4. Development of New Project Concepts

In response to the changed conditions described in the previous chapter, several new concepts were developed for consideration. These concepts, which are described in this chapter, represent a refinement of the HOV/TOL Alternative evaluated in the AA/DEIS.

The new concepts were developed primarily in response to public comments on the AA/DEIS, changes in project funding and financial feasibility, and the adoption of new transportation policies and plans by GDOT. Foremost was the need to consider lower-cost alternatives, including a phased approach to project construction. And the results from the new ARC 2008 Travel Demand Forecasting Model needed to guide development of the new concepts derived from the HOV/TOL Alternative evaluated in the AA/DEIS.

4.1 Consideration of Lower-Cost Alternatives

As described in the previous chapter, GDOT has faced a number of changes affecting the financial feasibility of the alternatives evaluated in the AA/DEIS, which required GDOT to consider lower-cost alternatives in order to move the proposed project forward. The first consideration was to reduce project costs by eliminating the BRT and TOL elements of the project.

The BRT element of the proposed project was determined to be particularly in jeopardy given the changes in financial feasibility. The BRT element was identified in the AA/DEIS as the most effective transit alternative. But, the environmental document also stated that implementation of the alternative would be largely dependent upon receiving FTA New Starts funds. The ability to receive these funds is a competitive process as individual projects must meet the FTA cost-effectiveness criteria. Chapter 7 of the AA/DEIS indicated that FTA had expressed concerns about the transit mode share forecast using the ARC 2004 Travel Demand Forecasting Model. The FTA advised GRTA that the agency could not accept the forecasts as the basis for evaluating the project under the New Starts criteria. It is uncertain if the proposed BRT element would meet FTA cost-effective measures using the new 2008 ARC model. More importantly, it is unlikely the proposed BRT element would be sufficiently competitive to obtain Federal funding in an era of declining program funding. Without the New Starts funding, GDOT would have to rely on local funding for implementation of either the TSM or Reduced BRT transit alternatives. The exceptionally high level of transit service proposed for the Reduced BRT element contributed to making the project infeasible long-term. Considering these financial issues and public sentiment, GDOT decided to eliminate the BRT element of the proposed project.

The truck-only element of the proposed project was eliminated from further consideration due to strong stakeholder and public opposition, especially considering the project was not financially feasible without mandatory use of the preferred TOT lane facilities. A 2008 GDOT transportation policy study on truck-only lanes also did not recommend such improvements for the I-75 corridor due

to the high estimated construction costs, despite benefit-cost ratios that were positive. For these reasons, the truck-only lane element was eliminated from further consideration in an effort to define alternatives that are financially feasible long term.

As a result, both the BRT and truck-only elements of the proposed project were eliminated due to long-term financial infeasibility. GDOT subsequently initiated new studies to refine the proposed project such that the alternatives would meet the project purpose and need and provide for improved mobility and accessibility at an acceptable cost and level of environmental impacts.

4.2 Consideration of a Phased Project

Prior to the completion of the modeling for the project, PB prepared a memorandum to GDOT dated July 24, 2009 outlining an approach to reduce the initial construction cost for the proposed project. The memorandum is included in Attachment A.

The approach presented was based on several assumptions. They were:

- Modeling results based on the new ARC 20-county model would not provide any results inconsistent with the previous decisions upon which the build alternatives presented in the AA/DEIS were based.
- The peak to off-peak split would become more favorable to a bi-directional system as traffic operations approach the design horizon year.
- Funding for the build alternatives in the AA/DEIS would be severely limited and none of the build alternatives presented in the AA/DEIS would be feasible from a construction cost standpoint.
- The proposed build alternative that would logically be crafted based on the alternatives evaluated in the AA/DEIS after consideration of the comments received from the agencies and the general public would remain a bi-directional system on I-75 between I-285 and I-575.
- The transit element would no longer be a part of the proposed work based on the negative comments received from the City of Atlanta concerning the number of buses that would be operating on the streets of downtown Atlanta. Additionally, all supporting transit facilities such as transit stations and park-and-ride facilities would also be deleted.
- The truck-only lanes would be eliminated from further consideration based on comments from the trucking industry and revised policies at GDOT.
- The number of lanes on I-75 would be reduced from four lanes in each direction to two lanes in each direction between I-285 and I-575.
- The configuration of the proposed managed-lane systems on I-75 and I-575 north of the I-75/I-575 interchange would remain as proposed in the AA/DEIS.

