

2. Alternatives Considered in the AA/DEIS

This chapter reviews the alternatives considered and evaluated in the *Northwest I-75/I-575 Corridor AA/DEIS* and identifies the unresolved issues in the AA/DEIS. It also summarizes the project purpose and need used for consideration and development of the alternatives in the AA/DEIS.

2.1 Purpose and Need Statement

The purpose and need for the Northwest Corridor Project is clearly stated in Section 1.2 of the AA/DEIS. The text below is a quote from that section.

Multimodal transportation improvements are proposed for the Northwest Corridor to meet long-term regional transportation needs. Urban development in Cobb and Cherokee counties over the past decades has substantially increased traffic congestion on both I-75 and I-575. Mobility has increasingly become difficult and time consuming for commuters and interstate travelers using I-75 and I-575 within the Northwest Corridor. The congestion equally affects single-occupancy vehicles (SOVs), HOVs, buses, and commercial vehicles. In addition, there are segments of I-75 and interchanges with design deficiencies that contribute to congestion and safety concerns. In addition, the availability of undeveloped land in the project study area and pressures for continued urbanization are projected to result in substantial increases in both population and employment, which would lead to highway congestion.

To address these concerns, the purpose of the Northwest I-75/I-575 Corridor Project is to address the following needs:

- *Need to reduce congestion*
- *Need to improve mobility by reducing travel time and increasing reliability*
- *Need to improve access by improving connectivity between regional activity centers*
- *Need to improve safety by reducing existing roadway design deficiencies and congestion-related crashes*
- *Need to reduce vehicle emissions by improving vehicular travel efficiency and increasing the proportion of high-capacity vehicles.*

Project goals were developed for the Northwest I-75/I-575 Corridor Project. These goals were developed based on the transportation needs of the study area and were used to identify the alternatives..... The goals address project effectiveness, environmental impacts, equity, cost-effectiveness, and financial feasibility. The project goals are listed below.

- *Improve transportation effectiveness of I-75 and I-575 to additional travel and to contribute to the improved performance of the regional system*
- *Provide additional transportation choices or options that increase the capacity of I-75 and I-575*

- *Improve the quality of life by improving mobility and minimizing effects to both natural resources and the built environment*
- *Improve transportation equity by providing an equitable distribution of benefits and impacts to all populations*
- *Provide cost-effective and affordable transportation improvements.*

A number of different quantifiable measures were developed to assess the effectiveness of each alternative in meeting the project goals (see Table 2-1). As goals, however, it is not necessary that all of the alternatives meet the goals equally well. In fact, the ability of some alternatives to better meet some goals compared to others identifies the distinct advantages and disadvantages of the alternatives and highlights the trade-offs between the alternatives. Chapter 7 of the AA/DEIS discusses the measures of effectiveness and trade-offs of the alternatives evaluated in detail in the AA/DEIS.

Table 2-1. Project Measures of Effectiveness

1. Improve transportation effectiveness <ul style="list-style-type: none"> • traffic volume • vehicle hours of travel • level of service • average travel time • travel time savings • transit level of service • transit ridership • system user benefits • travel time to activity centers
2. Provide additional transportation choices <ul style="list-style-type: none"> • addition of HOV, HOT, TOL, TOT, express bus service • reduced SOV person trips
3. Improve quality of life <ul style="list-style-type: none"> • effects on natural resources • effects on the built environment
4. Improve transportation equity¹ <ul style="list-style-type: none"> • highway travel times to activity centers by user groups • transit travel times to activity centers by user groups for transit-walk access • transit travel times to activity centers by user groups for transit-drive access
5. Provide cost-effective and affordable improvements <ul style="list-style-type: none"> • year of expenditure capital costs • 2030 transit operation and maintenance costs • financial feasibility • cost effectiveness for transit elements

Note:

HOV = high-occupancy vehicle

HOT = high-occupancy toll

TOL = truck-only lane

TOT = truck-only lane toll

SOV = single-occupancy vehicle

1. User groups evaluated for transportation equity included residents living in the benefit area, disadvantaged neighborhoods, disadvantaged neighborhoods with displacement and transit-dependent neighborhoods.

