.89	23.3
Summary	**7,084.0**	**45.6**	**6.89**	**23.3**
		NEB on I-85 Segment 15905		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,821	48.9	7.28	20.8
Summary	**5,821.0**	**48.9**	**7.28**	**20.8**
		NEB on I-85 Segment 39334		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,022	49.5	6.56	21.3
Summary	**4,022.0**	**49.5**	**6.56**	**21.3**
		SWB on I-85 Segment 39402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,896	43.8	8.43	30.7
Summary	**7,896.0**	**43.8**	**8.43**	**30.7**
		SWB on I-85 Segment 15931		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 15931				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,846	47.6	6.06	45.3
Summary	**6,846.0**	**47.6**	**6.06**	**45.3**

SWB on I-85 Segment 38961				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,167	32.3	15.06	26.8
Summary	**6,167.0**	**32.3**	**15.06**	**26.8**

SWB on I-85 Segment 39235				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,176	25.3	15.20	41.5
Summary	**6,176.0**	**25.3**	**15.20**	**41.5**

SWB on I-85 Segment 39221				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,182	41.0	10.41	33.4
Summary	**6,182.0**	**41.0**	**10.41**	**33.4**

SWB on I-85 Segment 15941				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,821	26.2	15.01	55.6
Summary	**6,821.0**	**26.2**	**15.01**	**55.6**

SWB on I-85 Segment 39218				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,802	47.7	6.10	29.2
Summary	**6,802.0**	**47.7**	**6.10**	**29.2**

SWB on I-85 Segment 16794				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,620	42.0	10.09	30.3

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**7,620.0**	**42.0**	**10.09**	**30.3**
		SWB on I-85 Segment 39186		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,613	47.0	6.80	35.4
Summary	**7,613.0**	**47.0**	**6.80**	**35.4**
		NEB on I-85 Segment 31411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,113	44.8	7.09	27.1
Summary	**7,113.0**	**44.8**	**7.09**	**27.1**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,462	46.1	6.71	20.5
Summary	**5,462.0**	**46.1**	**6.71**	**20.5**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,880	48.4	5.48	24.2
Summary	**5,880.0**	**48.4**	**5.48**	**24.2**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,837	44.9	8.74	22.8
Summary	**5,837.0**	**44.9**	**8.74**	**22.8**
		SWB on I-85 Segment 38972		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,798	46.5	5.18	30.1
Summary	**6,798.0**	**46.5**	**5.18**	**30.1**
		SWB on Segment 39277		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on Segment 39277

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,743	49.2	7.82	19.2
Summary	**5,743.0**	**49.2**	**7.82**	**19.2**

SWB on Segment 39392

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,703	48.1	6.27	21.0
Summary	**5,703.0**	**48.1**	**6.27**	**21.0**

SWB on Segment 39290

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,835	49.2	6.48	15.9
Summary	**3,835.0**	**49.2**	**6.48**	**15.9**

SWB on I-85 Segment 15911

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,423	48.3	5.98	17.8
Summary	**3,423.0**	**48.3**	**5.98**	**17.8**

NEB on Segment 39291

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,754	45.4	8.98	24.2
Summary	**4,754.0**	**45.4**	**8.98**	**24.2**

NB on Segment 39320

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,723	47.9	7.07	16.4
Summary	**4,723.0**	**47.9**	**7.07**	**16.4**

NEB on Segment 39297

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,203	48.6	6.80	22.8

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**4,203.0**	**48.6**	**6.80**	**22.8**
SB on Segment 39324				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,147	50.9	6.44	16.0
Summary	**3,147.0**	**50.9**	**6.44**	**16.0**
NEB on Segment 39300				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,950	48.0	7.13	17.4
Summary	**4,950.0**	**48.0**	**7.13**	**17.4**
NEB on Segment 39304				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,102	46.6	8.38	22.4
Summary	**4,102.0**	**46.6**	**8.38**	**22.4**
NEB on Segment 39306				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,695	32.6	18.30	32.8
Summary	**4,695.0**	**32.6**	**18.30**	**32.8**
NEB on Segment 39390				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,678	46.8	7.99	26.3
Summary	**4,678.0**	**46.8**	**7.99**	**26.3**
SWB on Segment 39312				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,363	50.1	5.38	17.0
Summary	**3,363.0**	**50.1**	**5.38**	**17.0**
SWB on Segment 39315				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on Segment 39315

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,261	48.2	6.27	22.0
Summary	**4,261.0**	**48.2**	**6.27**	**22.0**

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,246	48.2	6.00	23.1
Summary	**4,246.0**	**48.2**	**6.00**	**23.1**

SWB on Segment 39406

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,249	44.5	7.88	23.7
Summary	**4,249.0**	**44.5**	**7.88**	**23.7**

SB on Segment 39358

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,235	45.3	8.56	19.7
Summary	**4,235.0**	**45.3**	**8.56**	**19.7**

NEB on I-85 Segment 11979

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,806	42.2	7.95	30.0
Summary	**7,806.0**	**42.2**	**7.95**	**30.0**

NEB on Segment 39328

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,939	48.1	6.13	20.6
Summary	**4,939.0**	**48.1**	**6.13**	**20.6**

SWB on I-85 Segment 39399

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,712	47.2	6.77	24.4

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**6,712.0**	**47.2**	**6.77**	**24.4**
		EB on I-85 Segment 39125		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,830	44.6	5.19	29.7
Summary	**7,830.0**	**44.6**	**5.19**	**29.7**
		NEB on Segment 39302		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,609	47.2	7.77	20.2
Summary	**4,609.0**	**47.2**	**7.77**	**20.2**
		SWB on Segment 39329		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,580	49.9	5.76	20.8
Summary	**4,580.0**	**49.9**	**5.76**	**20.8**
		SWB on Segment 39405		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	185	50.4	7.97	3.8
Summary	**185.0**	**50.4**	**7.97**	**3.8**
		SWB on Segment 39440		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	504	53.4	6.14	9.6
Summary	**504.0**	**53.4**	**6.14**	**9.6**
		EB on Segment 39441		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	306	44.0	6.69	6.9
Summary	**306.0**	**44.0**	**6.69**	**6.9**
		NEB on Segment 39455		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on Segment 39455

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	297	46.3	6.63	6.7
Summary	**297.0**	**46.3**	**6.63**	**6.7**

SWB on Segment 39456

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,546	48.3	5.51	14.7
Summary	**3,546.0**	**48.3**	**5.51**	**14.7**

NEB on I-85 Segment 39449

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,277	47.8	6.77	18.3
Summary	**4,277.0**	**47.8**	**6.77**	**18.3**

NB on Segment 39298

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,431	47.6	6.76	20.1
Summary	**4,431.0**	**47.6**	**6.76**	**20.1**

NEB on Segment 39397

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	261	47.4	6.26	5.6
Summary	**261.0**	**47.4**	**6.26**	**5.6**

NEB on Segment 39445

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	412	47.9	7.33	8.8
Summary	**412.0**	**47.9**	**7.33**	**8.8**

NEB on Segment 39451

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	228	48.4	7.56	4.7

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**228.0**	**48.4**	**7.56**	**4.7**
		NEB on I-85 Segment 39452		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,034	48.2	6.83	22.1
Summary	**4,034.0**	**48.2**	**6.83**	**22.1**
		SB on Segment 39462		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,309	49.4	6.23	13.7
Summary	**3,309.0**	**49.4**	**6.23**	**13.7**
		SWB on Segment 39459		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	153	50.6	7.57	3.1
Summary	**153.0**	**50.6**	**7.57**	**3.1**
		SWB on Segment 39463		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,135	49.1	6.08	20.3
Summary	**3,135.0**	**49.1**	**6.08**	**20.3**
		SWB on Segment 39464		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	172	50.1	7.29	3.6
Summary	**172.0**	**50.1**	**7.29**	**3.6**
		SWB on Segment 39422		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	384	47.1	6.76	8.3
Summary	**384.0**	**47.1**	**6.76**	**8.3**
		NEB on Segment 39421		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on Segment 39421

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	614	45.7	6.08	15.1
Summary	**614.0**	**45.7**	**6.08**	**15.1**

NEB on I-85 Segment 39206

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,504	45.7	5.12	40.5
Summary	**7,504.0**	**45.7**	**5.12**	**40.5**

NEB on I-85 Segment 39447

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,804	47.5	6.47	29.3
Summary	**7,804.0**	**47.5**	**6.47**	**29.3**

NEB on Segment 39411

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	618	45.4	6.06	13.2
Summary	**618.0**	**45.4**	**6.06**	**13.2**

SWB on Segment 39408

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	297	47.7	7.47	6.0
Summary	**297.0**	**47.7**	**7.47**	**6.0**

NEB on I-85 Segment 39345

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,120	45.2	5.49	31.0
Summary	**8,120.0**	**45.2**	**5.49**	**31.0**

SWB on I-85 Segment 39423

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,045	21.8	14.31	61.3

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**6,045.0**	**21.8**	**14.31**	**61.3**
		NEB on I-85 Segment 39444		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,663	49.0	6.08	26.8
Summary	**6,663.0**	**49.0**	**6.08**	**26.8**
		SWB on I-85 Segment 39465		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,451	33.0	14.78	34.3
Summary	**6,451.0**	**33.0**	**14.78**	**34.3**
		SWB on I-85 Segment 39142		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,426	47.6	6.89	22.8
Summary	**7,426.0**	**47.6**	**6.89**	**22.8**
		SWB on I-85 Segment 39195		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,907	41.0	10.03	36.5
Summary	**6,907.0**	**41.0**	**10.03**	**36.5**
		SWB on I-85 Segment 39205		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,219	46.1	5.80	26.5
Summary	**7,219.0**	**46.1**	**5.80**	**26.5**
		NEB on I-85 Segment 39417		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,343	44.9	5.33	32.0
Summary	**8,343.0**	**44.9**	**5.33**	**32.0**
		SWB on I-85 Segment 39425		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85
Segment 39425

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,919	45.0	6.17	26.2
Summary	**7,919.0**	**45.0**	**6.17**	**26.2**

NEB on Segment 39414

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	670	45.3	5.87	15.6
Summary	**670.0**	**45.3**	**5.87**	**15.6**

NEB on Segment 39420

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	788	43.5	5.32	18.7
Summary	**788.0**	**43.5**	**5.32**	**18.7**

NEB on I-85
Segment 39419

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,499	39.6	10.61	39.1
Summary	**7,499.0**	**39.6**	**10.61**	**39.1**

SWB on Segment 39429

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	296	46.9	7.04	6.5
Summary	**296.0**	**46.9**	**7.04**	**6.5**

SWB on I-85
Segment 39427

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,434	39.3	11.31	33.0
Summary	**7,434.0**	**39.3**	**11.31**	**33.0**

SWB on I-85
Segment 39141

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,416	47.1	6.49	30.8

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**7,416.0**	**47.1**	**6.49**	**30.8**
		SWB on I-85 Segment 39435		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,713	47.6	7.31	15.9
Summary	**3,713.0**	**47.6**	**7.31**	**15.9**
		EB on I-85 Segment 39412		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,151	41.8	9.16	28.5
Summary	**8,151.0**	**41.8**	**9.16**	**28.5**
		EB on I-85 Segment 39415		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,498	35.3	14.38	36.8
Summary	**7,498.0**	**35.3**	**14.38**	**36.8**
		WB on I-85 Segment 39431		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,266	22.1	17.08	48.2
Summary	**7,266.0**	**22.1**	**17.08**	**48.2**
		WB on Segment 39428		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	431	45.8	6.38	9.6
Summary	**431.0**	**45.8**	**6.38**	**9.6**
		SWB on Segment 39438		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	146	50.2	6.96	3.1
Summary	**146.0**	**50.2**	**6.96**	**3.1**
		SWB on I-85 Segment 39439		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 39439				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,542	49.4	6.46	19.3
Summary	**3,542.0**	**49.4**	**6.46**	**19.3**

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,067	14.8	6.60	80.1
Summary	**7,067.0**	**14.8**	**6.60**	**80.1**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,379	30.7	14.70	47.1
Summary	**9,379.0**	**30.7**	**14.70**	**47.1**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,303	44.0	5.15	35.5
Summary	**9,303.0**	**44.0**	**5.15**	**35.5**

NEB on Segment 39327

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,272	13.2	7.45	82.0
Summary	**6,272.0**	**13.2**	**7.45**	**82.0**

NEB on I-85 Segment 11340

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,832	26.3	16.51	44.0
Summary	**6,832.0**	**26.3**	**16.51**	**44.0**

SWB on Segment 39277

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,302	46.5	5.37	33.8
Summary	**8,302.0**	**46.5**	**5.37**	**33.8**