The resulting configuration would have a reduced construction cost associated with it that would be consistent with the cost reductions required for financial

feasibility. Given that the configuration remained beyond the financial reach of the funds available, it was suggested that GDOT might consider a phased approach to construction.

The first phase of the proposed construction would consist of the two lanes on the west side of the corridor operated as a reversible-lane system and the proposed improvements to I-75 and I-575 north of the I-75/I-575 interchange. At a future date, assuming that funds would become available and the peak to off-peak splits approach a ratio of 50:50, the second phase could then be implemented with appropriate system modifications at the project limits for changing operation from reversible to bi-directional managed-lane system.

However, after the completion of the modeling using the new ARC 20-County model, a different picture has emerged. It is clear, based on the new modeling data, the traffic flow is highly directional in both AM and PM peak periods at the design horizon year. This information raised a question about how effective a phased approach to ultimately construct a bi-directional system would be in the later stages of the project.

In order to obtain some insight into how well the first phase reversible-lane system would perform, the configuration was modeled using the new ARC 20-county model. The results indicate that the reversible-lane system would perform very well through the design horizon year. The performance was basically equal to the bi-directional system in the peak direction. In addition, operational characteristics in the off-peak direction indicated that the existing general purpose lanes performed acceptably through the design horizon year. This information led to the conclusion that the peak period benefits comparable to the bi-directional system could be realized with a significant reduction in cost by using a reversible-lane system configuration as a stand-alone project.

4.3 Approach to Travel Demand Forecasting

The ARC 2008 Travel Demand Forecasting Model for the 20-county Atlanta metropolitan region forecasts through the horizon year 2030. However, with a project opening year of 2015, the 20-year design horizon year is 2035. Through a post-processing approach, the project team used the 20-county land use data to extrapolate travel demand for the 2035 horizon year.

The model provides travel statistics about the average daily as well as AM and PM peak period traffic volumes. It is calibrated to replicate existing travel patterns by mode on the basis of existing land use and transportation facilities and services. The forecasted traffic output from the model is based on planned land use and transportation facilities and services through consideration of regional long-range land use and transportation plans adopted by the ARC. The resulting traffic forecasts cannot be precise, but it is considered valid for the purposes of comparing alternatives.

To start the new modeling analysis, the project team needed to forecast traffic for the No-Build Alternative. This alternative is only slightly different from the No-Build Alternative evaluated in the AA/DEIS. Changes include a somewhat

different set of assumptions regarding transportation and transit improvement projects that would be implemented through 2035 based on the newly adopted RTP (ARC 2007b).

Second, the traffic modeling effort needed to evaluate the HOV element of the four build alternatives evaluated in the AA/DEIS as a stand-alone alternative. As described earlier, the project team had eliminated the TOL and BRT elements of the proposed project.

The HOV element of the proposed project was a bi-directional managed-lane system. Key attributes include extending the existing I-75 HOV lanes that terminate just south of I-285 from Akers Mill Road north to Hickory Grove Road. On I-575, the HOV lanes would extend from the I-575/I-75 interchange north to Sixes Road. The existing HOV system south of I-285 includes two lanes, one in each direction. Between I-285 and I-575, the proposed project would include four HOV lanes, two in each direction, for I-75. North of I-575, two HOV lanes would continue to provide additional roadway capacity of one lane in each direction north to Hickory Grove Road. On I-575, a two-lane HOV system was proposed with one lane in each direction.