2.2 Screening of Potential Alternatives

The build alternatives evaluated in the Northwest I-75/I-575 Corridor Project AA/DEIS were selected from a number of alternatives developed to address the project purpose and need. Some of these alternatives were considered in earlier studies prior to the initiation of the NEPA process for the proposed project, and others were considered during scoping for the AA/DEIS. A brief description of these alternatives and the extensive alternatives screening process is presented below.

2.2.1 GRTA Transit Alternatives

In the initial phase of the project, the Georgia Regional Transit Agency (GRTA) evaluated a number of transit alternatives in the *Northwest Corridor Connectivity Study* (GRTA 2003). This study investigated various transit modes and alternative alignments for the corridor between Midtown and Town Center in Cobb County. The study used a three-step process consisting of an initial screening of a long list of alternative modes and alignments, an intermediate screening of a short list of 11 conceptual alternatives, and a detailed evaluation of three candidate alternatives. Transit modes evaluated included: express bus, bus rapid transit, light rail, heavy rail, grade-separated transit, and regional rail. One or more corridor alignments were examined for each transit mode.

With the public input clearly showing a preference for either bus rapid transit (BRT) or light rail transit (LRT), GRTA identified the following three resulting candidate alternatives:

1. An express bus/HOV alternative with express buses operating along I-75 from the Metropolitan Atlanta Rapid Transit Authority (MARTA) Arts Center Station north to the Busbee park-and-ride lot near Town Center,
2. A light rail alternative operating from the MARTA North Avenue Station north along Northside Drive to Marietta Parkway, and
3. A BRT/HOV alternative with BRT service operating from the MARTA Arts Center Station north along Northside Drive to Kennesaw.

Following additional analysis, GRTA decided to eliminate the light rail alternative based on cost and cost-effectiveness analysis. GRTA also decided the express bus/HOV alternative concept would achieve nearly the same benefits as the rapid bus alternative, but at a substantially reduced cost. Therefore the preferred transit alternative was the express bus/HOV alternative.

2.2.2 GDOT HOV Alternatives

Concurrent with the GRTA study, GDOT was studying alternative concepts for extension of HOV lanes on both I-75 and I-575. The HOV concepts proposed two HOV lanes in each direction from Akers Mill Road south of the I-285/I-75 interchange north to the I-75/I-575 interchange, and one HOV lane in each direction north on I-75 to its terminus at Hickory Grove Road as well as one HOV lane in each direction on I-575 north to the Sixes Road interchange. The HOV



lanes would be constructed in the center median of both highways north of the I-75/I-575 interchange.

To the south of the I-75/I-575 interchange, the existing median on I-75 is too narrow for construction of four HOV lanes. As such, roadway widening would be required. The HOV alignments evaluated included placing the four HOV lanes in the I-75 median, two lanes on either side of the highway (either at-grade or elevated), or all four HOV lanes to either the west or east side of the highway (either at-grade or elevated). These alternative concepts were referred to as U1, U2, U3, and U4, respectively.

Direct access ramps would provide separated access to the HOV lanes, which would require the construction of separate HOV interchanges. Slip ramps were eliminated because of concern with weaving and insufficient distances between the existing general-purpose interchanges on I-75. Concepts to construct general-purpose lanes, buffer-separated HOV lanes, or TSM improvements were eliminated from consideration because they did not meet the purpose and need statement, nor were they consistent with GDOT policies.

2.2.3 Combining the GRTA and GDOT Alternatives

Realizing that there were many common goals associated with the two transportation studies, GDOT and GRTA decided to combine their individual projects in May 2004 as a means to more efficiently move through the federally required environmental review process. The expectation was that this decision would expedite implementation of transportation improvements in the Northwest Corridor. The alternatives presented during scoping in May 2004 included: the No-Build Alternative, an HOV Alternative, an HOV/Transit/Transportation System Management (TSM) Alternative, and an HOV/BRT Alternative. All of the potential alignments (i.e., the U1, U2, U3, and U4 concepts) also were presented during the AA/DEIS scoping process.

