

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE MSL-0004-00(949) Clayton County
P. I. No. 0004949

OFFICE Preconstruction

DATE July 26, 2002

FROM



C. Wayne Hutto, Assistant Director of Preconstruction

TO

SEE DISTRIBUTION

SUBJECT PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

CWH/cj

Attachment

DISTRIBUTION:

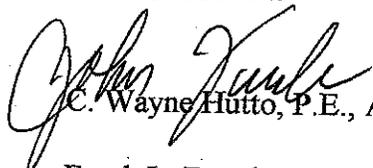
David Mulling
Harvey Keeper
Jerry Hobbs
Herman Griffin
Michael Henry
Phillip Allen
Marta Rosen
Paul Liles
Ben Buchan
Steve Henry
Joe Palladi
FHWA
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE MSL-0004-00(949) Clayton County **OFFICE** Preconstruction
P.I. No. 0004949

DATE June 26, 2002

FROM  C. Wayne Hutto, P.E., Assistant Director of Preconstruction

TO Frank L. Danchetz, P.E., Chief Engineer

SUBJECT PROJECT CONCEPT REPORT

This project is the construction of two separate structures over I-285 and their essential amenities for the new runway and its associated parallel taxiway at the Hartsfield Atlanta International Airport. The project length is 1.09 miles extending along I-285 from east of the Riverdale Road overpass to west of the Loop Road overpass. The City of Atlanta Department of Aviation (DOA) has prepared the Hartsfield Atlanta International Airport Master Plan, which includes the implementation of a 9,000 foot air carrier runway (Runway 10-28). The DOA has proposed this runway to meet existing and future air carrier transportation needs for the Atlanta region and to overcome existing airfield capacity constraints. This new runway will be constructed 4,200 feet south and parallel to the existing Runway 9R-27L and is complimented by three new taxiways. These three taxiways include two north-south taxiways ("W" and "Z") and a full length parallel taxiway ("U"). Both Runway 10-28 and Taxiway "U" will cross over I-285 requiring structures over I-285 to support the runway and taxiway. The existing I-285 mainline, within the project limits, consists of five travel lanes in each direction between Riverdale Road and Loop Road. The year 2000 ADT for I-285 within the project limits, is 119,500 with a 24-hour truck percentage of 23%. The posted speed is 55 MPH. The Level of Service (LOS) is currently at "C" for eastbound and westbound traffic. The projected 2025 traffic is 168,300 ADT with a LOS of "D" for eastbound and westbound traffic.

The industry standard life span of a roadway bridge/tunnel is fifty years. Therefore, traffic was projected an additional thirty years to the year 2055 and analyzed to determine the number of lanes necessary to accommodate the projected traffic volumes until the end of the Runway 10-28 structure's life span. The projected 2055 traffic is 227,000 VPD. Without improvements to the roadway, the projected LOS is "F."

The proposed Runway 10-28 structures will be built to accommodate a total of eighteen lanes in four separate cells (spans) on I-285. The roadway typical section for the Runway 10-28 tunnel and Taxiway "U" bridge will be the same, except the Taxiway "U" bridge will not be constructed with a false ceiling. In the opening year 2005, two cells encompassing ten of the ultimate eighteen lanes will be fully operational. The remaining lanes will be implemented as necessary based on

Frank L. Danchetz

Page 2

MSL-0004-00(949) Clayton

June 26, 2002

increases in traffic volume/congestion and inclusion of additional highway construction projects in the Regional Transportation Improvement Plan. This project also involves the controlled demolition, minor salvage and disposal of the existing Sullivan Road Bridge that crosses I-285, life safety facilities, maintenance of traffic, retaining walls, earthwork, surface drainage, roadway and tunnel lighting, changeable message signs (CMS), and intelligent transportation system components (ITS). The recommended roadway improvements necessary to accommodate future 2025 and 2055 traffic consist primarily of adding one HOV lane in each direction of I-285, extending the existing I-285 C/D roads from I-75 to I-85, and associated freeway ramp improvements. A minimum of five travel lanes in each direction with a posted speed limit of 55 MPH shall be maintained on I-285 throughout the duration of construction.