As described in the previous section, early modeling efforts indicated that the peak period directional split in traffic volumes for 2035 was somewhat different from the results of the modeling supporting the AA/DEIS. The new 2008 Travel Demand Forecasting Model indicated stronger directional flows during peak periods. Moreover, these initial modeling efforts showed potential opportunities for a reversible managed lane system, not just a bi-directional managed-lane system.

The concept of reversible lanes has been discussed on two occasions during project development, and the concept was dropped from further consideration on both occasions. During 2002, there was a brief investigation into reversible lanes as a short-term, low cost, solution for the corridor. This investigation happened prior to the addition of the BRT element during the Interim Project (GDOT PI Number 0002039) concept development (see Section 4.4.1 below). In search of the Ultimate HOV Project, GDOT dropped the idea. So, when presenting the project alternatives at the 2004 scoping meeting, reversible lanes were not part of any of the project alternatives. Then, at the scoping meeting public comments included the suggestion that GDOT should consider a reversible-lane system. Investigation into the idea at that time, however, showed the concept was not as beneficial as the HOV Alternative. Traffic modeling conducted indicated that long-term traffic trends for the 13-county region would reduce the directional-split over time. Typically, a peak period directional volume split of approximately 65/35 is desirable (AASHTO 2004) for a reversible system. At that time, traffic modeling for the near-term period showed that the implementation of reversible lanes could be feasible as traffic exceeded a 70/30 split in the AM peak period and approximated a 65/35 split in the PM peak period for the base year. However, the traffic modeling also indicated that the traffic volume split for peak periods would decline to about 57/43 or less by 2030. These forecast traffic volumes indicated that the corridor would be a less than desirable candidate for reversible lanes.

The reversible lane concept would entail construction of new travel lanes, which would provide additional highway capacity during peak periods. In this way, underused capacity in the contra-flow travel lanes is not "wasted" public expenditure. During the AM peak period, both travel lanes would accommodate southbound traffic – the peak direction of travel on I-75. And, during the PM peak period, the directional flow of traffic on the managed lanes would be northbound. Traffic modeling indentified a need for two travel lanes south of the I-75/I-575 interchange and a single travel lane for both I-75 and I-575 north of this interchange.

Based on previous regional understanding of forecast peak period traffic conditions, however, the project team also suspected that due to "latent" demand, the number of reversible lanes on I-75 between I-285 and I-575 potentially could be increased from two to three lanes. This issue of "latent" demand was discussed in the AA/DEIS as the explanation for the apparent lack of improvement to I-75 in 2030 despite the proposed highway improvements. In Section 4.3.1.3, the discussion of arterial roadways parallel to the I-75 corridor explains that rather than an improvement in level of service on I-75, the highway improvements would reduce traffic volumes and increase level of service on the parallel arterials. With improved travel conditions on I-75, drivers would choose to leave the arterial system and use the highway system to reduce travel time.

As a result, the traffic modeling with the new ARC model investigated a total of five concepts. These included the no build concept, a bi-directional concept, two reversible lane system concepts, and a three-lane reversible lane concept. These concepts and the results of the traffic modeling are presented in the followings sections.

4.4 Reconsideration of Reversible Lanes

4.4.1 Early Studies of Reversible Lanes

The Interim Project on I-75 explored inexpensive ways to temporarily extend the existing HOV system while the Ultimate HOV Project concepts were being developed in parallel to examine the long-term requirements for the HOV systems on I-75 and I-575. The reversible-lane concepts for the Northwest Corridor that were originally considered for the Interim Project were part of a contra-flow system evaluation to explore short-term, low-cost solutions for the corridor in the early stages of project concept development prior to the addition of the transit and truck-only lane elements.

The reversible lanes on I-75 were considered to avoid replacing the bridges at Windy Hill Road, Delk Road and South Marietta Parkway since their spans were inadequate to allow an additional lane to be added. Therefore a contra-flow system with a movable barrier (zipper lanes) was viewed as a viable configuration. However, the result was a significant additional cost for the required equipment, maintenance and operating expenses without substantial right-of-way reductions or other cost savings.