Subsequently, additional preliminary environmental analysis was conducted to evaluate the four HOV configurations. Major environmental constraints identified for the corridor included the following:

- Constructing the four HOV lanes in the median and widening the highway to maintain the same number of existing general-purpose lanes would require reconstruction of all of the bridges that span the highway between Akers Mill Road and the I-75/I-575 interchange. This approach would result in substantial construction cost as well as substantial disruption to travel on the highway during construction.
- 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.
- 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 about 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 highway.
- 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 over to the west side of the highway one or more times if the HOV lanes were to be located mostly on the east side of the highway. These bridge crossings over the highway would substantially increase project construction costs.

Based on this analysis, GDOT was able to identify a preferred alignment for the proposed HOV facilities. The U1 concept for the median placement of the HOV lanes was disproportionately more disruptive during construction compared to other alternatives due to required widening of the entire I-75 corridor south of I-575 and reconstruction of all of the overpass interchanges. Both the U2 and U4 concepts would result in significant adverse impacts to residential land uses, water and biological resources, and archaeological resources on the east side of the highway. So, without substantial additional expenditures for an alignment that crosses over the highway several times, GDOT determined that the U3 concept calling for all four HOV lanes on the west side of the highway would result in the least environmental impacts.

Comments received during scoping also included suggestions for other alternatives not previously considered that were subsequently eliminated from consideration. These suggestions included: HOT lanes, elevated HOV lanes in the median of I-75, reversible HOV lanes, conversion of existing general-purpose lanes to HOV, and travel demand strategies. Each of these alternative concepts could have multiple configurations and potentially would reduce ROW and environmental impacts.

Most of these concepts were eliminated. Of these new ideas for project alternatives, the proposal to elevate the four HOV lanes in the median of I-75 south of the I-575 interchange was eliminated because the alternative would be substantially more expensive than the proposed HOV Alternative without reduced environmental impacts. The concept for reversible HOV lanes in the I-75 median was eliminated because this alignment would not substantially reduce right-of-way requirements (considering the need for full-width shoulders) while it would introduce additional operation and maintenance costs. In addition, the traffic modeling performed using the 13-county regional model showed that the forecast traffic directional flow split was less than the recommended 65/35 split for optimal reversible lane system operations (AASHTO 2004) at the opening year.



Additionally, the modeling results indicated that the peak-to-off-peak split would be less than 60:40 at the horizon year which is undesirable for a reversible system. The concept to convert existing general-purpose lanes to HOV lanes was eliminated because it would substantially reduce reliability in the remaining general-purpose lanes in the highway without providing any improvement in mobility. And, the TDM strategies concept was eliminated as it alone would not meet the project purpose and need and it would provide only a minimal improvement for overall traffic volumes, travel demand, and mobility. The proposal to consider high occupancy toll (HOT) lanes, however, was carried forward as an operations option for the alternatives evaluated in the AA/DEIS.

2.2.4 Addition of Truck Lanes to the Alternatives

In November 2004, GDOT received a Public-Private Initiative to construct HOV/HOT and truck-only lanes along I-75. Based on State legislation, the Code of Georgia, and other guidance and policy regarding public-private initiatives, along with the results of a SRTA study evaluating the effectiveness of truck only lanes in the Region, GDOT decided to incorporate the truck-only lanes into the proposed project for the Northwest Corridor. At the time, the agency felt the addition of truck-only lanes would further increase mobility for users of both the highway and the HOV lanes. This decision renewed study efforts to refine the project alternatives. In particular, the agencies evaluated how many truck-only and HOV lanes should be evaluated in the AA/DEIS and how these facilities should be integrated with the existing highway facilities, e.g. median, eastside, westside, and/or elevated alignments.

2.3 Alternatives Evaluated in the Draft AA/EIS

The final refinement of the alternatives proposed to be evaluated in the AA/DEIS was presented to the public in November 2005. These alternatives included the following build alternatives: the HOV/TOL Alternative, the HOV/TOL/TSM Alternative, the HOV/TOL/BRT Alternative, and the HOV/TOL/Reduced BRT Alternative. Moreover, tolling of SOV use of the HOV lanes as well as tolling of the truck-only lanes were presented as operational options to address potential funding shortfalls. Thus, the truck-only element was integrated into the several HOV, BRT, and TSM alternatives selected through the lengthy and comprehensive alternatives screening process conducted by GRTA and GDOT for the Northwest Corridor. Each of the alternatives and the design and operational options evaluated in the AA/DEIS are summarized below.