Environmental impacts related to this project were documented in the Final Environmental Impact Statement and Record of Decision (ROD) for the 9,000 foot fifth runway and associated projects. The ROD was issued by the Federal Aviation Administration on September 17, 2001.

The estimated costs for this project are:

| | |
|------------|----------------------|
| Structures | \$231,000,000 |
| Roadway | \$ 40,000,000 |
| Mechanical | \$ 13,000,000 |
| Electrical | <u>\$ 10,000,000</u> |
| | \$294,000,000* |

*The City of Atlanta is funding 100% of all phases of this project.

The concept recommended herein does not preclude future improvements to I-285 identified in Attachment "K" (I-285 Future Build Draft Concept Report). I recommend this project concept be approved.

CWH:JDQ/cj

Attachment

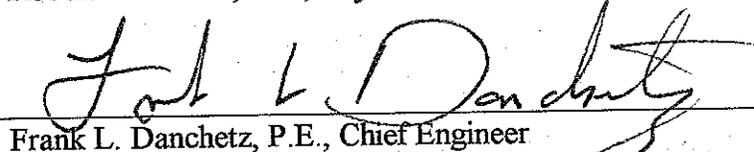
CONCUR

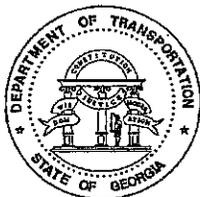

Thomas L. Turner, P.E., Director of Preconstruction

APPROVE

 22 JUL 02
Robert M. Callan, P.E., Division Administrator, FHWA

APPROVE


Frank L. Danchetz, P.E., Chief Engineer



DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF URBAN DESIGN

PROJECT FINAL CONCEPT REPORT

GDOT Project Number: MSL-0004-00(949)

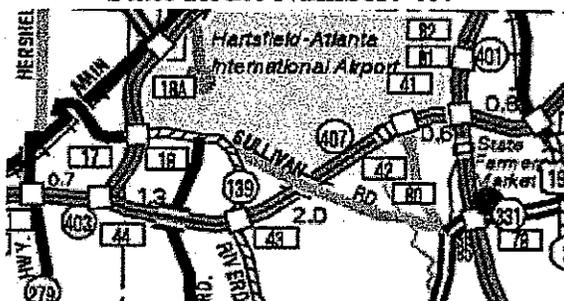
County: Clayton

P.I. Number: 0004949

P.E. Project Number: STPE00033HARTS

Federal Route Number: I-285

State Route Number: 407



Runway 10-28 Structures Over I-285 at Hartsfield Atlanta International Airport

Recommendation for Approval:

DATE 5/28/02

DATE 5/28/02

Glen Bonner
Project Manager
Joseph P. [Signature]
Office Head/District Engineer

The concept presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE _____

State Transportation Planning Administrator

State Transportation Programming Engineer

State Environmental/Location Engineer

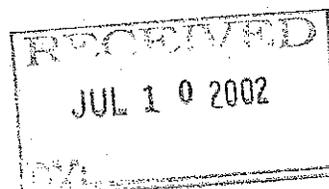
State Traffic Safety and Design Engineer

District Engineer

Project Review Engineer

State Bridge and Structural Engineer

NOTE: All references in this document to project STP-0000-00(716) shall be deemed to mean project MSL-0004-00(949), P.I. No. 0004949





DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF URBAN DESIGN

PROJECT FINAL CONCEPT REPORT

GDOT Project Number: MSL-0004-00(949)

County: Clayton

P.I. Number: 0004949

P.E. Project Number: STPE00033HARTS

Federal Route Number: I-285

State Route Number: 407



Runway 10-28 Structures Over I-285 at Hartsfield Atlanta International Airport

Recommendation for Approval:

DATE 5/28/02

DATE 5/28/02

Allen Brown
Project Manager
Joseph P. DeLoe
Office Head/District Engineer

The concept presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE 6-6-02

DATE _____

DATE _____

DATE _____

DATE _____

DATE _____

DATE _____

Master V. Brown
State Transportation Planning Administrator

State Transportation Programming Engineer

State Environmental/Location Engineer

State Traffic Safety and Design Engineer

District Engineer

Project Review Engineer

State Bridge and Structural Engineer

NOTE: All references in this document to project STP-0000-00(716) shall be deemed to mean project MSL-0004-00(949), P.I. No. 0004949