The key points of prior project meeting minutes discussing the decision to evaluate and dismiss reversible (contra-flow) lanes are summarized below to provide the project history that lead to eliminating the reversible lanes at that time.

- The original project contract identified two approaches to extending the HOV system on I-75. The first approach was to develop an Interim Project that would extend the existing HOV system on I-75 from Akers Mill Road north to Wade Green Road. The Interim Project was explored simultaneously with the development of the Ultimate HOV Project for both corridors between January and October 2002.
- The criteria for the Interim Project were: to minimize those aspects of the work that would present problems in providing for starting construction in FY2003; to include no significant environmental impacts so NEPA compliance could be met through the preparation of a Categorical Exclusion; to not cause negative operational impacts on existing general-purpose lanes; and to be part of the ultimate vision by avoiding "throw-away" costs.
- At the time, ARC travel demand forecasting indicated that the ratio of peak to off-peak directional split on I-75 was 57/43. This made a reversible-lane system questionable since a split in the range of 60/40 or better is typically desired for operational efficiency.
- An initial issue on the contra-flow system was that the moveable barrier would require the minimal shoulders adjacent to the barrier to facilitate barrier movement, but would adversely affect emergency access.
- The approach for the reversible-lane concepts included the purchase of three barrier-moving machines to have appropriate capacity in case of possible failure of one of the machines. This significantly increased the project cost.

Some conclusions resulting from the traffic forecast analysis performed for this concept included:

- Removing a lane in the off-peak direction would not gridlock off-peak traffic but would adversely affect operations.
- If a contra-flow system were to be implemented, severe congestion would occur from Barrett Parkway to Wade Green Road due to a reduction from three to two lanes in the off-peak direction.
- The directional flow split would change to 64/36 from the originally derived ratio due to the over-stated off-peak volumes from the ARC 2004 Travel Demand Forecasting Model.
- It also was noted that the "throw-away cost" of the project associated with the replacement of the bridges at Windy Hill Road, Delk Road and South Marietta Parkway could be as much as 45 percent of the total construction cost.

As a result, the Director of Preconstruction decided to eliminate the contra-flow concept from consideration based on the time constraints associated with placing the Interim Project in operation by 2005.

There were several subsequent meetings to discuss the Interim Project. However, it was the consensus at the end of the concept development process that the Interim Project should be abandoned in favor of implementing the Ultimate HOV Project. In a letter to PB dated October 30, 2002, GDOT ordered PB to stop work on the development of the Interim Project concepts in favor of developing the Ultimate HOV Project.

For a complete discussion of the details of Interim Project process please see Attachment B.

4.4.2 The AA/DEIS Justification for Elimination

Reversible lanes for I-75 were examined during project concept development for the Ultimate HOV Project, but were not carried forward into the AA/DEIS as alternatives for detailed environmental analysis. The AA/DEIS discusses the elimination of reversible lanes in Section 2.3.3.3 quoted below.

> *A reversible lane concept was suggested as an alternative to reducing right-of-way impacts and costs. Upon study, it was determined that the right-of-way needed for a reversible lane section is not substantially different from that needed for a conventional lane section. The American Association of State Highway and Transportation Officials (AASHTO) publication "A Policy on the Geometric Design of Highways and Streets" (AASHTO, 2001) reports that the right-of-way needed for a three-two-three reversible section is the same right-of-way requirement as a 10-lane conventional freeway with a 24-foot median. This is partially a result of the requirement for a full-width shoulder on each side of the reversible segment and required extra width at the access locations. Because the footprint of reversible lanes would not be substantially different there would not be a substantial reduction in capital cost...*
>
> *...In the project corridor, current traffic volumes are fairly directional in the peak periods, particularly in the a.m. peak period with over 70/30 in the a.m. peak period and nearly 65/35 in the p.m. peak period. However, the directional demand is forecast to become more balanced in the future, A review of the 2030 travel demand model projections in the I-75 corridor indicated that the directional split would be 60/40 or less during both peak periods. This would make the corridor a less than desirable candidate for reversible lanes.*
>
> *Thus for several reasons, reversible lanes would not be an ideal solution. The reversible lanes would not substantially reduce right-of-way requirements. The capital and operating cost for the machinery to move the barriers would be excessive, and the off-peak directional traffic in the future could be adversely affected with the reduction in the number of*

lanes. For these reasons, reversible lanes were eliminated from consideration.