SWB on Segment 39392

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,301	43.5	8.40	32.5

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**8,301.0**	**43.5**	**8.40**	**32.5**
		SWB on Segment 39438		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	760	43.3	6.11	17.5
Summary	**760.0**	**43.3**	**6.11**	**17.5**
		EB on Segment 39441		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	188	45.9	6.77	4.0
Summary	**188.0**	**45.9**	**6.77**	**4.0**
		SWB on I-85 Segment 39466		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,997	42.8	9.35	34.1
Summary	**7,997.0**	**42.8**	**9.35**	**34.1**
		NEB on I-85 Segment 11344		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,746	50.0	6.21	19.1
Summary	**3,746.0**	**50.0**	**6.21**	**19.1**
		NEB on I-85 Segment 11402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,073	47.9	5.82	21.8
Summary	**5,073.0**	**47.9**	**5.82**	**21.8**
		SWB on I-85 Segment 11389		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,274	34.9	11.88	39.1
Summary	**6,274.0**	**34.9**	**11.88**	**39.1**
		SWB on I-85 Segment 39349		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85 Segment 39349				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,255	27.6	15.65	47.8
Summary	**6,255.0**	**27.6**	**15.65**	**47.8**

SWB on I-85 Segment 11342				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,038	16.9	13.09	184.1
Summary	**8,038.0**	**16.9**	**13.09**	**184.1**

SWB on I-85 Segment 31407				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,017	22.0	13.26	60.9
Summary	**8,017.0**	**22.0**	**13.26**	**60.9**

NEB on I-85 Segment 38981				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,606	49.4	7.23	18.8
Summary	**4,606.0**	**49.4**	**7.23**	**18.8**

NEB on I-85 Segment 39080				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,608	48.9	7.49	24.1
Summary	**4,608.0**	**48.9**	**7.49**	**24.1**

SWB on I-85 Segment 39435				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,845	47.5	6.71	21.0
Summary	**4,845.0**	**47.5**	**6.71**	**21.0**

SWB on I-85 Segment 39439				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,078	47.7	7.53	23.0

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**4,078.0**	**47.7**	**7.53**	**23.0**
		SWB on I-85 Segment 39399		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,727	47.3	6.43	24.3
Summary	**6,727.0**	**47.3**	**6.43**	**24.3**
		SWB on I-85 Segment 11383		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,342	45.9	7.63	23.7
Summary	**6,342.0**	**45.9**	**7.63**	**23.7**
		SWB on I-85 Segment 39029		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,882	47.1	7.21	22.2
Summary	**4,882.0**	**47.1**	**7.21**	**22.2**
		SWB on I-85 Segment 39084		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,150	48.2	6.08	24.0
Summary	**4,150.0**	**48.2**	**6.08**	**24.0**
		EB on I-85 Segment 39125		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,714	42.6	8.68	30.7
Summary	**7,714.0**	**42.6**	**8.68**	**30.7**
		NEB on I-85 Segment 31411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,923	39.7	12.51	29.8
Summary	**6,923.0**	**39.7**	**12.51**	**29.8**
		NEB on I-85 Segment 11979		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on I-85 Segment 11979				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,686	37.3	12.24	32.6
Summary	**7,686.0**	**37.3**	**12.24**	**32.6**

EB on I-85 Segment 39412				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,935	28.7	14.33	39.8
Summary	**7,935.0**	**28.7**	**14.33**	**39.8**

WB on I-85 Segment 39431				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,449	19.3	16.31	56.2
Summary	**7,449.0**	**19.3**	**16.31**	**56.2**

SWB on Segment 39440				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	696	49.7	6.04	13.9
Summary	**696.0**	**49.7**	**6.04**	**13.9**

NEB on I-85 Segment 11989				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,747	43.8	8.98	31.4
Summary	**6,747.0**	**43.8**	**8.98**	**31.4**

SWB on I-85 Segment 39142				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,084	11.1	12.01	80.8
Summary	**6,084.0**	**11.1**	**12.01**	**80.8**

SWB on I-85 Segment 39141				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,057	11.2	12.32	109.3

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**6,057.0**	**11.2**	**12.32**	**109.3**
		WB on I-85 Segment 12001		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,246	9.7	10.15	113.7
Summary	**5,246.0**	**9.7**	**10.15**	**113.7**
		NEB on I-85 Segment 12004		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,769	30.5	14.64	63.5
Summary	**7,769.0**	**30.5**	**14.64**	**63.5**
		WB on I-85 Segment 39122		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,631	13.3	13.14	86.6
Summary	**6,631.0**	**13.3**	**13.14**	**86.6**
		NEB on Segment 39414		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	365	45.7	7.27	8.0
Summary	**365.0**	**45.7**	**7.27**	**8.0**
		EB on I-85 Segment 39415		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,638	33.6	15.15	39.2
Summary	**7,638.0**	**33.6**	**15.15**	**39.2**
		SWB on I-85 Segment 39427		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,122	10.7	9.66	97.2
Summary	**6,122.0**	**10.7**	**9.66**	**97.2**
		WB on Segment 39428		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

WB on Segment 39428

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	919	12.2	12.92	83.8
Summary	**919.0**	**12.2**	**12.92**	**83.8**

NEB on I-85
Segment 11996

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,987	30.0	15.28	48.0
Summary	**6,987.0**	**30.0**	**15.28**	**48.0**

SWB on I-85
Segment 38975

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,393	10.7	12.37	106.6
Summary	**6,393.0**	**10.7**	**12.37**	**106.6**

NEB on I-85
Segment 38976

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,761	43.7	6.97	36.1
Summary	**7,761.0**	**43.7**	**6.97**	**36.1**

SWB on I-85
Segment 16794

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,432	14.3	15.78	75.8
Summary	**6,432.0**	**14.3**	**15.78**	**75.8**

SWB on I-85
Segment 38972

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,195	11.5	14.87	96.4
Summary	**5,195.0**	**11.5**	**14.87**	**96.4**

NEB on I-85
Segment 39417

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,125	35.4	11.95	39.8

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**8,125.0**	**35.4**	**11.95**	**39.8**
		SWB on I-85 Segment 39425		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,353	10.4	10.01	108.3
Summary	**7,353.0**	**10.4**	**10.01**	**108.3**
		NEB on Segment 39420		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	361	45.0	6.67	7.9
Summary	**361.0**	**45.0**	**6.67**	**7.9**
		NEB on I-85 Segment 39419		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,734	33.3	12.48	47.5
Summary	**7,734.0**	**33.3**	**12.48**	**47.5**
		SWB on Segment 39429		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,129	15.2	13.54	82.8
Summary	**1,129.0**	**15.2**	**13.54**	**82.8**
		SWB on Segment 39422		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,307	39.0	7.36	33.9
Summary	**1,307.0**	**39.0**	**7.36**	**33.9**
		NEB on I-85 Segment 15893		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,088	31.2	14.40	44.3
Summary	**8,088.0**	**31.2**	**14.40**	**44.3**
		NEB on I-85 Segment 15895		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on I-85 Segment 15895				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,496	47.2	4.73	37.8
Summary	**7,496.0**	**47.2**	**4.73**	**37.8**

NEB on I-85 Segment 39206				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,430	44.8	5.89	41.9
Summary	**7,430.0**	**44.8**	**5.89**	**41.9**

NEB on I-85 Segment 15898				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,987	34.0	12.28	39.6
Summary	**7,987.0**	**34.0**	**12.28**	**39.6**

SWB on I-85 Segment 15931				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,895	12.1	10.86	152.4
Summary	**5,895.0**	**12.1**	**10.86**	**152.4**

SWB on I-85 Segment 39195				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,583	11.3	9.84	104.9
Summary	**5,583.0**	**11.3**	**9.84**	**104.9**

SWB on I-85 Segment 39186				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,394	13.8	17.12	94.5
Summary	**6,394.0**	**13.8**	**17.12**	**94.5**

SWB on I-85 Segment 39205				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,982	12.9	11.32	93.4

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**6,982.0**	**12.9**	**11.32**	**93.4**
		NEB on I-85 Segment 39345		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,849	45.6	5.03	29.7
Summary	**7,849.0**	**45.6**	**5.03**	**29.7**
		NEB on Segment 39421		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	413	47.7	6.59	9.5
Summary	**413.0**	**47.7**	**6.59**	**9.5**
		NEB on I-85 Segment 22009		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,445	32.8	12.57	45.9
Summary	**7,445.0**	**32.8**	**12.57**	**45.9**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,440	47.6	6.27	32.2
Summary	**7,440.0**	**47.6**	**6.27**	**32.2**
		NEB on I-85 Segment 15900		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,906	47.3	5.84	24.4
Summary	**6,906.0**	**47.3**	**5.84**	**24.4**
		SWB on I-85 Segment 39402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,438	12.8	11.45	86.4
Summary	**6,438.0**	**12.8**	**11.45**	**86.4**
		SWB on I-85 Segment 15941		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85 Segment 15941				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,955	12.0	9.62	105.4
Summary	**5,955.0**	**12.0**	**9.62**	**105.4**

SWB on I-85 Segment 39218				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,674	11.8	10.05	100.5
Summary	**5,674.0**	**11.8**	**10.05**	**100.5**

NEB on I-85 Segment 39447				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,853	47.5	5.91	30.2
Summary	**7,853.0**	**47.5**	**5.91**	**30.2**

NEB on Segment 39411				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	415	47.3	7.22	8.8
Summary	**415.0**	**47.3**	**7.22**	**8.8**

SWB on I-85 Segment 39423				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,370	10.4	9.06	110.7
Summary	**5,370.0**	**10.4**	**9.06**	**110.7**

NEB on I-85 Segment 15903				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,865	46.1	7.52	22.3
Summary	**6,865.0**	**46.1**	**7.52**	**22.3**

SWB on I-85 Segment 38961				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,810	7.9	8.21	116.4

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**5,810.0**	**7.9**	**8.21**	**116.4**
		SWB on I-85 Segment 39235		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,745	8.7	8.12	113.7
Summary	**5,745.0**	**8.7**	**8.12**	**113.7**
		SWB on I-85 Segment 39221		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,660	11.1	8.67	109.9
Summary	**5,660.0**	**11.1**	**8.67**	**109.9**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,576	8.7	9.30	112.3
Summary	**5,576.0**	**8.7**	**9.30**	**112.3**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,331	48.8	5.62	21.0
Summary	**5,331.0**	**48.8**	**5.62**	**21.0**
		NEB on Segment 39445		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	203	47.7	7.97	4.1
Summary	**203.0**	**47.7**	**7.97**	**4.1**
		SWB on Segment 39408		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,247	38.4	6.02	32.5
Summary	**1,247.0**	**38.4**	**6.02**	**32.5**
		NEB on I-85 Segment 39444		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on I-85 Segment 39444				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,663	48.0	6.54	30.5
Summary	**6,663.0**	**48.0**	**6.54**	**30.5**

SWB on I-85 Segment 39465				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,768	12.5	11.52	96.0
Summary	**6,768.0**	**12.5**	**11.52**	**96.0**

SWB on Segment 39333				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	425	46.0	7.76	9.4
Summary	**425.0**	**46.0**	**7.76**	**9.4**

EB on Segment 39359				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	93	49.8	7.47	1.8
Summary	**93.0**	**49.8**	**7.47**	**1.8**

NEB on I-85 Segment 39449				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,157	47.9	6.86	13.3
Summary	**3,157.0**	**47.9**	**6.86**	**13.3**

NEB on I-85 Segment 15905				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,274	48.4	7.65	18.5
Summary	**5,274.0**	**48.4**	**7.65**	**18.5**

NEB on I-85 Segment 39334				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,054	49.7	7.07	15.9

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**3,054.0**	**49.7**	**7.07**	**15.9**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,300	45.9	8.39	20.4
Summary	**5,300.0**	**45.9**	**8.39**	**20.4**
		SWB on Segment 39290		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,649	46.4	6.31	24.3
Summary	**5,649.0**	**46.4**	**6.31**	**24.3**
		SWB on I-85 Segment 15911		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,743	29.5	19.27	42.1
Summary	**4,743.0**	**29.5**	**19.27**	**42.1**
		NEB on Segment 39397		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	105	49.5	8.41	2.2
Summary	**105.0**	**49.5**	**8.41**	**2.2**
		SWB on Segment 39464		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	831	42.1	6.07	19.9
Summary	**831.0**	**42.1**	**6.07**	**19.9**
		NEB on Segment 39291		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,986	46.0	9.59	18.2
Summary	**3,986.0**	**46.0**	**9.59**	**18.2**
		NB on Segment 39320		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NB on Segment 39320

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,982	47.5	8.32	14.8
Summary	**3,982.0**	**47.5**	**8.32**	**14.8**

NEB on Segment 39297

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,365	48.9	6.90	17.8
Summary	**3,365.0**	**48.9**	**6.90**	**17.8**

