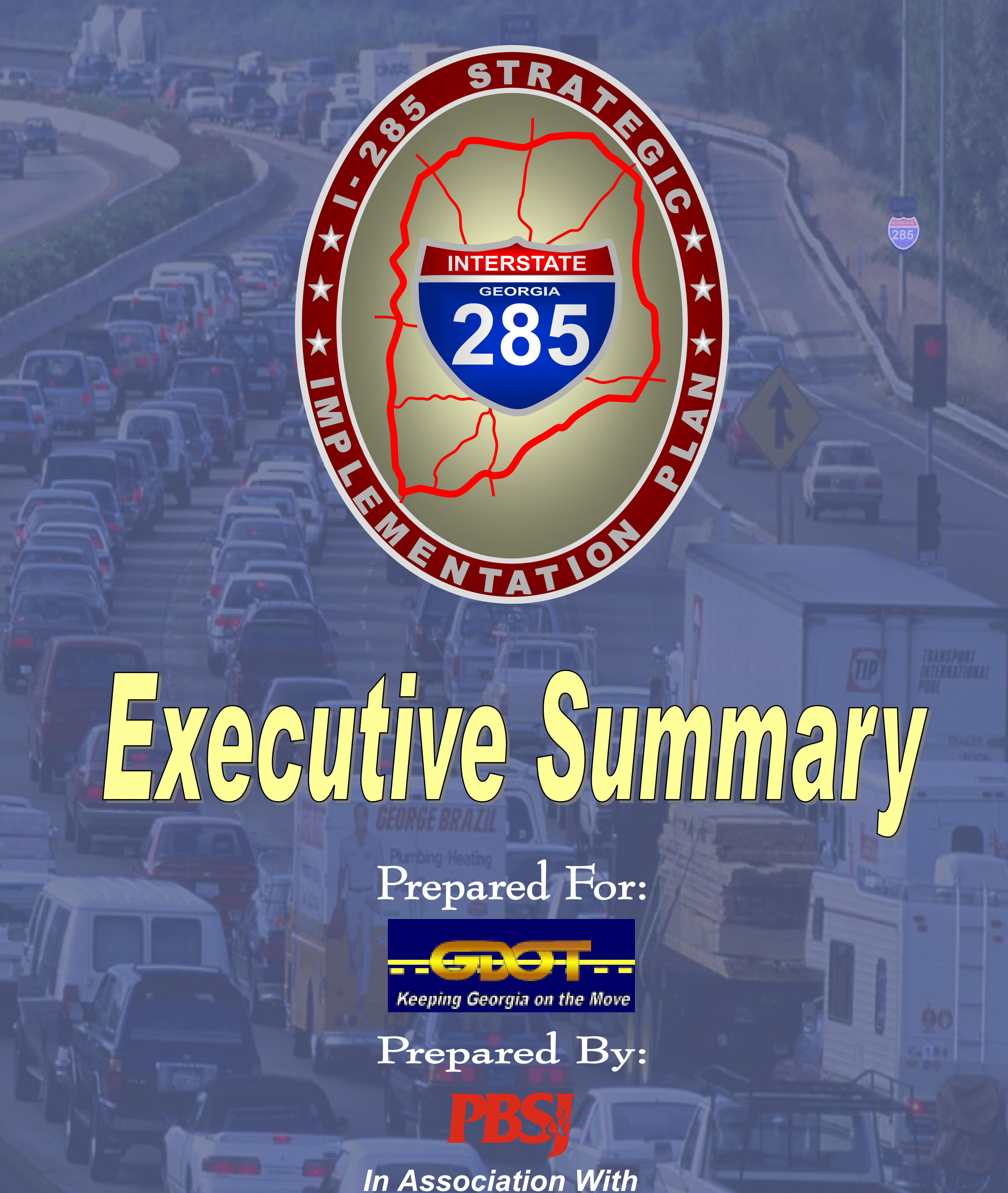


I-285 STRATEGIC IMPLEMENTATION PLAN

INTERSTATE GEORGIA 285

Executive Summary

Prepared For:

GDOT Keeping Georgia on the Move

Prepared By:

PBS&J

In Association With

PB 100 YEARS URS M·P·H & associates, inc. Greater Traffic, Inc. Elite Staffing Peggy Malone, Assoc.

The overall purpose of the I-285 Strategic Implementation Plan study is stated in the established project goal:

> ***Provide an unparalleled, objective technical evaluation to help determine an optimal and compelling case and constituency for investment in and management of the long term viability of I-285.***

In order to achieve this goal, a detail process of data collection, development of the required technical analysis tools, and performing the analysis and evaluation of a series of improvement scenarios was undertaken. Based upon this process, an overall recommended improvement scenario was developed. This recommended improvement scenario then served as the foundation for the development of the phased implementation program for the I-285 Strategic Implementation Plan.

Data Collection

In the development of the I-285 Strategic Implementation Plan and the technical analysis tools required for the detailed analyses and evaluations, a substantial data collection effort was required to establish the characteristics of the existing transportation system. This data collection effort encompassed the assembling of existing data as well as the gathering of new data to establish an overall database for the study effort. The information included in this database was subdivided into broad data categories, including:

- GIS Framework;
- Traffic;
- Accidents;
- Transportation Plans;
- Environment and Land Use;
- Aerial photography:
- I-285 geometry features (horizontal curvature and vertical grades);
- Inventory of signs and ATMS equipment; and
- Travel Speeds.

Traffic counts were conducted throughout the I-285 corridor for this project. These data were combined with of existing Georgia Department of Transportation (GDOT) traffic counts and ATMS data to establish a rich database of traffic count information.

Crash data was obtained from the GDOT's crash database for calendar years 2001, 2002, 2003, and 2004. The locations of accidents were geographically referenced along I-285 in both directions of travel. Accidents were grouped into segments, defined as freeway sections between access points, along I-285. For comparison purposes, I-285's system-wide accident rates were compared with those experienced on comparable facilities from throughout the rest of Georgia. The analysis of existing crash experience went into considerably detail, including accident rates and other patterns at the segment and ramp level-of-detail.

A summary of identified planned projects in the I-285 Corridor was made. A total of 234 projects were identified from the Mobility 2030 Regional Transportation Plan (RTP) and the 2005 – 2010 Transportation Improvement Program (TIP) and the GDOT Construction Work Program (CWP).

Information leading to the identification of possible environmental and land-use constraints that would be considered in developing a strategic plan for I-285 was compiled. Environmental constraints were subdivided into the following categories: environmental resources; social environmental resources; and cultural resources.

Data for average travel speeds observed on the mainline of I-285 were developed. In addition to lane-by-lane travel speed data provided by the GDOT's NaviGator surveillance system, the study team had access to average speed samples obtained from the ARC's 2001 Speed Study. In reviewing all of the traffic, average speed, level-of-service data, and by direction of travel, there was an extremely high level of consistency between the different sources of data

Development of I-285 Strategic Implementation Plan Technical Analysis Tools

The technical analysis tools utilized for the I-285 Strategic Implementation Plan are unique in their development and application. The overall goal of the technical analysis, or modeling, process was the development of a traffic simulation model for the 63-mile I-285 corridor to facilitate the objective operational evaluation of potential improvements in the corridor. The potential problems associated with the development of large scale simulation models were initially researched using the experience of several previously attempted large scale simulation efforts. A symposium was held with the GDOT staff, the I-285 consultant team, and key investigators for five previous large scale simulation efforts. This symposium provided information on the successes, failures, and key findings associated with the development and application of these large scale simulation efforts, including:

- Procedures must be incorporated into the processes that bridge the gap between the regional travel demand model macroscopic process and the microscopic traffic simulation process. The bridge must be composed of two basic elements. First, the detailed temporal distribution of trips within the peak periods must be accounted for in 15 minute time slices to explicate the peak spreading process. Second, the routing of peak period trips must reflect the dynamic nature of traffic routings during the peak periods.

- Aggregation of traffic analysis zones (TAZs) for development and application of dynamic traffic assignment procedures should be avoided. The aggregation of TAZs results in the concentration of trips which are difficult for dynamic traffic assignment procedures to effectively accommodate and accurately load onto the network.

- Development of the microsimulation model networks needs to be based on commercial mapping networks rather than centerline files because of the required network detail. Also the regional travel demand model network needs to be "free" of network errors since detailed routing of trips into, out of, and through the microsimulation area is a critical component of the process.

- Large scale simulation models should be developed in a network expansion process with small portions of the network developed, tested, and calibrated before additional network components are added. Building the entire microsimulation network and attempting a subsequent calibration is extremely time consuming due to the numerous interactions the various model components such as traffic signals, trip patterns (trip origins and destinations), details of intersection configurations, bus operations, and the dynamics of traffic routing. With these numerous interactions it is extremely difficult, if not impossible, to isolate and correct problems during the model calibration process for large simulation networks.

- Extensive data relative to the traffic operations within the microsimulation model study area is required, including: detailed traffic volumes in 15-minute increments (by lane on freeways), vehicle classification volumes (by lane on freeways), vehicle densities by lane on freeways, vehicle headways, vehicle speeds (by lane on freeways), and queue lengths at intersections.

Armed with this knowledge of previous large scale microsimulation model successes and failures, the study team developed an overall structure for the I-285 Strategic Implementation Plan technical analysis process. The I-285 Strategic Implementation Plan technical analysis process has four basic components which address the recommended procedures identified in the previous large scale simulation projects: regional travel demand model, matrix variegation, pseudo dynamic traffic assignment (DTA), and microscopic simulation traffic assignment. The regional travel demand model is connected to the microscopic simulation model with two critical model components:

- The Matrix Variegator which slices the 24-hour trip tables from the ARC regional travel demand model into 15-minute trip tables; and

- The Mesoscopic Model which uses the 15-minute trip tables from the Matrix Variegator in a dynamic traffic assignment process to establish the trip routes that feed into the Microscopic Model.

The final step of the technical analysis process is the application of the Microscopic Model. The output of the Mesoscopic Model, trips and trip routes, serve as the primary inputs to the Microscopic Model. The Microscopic Model provides the detailed corridor operational analysis the existing system and the future scenarios.