4.4.3 New Traffic Forecast Data Indicate Potential Feasibility

As mentioned above, the previous evaluations of the directional flow splits for the I-75/I-575 corridor were based on the ARC 13-county 2004 Travel Demand Forecasting Model. Specifically, the analysis was based on 2035 projections of no-build conditions, which determined the directional flow split was 57/43 and estimated to become more balanced in future years. The ARC Travel Demand Forecasting Model was updated in 2008 to include 20 counties in the Atlanta metropolitan area, including Bartow County immediately north of the project area. While the previous 13-county model was only able to estimate trip attractions and destinations in Bartow County, the new 20-county model includes business, residential and commercial land use and socio-economic forecast information for a more accurate transportation network forecast.

Travel demand forecasts using the 20-county model show a greater directional split for 2035 no-build conditions. Furthermore, when bi-directional and reversible-lane highway network concepts were tested, the peak hour directional distributions were even greater. This illustrated the strength of the latent demand in the peak period direction of travel. The data showed the highway off-peak direction is near capacity, not constrained in travel-time measures, and the peak direction is over-capacity and constrained. When additional managed lanes were included, the model showed vehicles traveling in the peak direction divert to the managed lane in nearly a 5:1 ratio compared to the off-peak direction. This travel demand would be equivalent to at least two managed lanes at capacity. Thus, the directional split with additional lanes in the peak direction is at, near, or exceeds the desirable 65/35 directional flow split.

4.4.4 Engineering Guidance for Reversible Lanes

As stated in the AA/DEIS, AASHTO recommends directional flow splits for peak period traffic volumes should be at or exceed a 65/35 split for reversible lanes. And, not meeting this threshold long-term was the primary reason reversible lanes for I-75 were originally eliminated from further consideration. However, a broader understanding of current implementation of managed-lane systems has encouraged re-consideration of the reversible-lane concept.

A 2004 National Cooperative Highway Research Program publication titled *Convertible Roads and Lanes* (NCHRP 2004) reports on a number of studies of reversible lanes. The publication includes a 1999 study by the Institute of Transportation Engineers on best practices for planning and analyzing reversible and contraflow lanes. This study suggests that a combination of criteria should be considered when evaluating reversible lanes. These criteria include:

- The average freeway speed should decrease by at least 25 percent during the trouble periods compared to normal speeds during uncongested periods.

- The travel demand should be greater than the freeway capacity.
- The traffic congestion problem should be both periodic and predictable.
- The ratio of major to minor traffic flows should be at least 2:1, and preferably 3:1.
- The reversible-lane system must be designed with adequate entrances and exits and they must provide easy transition between reversible directions.

Based on the travel demand forecasting results described in Chapter 5, the Northwest Corridor generally meets these several criteria. Only a few highway segments do not fully meet the 2:1 directional split ratio. This ratio, however, applies more to a reversible contra-flow system in which lane capacity is removed for the off-peak direction. Due to the preliminary results of the travel demand modeling, however, this would not be proposed for the I-75/I-575 corridor. Instead, the reversible lanes would add capacity in the peak direction. In fact, the 2035 traffic forecasts described in Chapter 5 show that traffic in the off-peak direction is not adversely affected by reversible-lane operations. Moreover, the traffic forecasts demonstrate reversible lanes in the Northwest Corridor would provide acceptable operating conditions though the 2035 design year.