NB on Segment 39298

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,452	47.8	6.85	14.8
Summary	**3,452.0**	**47.8**	**6.85**	**14.8**

SB on Segment 39324

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,774	49.8	5.32	24.8
Summary	**4,774.0**	**49.8**	**5.32**	**24.8**

NEB on Segment 39451

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	84	49.1	8.67	1.7
Summary	**84.0**	**49.1**	**8.67**	**1.7**

NEB on I-85 Segment 39452

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,061	48.4	7.26	17.2
Summary	**3,061.0**	**48.4**	**7.26**	**17.2**

SB on Segment 39462

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,581	47.0	5.34	24.2

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**5,581.0**	**47.0**	**5.34**	**24.2**

SWB on Segment 39459

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	802	43.8	6.12	17.9
Summary	**802.0**	**43.8**	**6.12**	**17.9**

SWB on Segment 39463

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,760	48.0	4.23	31.6
Summary	**4,760.0**	**48.0**	**4.23**	**31.6**

NEB on Segment 39300

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,770	48.1	6.93	14.4
Summary	**3,770.0**	**48.1**	**6.93**	**14.4**

NEB on Segment 39302

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,618	47.4	8.10	15.5
Summary	**3,618.0**	**47.4**	**8.10**	**15.5**

NEB on Segment 39304

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,039	47.1	8.79	16.2
Summary	**3,039.0**	**47.1**	**8.79**	**16.2**

SWB on Segment 39315

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,296	17.1	8.31	81.1
Summary	**6,296.0**	**17.1**	**8.31**	**81.1**

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,264	20.4	6.02	77.7
Summary	**6,264.0**	**20.4**	**6.02**	**77.7**

SWB on Segment 39406

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,282	23.8	8.26	66.8
Summary	**6,282.0**	**23.8**	**8.26**	**66.8**

SB on Segment 39358

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,269	41.7	9.88	31.3
Summary	**6,269.0**	**41.7**	**9.88**	**31.3**

SWB on Segment 39405

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	974	45.0	5.46	22.4
Summary	**974.0**	**45.0**	**5.46**	**22.4**

NEB on Segment 39455

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	134	49.2	7.08	2.7
Summary	**134.0**	**49.2**	**7.08**	**2.7**

SWB on Segment 39456

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,297	16.6	9.73	78.0
Summary	**6,297.0**	**16.6**	**9.73**	**78.0**

SWB on Segment 39308

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,326	24.0	12.31	62.1

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,326.0**	**24.0**	**12.31**	**62.1**

NEB on Segment 39328

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,714	48.6	6.90	15.0
Summary	**3,714.0**	**48.6**	**6.90**	**15.0**

NEB on Segment 39306

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,567	33.3	19.58	27.6
Summary	**3,567.0**	**33.3**	**19.58**	**27.6**

NEB on Segment 39390

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,583	47.4	8.53	19.4
Summary	**3,583.0**	**47.4**	**8.53**	**19.4**

SWB on Segment 39329

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,294	20.5	12.88	68.0
Summary	**6,294.0**	**20.5**	**12.88**	**68.0**

SWB on Segment 39312

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,369	16.1	9.43	85.2
Summary	**5,369.0**	**16.1**	**9.43**	**85.2**

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,778	16.8	8.41	57.0
Summary	**3,778.0**	**16.8**	**8.41**	**57.0**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,303	46.1	8.44	17.2
Summary	**3,303.0**	**46.1**	**8.44**	**17.2**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,234	46.7	5.88	17.0
Summary	**3,234.0**	**46.7**	**5.88**	**17.0**

NEB on Segment 39327

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,379	16.5	11.78	65.6
Summary	**3,379.0**	**16.5**	**11.78**	**65.6**

NEB on I-85
Segment 11340

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,583	30.0	16.97	36.3
Summary	**3,583.0**	**30.0**	**16.97**	**36.3**

SWB on Segment 39277

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,972	48.2	6.46	31.2
Summary	**2,972.0**	**48.2**	**6.46**	**31.2**

SWB on Segment 39392

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,952	44.6	11.88	17.4

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**2,952.0**	**44.6**	**11.88**	**17.4**
		SWB on Segment 39438		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	87	49.2	7.71	2.9
Summary	**87.0**	**49.2**	**7.71**	**2.9**
		EB on Segment 39441		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	224	44.1	6.77	7.4
Summary	**224.0**	**44.1**	**6.77**	**7.4**
		SWB on I-85 Segment 39466		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,178	44.6	8.93	18.5
Summary	**3,178.0**	**44.6**	**8.93**	**18.5**
		NEB on I-85 Segment 11344		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,208	48.9	6.07	17.0
Summary	**2,208.0**	**48.9**	**6.07**	**17.0**
		NEB on I-85 Segment 11402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,894	47.5	5.63	18.9
Summary	**2,894.0**	**47.5**	**5.63**	**18.9**
		SWB on I-85 Segment 11389		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,588	47.5	7.25	73.6
Summary	**2,588.0**	**47.5**	**7.25**	**73.6**
		SWB on I-85 Segment 39349		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 39349				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,573	47.8	7.51	16.7
Summary	**2,573.0**	**47.8**	**7.51**	**16.7**

SWB on I-85 Segment 11342				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,206	47.6	9.06	37.3
Summary	**3,206.0**	**47.6**	**9.06**	**37.3**

SWB on I-85 Segment 31407				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,181	37.4	12.92	22.2
Summary	**3,181.0**	**37.4**	**12.92**	**22.2**

NEB on I-85 Segment 38981				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,569	49.3	7.54	15.5
Summary	**2,569.0**	**49.3**	**7.54**	**15.5**

NEB on I-85 Segment 39080				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,569	48.6	6.87	20.9
Summary	**2,569.0**	**48.6**	**6.87**	**20.9**

SWB on I-85 Segment 39435				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,772	48.1	7.45	12.0
Summary	**1,772.0**	**48.1**	**7.45**	**12.0**

SWB on I-85 Segment 39439				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,647	50.4	7.07	13.0

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**1,647.0**	**50.4**	**7.07**	**13.0**
		SWB on I-85 Segment 39399		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,351	47.1	6.98	23.1
Summary	**3,351.0**	**47.1**	**6.98**	**23.1**
		SWB on I-85 Segment 11383		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,015	45.9	8.35	17.9
Summary	**3,015.0**	**45.9**	**8.35**	**17.9**
		SWB on I-85 Segment 39029		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,071	47.8	7.11	18.5
Summary	**2,071.0**	**47.8**	**7.11**	**18.5**
		SWB on I-85 Segment 39084		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,559	50.0	6.72	27.6
Summary	**1,559.0**	**50.0**	**6.72**	**27.6**
		EB on I-85 Segment 39125		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,194	44.5	5.42	23.7
Summary	**4,194.0**	**44.5**	**5.42**	**23.7**
		NEB on I-85 Segment 31411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,798	44.8	7.46	26.7
Summary	**3,798.0**	**44.8**	**7.46**	**26.7**
		NEB on I-85 Segment 11979		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on I-85 Segment 11979				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,188	41.1	8.55	24.3
Summary	**4,188.0**	**41.1**	**8.55**	**24.3**

EB on I-85 Segment 39412				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,411	37.2	12.24	25.2
Summary	**4,411.0**	**37.2**	**12.24**	**25.2**

WB on I-85 Segment 39431				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,687	23.4	17.31	33.2
Summary	**3,687.0**	**23.4**	**17.31**	**33.2**

SWB on Segment 39440				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	228	52.7	6.71	6.7
Summary	**228.0**	**52.7**	**6.71**	**6.7**

NEB on I-85 Segment 11989				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,586	41.2	12.44	29.5
Summary	**3,586.0**	**41.2**	**12.44**	**29.5**

SWB on I-85 Segment 39142				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,921	47.0	6.75	18.7
Summary	**3,921.0**	**47.0**	**6.75**	**18.7**

SWB on I-85 Segment 39141				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,915	28.2	20.90	46.2

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**3,915.0**	**28.2**	**20.90**	**46.2**
		WB on I-85 Segment 12001		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,280	30.0	18.06	33.9
Summary	**3,280.0**	**30.0**	**18.06**	**33.9**
		NEB on I-85 Segment 12004		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,116	31.4	16.54	45.4
Summary	**4,116.0**	**31.4**	**16.54**	**45.4**
		WB on I-85 Segment 39122		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,623	23.5	17.09	40.9
Summary	**3,623.0**	**23.5**	**17.09**	**40.9**
		NEB on Segment 39414		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	379	44.1	5.94	12.8
Summary	**379.0**	**44.1**	**5.94**	**12.8**
		EB on I-85 Segment 39415		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,016	31.9	15.24	31.5
Summary	**4,016.0**	**31.9**	**15.24**	**31.5**
		SWB on I-85 Segment 39427		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,926	38.4	11.86	25.4
Summary	**3,926.0**	**38.4**	**11.86**	**25.4**
		WB on Segment 39428		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

WB on Segment 39428

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	204	44.6	6.69	7.1
Summary	**204.0**	**44.6**	**6.69**	**7.1**

NEB on I-85
Segment 11996

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,426	27.9	15.74	38.9
Summary	**3,426.0**	**27.9**	**15.74**	**38.9**

SWB on I-85
Segment 38975

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,090	46.3	5.03	22.9
Summary	**4,090.0**	**46.3**	**5.03**	**22.9**

NEB on I-85
Segment 38976

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,126	44.7	6.00	27.0
Summary	**4,126.0**	**44.7**	**6.00**	**27.0**

SWB on I-85
Segment 16794

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,048	41.0	10.71	23.8
Summary	**4,048.0**	**41.0**	**10.71**	**23.8**

SWB on I-85
Segment 38972

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,597	46.4	4.81	23.3
Summary	**3,597.0**	**46.4**	**4.81**	**23.3**

NEB on I-85
Segment 39417

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,466	43.9	5.22	25.6

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**4,466.0**	**43.9**	**5.22**	**25.6**
		SWB on I-85 Segment 39425		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,195	44.3	6.58	20.3
Summary	**4,195.0**	**44.3**	**6.58**	**20.3**
		NEB on Segment 39420		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	446	41.1	5.26	16.3
Summary	**446.0**	**41.1**	**5.26**	**16.3**
		NEB on I-85 Segment 39419		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,932	37.6	10.93	31.3
Summary	**3,932.0**	**37.6**	**10.93**	**31.3**
		SWB on Segment 39429		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	151	47.1	6.11	4.9
Summary	**151.0**	**47.1**	**6.11**	**4.9**
		SWB on Segment 39422		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	232	44.5	7.58	13.8
Summary	**232.0**	**44.5**	**7.58**	**13.8**
		NEB on I-85 Segment 15893		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,096	27.2	15.13	37.7
Summary	**4,096.0**	**27.2**	**15.13**	**37.7**
		NEB on I-85 Segment 15895		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on I-85 Segment 15895				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,771	47.4	5.69	28.0
Summary	**3,771.0**	**47.4**	**5.69**	**28.0**

NEB on I-85 Segment 39206				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,790	46.1	4.78	32.1
Summary	**3,790.0**	**46.1**	**4.78**	**32.1**

NEB on I-85 Segment 15898				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,020	40.3	10.73	24.8
Summary	**4,020.0**	**40.3**	**10.73**	**24.8**

SWB on I-85 Segment 15931				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,630	49.4	6.86	38.4
Summary	**3,630.0**	**49.4**	**6.86**	**38.4**

SWB on I-85 Segment 39195				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,650	39.1	10.71	29.8
Summary	**3,650.0**	**39.1**	**10.71**	**29.8**

SWB on I-85 Segment 39186				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,043	47.0	6.50	25.6
Summary	**4,043.0**	**47.0**	**6.50**	**25.6**

SWB on I-85 Segment 39205				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,840	46.1	5.60	20.5

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**3,840.0**	**46.1**	**5.60**	**20.5**
		NEB on I-85 Segment 39345		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,169	44.4	6.31	23.7
Summary	**4,169.0**	**44.4**	**6.31**	**23.7**
		NEB on Segment 39421		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	365	44.7	6.24	12.8
Summary	**365.0**	**44.7**	**6.24**	**12.8**
		NEB on I-85 Segment 22009		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,577	45.7	7.43	23.0
Summary	**3,577.0**	**45.7**	**7.43**	**23.0**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,572	48.5	5.62	22.5
Summary	**3,572.0**	**48.5**	**5.62**	**22.5**
		NEB on I-85 Segment 15900		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,585	47.1	6.10	21.3
Summary	**3,585.0**	**47.1**	**6.10**	**21.3**
		SWB on I-85 Segment 39402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,180	33.0	13.95	31.7
Summary	**4,180.0**	**33.0**	**13.95**	**31.7**
		SWB on I-85 Segment 15941		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 15941				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,720	37.0	16.65	73.9
Summary	**3,720.0**	**37.0**	**16.65**	**73.9**