2.3.1 No-Build Alternative

The No-Build Alternative is required by NEPA for baseline analysis. For this project, the alternative included all existing and planned long-range improvements for the highway, transit services, and transit facilities within the project corridor and the region.

The highway system network was assumed to consist of all existing highways defined by the Atlanta Regional Commission (ARC) 2004 Regional Travel

Demand Model plus proposed improvements in the *Mobility 2030 Regional Transportation Plan* (RTP) (ARC 2004a). Key highway improvements in the RTP included a new interchange on I-575 at Rope Mill Road, a new collector-distributor system on I-75 from I-285 to Delk Road, and the widening of several arterial roads including SR-92, SR-140, Bells Ferry Road, Big Shanty Road, and US-41. The RTP also included widening of I-575 from four to six lanes, but this improvement was excluded from the No-Build Alternative in order to avoid overstating the benefits of the HOV lanes proposed for I-575. Similarly, the planned HOV improvements for I-285 were excluded from the No-Build Alternative because they would affect the quantification of benefits for the proposed I-75 improvements. Moreover, neither of these two excluded projects was included in the *Mobility 2030, 2006-2011 Transportation Improvement Program* (TIP) (ARC 2006), so they were at risk of not being constructed.

The transit system network under the No-Build Alternative was consistent with all of the transit services and facilities defined by the ARC existing transit network plus the short-range and long-range transit improvements from the RTP. Both express and local bus services would operate in the study area. Two transit centers, four park-and-ride lots, and a vehicle maintenance and storage facility were included. Short-range improvements included expansion of the park-and-ride lot at the Marietta Transfer Center plus construction of a new park-and-ride garage at the Cumberland-Galleria. To avoid overstating the project benefits, the proposed long-range BRT services for I-285 were excluded because they would affect the use of the proposed improvements to I-75, they were not included in the TIP, and therefore they may not be constructed.

All facilities and services under the No-Build Alternative were also included under each of the build alternatives described below.

2.3.2 Build Alternatives

The build alternatives (HOV/TOL, HOV/TOL/TSM, HOV/TOL/BRT, and HOV/TOL/Reduced BRT Alternatives) all provided for the extension of the HOV lanes on I-75 and I-575 and the addition of truck-only lanes on I-75. The HOV and truck-only lane improvements were essentially the same throughout the I-75 and I-575 corridor for all build alternatives. The primary difference among the build alternatives was the type and level of transit improvements.

- The HOV/TOL Alternative was a highway project that provided for only a minimum expansion of transit services. The transit services under the HOV/TOL Alternative were similar to the No-Build Alternative, but with express bus routes operating in the proposed HOV lanes and providing only a minimal increase in service frequency.
- The HOV/TOL/TSM Alternative was a lower-cost transit alternative. It included a major expansion of express bus service operating in the proposed HOV lanes with supporting transit facility improvements, such as park-and-ride lots and bus transfer facilities.
- The HOV/TOL/BRT Alternative served the same travel markets as the HOV/TOL/TSM Alternative, but instead of express bus service, transit



services were provided with a BRT system. The alternative included five BRT stations at proposed HOV interchanges on I-75 (Town Center, Marietta, Franklin Road, Terrell Mill Road, and Cumberland-Galleria). New or expanded park-and-ride facilities at a number of locations also were included along with expansion of the existing Cobb County Transit (CCT) bus maintenance facility and construction of a new bus maintenance facility.

- The HOV/TOL/Reduced BRT Alternative was very similar to the HOV/TOL/BRT Alternative, except instead of five BRT stations, it had only three stations (Town Center, Marietta, and Franklin Road). This alternative was a reduced-cost version of the HOV/TOL/BRT Alternative.

2.3.2.1 Design Options

- Inside TOL Option – Location of the truck-only lanes were proposed in the median of I-75 south of I-575, instead of split to the outside of the roadway.
- Allgood Flyover Option – The HOV interchange at Allgood Road was proposed to replace a flyover between the general-purpose lanes and the inside HOV lanes south of Allgood Road.
- Roswell Road Interchange Alignment Option – The alignment of I-75 south of the Roswell Road HOV interchange would be modified to shift the roadway to the east between South Marietta Parkway and Roswell Road to avoid displacement and relocation of an adjacent church located southwest of the Roswell Road interchange.