It should be clearly understood that the prime objective of the I-285 Strategic Implementation Plan technical analysis process was the development of a procedure that could be applied to future improvement scenarios based upon future development conditions portrayed in the Atlanta Regional Transportation Plan. This prime objective therefore required that the procedures to be used for the model application of future scenarios to replicate the procedures that were used in the development and calibration of the model. To not follow this model development/application paradigm substantially increases the prospect of bias being introduced into the analysis process. The opportunities for potential bias are magnified by the multiplicity and interconnectivity of the various model components.

Existing Conditions Evaluation

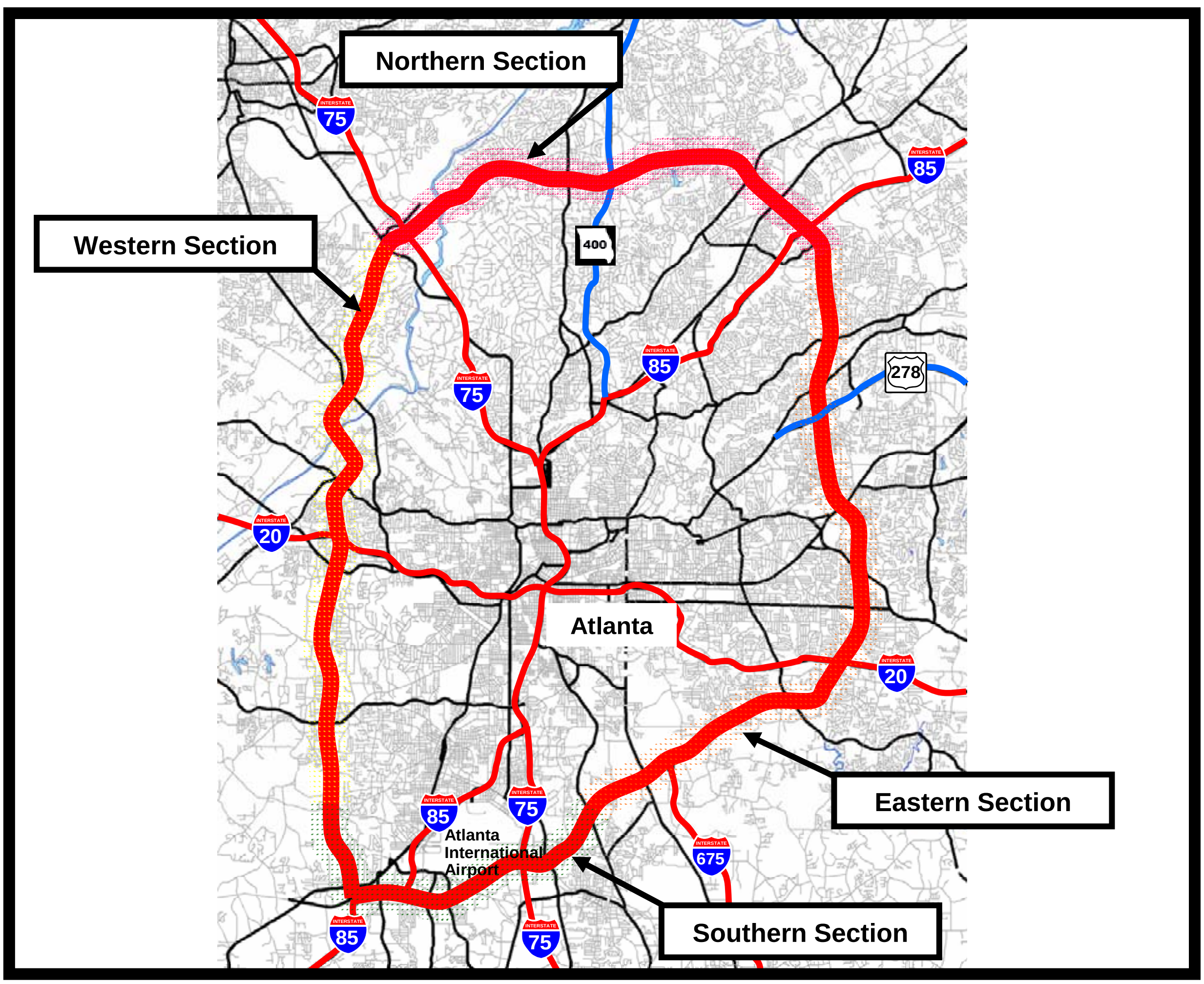
The evaluation of the existing system was undertaken to establish a benchmark for the subsequent analysis and evaluation of the 2030 Regional Transportation Plan (RTP) and alternate improvement scenarios. The existing system evaluation was performed at two levels. The first level of evaluation was the regional level. The measures of effectiveness (MOEs) were developed from the regional travel demand model, Matrix Variegator and Mesoscopic Model components of the I-285 Strategic Implementation Plan technical analysis process. The regional level of evaluation measures of effectiveness (MOEs) included:

- Percent of trips by mode;
- Average system speeds by facility type;
- Percent of trips in peak period;
- Congested vehicle-miles and vehicle-hours of travel in peak periods by facility type;
- Free flow vehicle-miles and vehicle-hours of travel in peak periods by facility type;
- Vehicle-hours of delay in peak periods by facility type;
- Delay per trip by vehicle type in peak periods;
- Delay cost by vehicle type in peak periods;
- Percent of trips by congested travel time to free flow travel time by vehicle type; and
- Percent of lane-miles operating above capacity by facility type.

The second level of evaluation was the corridor level. The I-285 corridor was divided into four sections: northern, eastern, southern, and western. These sections are shown in Figure 1. The corridor level analysis was carried out using both the Mesoscopic Model and the Microscopic Model components. The Mesoscopic Model MOEs used for the corridor level evaluation included:

- Average peak period speeds by facility type;
- Congested vehicle-miles and vehicle-hours of travel in peak periods by facility type;
- Free flow vehicle-miles and vehicle-hours of travel in peak periods by facility type;
- Vehicle-hours of delay in peak periods by facility type;
- Delay cost by vehicle type in peak periods; and
- Percent of lane-miles operating above capacity by facility type.

Figure 1
I-285 Corridor Sections



From a regional perspective several key MOEs highlight the overall operation of the existing transportation system in the region. First, the mode of travel indicates the relative importance of the various components of the region's transportation system. Table 1 shows the percent of travel by major transportation market segments for all person trips and for person work trips: automobiles with single person occupancy (SOV); automobiles with multiple person occupancy (HOV), and transit. As can be seen in Table 1, automobiles account for over 97% of the existing total person trips in the region and 94% of the total person work trips.

Table 1
2005 Regional Person Trips by Mode

Mode	Total Person Trips		Work Person Trips	
	Number of Trips	Percent of Total Trips	Number of Trips	Percent of Work Trips
SOV	6,877,558	60.7%	2,061,075	81.5%
HOV	4,161,313	36.8%	315,982	12.5%
Transit	278,337	2.5%	151,999	6.0%
Total	***11,317,208***	***100.0%***	***2,529,056***	***100.0%***

Another key MOE is the estimated cost of delay for motorists traveling on the highway system in the Atlanta region. Table 2 shows the estimated daily cost of delay during the morning (6:00 AM – 10:00 AM) and afternoon (3:00 PM – 7:00 PM) peak periods. Table 2 indicates the estimated cost of delay associated with congestion in 2005 dollars by vehicle type. As can be seen in Table 2, SOVs account for the largest majority of the delay costs in both the AM and PM peak periods. The total regional daily congestion cost during the peak periods is over $1.6 million.

Table 2
2005 Regional Cost of Delay by Vehicle Type

Vehicle Type	AM Peak Period		PM Peak Period		Total	
	Vehicle Hours of Delay	Delay Costs	Vehicle Hours of Delay	Delay Costs	Vehicle Hours of Delay	Delay Costs
SOV[1]	36,631	$503,676	37,603	$517,041	74,234	$1,020,701
HOV[2]	4,462	$153,381	4,433	$152,384	8,895	$305,765
Truck[3]	2,255	$163,826	1,937	$140,723	4,192	$304,549
Total	***43,348***	***$820,883***	***43,973***	***$810,148***	***87,321***	***$1,631,031***

Notes:

[1] Assumes 1 person per vehicle at $13.75 per hour
[2] Assumes 2.5 persons per vehicle at $13.75 per hour
[3] Assumes 1 person per vehicle at $72.65 per hour

Examination of the travel time of trips during the peak periods provides insight into the pervasiveness of congestion during the peak periods. Table 3 shows that over 68% of all the regional trips during both the morning and afternoon peak periods had travel times greater than the uncongested travel times during the off-peak periods, i.e., over two-thirds of all the regional trips during the peak periods are affected by congestion.

Table 3
2005 Regional Cost of Delay by Vehicle Type

Vehicle Type	AM Peak		PM Peak	
	% Trips With Travel Time Equal To Uncongested Travel Time	% Trips With Travel Time Greater Than Uncongested Travel Time	% Trips With Travel Time Equal To Uncongested Travel Time	% Trips With Travel Time Greater Than Uncongested Travel Time
SOV	32.8%	67.2%	32.3%	67.7%
HOV	28.6%	71.4%	27.4%	72.6%
Truck	23.1%	76.9%	21.0%	79.0%
Total	31.9%	68.1%	31.3%	68.7%

The detailed corridor analysis was made using the Mesoscopic and Microscopic components of the I-285. The northern section of I-285 accounts for a significant portion of the delay (62%) and congestion cost (63%) in the corridor. The eastern section has the second highest delay and congestion cost, followed by the western section and the southern section.

The detailed operational examination of the freeway component of the I-285 corridor was made using the Microscopic Model (VISSIM) component of the I-285 Strategic Implementation Plan technical analysis process. The Microscopic Model (VISSIM) component was employed to determine the density in vehicles per lane per mile for three basic types of freeway sections:

- Basic sections;
- Merge/Diverge sections; and
- Weaving sections.