SWB on I-85 Segment 39218				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,681	46.5	5.96	24.2
Summary	**3,681.0**	**46.5**	**5.96**	**24.2**

NEB on I-85 Segment 39447				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,930	47.6	6.18	22.1
Summary	**3,930.0**	**47.6**	**6.18**	**22.1**

NEB on Segment 39411				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	366	43.9	5.79	12.3
Summary	**366.0**	**43.9**	**5.79**	**12.3**

SWB on I-85 Segment 39423				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,320	22.0	14.03	47.3
Summary	**3,320.0**	**22.0**	**14.03**	**47.3**

NEB on I-85 Segment 15903				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,528	45.8	6.71	16.8
Summary	**3,528.0**	**45.8**	**6.71**	**16.8**

SWB on I-85 Segment 38961				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,410	22.0	15.82	36.3

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**3,410.0**	**22.0**	**15.82**	**36.3**
		SWB on I-85 Segment 39235		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,405	23.4	14.88	37.7
Summary	**3,405.0**	**23.4**	**14.88**	**37.7**
		SWB on I-85 Segment 39221		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,388	40.5	12.38	50.2
Summary	**3,388.0**	**40.5**	**12.38**	**50.2**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,035	41.3	11.81	17.8
Summary	**3,035.0**	**41.3**	**11.81**	**17.8**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,905	48.3	5.60	18.1
Summary	**2,905.0**	**48.3**	**5.60**	**18.1**
		NEB on Segment 39445		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	212	47.7	6.83	6.6
Summary	**212.0**	**47.7**	**6.83**	**6.6**
		SWB on Segment 39408		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	192	45.4	6.56	6.2
Summary	**192.0**	**45.4**	**6.56**	**6.2**
		NEB on I-85 Segment 39444		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on I-85 Segment 39444				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,303	48.0	6.74	21.3
Summary	**3,303.0**	**48.0**	**6.74**	**21.3**

SWB on I-85 Segment 39465				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,546	28.6	15.12	31.6
Summary	**3,546.0**	**28.6**	**15.12**	**31.6**

SWB on Segment 39333				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	91	49.6	7.88	2.7
Summary	**91.0**	**49.6**	**7.88**	**2.7**

EB on Segment 39359				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	60	50.6	8.14	1.9
Summary	**60.0**	**50.6**	**8.14**	**1.9**

NEB on I-85 Segment 39449				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,049	47.5	6.56	18.4
Summary	**2,049.0**	**47.5**	**6.56**	**18.4**

NEB on I-85 Segment 15905				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,830	49.2	6.99	15.1
Summary	**2,830.0**	**49.2**	**6.99**	**15.1**

NEB on I-85 Segment 39334				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,919	48.8	6.69	14.6

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**1,919.0**	**48.8**	**6.69**	**14.6**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,856	45.5	7.98	15.6
Summary	**2,856.0**	**45.5**	**7.98**	**15.6**
		SWB on Segment 39290		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,113	48.2	6.30	12.5
Summary	**2,113.0**	**48.2**	**6.30**	**12.5**
		SWB on I-85 Segment 15911		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,899	47.1	5.96	14.9
Summary	**1,899.0**	**47.1**	**5.96**	**14.9**
		NEB on Segment 39397		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	143	46.8	7.49	4.7
Summary	**143.0**	**46.8**	**7.49**	**4.7**
		SWB on Segment 39464		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	104	49.0	7.35	3.3
Summary	**104.0**	**49.0**	**7.35**	**3.3**
		NEB on Segment 39291		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,320	45.2	9.53	15.8
Summary	**2,320.0**	**45.2**	**9.53**	**15.8**
		NB on Segment 39320		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NB on Segment 39320

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,304	48.5	7.22	11.8
Summary	**2,304.0**	**48.5**	**7.22**	**11.8**

NEB on Segment 39297

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,101	47.9	6.62	16.2
Summary	**2,101.0**	**47.9**	**6.62**	**16.2**

NB on Segment 39298

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,210	47.9	6.74	14.2
Summary	**2,210.0**	**47.9**	**6.74**	**14.2**

SB on Segment 39324

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,756	49.5	6.11	13.8
Summary	**1,756.0**	**49.5**	**6.11**	**13.8**

NEB on Segment 39451

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	128	48.0	7.51	4.1
Summary	**128.0**	**48.0**	**7.51**	**4.1**

NEB on I-85 Segment 39452

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,914	48.0	7.15	16.3
Summary	**1,914.0**	**48.0**	**7.15**	**16.3**

SB on Segment 39462

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,838	48.3	5.90	11.0

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**1,838.0**	**48.3**	**5.90**	**11.0**
SWB on Segment 39459				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	85	50.2	8.34	2.4
Summary	**85.0**	**50.2**	**8.34**	**2.4**
SWB on Segment 39463				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,725	48.9	5.82	19.4
Summary	**1,725.0**	**48.9**	**5.82**	**19.4**
NEB on Segment 39300				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,486	47.2	6.79	13.9
Summary	**2,486.0**	**47.2**	**6.79**	**13.9**
NEB on Segment 39302				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,255	46.7	8.07	14.3
Summary	**2,255.0**	**46.7**	**8.07**	**14.3**
NEB on Segment 39304				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,944	46.2	8.72	16.0
Summary	**1,944.0**	**46.2**	**8.72**	**16.0**
SWB on Segment 39315				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,383	47.2	6.31	15.7
Summary	**2,383.0**	**47.2**	**6.31**	**15.7**
SWB on Segment 39381				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,374	46.7	4.86	19.4
Summary	**2,374.0**	**46.7**	**4.86**	**19.4**

SWB on Segment 39406

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,378	42.8	8.04	19.9
Summary	**2,378.0**	**42.8**	**8.04**	**19.9**

SB on Segment 39358

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,370	44.8	8.90	15.9
Summary	**2,370.0**	**44.8**	**8.90**	**15.9**

SWB on Segment 39405

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	85	50.1	8.96	2.6
Summary	**85.0**	**50.1**	**8.96**	**2.6**

NEB on Segment 39455

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	151	47.0	6.76	4.8
Summary	**151.0**	**47.0**	**6.76**	**4.8**

SWB on Segment 39456

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,986	47.6	5.32	12.3
Summary	**1,986.0**	**47.6**	**5.32**	**12.3**

SWB on Segment 39308

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,727	49.1	6.36	16.3

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**2,727.0**	**49.1**	**6.36**	**16.3**

NEB on Segment 39328

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,380	48.7	6.56	14.5
Summary	**2,380.0**	**48.7**	**6.56**	**14.5**

NEB on Segment 39306

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,278	29.6	19.58	28.7
Summary	**2,278.0**	**29.6**	**19.58**	**28.7**

NEB on Segment 39390

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,269	46.4	8.37	18.7
Summary	**2,269.0**	**46.4**	**8.37**	**18.7**

SWB on Segment 39329

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,637	49.1	5.52	16.9
Summary	**2,637.0**	**49.1**	**5.52**	**16.9**

SWB on Segment 39312

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,904	49.4	5.01	14.2
Summary	**1,904.0**	**49.4**	**5.01**	**14.2**

APPENDIX G – 2011 & 2031 Build TransModeler Simulation Results

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,115	63.1	7.17	16.6
Summary	**6,115.0**	**63.1**	**7.17**	**16.6**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,092	53.6	14.77	23.6
Summary	**8,092.0**	**53.6**	**14.77**	**23.6**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,930	58.4	7.22	23.2
Summary	**7,930.0**	**58.4**	**7.22**	**23.2**

SWB on SR 316 Segment 38954

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,209	64.8	6.69	17.3
Summary	**2,209.0**	**64.8**	**6.69**	**17.3**

EB on UNIVERSITY PKY Segment 15908

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,783	65.3	6.20	13.7
Summary	**1,783.0**	**65.3**	**6.20**	**13.7**

SWB on Segment 39333

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	44	71.5	9.40	0.7
Summary	**44.0**	**71.5**	**9.40**	**0.7**

EB on Segment 39359

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	27	71.8	6.85	0.4

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**27.0**	**71.8**	**6.85**	**0.4**
		SWB on Segment 39308		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,033	35.3	19.77	40.7
Summary	**7,033.0**	**35.3**	**19.77**	**40.7**
		NEB on I-85 Segment 11344		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,323	65.4	7.29	12.8
Summary	**3,323.0**	**65.4**	**7.29**	**12.8**
		NEB on I-85 Segment 11402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,441	64.0	7.10	14.3
Summary	**4,441.0**	**64.0**	**7.10**	**14.3**
		SWB on I-85 Segment 11389		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,234	20.7	13.56	67.7
Summary	**6,234.0**	**20.7**	**13.56**	**67.7**
		SWB on I-85 Segment 39349		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,122	20.5	14.03	63.8
Summary	**6,122.0**	**20.5**	**14.03**	**63.8**
		SWB on I-85 Segment 11342		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,717	17.7	14.91	177.2
Summary	**7,717.0**	**17.7**	**14.91**	**177.2**
		SWB on I-85 Segment 31407		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85 Segment 31407				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,602	33.3	19.65	39.9
Summary	**7,602.0**	**33.3**	**19.65**	**39.9**

NEB on I-85 Segment 38981				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,079	60.8	11.11	14.1
Summary	**4,079.0**	**60.8**	**11.11**	**14.1**

NEB on I-85 Segment 39080				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,077	60.1	13.24	20.6
Summary	**4,077.0**	**60.1**	**13.24**	**20.6**

SWB on I-85 Segment 11383				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,231	34.4	17.96	36.4
Summary	**7,231.0**	**34.4**	**17.96**	**36.4**

SWB on I-85 Segment 39029				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,594	54.3	13.12	22.0
Summary	**5,594.0**	**54.3**	**13.12**	**22.0**

SWB on I-85 Segment 39084				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,577	48.7	21.22	24.4
Summary	**4,577.0**	**48.7**	**21.22**	**24.4**

NEB on Segment 39327				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,386	62.5	6.09	15.2

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**5,386.0**	**62.5**	**6.09**	**15.2**
		NEB on I-85 Segment 11340		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,062	50.0	14.06	20.4
Summary	**6,062.0**	**50.0**	**14.06**	**20.4**
		NEB on I-85 Segment 11989		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,840	61.0	8.06	19.7
Summary	**5,840.0**	**61.0**	**8.06**	**19.7**
		NEB on I-85 Segment 11996		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,051	61.2	6.90	20.9
Summary	**6,051.0**	**61.2**	**6.90**	**20.9**
		WB on I-85 Segment 12001		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,067	61.1	7.31	24.2
Summary	**7,067.0**	**61.1**	**7.31**	**24.2**
		NEB on I-85 Segment 12004		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,859	56.6	13.02	30.4
Summary	**6,859.0**	**56.6**	**13.02**	**30.4**
		NEB on I-85 Segment 38976		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,743	59.4	7.09	23.5
Summary	**6,743.0**	**59.4**	**7.09**	**23.5**
		SWB on I-85 Segment 39122		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85 Segment 39122				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,056	55.8	12.96	25.2
Summary	**8,056.0**	**55.8**	**12.96**	**25.2**

SWB on I-85 Segment 12232				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,489	40.2	21.84	33.4
Summary	**8,489.0**	**40.2**	**21.84**	**33.4**

NEB on I-85 Segment 20090				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,005	46.4	15.61	24.9
Summary	**7,005.0**	**46.4**	**15.61**	**24.9**

NEB on I-85 Segment 15893				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,984	53.5	12.27	24.4
Summary	**6,984.0**	**53.5**	**12.27**	**24.4**

NEB on I-85 Segment 15895				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,472	60.3	8.27	26.8
Summary	**6,472.0**	**60.3**	**8.27**	**26.8**

NEB on I-85 Segment 15898				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,848	58.4	8.97	20.1
Summary	**6,848.0**	**58.4**	**8.97**	**20.1**

NEB on I-85 Segment 22009				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,385	47.9	15.14	27.3

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**6,385.0**	**47.9**	**15.14**	**27.3**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,353	53.7	12.93	22.2
Summary	**6,353.0**	**53.7**	**12.93**	**22.2**
		NEB on I-85 Segment 15900		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,484	59.3	10.14	18.0
Summary	**5,484.0**	**59.3**	**10.14**	**18.0**
		NEB on I-85 Segment 15903		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,418	55.2	12.88	16.9
Summary	**5,418.0**	**55.2**	**12.88**	**16.9**
		NEB on I-85 Segment 15905		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,291	62.7	9.23	12.1
Summary	**4,291.0**	**62.7**	**9.23**	**12.1**
		NEB on I-85 Segment 39334		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,448	64.7	8.42	9.8
Summary	**2,448.0**	**64.7**	**8.42**	**9.8**
		SWB on I-85 Segment 15931		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,374	35.7	23.46	56.6
Summary	**6,374.0**	**35.7**	**23.46**	**56.6**
		SWB on I-85 Segment 38961		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85
Segment 38961