2.3.2.2 Operational Options

- HOT Lane Option – This option allowed SOV access to the HOV lanes by paying a toll. The lanes would be managed by pricing to assure that the SOVs using the HOV lanes would not adversely affect the level of service for transit use.
- TOT Lane Option – This option required all trucks using the truck-only lanes to pay a toll. The tolls would be applied as a lane management tool to assure free-flow conditions, but also to provide a source of revenue. Under this operation option, the truck-only lanes could be mandatory or voluntary for through-trucks.

2.4 Alternatives Considered and Eliminated

As described above, a number of alternatives were evaluated and screened prior to the selection of the four alternatives, three design options, and two operational options that were evaluated in the AA/DEIS. These corridor alternatives included highway, transit, truck-only lanes, and managed-lane alternative concepts. The following paragraphs briefly describe the reasons various attributes of these alternatives were eliminated.

Four different highway alternatives were considered including: adding general-purpose lanes, conversion of general-purpose lanes to HOV lanes, and implementation of either transportation demand management (TDM) or

transportation system management (TSM) improvements alone (see Table 2-2). Adding more general-purpose lanes was only briefly considered. As a metropolitan region that is not in compliance with air quality standards, the Federal government will not contribute funds for the construction of new general-purpose lanes and will not approve a RTP with general-purpose lanes. As GDOT would need some Federal funding to construct the proposed project, this alternative for the I-75 corridor was not financially feasible. None of the other three highway initial alternatives met the purpose and need for the Northwest Corridor Project. They would not reduce congestion, improve reliability, improve access, reduce travel time, increase mobility, and/or reduce vehicle emissions. As such, none of the freeway alternatives were considered for detailed evaluation in the AA/DEIS.

Table 2-2. Highway Alternatives Considered and Reasons Eliminated

Highway Alternatives Considered	Reason Eliminated
1. Add general purpose lanes	<ul style="list-style-type: none"> • Inconsistent with RTP (2004) and 2006-2011 TIP (2006) • Does not meet purpose and need as it would not improve mobility or reduce vehicle emissions
2. Convert general-purpose lanes to HOV lanes	<ul style="list-style-type: none"> • Does not meet purpose and need as it would not reduce congestion, improve reliability, or reduce travel time
3. Travel demand management (TDM) improvements alone	<ul style="list-style-type: none"> • Does not meet purpose and need as it would not reduce congestion, reduce travel demand, or increase mobility
4. Transportation system management (TSM) improvements alone	<ul style="list-style-type: none"> • Does not meet purpose and need as it would not reduce congestion, improve mobility, improve access, improve safety, or reduce vehicle emissions

Notes:

RTP = regional transportation plan (ARC 2004a)

TIP = transportation improvement program (ARC 2006)

More than eight transit alternatives were considered for the I-75 corridor. These included the following: heavy rail, automated guideway, commuter rail, light rail, BRT, express bus and HOV, and transit-only improvements. Table 2-3 lists brief explanations as to why most of these alternatives were eliminated. Heavy rail and commuter rail would have adverse effects on historic resources, rated low on cost criteria compared to other alternatives, and were not supported by the public. The public did support LRT alternatives because these alternatives would serve more activity centers, however, the public had concerns about potential substantial adverse environmental effects south of I-285. BRT services in the northern portion of the corridor along US 41 proved not to make regional improvements in mobility. Rather, BRT or express bus services on I-75 rated highest, though only the BRT initial alternative was carried forward for detailed evaluation in the AA/DEIS.