Basic sections are those portions of the freeway that are not influenced by traffic merging or diverging at entrance and exit ramps. Merge sections are the portion of freeway associated with traffic entering the freeway at an entrance ramp. Merge sections are 1,500 feet in length following the gore of the entrance ramp. Diverge sections are the portion of freeway associated with traffic exiting the freeway at an exit ramp. Diverge sections are 1,500 feet in length preceding the gore of the exit ramp. Weaving sections are portions of the freeway between entrance and exit ramps that are within 3,000 feet of each other. Weaving sections are characterized by conflicts between vehicles entering the freeway and vehicles exiting the freeway.

Over 16 percent of the I-285 basic sections heavily congested or severely congested in the AM peak hour and 12 percent in the PM peak hour. The northern section has over 30 percent of its basic sections heavily or severely congested during the AM peak hour and over 23 percent during the PM peak hour. The southern section can be characterized by being the least congested section of I-285.

Over 16 percent of the I-285 merge/diverge sections are heavily or severely congested in the AM peak hour and 15 percent in the PM peak hour. The northern section has over 24 percent of its merge/diverge sections heavily or severely congested and over 33 percent during the PM peak hour. As with the basic freeway section, the southern section can be characterized by being the least congested section of I-285.

Over 22 percent of the I-285 weaving sections are heavily or severely congested in the AM peak hour and over 8 percent in the PM peak hour. The northern section has over 27 percent of its weaving sections heavily or severely congested during the AM peak hour and over 22 percent during the PM peak hour. None of the western section weaving sections are heavily or severely congested in either the AM or PM peak hours.

Figures 2 through 5 graphically depict the congestion levels for the individual sections in the I-285 corridor. This information is presented for each direction (inner loop – clockwise and outer loop – counter clockwise). The radial freeways are also depicted in both the inbound and outbound directions.

Initial Alternates Considered

The development and evaluation of scenarios for the I-285 Strategic Implementation Plan was conducted using a squeal series of alternate improvement concepts. The initial set of improvement scenarios was developed to test a broad range of improvement concepts. Scenarios 1 through 7 represented these initial improvement options. The alternate development process was based upon the following factors:

- Existing system evaluation;
- Evaluation of the 2030 Regional Transportation Plan (RTP);
- Development of a range of alternates so that the impacts of various strategies could be objectively evaluated; and
- Review of other existing plans and programs such as Public Private Initiatives (PPIs).

Figure 2
I-285 Strategic Implementation Plan 2005 Freeway Congestion
AM Peak Hour Inner Loop (Clockwise Direction) Radial Freeways Inbound

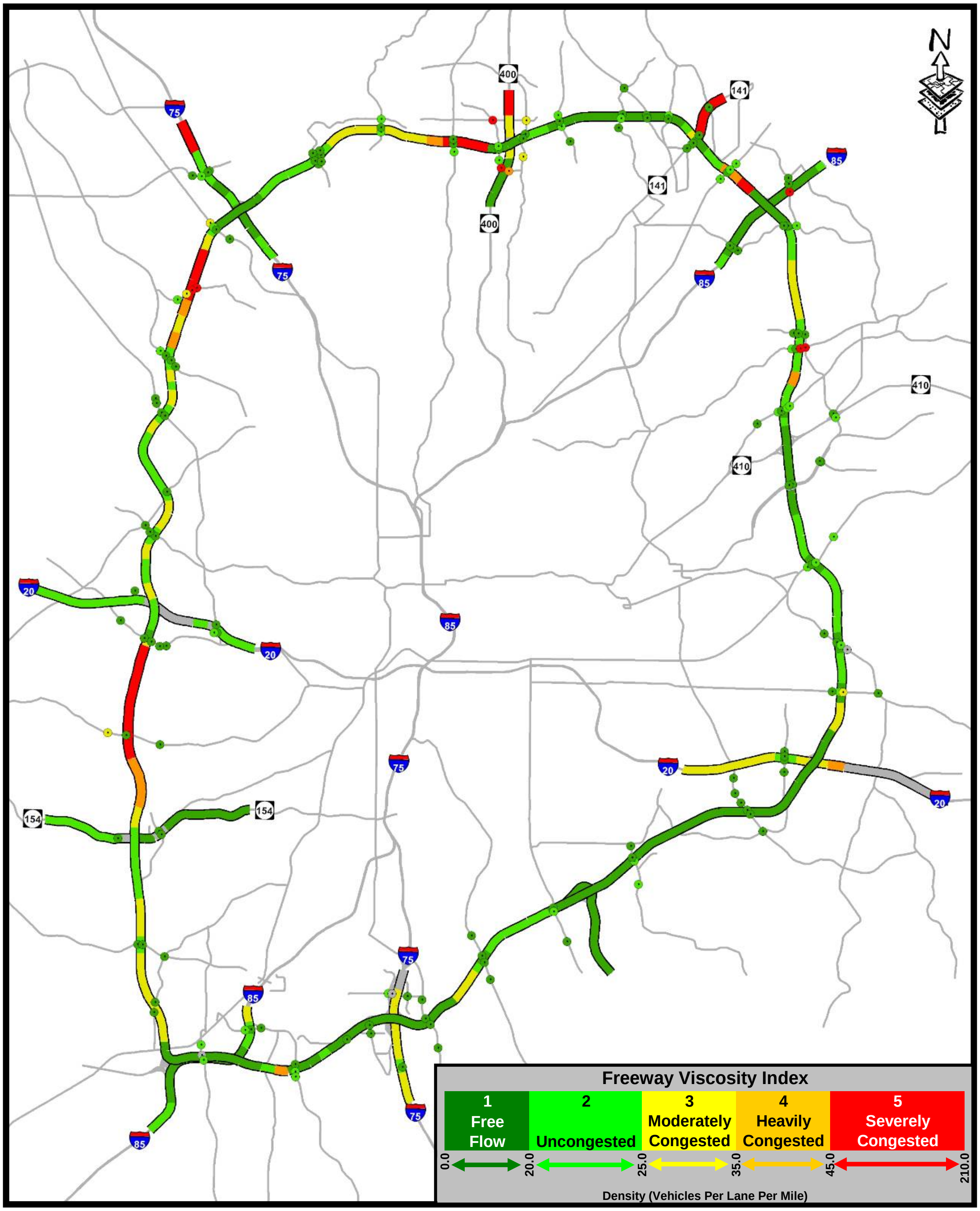


Figure 3
I-285 Strategic Implementation Plan 2005 Freeway Congestion
AM Peak Hour Outer Loop (Counter Clockwise Direction) Radial Freeways Outbound

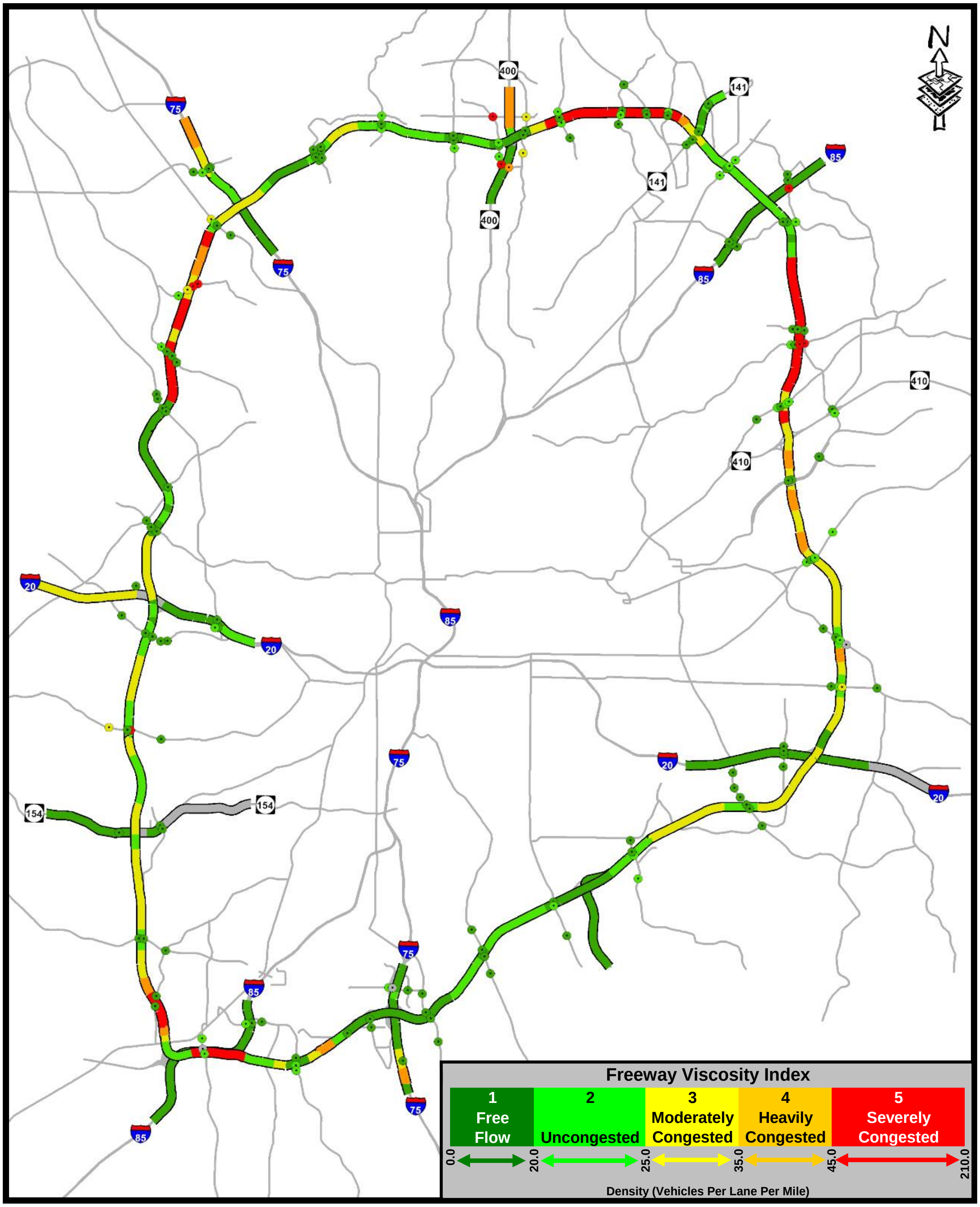


Figure 4
I-285 Strategic Implementation Plan 2005 Freeway Congestion
PM Peak Hour Inner Loop (Clockwise Direction) Radial Freeways Inbound