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,066	10.8	11.30	87.0
Summary	**6,066.0**	**10.8**	**11.30**	**87.0**

SWB on I-85
Segment 39235

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,986	11.9	10.33	88.7
Summary	**5,986.0**	**11.9**	**10.33**	**88.7**

SWB on I-85
Segment 39221

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,700	14.2	9.76	84.7
Summary	**5,700.0**	**14.2**	**9.76**	**84.7**

SWB on I-85
Segment 15941

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,454	16.7	9.02	79.2
Summary	**6,454.0**	**16.7**	**9.02**	**79.2**

SWB on I-85
Segment 39218

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,213	17.3	12.50	75.3
Summary	**6,213.0**	**17.3**	**12.50**	**75.3**

SWB on I-85
Segment 16794

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,750	43.6	15.25	30.1
Summary	**7,750.0**	**43.6**	**15.25**	**30.1**

SWB on I-85
Segment 39186

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,737	56.2	10.49	28.9

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,737.0**	**56.2**	**10.49**	**28.9**
		NEB on I-85 Segment 31411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,313	58.6	11.00	18.9
Summary	**6,313.0**	**58.6**	**11.00**	**18.9**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,701	20.7	20.97	50.4
Summary	**5,701.0**	**20.7**	**20.97**	**50.4**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,340	64.6	7.59	13.9
Summary	**4,340.0**	**64.6**	**7.59**	**13.9**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,307	61.6	9.92	11.9
Summary	**4,307.0**	**61.6**	**9.92**	**11.9**
		SWB on I-85 Segment 38972		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,988	59.4	9.90	24.5
Summary	**6,988.0**	**59.4**	**9.90**	**24.5**
		SWB on Segment 39277		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,240	57.7	9.44	23.6
Summary	**7,240.0**	**57.7**	**9.44**	**23.6**
		SWB on Segment 39392		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on Segment 39392

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,183	58.9	8.77	20.9
Summary	**7,183.0**	**58.9**	**8.77**	**20.9**

SWB on Segment 39290

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,470	62.1	7.99	14.6
Summary	**4,470.0**	**62.1**	**7.99**	**14.6**

SWB on I-85 Segment 15911

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,810	62.6	6.60	15.6
Summary	**3,810.0**	**62.6**	**6.60**	**15.6**

NEB on Segment 39291

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,277	58.7	10.72	11.6
Summary	**3,277.0**	**58.7**	**10.72**	**11.6**

NB on Segment 39320

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,247	60.8	11.76	9.4
Summary	**3,247.0**	**60.8**	**11.76**	**9.4**

NEB on Segment 39297

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,754	64.0	8.62	11.2
Summary	**2,754.0**	**64.0**	**8.62**	**11.2**

NB on Segment 39298

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,740	63.3	8.81	11.5

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**2,740.0**	**63.3**	**8.81**	**11.5**
		SWB on Segment 39324		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,769	64.3	6.71	15.3
Summary	**3,769.0**	**64.3**	**6.71**	**15.3**
		NEB on Segment 39300		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,015	60.8	9.47	9.8
Summary	**3,015.0**	**60.8**	**9.47**	**9.8**
		NEB on Segment 39302		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,976	54.5	12.99	11.2
Summary	**2,976.0**	**54.5**	**12.99**	**11.2**
		NEB on Segment 39304		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,463	63.8	8.92	10.0
Summary	**2,463.0**	**63.8**	**8.92**	**10.0**
		NEB on Segment 39306		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,926	60.3	13.59	12.5
Summary	**2,926.0**	**60.3**	**13.59**	**12.5**
		NEB on Segment 39390		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,907	61.9	9.40	12.1
Summary	**2,907.0**	**61.9**	**9.40**	**12.1**
		SWB on Segment 39312		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on Segment 39312

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,802	62.1	6.03	20.0
Summary	**4,802.0**	**62.1**	**6.03**	**20.0**

SWB on Segment 39315

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,499	56.5	13.71	23.6
Summary	**5,499.0**	**56.5**	**13.71**	**23.6**

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,398	42.6	18.57	32.2
Summary	**5,398.0**	**42.6**	**18.57**	**32.2**

SWB on Segment 39406

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,308	31.6	13.78	43.6
Summary	**5,308.0**	**31.6**	**13.78**	**43.6**

SB on Segment 39358

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,269	46.1	13.80	23.7
Summary	**5,269.0**	**46.1**	**13.80**	**23.7**

SWB on I-85 Segment 39399

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,131	31.1	18.00	38.8
Summary	**8,131.0**	**31.1**	**18.00**	**38.8**

EB on I-85 Segment 39125

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,718	54.2	12.73	21.5

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**6,718.0**	**54.2**	**12.73**	**21.5**
		SWB on I-85 Segment 38975		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,758	30.4	18.87	44.1
Summary	**7,758.0**	**30.4**	**18.87**	**44.1**
		SWB on I-85 Segment 39142		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,744	54.5	11.88	21.0
Summary	**7,744.0**	**54.5**	**11.88**	**21.0**
		SWB on I-85 Segment 39141		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,738	56.6	10.84	27.2
Summary	**7,738.0**	**56.6**	**10.84**	**27.2**
		SWB on I-85 Segment 39402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,990	39.4	16.45	30.7
Summary	**6,990.0**	**39.4**	**16.45**	**30.7**
		NEB on I-85 Segment 11979		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,993	56.4	10.14	18.4
Summary	**6,993.0**	**56.4**	**10.14**	**18.4**
		NEB on I-85 Segment 11986		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,949	59.6	6.91	17.1
Summary	**6,949.0**	**59.6**	**6.91**	**17.1**
		NEB on Segment 39396		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on Segment 39396

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	82	71.1	7.11	1.2
Summary	**82.0**	**71.1**	**7.11**	**1.2**

SWB on Segment 39400

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	289	71.2	6.27	4.2
Summary	**289.0**	**71.2**	**6.27**	**4.2**

NEB on I-85 Segment 11991

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,760	52.5	11.66	22.0
Summary	**6,760.0**	**52.5**	**11.66**	**22.0**

NEB on Segment 39395

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	88	71.2	8.16	1.3
Summary	**88.0**	**71.2**	**8.16**	**1.3**

SWB on I-85 Segment 39401

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,106	45.1	21.28	26.7
Summary	**7,106.0**	**45.1**	**21.28**	**26.7**

NEB on I-85 Segment 39345

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,497	61.3	6.74	18.4
Summary	**6,497.0**	**61.3**	**6.74**	**18.4**

NEB on I-85 Segment 39206

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,439	61.9	6.95	27.0

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**6,439.0**	**61.9**	**6.95**	**27.0**
		SWB on I-85 Segment 39205		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,300	31.1	19.62	40.6
Summary	**7,300.0**	**31.1**	**19.62**	**40.6**
		SWB on I-85 Segment 39195		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,956	31.0	16.25	49.0
Summary	**6,956.0**	**31.0**	**16.25**	**49.0**
		NEB on Segment 39411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	50	73.3	8.11	0.7
Summary	**50.0**	**73.3**	**8.11**	**0.7**
		SWB on Segment 39407		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	272	70.4	7.04	4.0
Summary	**272.0**	**70.4**	**7.04**	**4.0**
		SWB on Segment 39408		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,125	42.2	20.84	29.7
Summary	**1,125.0**	**42.2**	**20.84**	**29.7**
		NEB on Segment 39328		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,905	62.5	8.05	9.4
Summary	**2,905.0**	**62.5**	**8.05**	**9.4**
		SWB on Segment 39398		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on Segment 39398

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	211	70.6	6.64	3.2
Summary	**211.0**	**70.6**	**6.64**	**3.2**

NEB on Segment 39393

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	20	72.8	7.79	0.3
Summary	**20.0**	**72.8**	**7.79**	**0.3**

SWB on Segment 39329

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,746	60.9	8.25	20.8
Summary	**5,746.0**	**60.9**	**8.25**	**20.8**

NEB on Segment 39397

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	22	70.9	6.53	0.3
Summary	**22.0**	**70.9**	**6.53**	**0.3**

SWB on Segment 39405

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,238	58.0	4.59	21.5
Summary	**1,238.0**	**58.0**	**4.59**	**21.5**

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,391	16.6	8.55	75.9
Summary	**7,391.0**	**16.6**	**8.55**	**75.9**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,531	58.4	10.69	17.0
Summary	**6,531.0**	**58.4**	**10.69**	**17.0**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,490	59.5	8.06	18.5
Summary	**6,490.0**	**59.5**	**8.06**	**18.5**

SWB on SR 316 Segment 38954

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,139	65.1	6.76	16.5
Summary	**2,139.0**	**65.1**	**6.76**	**16.5**

EB on UNIVERSITY PKY Segment 15908

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,871	65.3	6.54	14.2
Summary	**1,871.0**	**65.3**	**6.54**	**14.2**

SWB on Segment 39333

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	36	71.7	6.62	0.5
Summary	**36.0**	**71.7**	**6.62**	**0.5**

EB on Segment 39359

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	76	71.6	8.23	1.0

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**76.0**	**71.6**	**8.23**	**1.0**
		SWB on Segment 39308		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,764	64.6	7.22	14.9
Summary	**4,764.0**	**64.6**	**7.22**	**14.9**
		NEB on I-85 Segment 11344		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,458	64.1	7.14	18.0
Summary	**4,458.0**	**64.1**	**7.14**	**18.0**
		NEB on I-85 Segment 11402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,720	62.8	6.75	18.6
Summary	**5,720.0**	**62.8**	**6.75**	**18.6**
		SWB on I-85 Segment 11389		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,459	56.4	11.49	21.3
Summary	**5,459.0**	**56.4**	**11.49**	**21.3**
		SWB on I-85 Segment 39349		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,443	60.1	9.72	19.7
Summary	**5,443.0**	**60.1**	**9.72**	**19.7**
		SWB on I-85 Segment 11342		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,578	61.3	10.52	40.0
Summary	**6,578.0**	**61.3**	**10.52**	**40.0**
		SWB on I-85 Segment 31407		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 31407				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,551	50.9	14.04	22.2
Summary	**6,551.0**	**50.9**	**14.04**	**22.2**

NEB on I-85 Segment 38981				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,234	60.0	10.85	17.1
Summary	**5,234.0**	**60.0**	**10.85**	**17.1**

NEB on I-85 Segment 39080				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,232	61.5	11.77	23.4
Summary	**5,232.0**	**61.5**	**11.77**	**23.4**

SWB on I-85 Segment 11383				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,875	51.8	12.88	22.8
Summary	**6,875.0**	**51.8**	**12.88**	**22.8**

SWB on I-85 Segment 39029				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,947	55.6	12.30	18.4
Summary	**4,947.0**	**55.6**	**12.30**	**18.4**

SWB on I-85 Segment 39084				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,770	63.5	9.12	15.3
Summary	**3,770.0**	**63.5**	**9.12**	**15.3**

NEB on Segment 39327				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,580	14.1	6.95	79.8

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**6,580.0**	**14.1**	**6.95**	**79.8**
		NEB on I-85 Segment 11340		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,333	30.7	18.65	40.7
Summary	**7,333.0**	**30.7**	**18.65**	**40.7**
		NEB on I-85 Segment 11989		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,200	57.0	12.45	25.4
Summary	**7,200.0**	**57.0**	**12.45**	**25.4**
		NEB on I-85 Segment 11996		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,176	30.4	20.12	48.9
Summary	**7,176.0**	**30.4**	**20.12**	**48.9**
		WB on I-85 Segment 12001		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,687	61.1	7.33	22.8
Summary	**6,687.0**	**61.1**	**7.33**	**22.8**
		NEB on I-85 Segment 12004		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,267	34.0	21.52	59.7
Summary	**8,267.0**	**34.0**	**21.52**	**59.7**
		NEB on I-85 Segment 38976		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,298	55.8	10.47	29.9
Summary	**8,298.0**	**55.8**	**10.47**	**29.9**
		SWB on I-85 Segment 39122		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 39122				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,508	60.3	6.95	21.2
Summary	**7,508.0**	**60.3**	**6.95**	**21.2**

SWB on I-85 Segment 12232				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,707	60.4	7.19	20.2
Summary	**7,707.0**	**60.4**	**7.19**	**20.2**

NEB on I-85 Segment 20090				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,476	23.6	13.04	59.9
Summary	**8,476.0**	**23.6**	**13.04**	**59.9**