4.5 Horizontal Alignment Issues

To the south of Windy Hill Road, locating the HOV lanes on the east side of the existing highway would create substantial design challenges to connect the I-75 travel lanes to I-285 and would impact the existing tunnel along with several businesses and governmental offices.

Placing the HOV lanes on the east side of the existing highway near Terrell Mill Road and Delk Road would result in substantial impacts to Rottenwood Creek, which runs parallel to the highway for about one-half mile. Smaller streams are located on both sides of the highway elsewhere along the highway corridor.

Locating the HOV lanes on the east side of the highway would result in significant adverse impacts to the Gresham Cemetery (near Gresham Road) and the Tucker Cemetery (north of Marietta Parkway) as both abut the right-of-way on the east side of the highway. State law prohibits ground-disturbing activities within the boundaries of cemeteries.

Aligning the HOV lanes on the east side of the highway would result in the displacement of a substantial number of single-family dwellings, whereas land uses elsewhere along the corridor are fairly similar on the two sides of the freeway.

Because of these significant adverse impacts associated with the HOV lanes on the east side of the highway, the proposed HOV lanes would need to cross to the west side at several locations to avoid those impact areas that are identified

above and then cross back to the east side. This would introduce significant additional cost to the Project.

Because of these considerations, the optimum location of a reversible-lane system was determined to be on the west side of I-75 between I-285 and I-575.

4.6 New Managed-Lane Concepts

As a result of considering the new information available and comments received on the AA/DEIS, the project team decided to further investigate three new concepts for the Northwest Corridor Project. The main attributes of these concepts are presented in Table 4-1. These concepts are described in the sections below.

Table 4-1. New Managed-Lane Concepts

Corridor Segment	Concept A Bi-Directional	Concept B1 2-Lane Reversible	Concept B2 2-Lane Reversible Optional Slip Ramps	Concept C - 3-Lane Reversible
Segment 1 (I-75 South Section)	4 B lanes 4 MLI accesses	2 R lanes 4 MLI accesses	2 R lanes 4 MLI accesses	3 R lanes 4 MLI accesses
Segment 2 (I-75 Middle Section)	3 B lanes 2 MLI accesses	1 R lanes 2 MLI accesses	1 R lanes 2 MLI accesses	2 R lanes 2 MLI accesses
Segment 3 (I-75 North Section)	2 B lanes 1 MLI accesses	1 R lane 1 MLI accesses	1 R lane 1 MLI accesses	1 R lane 1 MLI accesses
Segment 4 (I-575 Section)	2 B lanes 5 MLI accesses	1 R lane 5 MLI accesses	1 R lane 3 slip ramp accesses in each direction	1-2 R lane* 5 MLI accesses

Notes:
Segment 1 – I-75 South Section extends from Akers Mill Road north to the I-75/I-575 interchange.
Segment 2 – I-75 Middle Section extends from the I-75/I-575 interchange north to Big Shanty Rd.
Segment 3 – I-75 North Section extends from Big Shanty Rd to Hickory Grove Rd.
Segment 4 – I-575 Section extends from the I-75/I-575 interchange north to Sixes Rd.
B = bi-directional lane
R = reversible lane
MLI = managed-lane interchange
* In this concept, two reversible lanes are proposed from I-575 to Big Shanty Road.

Concept A is a bi-directional managed lane system. Concept B is a reversible lane system with two lanes along I-75 south of the I-75/I-575 interchange (segment 1). This concept has managed-lane interchanges (direct access ramps), except an optional design for this concept could include slip ramps on I-575 (segment 4). The concept with the direct access ramps is referred to as Concept B1 and the concept with the slip ramps is Concept B2. While there are only minor differences between the two design options, the Concepts B1 and B2 can simply be referred to as Concept B. In contrast, Concept C is a reversible-lane system, but it would have three reversible lanes along I-75 south of the I-75/I-575 interchange (segment 1).