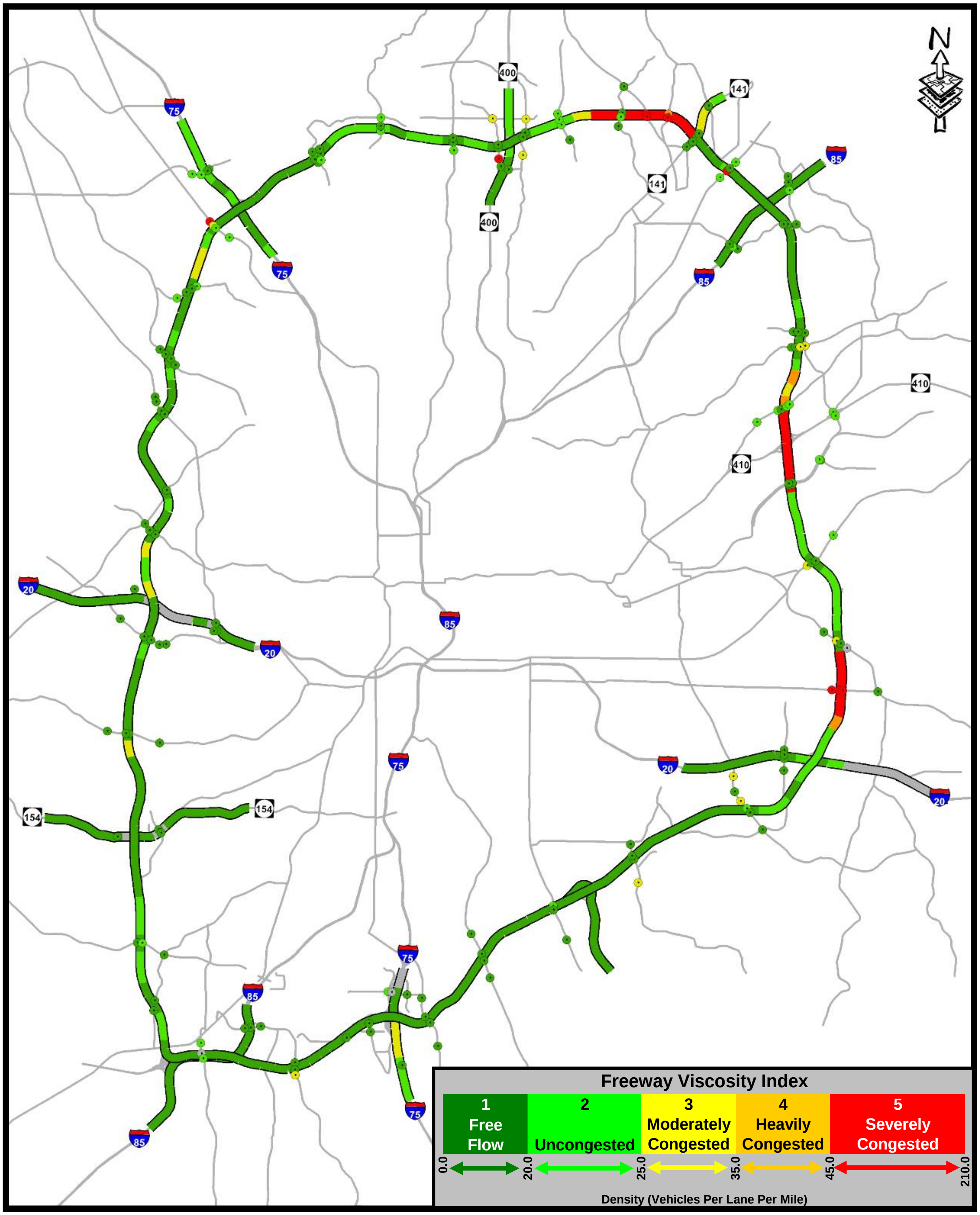
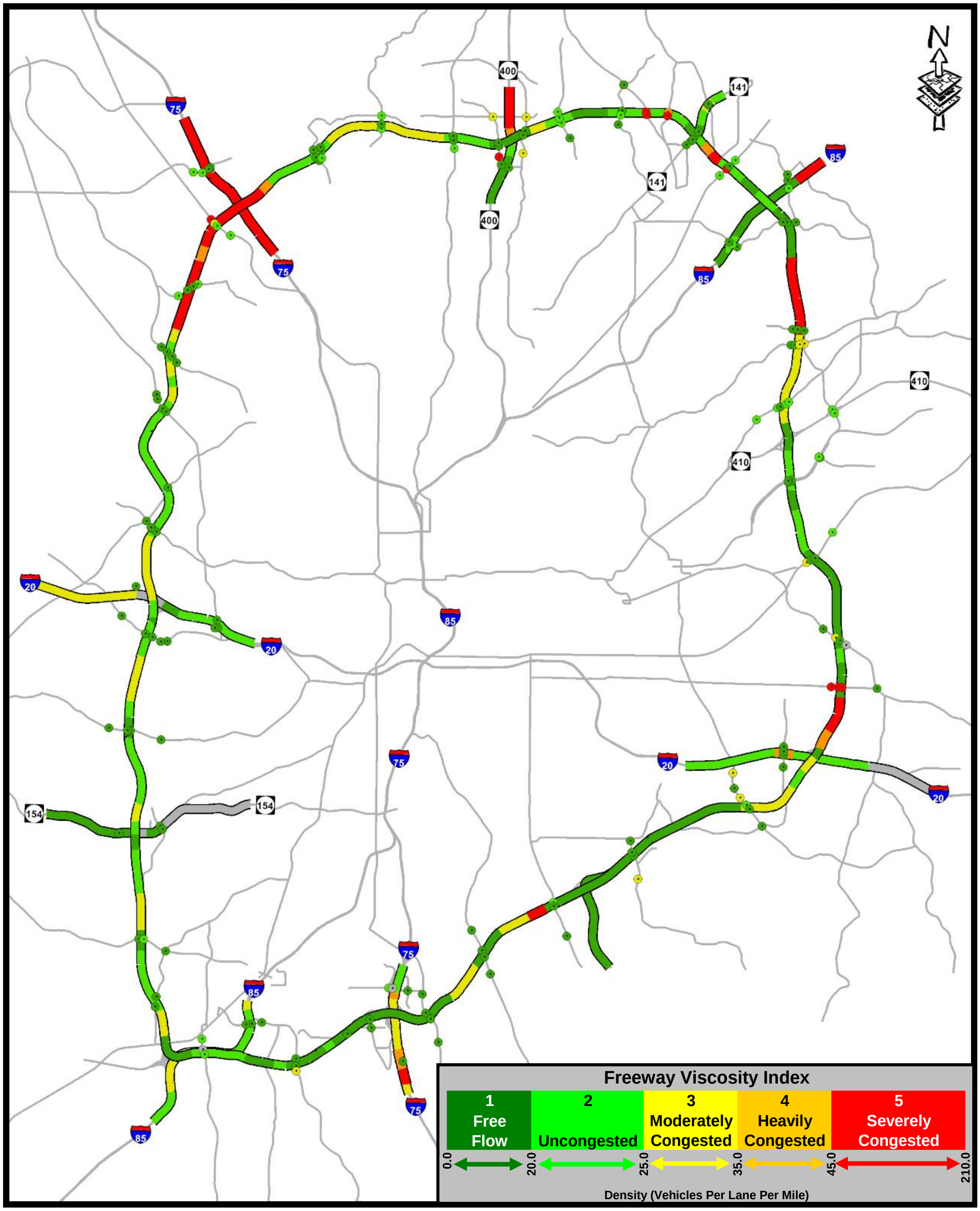


Figure 5
I-285 Strategic Implementation Plan 2005 Freeway Congestion
PM Peak Hour Outer Loop (Counter Clockwise Direction) Radial Freeways Outbound



Based upon these factors, seven initial alternates were identified for evaluation. The improvement concepts evaluated using these seven scenarios included:

- HOV Managed Lanes,
- Truck Managed Lanes, and
- Additional General Purpose (GP) Lanes.

The evaluation of these initial seven scenarios was based upon a regional and corridor level of analysis. Detailed operational analysis was not undertaken for these initial seven scenarios. The overall result of the testing and evaluation of this initial set of seven improvement strategies indicated that there was not a single improvement strategy that would provide the overall best option for improving the operations on I-285. Rather, a combination of improvement options unified into an overall strategy would be required. This evaluation also provided insights as to the improvement options that would be best suited for each of the major segments of I-285 (north, east, south, and west). Figures 6 through 12 illustrate these first seven alternates.