NEB on I-85 Segment 15893				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,481	51.0	11.64	29.4
Summary	**8,481.0**	**51.0**	**11.64**	**29.4**

NEB on I-85 Segment 15895				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,802	58.2	8.07	33.3
Summary	**7,802.0**	**58.2**	**8.07**	**33.3**

NEB on I-85 Segment 15898				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,686	53.4	11.79	27.5
Summary	**8,686.0**	**53.4**	**11.79**	**27.5**

NEB on I-85 Segment 22009				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,799	54.3	11.02	30.0

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**7,799.0**	**54.3**	**11.02**	**30.0**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,789	55.6	11.43	25.2
Summary	**7,789.0**	**55.6**	**11.43**	**25.2**
		NEB on I-85 Segment 15900		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,957	58.8	8.50	23.6
Summary	**6,957.0**	**58.8**	**8.50**	**23.6**
		NEB on I-85 Segment 15903		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,913	56.3	11.19	21.0
Summary	**6,913.0**	**56.3**	**11.19**	**21.0**
		NEB on I-85 Segment 15905		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,186	60.6	9.70	18.7
Summary	**6,186.0**	**60.6**	**9.70**	**18.7**
		NEB on I-85 Segment 39334		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,275	63.7	7.20	17.1
Summary	**4,275.0**	**63.7**	**7.20**	**17.1**
		SWB on I-85 Segment 15931		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,798	61.9	8.67	36.3
Summary	**6,798.0**	**61.9**	**8.67**	**36.3**
		SWB on I-85 Segment 38961		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 38961				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,345	40.3	22.22	24.5
Summary	**6,345.0**	**40.3**	**22.22**	**24.5**

SWB on I-85 Segment 39235				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,321	29.0	18.56	38.6
Summary	**6,321.0**	**29.0**	**18.56**	**38.6**

SWB on I-85 Segment 39221				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,137	22.6	17.10	55.7
Summary	**6,137.0**	**22.6**	**17.10**	**55.7**

SWB on I-85 Segment 15941				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,877	18.7	10.92	78.5
Summary	**6,877.0**	**18.7**	**10.92**	**78.5**

SWB on I-85 Segment 39218				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,722	17.8	12.49	78.6
Summary	**6,722.0**	**17.8**	**12.49**	**78.6**

SWB on I-85 Segment 16794				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,499	52.1	12.78	24.5
Summary	**7,499.0**	**52.1**	**12.78**	**24.5**

SWB on I-85 Segment 39186				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,499	56.9	11.39	29.8

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**7,499.0**	**56.9**	**11.39**	**29.8**
		NEB on I-85 Segment 31411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,532	58.0	10.64	22.0
Summary	**7,532.0**	**58.0**	**10.64**	**22.0**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,648	60.1	8.79	16.2
Summary	**5,648.0**	**60.1**	**8.79**	**16.2**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,226	63.0	6.76	19.7
Summary	**6,226.0**	**63.0**	**6.76**	**19.7**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,212	58.0	10.22	17.8
Summary	**6,212.0**	**58.0**	**10.22**	**17.8**
		SWB on I-85 Segment 38972		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,715	61.8	7.25	21.9
Summary	**6,715.0**	**61.8**	**7.25**	**21.9**
		SWB on Segment 39277		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,924	58.7	10.85	18.8
Summary	**5,924.0**	**58.7**	**10.85**	**18.8**
		SWB on Segment 39392		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on Segment 39392

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,903	59.8	8.66	16.9
Summary	**5,903.0**	**59.8**	**8.66**	**16.9**

SWB on Segment 39290

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,819	64.0	7.76	12.2
Summary	**3,819.0**	**64.0**	**7.76**	**12.2**

SWB on I-85 Segment 15911

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,512	62.6	7.39	14.2
Summary	**3,512.0**	**62.6**	**7.39**	**14.2**

NEB on Segment 39291

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,996	58.3	10.48	17.9
Summary	**4,996.0**	**58.3**	**10.48**	**17.9**

NB on Segment 39320

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,975	58.6	10.45	15.3
Summary	**4,975.0**	**58.6**	**10.45**	**15.3**

NEB on Segment 39297

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,459	63.5	7.24	17.5
Summary	**4,459.0**	**63.5**	**7.24**	**17.5**

NB on Segment 39298

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,455	62.5	7.31	18.7

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**4,455.0**	**62.5**	**7.31**	**18.7**
		SWB on Segment 39324		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,152	65.8	7.43	12.2
Summary	**3,152.0**	**65.8**	**7.43**	**12.2**
		NEB on Segment 39300		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,971	59.3	9.24	16.5
Summary	**4,971.0**	**59.3**	**9.24**	**16.5**
		NEB on Segment 39302		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,927	51.5	12.82	19.3
Summary	**4,927.0**	**51.5**	**12.82**	**19.3**
		NEB on Segment 39304		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,351	62.3	8.89	17.7
Summary	**4,351.0**	**62.3**	**8.89**	**17.7**
		NEB on Segment 39306		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,946	50.0	21.88	25.0
Summary	**4,946.0**	**50.0**	**21.88**	**25.0**
		NEB on Segment 39390		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,919	59.5	10.57	21.9
Summary	**4,919.0**	**59.5**	**10.57**	**21.9**
		SWB on Segment 39312		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on Segment 39312

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,378	64.8	5.90	13.2
Summary	**3,378.0**	**64.8**	**5.90**	**13.2**

SWB on Segment 39315

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,253	63.0	8.46	14.0
Summary	**4,253.0**	**63.0**	**8.46**	**14.0**

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,256	59.5	8.72	17.6
Summary	**4,256.0**	**59.5**	**8.72**	**17.6**

SWB on Segment 39406

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,253	48.7	11.05	22.1
Summary	**4,253.0**	**48.7**	**11.05**	**22.1**

SB on Segment 39358

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,263	51.6	14.36	16.9
Summary	**4,263.0**	**51.6**	**14.36**	**16.9**

SWB on I-85 Segment 39399

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,603	56.2	9.90	20.1
Summary	**7,603.0**	**56.2**	**9.90**	**20.1**

EB on I-85 Segment 39125

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,100	47.8	16.53	28.7

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**8,100.0**	**47.8**	**16.53**	**28.7**
		SWB on I-85 Segment 38975		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,547	56.9	10.58	22.2
Summary	**7,547.0**	**56.9**	**10.58**	**22.2**
		SWB on I-85 Segment 39142		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,541	56.3	11.73	19.6
Summary	**7,541.0**	**56.3**	**11.73**	**19.6**
		SWB on I-85 Segment 39141		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,541	58.0	10.38	24.6
Summary	**7,541.0**	**58.0**	**10.38**	**24.6**
		SWB on I-85 Segment 39402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,806	42.6	15.50	31.3
Summary	**7,806.0**	**42.6**	**15.50**	**31.3**
		NEB on I-85 Segment 11979		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,343	58.1	7.98	20.5
Summary	**8,343.0**	**58.1**	**7.98**	**20.5**
		NEB on I-85 Segment 11986		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,351	59.0	6.96	21.1
Summary	**8,351.0**	**59.0**	**6.96**	**21.1**
		NEB on Segment 39396		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on Segment 39396

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	255	68.9	7.50	3.7
Summary	**255.0**	**68.9**	**7.50**	**3.7**

SWB on Segment 39400

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	124	73.8	6.88	1.7
Summary	**124.0**	**73.8**	**6.88**	**1.7**

NEB on I-85 Segment 11991

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,526	45.3	14.74	32.1
Summary	**8,526.0**	**45.3**	**14.74**	**32.1**

NEB on Segment 39395

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	583	64.7	7.46	9.0
Summary	**583.0**	**64.7**	**7.46**	**9.0**

SWB on I-85 Segment 39401

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,837	60.0	7.18	19.4
Summary	**6,837.0**	**60.0**	**7.18**	**19.4**

NEB on I-85 Segment 39345

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,339	56.9	11.08	25.2
Summary	**8,339.0**	**56.9**	**11.08**	**25.2**

NEB on I-85 Segment 39206

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,158	59.8	7.16	34.7

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**8,158.0**	**59.8**	**7.16**	**34.7**
		SWB on I-85 Segment 39205		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,888	61.9	7.49	18.8
Summary	**6,888.0**	**61.9**	**7.49**	**18.8**
		SWB on I-85 Segment 39195		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,751	58.3	9.96	24.9
Summary	**6,751.0**	**58.3**	**9.96**	**24.9**
		NEB on Segment 39411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	182	69.7	6.72	2.6
Summary	**182.0**	**69.7**	**6.72**	**2.6**
		SWB on Segment 39407		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	127	73.3	7.97	1.8
Summary	**127.0**	**73.3**	**7.97**	**1.8**
		SWB on Segment 39408		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	111	70.3	7.46	1.6
Summary	**111.0**	**70.3**	**7.46**	**1.6**
		NEB on Segment 39328		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,985	61.7	7.51	16.2
Summary	**4,985.0**	**61.7**	**7.51**	**16.2**
		SWB on Segment 39398		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on Segment 39398

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	61	73.0	5.95	0.9
Summary	**61.0**	**73.0**	**5.95**	**0.9**

NEB on Segment 39393

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	117	69.8	8.30	1.7
Summary	**117.0**	**69.8**	**8.30**	**1.7**

SWB on Segment 39329

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,668	61.9	10.12	16.9
Summary	**4,668.0**	**61.9**	**10.12**	**16.9**

NEB on Segment 39397

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	100	69.6	7.49	1.5
Summary	**100.0**	**69.6**	**7.49**	**1.5**

SWB on Segment 39405

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	79	71.0	7.54	1.3
Summary	**79.0**	**71.0**	**7.54**	**1.3**

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,970	62.2	7.09	18.8
Summary	**6,970.0**	**62.2**	**7.09**	**18.8**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,236	28.4	16.22	52.5
Summary	**9,236.0**	**28.4**	**16.22**	**52.5**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,170	51.5	12.01	29.9
Summary	**9,170.0**	**51.5**	**12.01**	**29.9**

SWB on SR 316 Segment 38954

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,942	15.4	22.98	68.1
Summary	**1,942.0**	**15.4**	**22.98**	**68.1**

EB on UNIVERSITY PKY Segment 15908

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	2,206	64.7	5.95	17.5
Summary	**2,206.0**	**64.7**	**5.95**	**17.5**

SWB on Segment 39333

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	109	70.1	10.22	1.7
Summary	**109.0**	**70.1**	**10.22**	**1.7**

EB on Segment 39359

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	43	71.9	8.38	0.6

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**43.0**	**71.9**	**8.38**	**0.6**
		SWB on Segment 39308		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,499	22.7	19.61	57.9
Summary	**6,499.0**	**22.7**	**19.61**	**57.9**
		NEB on I-85 Segment 11344		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,855	64.8	7.30	15.4
Summary	**3,855.0**	**64.8**	**7.30**	**15.4**
		NEB on I-85 Segment 11402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,162	63.3	6.87	16.3
Summary	**5,162.0**	**63.3**	**6.87**	**16.3**
		SWB on I-85 Segment 11389		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,746	17.6	11.17	86.0
Summary	**6,746.0**	**17.6**	**11.17**	**86.0**
		SWB on I-85 Segment 39349		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,661	17.9	11.13	78.5
Summary	**6,661.0**	**17.9**	**11.13**	**78.5**
		SWB on I-85 Segment 11342		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,381	16.1	11.86	204.8
Summary	**8,381.0**	**16.1**	**11.86**	**204.8**
		SWB on I-85 Segment 31407		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85 Segment 31407				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,320	31.9	18.94	45.8
Summary	**8,320.0**	**31.9**	**18.94**	**45.8**

NEB on I-85 Segment 38981				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,662	61.0	10.75	15.8
Summary	**4,662.0**	**61.0**	**10.75**	**15.8**

NEB on I-85 Segment 39080				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,666	60.7	12.84	21.1
Summary	**4,666.0**	**60.7**	**12.84**	**21.1**

SWB on I-85 Segment 11383				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,167	34.2	16.97	40.4
Summary	**8,167.0**	**34.2**	**16.97**	**40.4**

SWB on I-85 Segment 39029				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,315	54.3	12.36	24.3
Summary	**6,315.0**	**54.3**	**12.36**	**24.3**

SWB on I-85 Segment 39084				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,247	29.5	21.22	45.9
Summary	**5,247.0**	**29.5**	**21.22**	**45.9**

NEB on Segment 39327				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,172	61.0	6.28	18.2