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

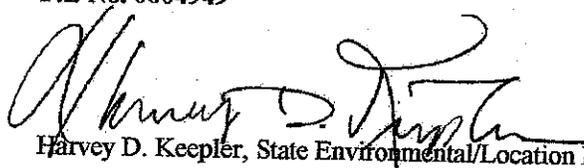
INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. No. 0004949

OFFICE: Environment/Location

DATE: June 12, 2002

FROM:


Harvey D. Keeper, State Environmental/Location Engineer

TO:

Wayne Hutto, P.E., Assistant Director of Preconstruction

SUBJECT:

PROJECT CONCEPT REPORT
MSL-0004-00(949), CLAYTON COUNTY

The above subject concept report has been reviewed. Need a copy of the 404 permit from the city.

If you have any questions, please contact me at (404) 699-4401.

HDK/rtt

Attachment

cc: David Mulling
Joseph Palladi, P.E.



REV:

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF URBAN DESIGN

PROJECT FINAL CONCEPT REPORT

GDOT Project Number: MSL-0004-00(949)

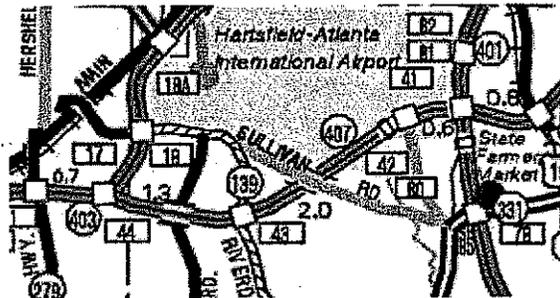
County: Clayton

P.I. Number: 0004949

P.E. Project Number: STPE00033HARTS

Federal Route Number: I-285

State Route Number: 407



Runway 10-28 Structures Over I-285 at Hartsfield Atlanta International Airport

Recommendation for Approval:

DATE 5/28/02

DATE 5/28/02

Allen Borne
Project Manager

Joseph P. [Signature]
Office Head/District Engineer

The concept presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE _____

DATE _____

DATE 6/6/02

DATE _____

DATE _____

DATE _____

DATE _____

State Transportation Planning Administrator

[Signature]
State Transportation Programming Engineer
State Environmental/Location Engineer

State Traffic Safety and Design Engineer

District Engineer

Project Review Engineer

State Bridge and Structural Engineer

NOTE: All references in this document to project STP-0000-00(716) shall be deemed to mean project MSL-0004-00(949), P.I. No. 0004949



REV:

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF URBAN DESIGN

PROJECT FINAL CONCEPT REPORT

GDOT Project Number: MSL-0004-00(949)

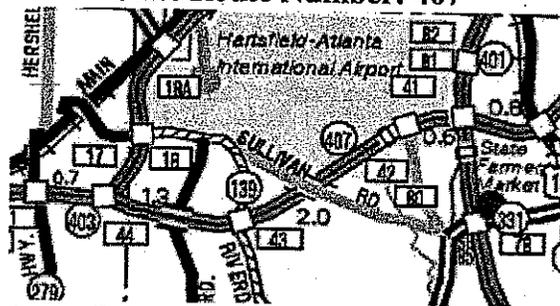
County: Clayton

P.I. Number: 0004949

P.E. Project Number: STPE00033HARTS

Federal Route Number: I-285

State Route Number: 407



Runway 10-28 Structures Over I-285 at Hartsfield Atlanta International Airport

Recommendation for Approval:

DATE 5/28/02

DATE 5/28/02

Ellen Bowers
Project Manager
Joseph P. Pilled
Office Head/District Engineer

The concept presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE _____

DATE _____

DATE _____

DATE _____

DATE 6-7-02

DATE _____

DATE _____

State Transportation Planning Administrator

State Transportation Programming Engineer

State Environmental/Location Engineer

State Traffic Safety and Design Engineer

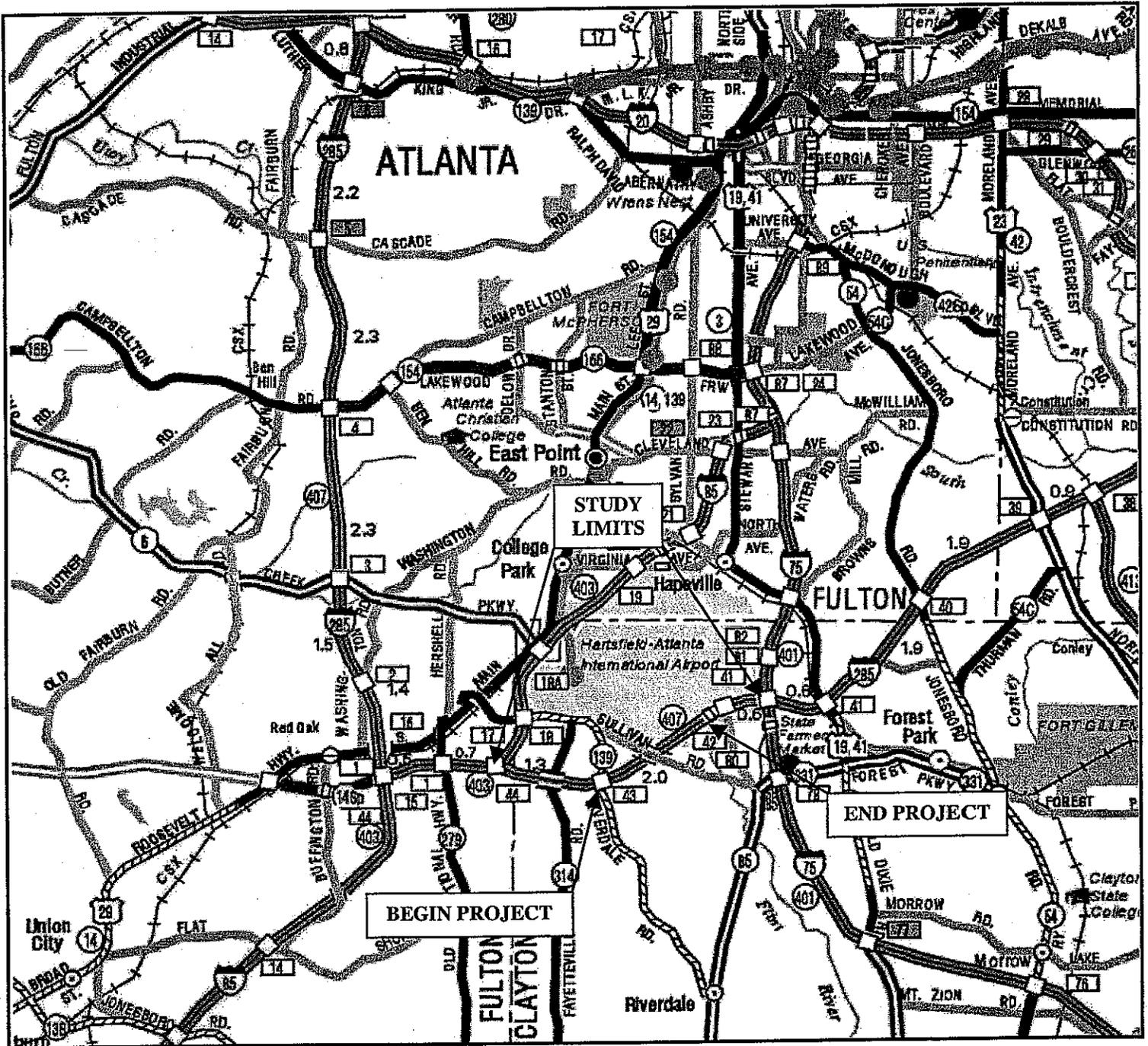
Stephen T. Henry
District Engineer

Project Review Engineer

State Bridge and Structural Engineer

NOTE: All references in this document to project STP-0000-00(716) shall be deemed to mean project MSL-0004-00(949), P.I. No. 0004949

PROJECT LOCATION MAP



**CLAYTON COUNTY
PROJECT LOCATION MAP**

SCALE: NONE
EXHIBIT 1

NEED & PURPOSE

The City of Atlanta Department of Aviation (DOA) has prepared the Hartsfield Atlanta International Airport Master Plan, which includes the implementation of a 9,000-foot air carrier runway (Runway 10-28). DOA has proposed this runway to meet existing and future air carrier air transportation needs for the Atlanta region and to overcome existing airfield capacity constraints. DOA's need is to provide sufficient airfield capacity through 2010 to accommodate most aircraft types during all weather conditions. The purpose of this project is to reduce current and future all-weather airport operating delay as soon as possible.