Figure 6
Scenario 1 General Concept

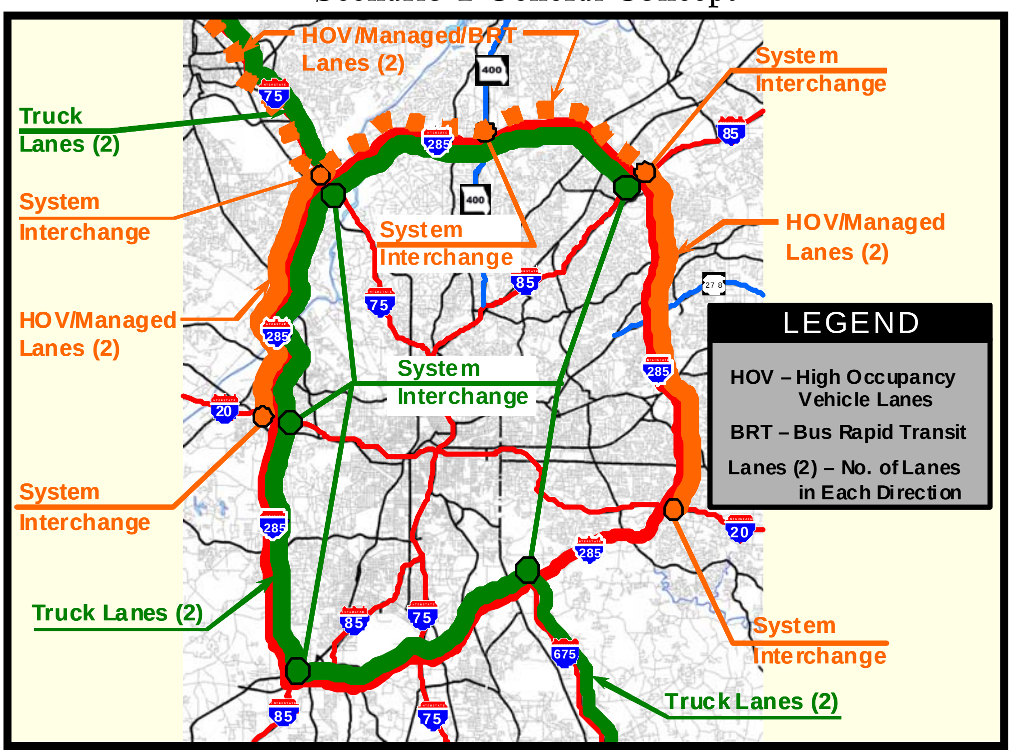


Figure 7
Scenario 2 General Concept

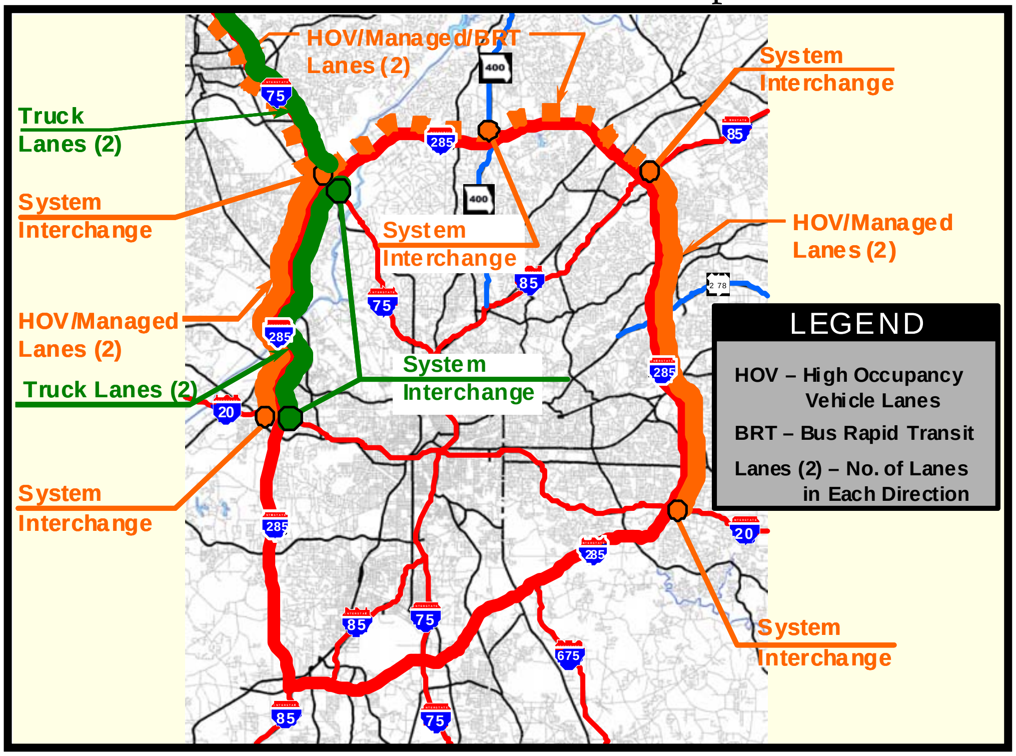


Figure 8
Scenario 3 General Concept

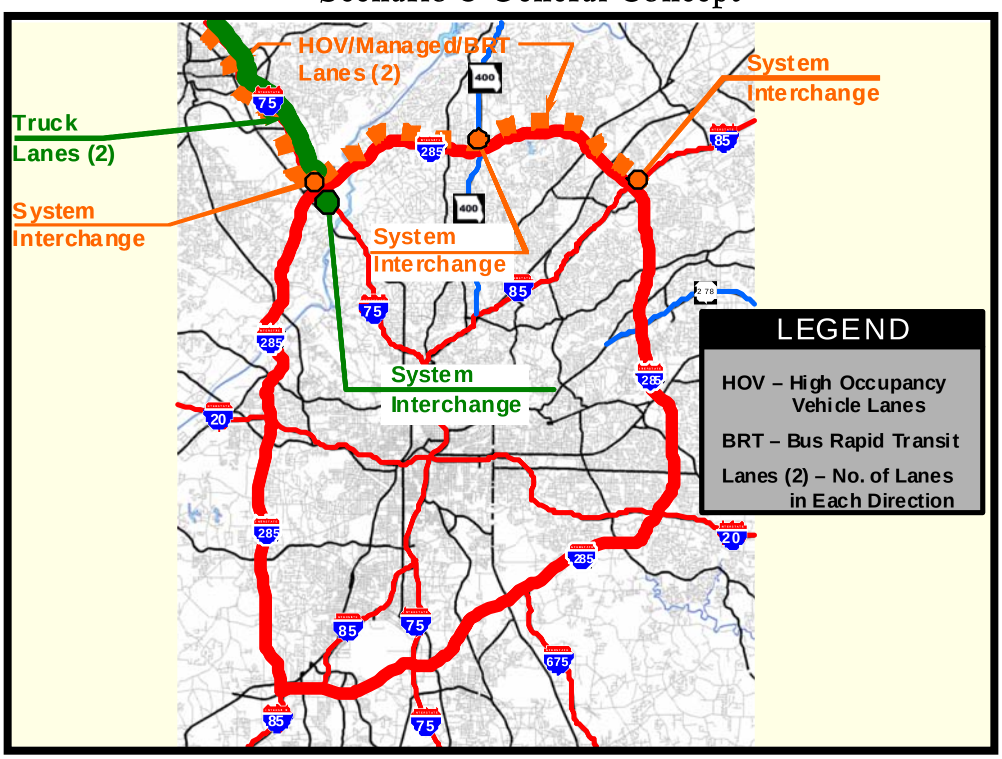


Figure 9
Scenario 4 General Concept

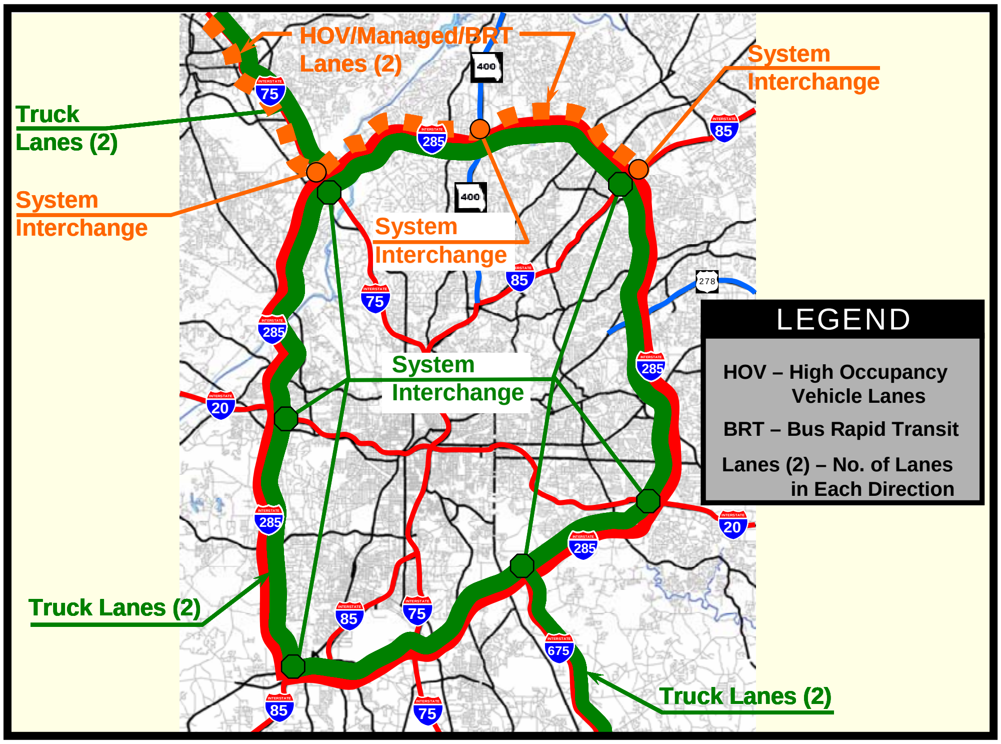


Figure 10
Scenario 5 General Concept

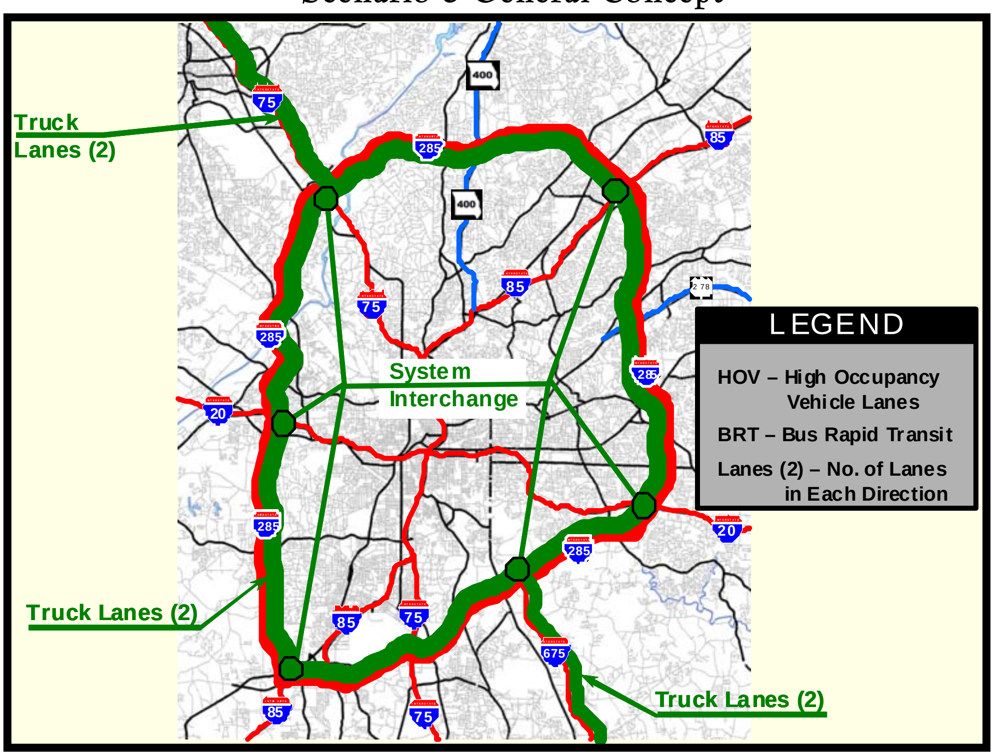


Figure 11
Scenario 6 General Concept

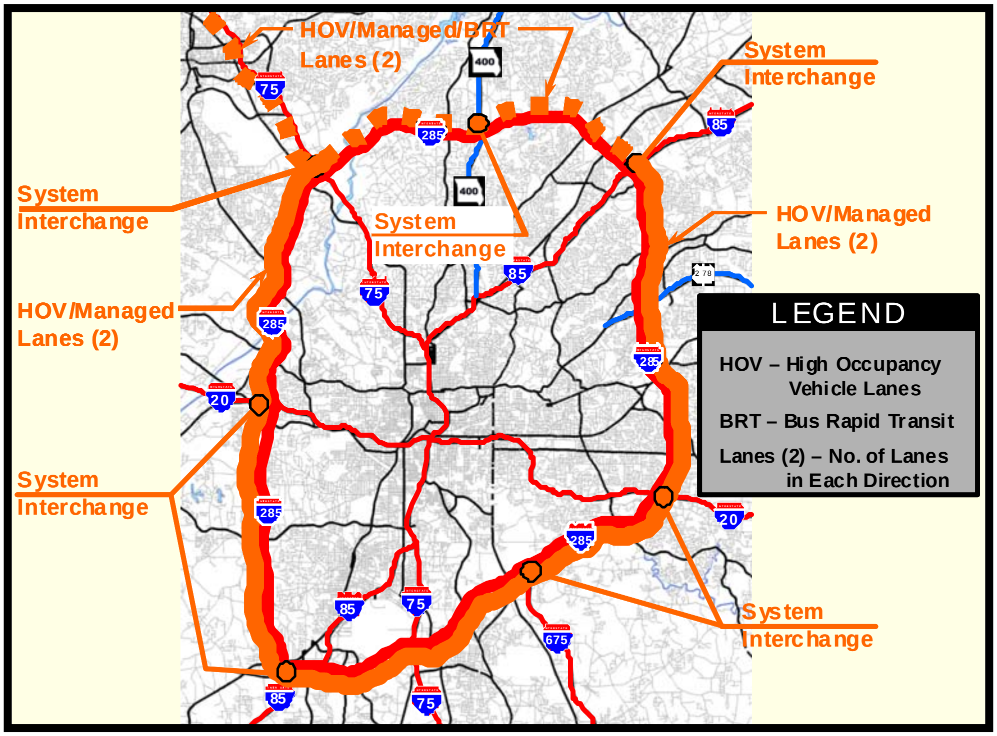
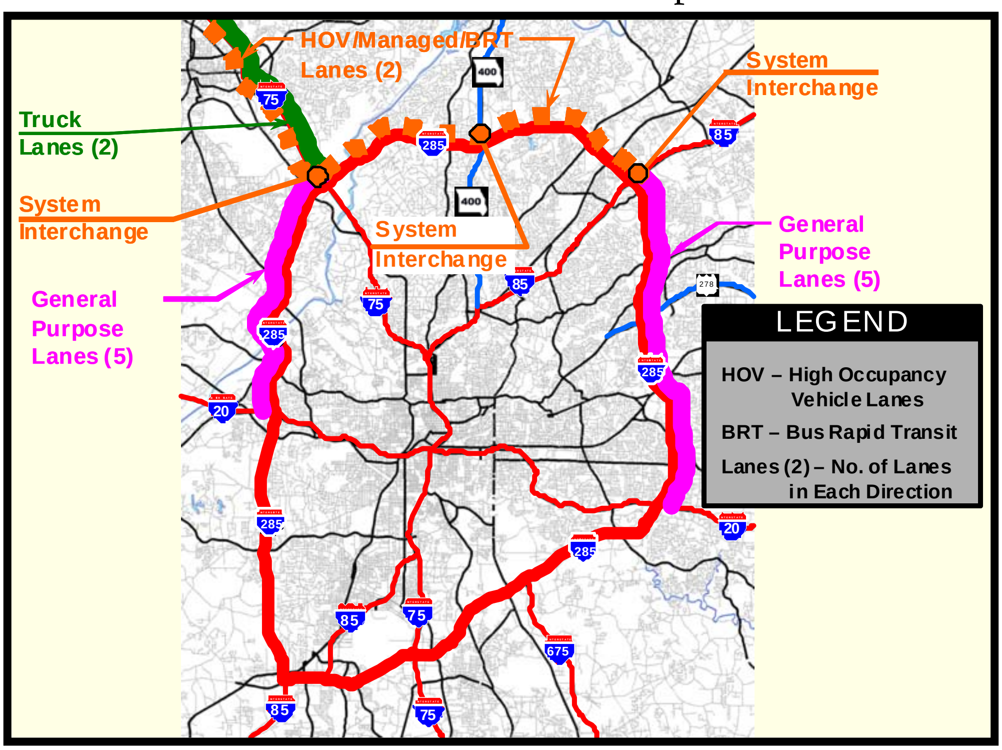


Figure 12
Scenario 7 General Concept



The evaluation measures used for the regional and corridor level of analysis were:

- Speeds,
- Delay costs,
- Percent of lane-miles of roadway greater than capacity,
- Percent of trips that have a travel time equal to the uncongested travel time, and
- Air quality.

The individual scenarios were compared with each other based upon which scenario performed the best for each of the individual evaluation measures for the regional and corridor levels. The scenario that was identified as best for an individual evaluation measure was given a score of 1. All other scenarios were given a score of 0 for that particular evaluation measure. If two (or more) scenarios were judged as equal, then each of the scenarios identified as best was given a score of 1 with the other scenarios being given a score of 0 for that particular evaluation measure. There were a total of 303 regional and corridor evaluation measures. Based upon these evaluation measures, Scenario 7 was identified as the best of the initial seven scenarios with a rating of 68.

Alternate Refinement