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**6,172.0**	**61.0**	**6.28**	**18.2**
		NEB on I-85 Segment 11340		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,939	45.7	15.05	25.5
Summary	**6,939.0**	**45.7**	**15.05**	**25.5**
		NEB on I-85 Segment 11989		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,736	56.8	12.97	23.9
Summary	**6,736.0**	**56.8**	**12.97**	**23.9**
		NEB on I-85 Segment 11996		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,105	61.4	6.33	24.2
Summary	**7,105.0**	**61.4**	**6.33**	**24.2**
		WB on I-85 Segment 12001		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,065	61.0	6.98	27.2
Summary	**8,065.0**	**61.0**	**6.98**	**27.2**
		NEB on I-85 Segment 12004		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,841	33.0	19.76	58.2
Summary	**7,841.0**	**33.0**	**19.76**	**58.2**
		NEB on I-85 Segment 38976		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,807	58.5	8.88	27.1
Summary	**7,807.0**	**58.5**	**8.88**	**27.1**
		SWB on I-85 Segment 39122		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85 Segment 39122				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,254	41.2	20.61	38.7
Summary	**9,254.0**	**41.2**	**20.61**	**38.7**

SWB on I-85 Segment 12232				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,377	29.4	19.65	48.9
Summary	**9,377.0**	**29.4**	**19.65**	**48.9**

NEB on I-85 Segment 20090				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,218	45.3	14.55	29.9
Summary	**8,218.0**	**45.3**	**14.55**	**29.9**

NEB on I-85 Segment 15893				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,216	53.3	11.12	27.7
Summary	**8,216.0**	**53.3**	**11.12**	**27.7**

NEB on I-85 Segment 15895				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,675	59.7	7.93	31.5
Summary	**7,675.0**	**59.7**	**7.93**	**31.5**

NEB on I-85 Segment 15898				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,273	56.2	10.21	24.9
Summary	**8,273.0**	**56.2**	**10.21**	**24.9**

NEB on I-85 Segment 22009				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,722	46.3	15.15	33.4

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,722.0**	**46.3**	**15.15**	**33.4**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,716	54.4	12.02	25.3
Summary	**7,716.0**	**54.4**	**12.02**	**25.3**
		NEB on I-85 Segment 15900		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,700	57.7	8.85	23.4
Summary	**6,700.0**	**57.7**	**8.85**	**23.4**
		NEB on I-85 Segment 15903		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,652	53.7	12.28	21.3
Summary	**6,652.0**	**53.7**	**12.28**	**21.3**
		NEB on I-85 Segment 15905		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,385	62.6	9.25	15.1
Summary	**5,385.0**	**62.6**	**9.25**	**15.1**
		NEB on I-85 Segment 39334		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,124	64.9	7.74	12.2
Summary	**3,124.0**	**64.9**	**7.74**	**12.2**
		SWB on I-85 Segment 15931		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,862	24.6	18.69	90.4
Summary	**6,862.0**	**24.6**	**18.69**	**90.4**
		SWB on I-85 Segment 38961		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on I-85 Segment 38961				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,201	9.4	8.28	103.8
Summary	**6,201.0**	**9.4**	**8.28**	**103.8**

SWB on I-85 Segment 39235				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,161	10.2	7.70	104.4
Summary	**6,161.0**	**10.2**	**7.70**	**104.4**

SWB on I-85 Segment 39221				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,968	12.5	6.74	98.4
Summary	**5,968.0**	**12.5**	**6.74**	**98.4**

SWB on I-85 Segment 15941				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,718	15.6	7.37	91.5
Summary	**6,718.0**	**15.6**	**7.37**	**91.5**

SWB on I-85 Segment 39218				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,566	14.9	9.39	90.5
Summary	**6,566.0**	**14.9**	**9.39**	**90.5**

SWB on I-85 Segment 16794				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,539	40.3	15.59	35.8
Summary	**8,539.0**	**40.3**	**15.59**	**35.8**

SWB on I-85 Segment 39186				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,519	52.1	14.15	35.9

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**8,519.0**	**52.1**	**14.15**	**35.9**
		NEB on I-85 Segment 31411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	6,990	58.1	11.21	20.6
Summary	**6,990.0**	**58.1**	**11.21**	**20.6**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,893	11.8	13.08	88.2
Summary	**5,893.0**	**11.8**	**13.08**	**88.2**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,429	64.6	6.83	16.4
Summary	**5,429.0**	**64.6**	**6.83**	**16.4**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,397	60.6	9.78	15.8
Summary	**5,397.0**	**60.6**	**9.78**	**15.8**
		SWB on I-85 Segment 38972		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,564	39.4	22.73	39.7
Summary	**7,564.0**	**39.4**	**22.73**	**39.7**
		SWB on Segment 39277		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,316	58.8	8.55	26.9
Summary	**8,316.0**	**58.8**	**8.55**	**26.9**
		SWB on Segment 39392		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on Segment 39392

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,251	45.1	17.97	30.7
Summary	**8,251.0**	**45.1**	**17.97**	**30.7**

SWB on Segment 39290

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,918	61.8	8.10	16.0
Summary	**4,918.0**	**61.8**	**8.10**	**16.0**

SWB on I-85 Segment 15911

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,255	49.7	22.37	21.6
Summary	**4,255.0**	**49.7**	**22.37**	**21.6**

NEB on Segment 39291

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,049	57.4	12.32	15.4
Summary	**4,049.0**	**57.4**	**12.32**	**15.4**

NB on Segment 39320

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,041	59.4	11.94	11.7
Summary	**4,041.0**	**59.4**	**11.94**	**11.7**

NEB on Segment 39297

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,438	63.8	7.75	13.7
Summary	**3,438.0**	**63.8**	**7.75**	**13.7**

NB on Segment 39298

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,424	63.9	7.93	13.7

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**3,424.0**	**63.9**	**7.93**	**13.7**
		SWB on Segment 39324		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,008	64.9	6.78	15.6
Summary	**4,008.0**	**64.9**	**6.78**	**15.6**
		NEB on Segment 39300		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,734	60.1	9.56	12.9
Summary	**3,734.0**	**60.1**	**9.56**	**12.9**
		NEB on Segment 39302		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,711	53.3	13.13	14.1
Summary	**3,711.0**	**53.3**	**13.13**	**14.1**
		NEB on Segment 39304		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,111	63.8	8.62	12.5
Summary	**3,111.0**	**63.8**	**8.62**	**12.5**
		NEB on Segment 39306		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,630	60.7	14.65	15.5
Summary	**3,630.0**	**60.7**	**14.65**	**15.5**
		NEB on Segment 39390		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,620	62.0	9.54	15.8
Summary	**3,620.0**	**62.0**	**9.54**	**15.8**
		SWB on Segment 39312		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on Segment 39312

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	4,492	43.7	23.74	25.1
Summary	**4,492.0**	**43.7**	**23.74**	**25.1**

SWB on Segment 39315

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,293	33.0	21.81	36.0
Summary	**5,293.0**	**33.0**	**21.81**	**36.0**

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,377	32.7	17.85	41.3
Summary	**5,377.0**	**32.7**	**17.85**	**41.3**

SWB on Segment 39406

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,425	29.7	12.53	45.9
Summary	**5,425.0**	**29.7**	**12.53**	**45.9**

SB on Segment 39358

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,447	46.0	13.79	24.2
Summary	**5,447.0**	**46.0**	**13.79**	**24.2**

SWB on I-85 Segment 39399

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	9,464	27.5	14.91	50.8
Summary	**9,464.0**	**27.5**	**14.91**	**50.8**

EB on I-85 Segment 39125

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,633	52.7	13.59	24.6

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,633.0**	**52.7**	**13.59**	**24.6**
		SWB on I-85 Segment 38975		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,676	25.4	16.14	58.1
Summary	**8,676.0**	**25.4**	**16.14**	**58.1**
		SWB on I-85 Segment 39142		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,676	55.8	10.58	22.8
Summary	**8,676.0**	**55.8**	**10.58**	**22.8**
		SWB on I-85 Segment 39141		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	8,679	58.7	9.04	31.1
Summary	**8,679.0**	**58.7**	**9.04**	**31.1**
		SWB on I-85 Segment 39402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,529	29.8	16.24	43.2
Summary	**7,529.0**	**29.8**	**16.24**	**43.2**
		NEB on I-85 Segment 11979		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,806	58.9	8.24	18.3
Summary	**7,806.0**	**58.9**	**8.24**	**18.3**
		NEB on I-85 Segment 11986		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,791	59.4	6.60	19.7
Summary	**7,791.0**	**59.4**	**6.60**	**19.7**
		NEB on Segment 39396		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

NEB on Segment 39396

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	133	72.3	6.87	1.8
Summary	**133.0**	**72.3**	**6.87**	**1.8**

SWB on Segment 39400

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	383	71.0	5.71	5.4
Summary	**383.0**	**71.0**	**5.71**	**5.4**

NEB on I-85 Segment 11991

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,933	52.4	12.10	25.9
Summary	**7,933.0**	**52.4**	**12.10**	**25.9**

NEB on Segment 39395

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	135	70.5	7.62	1.9
Summary	**135.0**	**70.5**	**7.62**	**1.9**

SWB on I-85 Segment 39401

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,820	30.5	21.14	43.1
Summary	**7,820.0**	**30.5**	**21.14**	**43.1**

NEB on I-85 Segment 39345

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,805	61.1	6.33	22.0
Summary	**7,805.0**	**61.1**	**6.33**	**22.0**

NEB on I-85 Segment 39206

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,729	61.2	6.65	33.7

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

Summary	**7,729.0**	**61.2**	**6.65**	**33.7**
		SWB on I-85 Segment 39205		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,989	23.4	16.07	57.9
Summary	**7,989.0**	**23.4**	**16.07**	**57.9**
		SWB on I-85 Segment 39195		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	7,607	26.1	13.82	62.7
Summary	**7,607.0**	**26.1**	**13.82**	**62.7**
		NEB on Segment 39411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	74	70.9	7.60	1.1
Summary	**74.0**	**70.9**	**7.60**	**1.1**
		SWB on Segment 39407		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	351	69.5	7.65	5.0
Summary	**351.0**	**69.5**	**7.65**	**5.0**
		SWB on Segment 39408		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,289	36.7	22.45	37.5
Summary	**1,289.0**	**36.7**	**22.45**	**37.5**
		NEB on Segment 39328		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	3,638	62.4	7.67	11.4
Summary	**3,638.0**	**62.4**	**7.67**	**11.4**
		SWB on Segment 39398		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

7:00:00AM - 8:00:00AM

Selection: Freeway

SWB on Segment 39398

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	646	64.0	7.29	10.6
Summary	**646.0**	**64.0**	**7.29**	**10.6**

NEB on Segment 39393

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	63	71.4	8.62	0.9
Summary	**63.0**	**71.4**	**8.62**	**0.9**

SWB on Segment 39329

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	5,074	60.9	8.16	18.3
Summary	**5,074.0**	**60.9**	**8.16**	**18.3**

NEB on Segment 39397

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	30	69.8	7.15	0.4
Summary	**30.0**	**69.8**	**7.15**	**0.4**

SWB on Segment 39405

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
8:00:00AM	1,300	57.9	4.89	24.1
Summary	**1,300.0**	**57.9**	**4.89**	**24.1**

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on Segment 39278

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,448	16.6	7.27	76.4
Summary	**7,448.0**	**16.6**	**7.27**	**76.4**

SWB on Segment 39279

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,116	58.9	11.40	20.2
Summary	**7,116.0**	**58.9**	**11.40**	**20.2**

SWB on Segment 39388

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,077	59.3	8.29	19.9
Summary	**7,077.0**	**59.3**	**8.29**	**19.9**

SWB on SR 316 Segment 38954

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	2,423	64.1	6.91	19.2
Summary	**2,423.0**	**64.1**	**6.91**	**19.2**

EB on UNIVERSITY PKY Segment 15908

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	1,822	66.5	6.47	13.7
Summary	**1,822.0**	**66.5**	**6.47**	**13.7**

SWB on Segment 39333

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	42	70.4	6.74	0.7
Summary	**42.0**	**70.4**	**6.74**	**0.7**

EB on Segment 39359

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	93	71.0	8.40	1.4

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**93.0**	**71.0**	**8.40**	**1.4**
		SWB on Segment 39308		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,392	64.2	7.40	17.1
Summary	**5,392.0**	**64.2**	**7.40**	**17.1**
		NEB on I-85 Segment 11344		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,511	64.1	6.50	18.3
Summary	**4,511.0**	**64.1**	**6.50**	**18.3**
		NEB on I-85 Segment 11402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,895	62.5	6.75	19.4
Summary	**5,895.0**	**62.5**	**6.75**	**19.4**
		SWB on I-85 Segment 11389		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,008	53.2	14.30	24.7
Summary	**6,008.0**	**53.2**	**14.30**	**24.7**
		SWB on I-85 Segment 39349		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,990	57.0	10.83	21.9
Summary	**5,990.0**	**57.0**	**10.83**	**21.9**
		SWB on I-85 Segment 11342		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,248	55.2	13.79	55.6
Summary	**7,248.0**	**55.2**	**13.79**	**55.6**
		SWB on I-85 Segment 31407		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85
Segment 31407