During the alternatives refinement period following public scoping, GDOT announced their decision that the proposed project would be modified to include truck-only lanes. This decision was largely made in response to a Public-Private Initiative received in November 2004. Four of the TOL alternatives reflected

Table 2-3. Transit Alternatives Considered and Reasons Eliminated

Transit Alternatives Considered	Reason Eliminated
1. Heavy rail, automated guideway on a fully grade-separated alignment, and commuter rail	<ul style="list-style-type: none"> • All rated as fair to poor performance against project goals and objectives, particularly adverse effects on historic resources • Heavy rail and commuter rail ranked lowest on cost • Public opposition against commuter rail and automated guideway alternatives
2. LRT using CSX railroad tracks from I-285 to South Marietta Parkway	<ul style="list-style-type: none"> • Environmental impacts (especially historic resources) more extensive than the LRT using US 41, the CSX railroad tracks, and back to US 41 • Public comments supported other LRT alternatives as they served more activity centers
3. LRT along I-75 to Kennesaw	<ul style="list-style-type: none"> • Does not meet goals and objectives as well as other LRT alternatives • Public very concerned about environmental impacts along I-75 south of I-285, particularly adverse effects on community park and wildlife sanctuary sites on the west side of I-75
4. LRT along Riverside Drive, I-285, I-75 and North Marietta Parkway	<ul style="list-style-type: none"> • Rated less well compared to BRT/HOV transit alternative in terms of cost and cost effectiveness, also unaffordable
5. Transit-only improvements and no HOV	<ul style="list-style-type: none"> • Does not meet purpose and need as no increase in reliability, reduction in congestion, or improvement in mobility
6. BRT using I-75 north to Cumberland-Galleria, US 41 to Marietta, then I-75 to Kennesaw	<ul style="list-style-type: none"> • Does not meet purpose and need as well as the BRT alternative that travels along US 41 between Riverside and Marietta
7. Express bus and HOV on I-75	<ul style="list-style-type: none"> • Rated less well compared to BRT/HOV alternative due to lower user benefits despite lower environmental impacts and cost effectiveness
8. BRT and HOV on I-75	<ul style="list-style-type: none"> • Carried forward into the AA/DEIS

Notes:

LRT = light rail transit

BRT = bus rapid transit

HOV = high-occupancy vehicle

different locations for the TOL lanes – two or four lanes either in the median or to the outside of the general-purpose lanes. All assumed the HOV lanes would be located in the median. Due to substantial additional right-of-way requirements and cost, alternatives placing all four TOL lanes to the outside of the either the northbound or southbound general-purpose lanes were eliminated. The alternative carried forward in the AA/DEIS placed two TOL lanes to the outside of both the northbound and southbound general-purpose lanes. A design option evaluated in the AA/DEIS placed the TOL lanes in the median for a limited-access facility. In addition, a tolled TOL facility was evaluated as an operational option. Table 2-4 summarizes this decision-making.

Table 2-4. Truck-Only Lane Alternatives and Reasons Eliminated

Truck-Only Lane Alternatives Considered (assumed HOV lanes in median)	Reason Eliminated
1. TOL lanes to outside of the northbound general purpose lanes	• Substantial additional cost compared to TOL in median or split to outside
2. TOL lanes to outside of the southbound general purpose lanes	• Substantial additional cost compared to TOL in median or split to outside
3. TOL lanes to outside of both directions of general purpose lanes	• Carried forward into the AA/DEIS.
4. TOL in median for a lower cost limited access facility	• Carried forward as a design option in the AA/DEIS.
5. TOT facility	• Carried forward as an operational option in the AA/DEIS.

Notes:

TOL = truck-only lane

TOT = truck-only toll

A total of 16 different alternatives for managed lanes were investigated (see Table 2-5). As defined in the AA/DEIS, a managed lane is a lane that increases freeway efficiency by packaging various operational and design elements. Alternatives included different interchange concepts, buffer separation or barrier concepts between managed lanes and general-purpose lanes, location of the managed lanes, number of managed lanes, as well as lane management alternatives. The two lane management alternatives included reversible lanes as well as HOT lanes. In either case, the lane management operation could be adjusted at any time of day in terms of types of vehicles and toll costs to better match regional goals and ensure free-flow of traffic.