Using the insights gained in the testing and evaluation of initial seven scenarios, a second series of scenarios was investigated. This second series of scenarios also included the evaluation of improvement concepts that incorporated high occupancy toll (HOT) and truck only toll (TOT) managed lane concepts. Scenario 7 was also included in this second series of scenario testing and evaluation since it was identified as the "best" scenario in the initial round of scenario evaluation. This second round of scenario testing and evaluation also incorporated a detailed analysis of the operational characteristics of these scenarios using operational traffic simulation models to account for the actual traffic operations during morning and afternoon peak hour periods.

The second round of scenario testing and evaluation resulted in the investigation of five improvement concepts, Scenarios 8, 9R, 10, 11, and 12. These concepts were combinations of managed lanes (with and without tolls) for various sections of I-285. Scenarios 11 and 12 included the concept of mandatory truck use of managed (toll) lanes. These scenarios are illustrated in Figures 13 through 17. It is important to note that the tolls on the managed lanes, where tolls were included, were set to ensure that the managed lanes operated at a Level of Service C or better.

Estimated construction and rights-of-way costs were developed for Scenarios 7, 8, 9R, 10, and 11. These estimated costs were planning level cost estimates based upon 2007 construction and rights-of-way costs.

The analysis and evaluation of the five scenarios provided the following insights:

- No improvement scenario provided complete relief of the future (2030) congestion in the general purpose (GP) lanes on I-285 during the AM and PM peak periods for the northern, eastern, and western sections, i.e., there will continue to be significant congestion on I-285 during the AM and PM peak periods;