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,208	43.0	16.99	29.8
Summary	**7,208.0**	**43.0**	**16.99**	**29.8**

NEB on I-85
Segment 38981

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,275	59.7	10.96	17.7
Summary	**5,275.0**	**59.7**	**10.96**	**17.7**

NEB on I-85
Segment 39080

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,272	61.6	12.70	21.1
Summary	**5,272.0**	**61.6**	**12.70**	**21.1**

SWB on I-85
Segment 11383

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,478	47.9	14.85	26.5
Summary	**7,478.0**	**47.9**	**14.85**	**26.5**

SWB on I-85
Segment 39029

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,375	56.4	12.30	20.0
Summary	**5,375.0**	**56.4**	**12.30**	**20.0**

SWB on I-85
Segment 39084

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,132	62.3	9.90	16.9
Summary	**4,132.0**	**62.3**	**9.90**	**16.9**

NEB on Segment 39327

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,642	14.2	7.11	80.0

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**6,642.0**	**14.2**	**7.11**	**80.0**
		NEB on I-85 Segment 11340		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,337	30.5	18.34	41.4
Summary	**7,337.0**	**30.5**	**18.34**	**41.4**
		NEB on I-85 Segment 11989		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,413	56.8	12.92	26.4
Summary	**7,413.0**	**56.8**	**12.92**	**26.4**
		NEB on I-85 Segment 11996		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,869	28.5	20.08	50.9
Summary	**6,869.0**	**28.5**	**20.08**	**50.9**
		WB on I-85 Segment 12001		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,299	60.7	8.11	24.9
Summary	**7,299.0**	**60.7**	**8.11**	**24.9**
		NEB on I-85 Segment 12004		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,436	32.9	19.76	62.7
Summary	**8,436.0**	**32.9**	**19.76**	**62.7**
		NEB on I-85 Segment 38976		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,187	34.7	18.53	48.4
Summary	**8,187.0**	**34.7**	**18.53**	**48.4**
		SWB on I-85 Segment 39122		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 39122				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,243	59.5	7.46	23.5
Summary	**8,243.0**	**59.5**	**7.46**	**23.5**

SWB on I-85 Segment 12232				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,380	59.3	7.75	22.0
Summary	**8,380.0**	**59.3**	**7.75**	**22.0**

NEB on I-85 Segment 20090				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,337	22.8	13.67	61.7
Summary	**8,337.0**	**22.8**	**13.67**	**61.7**

NEB on I-85 Segment 15893				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,295	48.3	13.66	30.1
Summary	**8,295.0**	**48.3**	**13.66**	**30.1**

NEB on I-85 Segment 15895				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,576	45.5	18.20	39.9
Summary	**7,576.0**	**45.5**	**18.20**	**39.9**

NEB on I-85 Segment 15898				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,668	39.1	17.70	37.7
Summary	**8,668.0**	**39.1**	**17.70**	**37.7**

NEB on I-85 Segment 22009				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,882	55.9	10.77	28.3

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**7,882.0**	**55.9**	**10.77**	**28.3**
		NEB on I-85 Segment 39220		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,872	55.9	11.16	25.6
Summary	**7,872.0**	**55.9**	**11.16**	**25.6**
		NEB on I-85 Segment 15900		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,153	59.3	8.14	24.6
Summary	**7,153.0**	**59.3**	**8.14**	**24.6**
		NEB on I-85 Segment 15903		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,128	55.3	11.10	21.8
Summary	**7,128.0**	**55.3**	**11.10**	**21.8**
		NEB on I-85 Segment 15905		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,396	60.1	10.05	18.8
Summary	**6,396.0**	**60.1**	**10.05**	**18.8**
		NEB on I-85 Segment 39334		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,533	63.6	6.89	18.1
Summary	**4,533.0**	**63.6**	**6.89**	**18.1**
		SWB on I-85 Segment 15931		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,857	60.2	9.91	35.7
Summary	**6,857.0**	**60.2**	**9.91**	**35.7**
		SWB on I-85 Segment 38961		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on I-85 Segment 38961				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,266	14.5	16.40	66.1
Summary	**6,266.0**	**14.5**	**16.40**	**66.1**

SWB on I-85 Segment 39235				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,228	14.3	12.64	73.4
Summary	**6,228.0**	**14.3**	**12.64**	**73.4**

SWB on I-85 Segment 39221				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,063	14.1	9.43	88.8
Summary	**6,063.0**	**14.1**	**9.43**	**88.8**

SWB on I-85 Segment 15941				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,822	17.1	8.51	86.9
Summary	**6,822.0**	**17.1**	**8.51**	**86.9**

SWB on I-85 Segment 39218				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,661	16.0	10.89	85.9
Summary	**6,661.0**	**16.0**	**10.89**	**85.9**

SWB on I-85 Segment 16794				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,117	49.2	14.19	28.1
Summary	**8,117.0**	**49.2**	**14.19**	**28.1**

SWB on I-85 Segment 39186				
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,113	56.9	11.54	29.7

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**8,113.0**	**56.9**	**11.54**	**29.7**
		NEB on I-85 Segment 31411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,684	57.9	10.54	22.5
Summary	**7,684.0**	**57.9**	**10.54**	**22.5**
		SWB on I-85 Segment 39348		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,875	38.9	24.21	26.0
Summary	**5,875.0**	**38.9**	**24.21**	**26.0**
		NEB on I-85 Segment 38965		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,457	62.7	6.71	21.1
Summary	**6,457.0**	**62.7**	**6.71**	**21.1**
		NEB on I-85 Segment 39347		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,422	55.9	12.61	19.5
Summary	**6,422.0**	**55.9**	**12.61**	**19.5**
		SWB on I-85 Segment 38972		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,305	60.7	7.66	24.8
Summary	**7,305.0**	**60.7**	**7.66**	**24.8**
		SWB on Segment 39277		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,439	58.2	11.00	19.4
Summary	**6,439.0**	**58.2**	**11.00**	**19.4**
		SWB on Segment 39392		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on Segment 39392

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	6,421	60.0	9.27	18.2
Summary	**6,421.0**	**60.0**	**9.27**	**18.2**

SWB on Segment 39290

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,917	63.6	7.88	12.1
Summary	**3,917.0**	**63.6**	**7.88**	**12.1**

SWB on I-85 Segment 15911

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,493	63.1	7.30	14.0
Summary	**3,493.0**	**63.1**	**7.30**	**14.0**

NEB on Segment 39291

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,332	56.7	11.00	19.7
Summary	**5,332.0**	**56.7**	**11.00**	**19.7**

NB on Segment 39320

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,301	57.3	11.73	16.6
Summary	**5,301.0**	**57.3**	**11.73**	**16.6**

NEB on Segment 39297

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,764	63.5	7.36	19.4
Summary	**4,764.0**	**63.5**	**7.36**	**19.4**

NB on Segment 39298

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,757	63.0	6.97	19.4

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**4,757.0**	**63.0**	**6.97**	**19.4**
		SWB on Segment 39324		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,138	66.0	7.13	12.1
Summary	**3,138.0**	**66.0**	**7.13**	**12.1**
		NEB on Segment 39300		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,332	59.6	8.05	18.3
Summary	**5,332.0**	**59.6**	**8.05**	**18.3**
		NEB on Segment 39302		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,310	51.5	13.12	20.8
Summary	**5,310.0**	**51.5**	**13.12**	**20.8**
		NEB on Segment 39304		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,760	61.7	9.52	19.7
Summary	**4,760.0**	**61.7**	**9.52**	**19.7**
		NEB on Segment 39306		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,420	46.2	23.80	28.1
Summary	**5,420.0**	**46.2**	**23.80**	**28.1**
		NEB on Segment 39390		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,401	58.6	11.35	24.1
Summary	**5,401.0**	**58.6**	**11.35**	**24.1**
		SWB on Segment 39312		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on Segment 39312

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	3,400	65.3	5.60	13.1
Summary	**3,400.0**	**65.3**	**5.60**	**13.1**

SWB on Segment 39315

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,357	61.9	8.84	14.6
Summary	**4,357.0**	**61.9**	**8.84**	**14.6**

SWB on Segment 39381

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,357	59.1	8.37	18.9
Summary	**4,357.0**	**59.1**	**8.37**	**18.9**

SWB on Segment 39406

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,355	48.2	11.02	22.3
Summary	**4,355.0**	**48.2**	**11.02**	**22.3**

SB on Segment 39358

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,364	49.8	13.65	18.3
Summary	**4,364.0**	**49.8**	**13.65**	**18.3**

SWB on I-85 Segment 39399

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,320	53.8	11.12	23.1
Summary	**8,320.0**	**53.8**	**11.12**	**23.1**

EB on I-85 Segment 39125

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,242	47.5	16.72	29.2

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**8,242.0**	**47.5**	**16.72**	**29.2**
		SWB on I-85 Segment 38975		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,200	54.5	11.95	25.4
Summary	**8,200.0**	**54.5**	**11.95**	**25.4**
		SWB on I-85 Segment 39142		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,196	56.1	10.73	21.1
Summary	**8,196.0**	**56.1**	**10.73**	**21.1**
		SWB on I-85 Segment 39141		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,195	58.2	10.75	29.0
Summary	**8,195.0**	**58.2**	**10.75**	**29.0**
		SWB on I-85 Segment 39402		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,888	39.4	16.56	34.0
Summary	**7,888.0**	**39.4**	**16.56**	**34.0**
		NEB on I-85 Segment 11979		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,619	58.2	7.70	22.7
Summary	**8,619.0**	**58.2**	**7.70**	**22.7**
		NEB on I-85 Segment 11986		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,615	58.8	7.21	21.7
Summary	**8,615.0**	**58.8**	**7.21**	**21.7**
		NEB on Segment 39396		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

NEB on Segment 39396

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	351	66.4	10.26	5.9
Summary	**351.0**	**66.4**	**10.26**	**5.9**

SWB on Segment 39400

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	137	73.3	6.57	1.8
Summary	**137.0**	**73.3**	**6.57**	**1.8**

NEB on I-85 Segment 11991

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,498	38.9	17.36	37.1
Summary	**8,498.0**	**38.9**	**17.36**	**37.1**

NEB on Segment 39395

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	946	59.1	13.82	16.1
Summary	**946.0**	**59.1**	**13.82**	**16.1**

SWB on I-85 Segment 39401

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,414	58.8	7.81	20.8
Summary	**7,414.0**	**58.8**	**7.81**	**20.8**

NEB on I-85 Segment 39345

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,374	38.6	19.16	38.0
Summary	**8,374.0**	**38.6**	**19.16**	**38.0**

NEB on I-85 Segment 39206

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	8,156	39.2	18.90	50.0

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

Summary	**8,156.0**	**39.2**	**18.90**	**50.0**
		SWB on I-85 Segment 39205		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,444	60.0	8.32	20.7
Summary	**7,444.0**	**60.0**	**8.32**	**20.7**
		SWB on I-85 Segment 39195		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	7,298	51.0	14.93	31.0
Summary	**7,298.0**	**51.0**	**14.93**	**31.0**
		NEB on Segment 39411		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	212	69.5	7.33	3.0
Summary	**212.0**	**69.5**	**7.33**	**3.0**
		SWB on Segment 39407		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	131	71.9	8.26	1.8
Summary	**131.0**	**71.9**	**8.26**	**1.8**
		SWB on Segment 39408		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	592	60.9	5.42	10.2
Summary	**592.0**	**60.9**	**5.42**	**10.2**
		NEB on Segment 39328		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	5,475	61.7	7.13	18.0
Summary	**5,475.0**	**61.7**	**7.13**	**18.0**
		SWB on Segment 39398		
Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)

Segment Speed, Flow and Density Report

5:00:00PM - 6:00:00PM

Selection: Freeway

SWB on Segment 39398

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	85	72.5	7.90	1.2
Summary	**85.0**	**72.5**	**7.90**	**1.2**

NEB on Segment 39393

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	170	71.7	6.97	2.4
Summary	**170.0**	**71.7**	**6.97**	**2.4**

SWB on Segment 39329

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	4,745	61.7	10.86	16.6
Summary	**4,745.0**	**61.7**	**10.86**	**16.6**

NEB on Segment 39397

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	113	68.0	8.15	1.7
Summary	**113.0**	**68.0**	**8.15**	**1.7**

SWB on Segment 39405

Interval Ending	Flow (vph)	Avg Speed (mi/hr)	Std. Dev. Speed (mi/hr)^2	Average Density (veh/mi/lane)
6:00:00PM	592	64.0	6.36	9.8
Summary	**592.0**	**64.0**	**6.36**	**9.8**