Table 2-5. Managed-Lane Alternatives and Reasons Eliminated

Managed-Lane Alternatives Considered	Reason Eliminated
Interchange Concepts	
1. Access to HOV lanes via general-purpose interchanges	<ul style="list-style-type: none"> • Not consistent with GDOT <i>HOV Policy Guidelines</i> (GDOT 2002) and <i>HOV Strategic Implementation Plan for the Atlanta Region</i> (GDOT 2003) • Does not meet purpose and need as would not improve safety or improve congestion at existing highway interchanges
2. Access to I-75 HOV lanes via slip ramps to/from the general-purpose lanes	• Inconsistent with design standards as there is inadequate weaving distances between the existing general-purpose interchanges
3. Access via separate HOV interchanges	• Carried forward into the AA/DEIS

**Table 2-5. Managed-Lane Alternatives and Reasons Eliminated
(continued)**

Managed-Lane Alternatives Considered	Reason Eliminated
Separation and Barrier Concepts	
4. HOV lanes separated from general-purpose lanes by a buffer area or striping	<ul style="list-style-type: none"> Does not meet purpose and need as it would not reduce mobility access control, service levels, and violations as well as barrier-separated HOV lanes Would not allow consideration of HOT lane option for HOV lanes or use by transit Inconsistent with <i>HOV Strategic Implementation Plan for the Atlanta Region</i> (GDOT 2003) Does not prevent violators from crossing over into the HOV system at random and disrupting traffic flow Cannot be converted to HOT lanes later
5. HOV lanes separated by barrier	<ul style="list-style-type: none"> Carried forward into the AA/DEIS
Location of Managed Lanes	
6. <u>I-75 South of I-575</u> : Four elevated HOV lanes (two in each direction) located in I-75 median (recommended by public)	<ul style="list-style-type: none"> Existing width of median is insufficient to accommodate footings for four elevated structures Slight widening to accommodate footings places cost substantially higher (due to structures) compared to other HOV alternatives with no additional benefits
7. <u>I-75 South of I-575</u> : Two HOV lanes located at-grade to the outside of both the northbound and southbound lanes on I-75	<ul style="list-style-type: none"> Proposal for at-grade configuration requires more extensive disruption to the general-purpose traffic compared to grade-separated configuration.
8. <u>I-75 South of I-575</u> : Four HOV lanes (two in each direction) located at-grade to outside of the northbound lanes only on I-75 south of I-575	<ul style="list-style-type: none"> Proposal for at-grade configuration requires more extensive disruption to the general-purpose traffic compared to grade-separated configuration.
9. <u>I-75 South of I-575</u> : Four HOV lanes (two in each direction) located at-grade to outside of the southbound lanes only on I-75 south of I-575	<ul style="list-style-type: none"> Proposal for at-grade configuration requires more extensive disruption to the general-purpose traffic compared to grade-separated configuration.
10. <u>I-75 South of I-575</u> : four at-grade HOV lanes (two in each direction) located in I-75 median	<ul style="list-style-type: none"> Existing median has insufficient width to accommodate four managed lanes, despite least environmental impact of all alternatives considered and feasible cost Carried forward into the AA/DEIS
11. <u>I-75 North of I-575</u> : One HOV lane in each direction in the median of I-75 to Wade Green Road	<ul style="list-style-type: none"> Carried forward into the AA/DEIS
12. <u>I-575</u> : One HOV lane in each direction in the median of I-575 to Sixes Road	<ul style="list-style-type: none"> Carried forward into the AA/DEIS

**Table 2-5. Managed-Lane Alternatives and Reasons Eliminated
(continued)**

Managed-Lane Alternatives Considered	Reason Eliminated
Number of Lanes	
13. Three or one HOV lane in each direction on I-75 south of I-575; and two or more HOV lanes in each direction on I-575	<ul style="list-style-type: none"> Inconsistent with the RTP (2004) based on the 2004 traffic model.
14. Two lanes in each direction on I-75 reduced to one lane in each direction north of I-575, and one lane in each direction on I-575	<ul style="list-style-type: none"> Carried forward into the AA/DEIS
Other Managed Lanes	
15. Two reversible lanes at-grade with buffer separation (public recommended)	<ul style="list-style-type: none"> Met purpose and need statement, but no substantial cost savings due to required full shoulder width for reversible segment and increased operating costs and maintenance costs Traffic model showed alternative met 65/35 traffic split in existing conditions but showed less than ideal directional traffic flow splits in the 2030 design year. The split was only 57/43 in the 2030 PM peak period on I-75 between I-285 and I-575.
16. HOT lanes (public recommended)	<ul style="list-style-type: none"> Carried forward as an operational option in the AA/DEIS

Notes:

HOV = high-occupancy vehicle

HOT = high-occupancy toll

RTP = regional transportation plan (ARC 2004a)

The focus of the analysis of managed-lane alternatives was the HOV lanes. Access via general-purpose interchanges was inconsistent with adopted GDOT policies and the distances between existing general-purpose interchanges did not provide sufficient weaving distance to permit access to the managed lanes via slip ramps on I-75 south of the I-75/I-575 interchange. The use of buffer areas and striping for separation from general-purpose lanes did not provide a significant cost advantage compared to barrier separation and would not permit use of the managed lanes as HOT lanes. A number of alignment configurations were evaluated for the four managed lanes (two in each direction) proposed for the I-75 corridor south of I-575. The existing median is not wide enough and would require road widening, but the configuration proved to be best among the several alternatives considered. One managed lane in each direction for I-75 north of I-575 and for the I-575 north to Sixes Road were shown to be satisfactory configurations and consistent with the RTP (ARC 2004a).

The evaluation of the reversible managed lane and the HOT lane concepts were both shown to meet purpose and need. And the HOT lane alternative was carried forward for detailed analysis in the AA/DEIS. The 2004 travel demand



forecasts indicated that a two-lane reversible managed-lane system met the desirable 65/35 directional flow split for optimal reversible lane system operations for baseline opening year conditions. However, the design year 2030 travel demand forecasts showed a decrease in directional demand to only 57/43 on I-75 between I-285 and I-575. For this reason, this managed-lane concept was not viewed as an ideal solution and was eliminated from further evaluation.

2.5 Trade-Offs of the Alternatives in the AA/DEIS

None of the build alternatives evaluated in the AA/DEIS are identified as preferred, but rather trade-offs of the alternatives are described in Chapter 7 of the AA/DEIS. The environmental document states that following the circulation of the AA/DEIS and completion of the review and comment period “a preferred alternative may be selected by GDOT and GRTA from among the build alternatives and roadway design and operational options evaluated.”

The discussion of trade-offs presented in Chapter 7, however, does present preferences among the build alternatives evaluated in the AA/DEIS. Of all of the build alternatives evaluated, key stated preferences included the following:

- The BRT transit concept provided superior benefits over the Reduced-BRT concept.
- The Allgood Road interchange would have fewer adverse effects than the flyover concept.
- The HOT Lane Option was identified as preferred due to improved transportation effectiveness and financial feasibility over HOV alternatives.
- The placement of the TOL in the highway median was preferred as it was less expensive and would produce lower noise impacts on adjacent residences than the proposed placement of the TOL to the outside of the general-purpose lanes.
- The TOT Lane Option was identified as preferred due to improved effectiveness and financial feasibility over non-tolling alternatives, but analysis of “willingness to pay” indicated that the TOT lanes would likely need to be mandatory to be financially feasible.
- The BRT was identified as the transit alternative that would be the most effective in improving transportation in the corridor.

The AA/DEIS did not present preferences for the other proposed project design option to shift Roswell Road to the east to avoid impacts to a church instead of displacing several businesses.

2.6 Unresolved Issues in the Draft Environmental Impact Statement

The Northwest I-75/I-575 Corridor Project AA/DEIS included discussion of a number of issues that were unknown, uncertain, or requiring resolution related to



the project and five alternatives – the No-Build Alternative and four build alternatives. These included the following:

- A number of traffic design and operational issues remained unresolved and needed to be addressed using the newly updated 2008 Atlanta Regional Commission (ARC) 20-county regional Travel Demand Forecasting Model.
- The Federal Transit Administration (FTA) had expressed concerns about the mode-choice model used to forecast BRT transit ridership and had advised GRTA that it could not accept the forecast as the basis for evaluating the project under the New Starts criteria for cost-effectiveness.
- All of the project alternatives assumed the planned 15th Street HOV interchange would be constructed. If this HOV interchange is not constructed, then different operating plans would need to be developed and they may not show the same benefits as presented in the AA/DEIS.
- The financial feasibility of HOV versus HOT lanes, tolling of the truck lanes, and mandatory or voluntary use of the truck lanes all may change considering the project operating costs and revenues depended on outcomes of the ARC Travel Demand Forecasting Model.



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