Figure 13
Scenario 8 General Concept

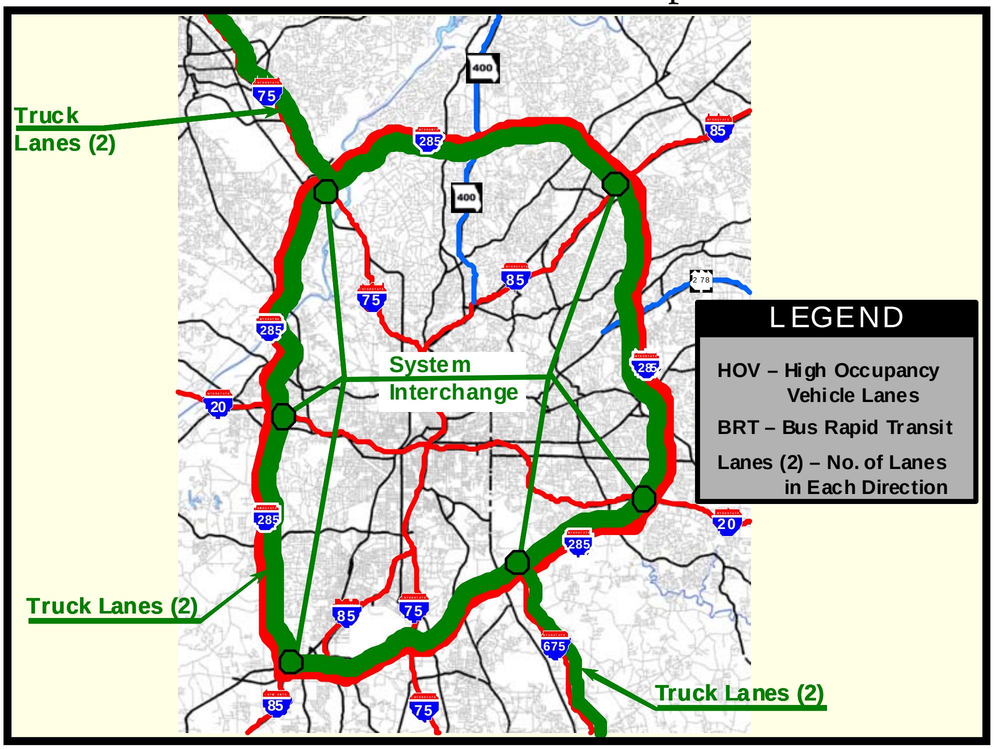


Figure 14
Scenario 9R General Concept

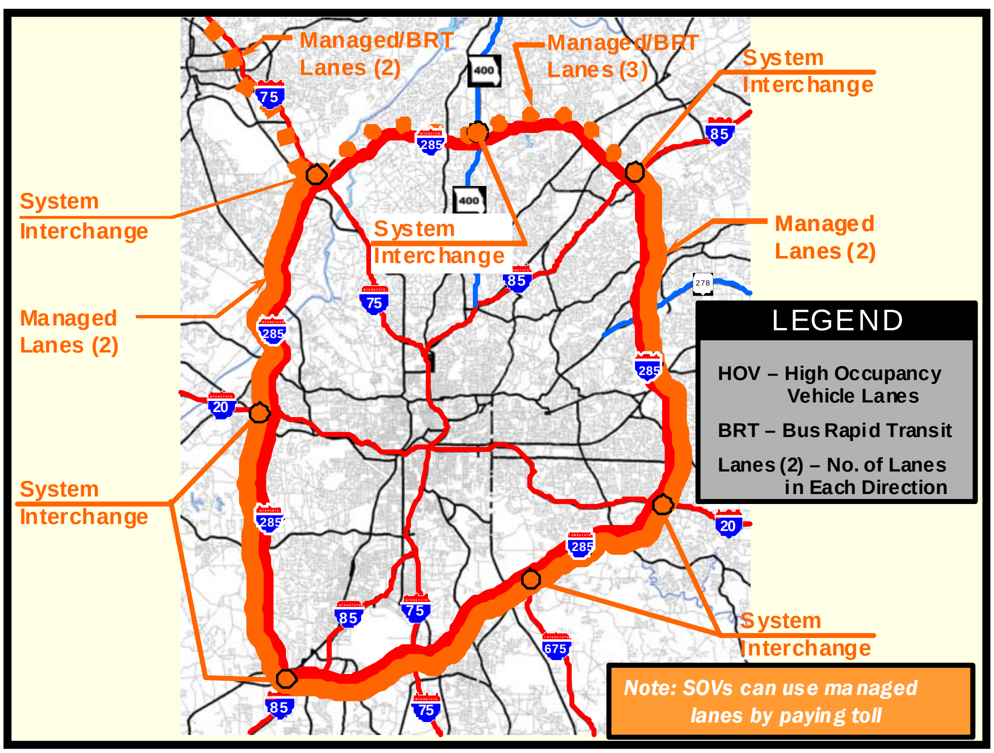


Figure 15
Scenario 10 General Concept

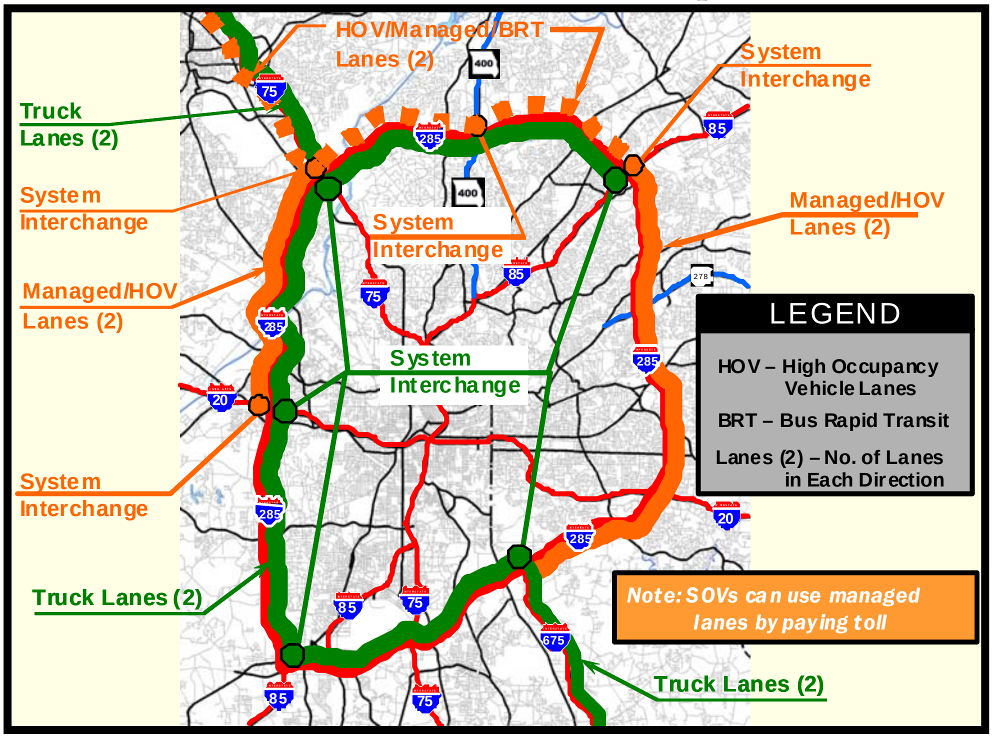


Figure 16
Scenario 11 General Concept

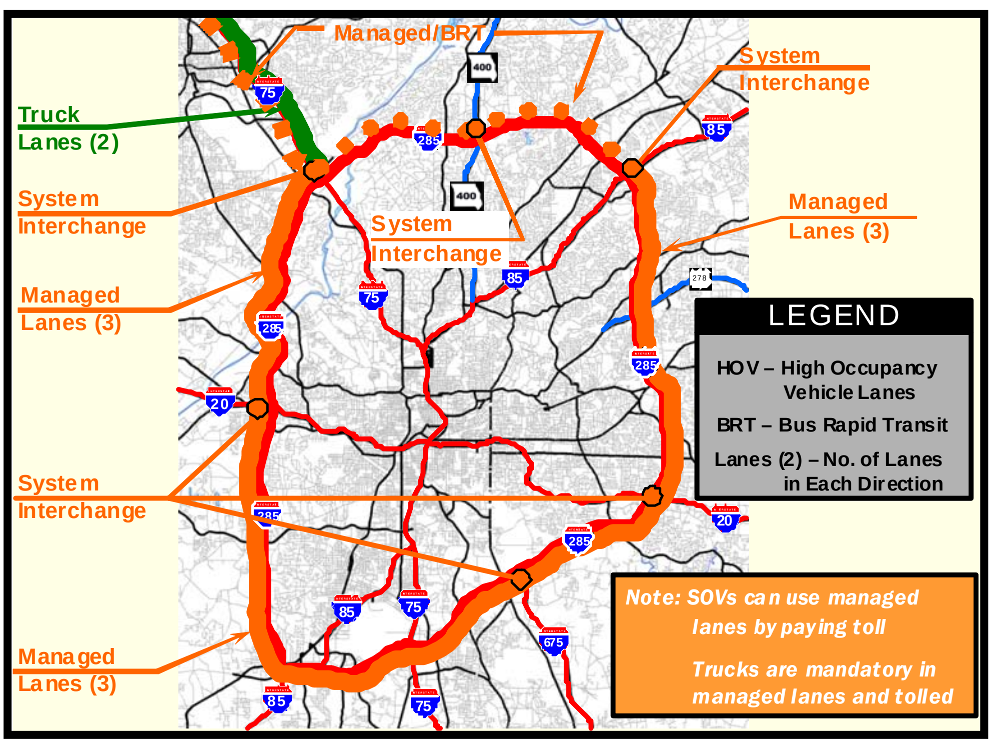
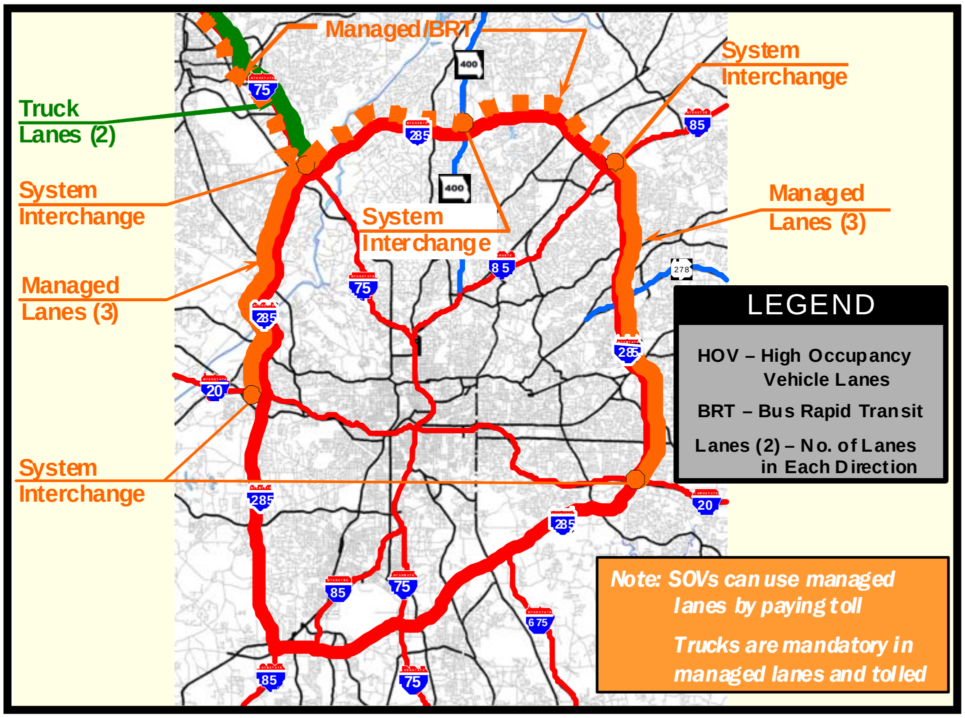


Figure 17
Scenario 12 General Concept



- Scenario 7 with the addition of general purpose lanes on the eastern and western sections was the only scenario with a positive benefit-to-cost ratio greater than 1.0. The managed lanes were assumed to be barrier separated with separate interchanges from the current GP lane interchanges. (Benefits were based upon user time cost savings and costs were estimated construction and right-of-way costs);
- Scenario 11 has the highest rating when all the evaluation factors are considered in an un-weighted analysis. Since there are more regional evaluation factors than there are operational evaluation factors (almost twice as many) this places a significant bias on the overall scenario evaluation toward the regional factors;
- When the regional and operational evaluation measures are equally weighted Scenarios 7 and 11 rank equally best with Scenario 8 being second best by a small margin; and
- Scenario 12 did not perform as well as Scenario 11 and subsequent detailed operational analysis for Scenario 12 was not undertaken.