4.6.1 Concept A - Bi-Directional Managed Lanes

Concept A is essentially the same as the managed-lane element of the build alternatives evaluated in detail in the AA/DEIS, i.e. HOV lanes. However, the number of lanes has changed in response to comments from the DEIS and the proposed alignment would slightly differ.

For this concept, the existing two I-75 HOV lanes (one in each direction) that extend from downtown Atlanta to just south of Akers Mill Road would connect and transition to four HOV lanes (two in each direction) north of I-285. The four proposed HOV lanes on I-75 would connect to the general-purpose lanes on I-285 and the existing HOV lanes on I-75 south of Akers Mill Road, thus providing system-to-system connections. On I-75 between I-575 and Big Shanty Road, the managed lanes would transition to three and then two lanes. From Big Shanty Road, two HOV lanes would extend north to Hickory Grove Road.

On both I-75 and I-575, the two managed lanes (one in each direction) would be constructed in the median of the highway from the I-75/I-575 Interchange to north of Hickory Grove and Sixes Roads respectively. The single bi-directional lanes would join together and operate as two bi-directional lanes on I-75 between I-575 and I-285.

This concept would include access points to the new managed lanes on I-75 and I-575. Access points would be provided on I-75 at the following interchanges: I-285, Terrell Mill Road, Roswell Road, I-575, Big Shanty Road and Hickory Grove Road. On I-575, access points would be provided at I-75, Big Shanty Road, Shallowford Road and Dupree Road.

4.6.2 Concept B – Two Reversible Lanes with a Design Option

Concept B is different from Concept A in that the proposed managed lanes on both I-75 and I-575 north of the I-75/I-575 Interchange would be reversible lanes. This concept would be less costly to construct than Concept A due to the reduced number of travel lanes and interchange accesses. This concept would provide the same general capacity as the two managed lanes for peak period directional flow, e.g., towards downtown Atlanta during the AM peak periods. This concept, however, would not provide any expanded highway capacity for contra-flow traffic during peak periods.

The number of managed-lane access points on I-75 under Concept B would be identical to Concepts A and C. There are two options being considered for access on I-575:

- Option B1: On I-575, direct access ramps to the managed lane system would be provided at Big Shanty Road, Shallowford Rd and Dupree Road. This I-575 access is identical to Concepts A and C.
- Option B2: This option would eliminate any direct access to the cross streets and have only slip ramp accesses on I-575 between the managed lane and general purpose lane systems. In the southbound direction, the slip ramp access points are south of Barrett Parkway, south of Shallowford Road and at

the beginning of the system south of Sixes Road. In the northbound direction, the slip ramp access points are south of Big Shanty, north of Shallowford Road and at the end of the system south of Sixes Road. Note that the southbound access points only allow vehicles to enter the managed lane system and the northbound access points only allow vehicles to exit the managed lane system.

Discussions of this option in later chapters of this report will refer to Concept B1 for the concept with direct access ramps on I-575, and Concept B2 will refer to the design option that includes the slip ramps on I-575.

4.6.3 Concept C – Three Reversible Lanes

Because the traffic forecast for the No Build Alternative using the new 2008 Travel Demand Forecasting Model demonstrated substantial latent demand on I-75, Concept C would increase the number of I-75 reversible lanes from two to three lanes from I-285 to I-575. The concept would provide increased highway capacity for peak period directional flow. This additional capacity would allow motorists currently using parallel arterial routes to obtain reduced travel times using the highway instead of the arterial roads.

On I-75 between I-575 and Big Shanty Road, the number of reversible lanes would be reduced to two lanes. North of Big Shanty Road, a single reversible lane would extend to north of Hickory Grove Road. On I-575, this concept includes two reversible lanes from I-575 to Big Shanty Road and one reversible lane north to Sixes Road. These managed lanes would be constructed entirely within the existing highway median between the existing northbound and southbound general-purpose travel lanes. The access points on I-75 and I-575 are identical to Concepts A and B1 including direct access points on I-575 at Big Shanty, Shallowford, and Dupree Roads.