Scenario 12 did not perform as well as the other scenarios and therefore detailed operational analysis for this scenario was not undertaken. Based upon this regional and corridor analysis Scenario 11 performed the "best".

Detailed operational analysis and evaluation was carried out for Scenarios 7, 8, 9R, 10, and 11 using the microsimulation component of the I-285 Strategic Implementation Plan model. This evaluation included a number of measures:

- Speeds,
- Lane densities,
- Lost time (delay),
- Intersection queue length and approach delay, and
- Viscosity Index (surrogate for Level of Service).

The results of this operational evaluation showed that Scenario 8 was identified as the "best" with Scenario 7 being the second best. The combined regional, corridor, and operational evaluation of Scenarios 7, 6, 9R, 10, and 11showed that Scenario 11 was the "best" and Scenario 7 was second best when all evaluation measures (regional, corridor, and operational) are taken into consideration.

The previous analyses and evaluations considered equal weighting for all factors. However, in reviewing the evaluation measures it is evident that more weight was being given to the regional and corridor evaluation measures than the operational measures, i.e., of the total of 455 evaluation measures 303 were regional and corridor with only 152 being operational measures. Since the operational aspects were considered to equally as important as the regional and corridor aspects of any proposed improvement plan for I-285, the evaluation measures were adjusted to provide for equal weighting of both sets of evaluation measures. The results of this weighting showed that both Scenario 7 and Scenario 11 were equal as being identified as the "best".

Other Considerations

In development of the I-285 Strategic Implementation Plan it is important to incorporate a number of factors that are not explicitly taken into account through the technical analysis and evaluation process previously described. Two primary factors needed to be incorporated into the overall process.

First, in the development of a managed lane system for the Atlanta metropolitan area, of which I-285 would be a major component, several key factors must be considered:

- The managed lane system cannot be composed of isolated segments, i.e., there must be an overall managed lane system throughout the region's transportation network in order to ensure viability and utility;
- The managed lane system must connect major regional origins and destinations, i.e., because of I-285's unique service characteristics it is major component of the region's transportation system linking major activity centers;
- The improvement plan for I-285 must provide for flexibility as conditions change over the planning horizon and beyond; and

- As part of the regional system to improve regional mobility, I-285 must be a part of the system of improvements that has a goal of providing a high level of travel time certainty for the region's trip makers.

Second, the implementation of any major transportation system improvements on I-285 must consider the funding resources available, including:

- Current funding constraints would not permit massive system improvements; and
- Tolls associated with managed lanes can provide a potential source of revenue to assist in making system improvements.

These considerations together with the technical analysis and evaluation previously described were combined to develop the overall I-285 Strategic Implementation Plan.

Recommended I-285 Strategic Implementation Plan

The recommended I-285 Strategic Implementation Plan has Scenario 11 as its basic framework. The basic plan has the following major components:

- Three managed lanes in each direction along all sections of I-285;
- The manages lanes would serve HOV, bus transit/BRT, SOV (tolled), and trucks (tolled); and
- The I-285 managed lane system would be connected to the managed lane systems on I-75, I-85, and I-20 with system-to-system interchanges.

In addition to this overall system improvement concept, a number of major operational improvements along I-285 would be implemented to improve the traffic operations and safety. These operational and safety improvements (see Figure 18) include:

1) Riverside Drive Interchange Improvements,
2) Roswell Road/Glenridge Drive/GA 400 Interchange Improvements,
3) Peachtree-Dunwoody Road/Ashford-Dunwoody Road Interchange Improvements,
4) North Shallowford Road/Peachtree Industrial Boulevard Interchange Improvements[1],
5) Stone Mountain Freeway Interchange Improvements[1],
6) I-20 West Interchange Improvements,
7) South Atlanta Road Interchange Improvements,
8) South Cobb Drive Interchange Improvements,
9) I-75 South Interchange Improvements,
10) Jonesboro Road Interchange Improvements, and
11) I-20 East Interchange Improvements.

[1] Improvement not in current Regional Transportation Plan (RTP)

I-285 Strategic Implementation Plan Phasing

One of the major objectives of the I-285 Strategic Implementation Plan was to determine the implementation phasing of the projects on the I-285 corridor to ensure that the most efficient project sequencing was identified. It was recognized that the sequencing of project implementation is critical to maintaining maximum operational efficiency within the corridor. Without the proper project sequencing, the operational efficiency within the corridor could be compromised. In other words, without proper project phasing the current operational problems in the corridor could be accentuated and even possibly exacerbated. Thus, the project implementation phasing was identified to improve and enhance the traffic operations and safety throughout the corridor. The analysis and evaluation has identified the critical elements of the implementation project phasing for the I-285 corridor. The I-285 Strategic Implementation Plan phasing is depicted in Table 3 and illustrated in Figure 18.

I-285 Strategic Implementation Plan Phase 1

The analysis and evaluation of the I-285 corridor identified the major congestion, both existing and in the future, would be associated with those sections of I-285 north of I-20. These problems were associated with insufficient capacity in several areas along I-285 and other connecting facilities:

- I-285 between I-85 north and I-20 east, generally referred to as the east wall,
- I-285 between I-75 north and I-20 west, generally referred to as the west wall,
- I-75 north of I-285, and
- I-85 north of I-285.

The analysis clearly demonstrated that the majority of the observed congestion on the northern section of I-285, from I-75 north to I-85 north, is associated with these capacity limitations outside the northern section. In general, it was determined that the northern section has sufficient capacity to accommodate the observed traffic volumes. Thus, before any consideration is given to the enhancement of the capacity of the northern section, capacity enhancements to those facilities outside the northern section (listed above) must be implemented. In other words, simply adding capacity to the northern section will not address the identified existing and future congestion problems on the northern section of I-285.

Therefore, Phase 1 of the I-285 Strategic Implementation Plan is divided into two elements. The first element, Phase 1a, includes the development of detailed plans for implementing the overall managed lane concept on I-285 north of I-20. These plans would provide the overall framework within which detailed operational improvements can be designed and implemented. This process is currently underway for the northern section (I-75 north to I-85 north) with the ***revive I-285* Top End** project. Similar efforts need to be initiated on the eastern (I-85 north to I-20 east) and western (I-75 north to I-20 west) sections of I-285. Within the overall framework of these managed lane improvement concepts the individual operational and safety improvements can be designed and implemented.

The second element of Phase 1, Phase 1b, would be the implementation of the managed lane elements on the eastern (I-85 north to I-20 east) and western (I-75 north to I-20 west) sections. It is assumed that the managed lane improvements to I-85 north and I-75 north will also be implemented during this timeframe.

It is critical to overall operations of I-285 that all the elements in Phase 1, north of I-20, be completed before beginning the implementation of Phase 2. These Phase 1 improvements provide the foundation for the Phase 2 improvements. Implementation of Phase 2 before Phase 1 is complete will only increase the levels of congestion on I-285 in the northern section (I-75 north to I-85 north).

I-285 Strategic Implementation Plan Phase 2

Phase 1 provides the foundation for the implementation of Phase 2. Without the completion of the Phase 1 projects north of I-20, the implementation of Phase 2 projects will significantly increase the levels of congestion on the northern section of I-285 (I-75 north to I-85 north).

I-285 Strategic Implementation Plan Phase 3

Phase 3 provides for the completion of the managed lane system on I-285. With the completion of Phase 3, all elements of the I-285 Strategic Implementation Plan will be complete providing for a system of managed lanes achieving the goal of providing a high level of travel time certainty for the region's trip makers in the I-285 corridor.

Table 3
I-285 Strategic Implementation Plan Improvement Phasing

Phase	Project
1a	Detailed Planning Studies for Managed Lanes I-85 North to I-20 East
	Detailed Planning Studies for Managed Lanes I-75 North to I-20 West
	Completion of the Detailed Planning Study for Northern Section (***revive I-285*** **Top End**)
	Riverside Drive Interchange Improvements
	Roswell Road/Glenridge Drive/GA 400 Interchange Improvements
	Peachtree-Dunwoody Road/Ashford-Dunwoody Road Interchange Improvements
	North Shallowford Road/Peachtree Industrial Boulevard Interchange Improvements[2]
	Stone Mountain Freeway Interchange Improvements[2]
	I-20 West Interchange Improvements
	South Atlanta Road Interchange Improvements
	South Cobb Drive Interchange Improvements
	I-75 South Interchange Improvements
	Jonesboro Road Interchange Improvements
	I-20 East Interchange Improvements
1b	Managed Lanes on I-285 from I-85 North to I-20 East
	Managed Lanes on I-285 from I-75 North to I-20 West
	Managed Lanes on I-75 North[1]
	Managed Lanes on I-85 North[1]
2	Managed Lanes on I-285 from I-75 North to I-85 North
3	Managed Lanes on I-285 from I-20 East to I-75 South
	Managed Lanes on I-285 from I-75 South to I-85 South
	Managed Lanes on I-285 from I-20 West to I-85 South

Note:
[1] Not part of the I-285 Strategic Implementation Plan
[2] Not part of the current Regional Transportation Plan (RTP)

Figure 18
Location of I-285 Strategic Implementation Plan Recommended Phasing