This new runway is to be constructed 4,200 feet south of and parallel to the existing Runway 9R-27L and is complimented by three new taxiways. These three taxiways include two north-south taxiways ("W" and "Z") and a full-length parallel taxiway ("U"). Both Runway 10-28 and Taxiway U will cross over I-285 requiring structures over I-285 to support the runway and taxiway.

Existing I-285 Conditions

The I-285 mainline, within the project limits, consists of five travel lanes in each direction between Riverdale Road and Loop Road. The existing I-285 typical section in the vicinity of the proposed Runway 10-28 and Taxiway U is shown in **Exhibit 2**. Access between I-285 and I-85, Riverdale Road, and Loop Road interchanges occurs via the I-285 mainline. In other words, the entrance and exit ramps merge/diverge on the I-285 mainline lanes.

The 2000 Annual Average Daily Traffic (AADT) for I-285 between Riverdale Road and Loop Road is 119,500 with a 24-hour Truck Percentage of 23%. The posted speed limit is 55 miles per hour (mph). The Level of Service (LOS) is currently at "C" for eastbound and westbound traffic, which indicates that the roadway is operating at an acceptable LOS.

In 1997 there were 96 accidents along the section of I-285 from Riverdale Road to Loop Road resulting in an accident rate per 100 million vehicle miles traveled (MMVT) of 116. The statewide accident rate per 100 MMVT for interstates, rural and urban, for 1997 was 122. In 1996 there were 131 accidents along this section of I-285, resulting in an accident rate per MMVT of 181. The statewide MMVT for 1996 was 130. In 1995 there were 87 accidents along this section of I-285, resulting in an accident rate per MMVT of 121. The statewide MMVT for 1995 was 125.

Future I-285 Conditions

The Runway 10-28 Project Working Paper Number 3, "Traffic Analysis for Planning Years 2025 and 2055," provides a summary of the traffic analysis performed to establish the number of vehicular lanes needed for the Runway 10-28 Structures over I-285 at the Hartsfield Atlanta International Airport (see Attachment E).

A design year of 2025 was selected because it would be twenty years past the opening day of the proposed Hartsfield runway extension crossing over I-285. The projected 2025 daily volume of

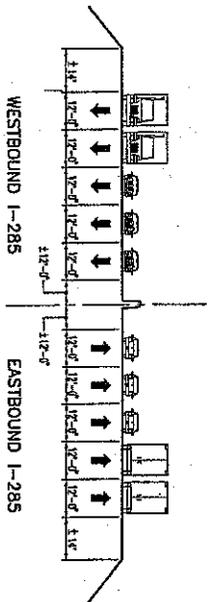
traffic is 168,300. Without improvements to the roadway, the projected LOS is at "D" for eastbound and westbound traffic, which indicates an acceptable LOS for an urban interstate.

The industry standard life span of a roadway bridge/tunnel is fifty years. Therefore, traffic was projected an additional thirty years to the year 2055 and analyzed to determine the number of lanes necessary to accommodate the projected traffic volumes until the end of the Runway 10-28 Structures' life span. The projected 2055 daily volume is 227,000. Without improvements to the roadway, the projected LOS is at "F" for eastbound and westbound traffic, which indicates that the roadway is operating at an unacceptable LOS. Adding three collector distributor lanes and one High Occupancy Vehicle (HOV) lane in each direction in the future will improve the capacity of the mainline roadway to a LOS "C" and "D" for the most part with some sections operating at a LOS "E." The Design/Build Project does not preclude these future needs.

As a result, the proposed Runway 10-28 Structures will be built to accommodate a total of eighteen lanes in four separate cells (spans) on I-285. The roadway typical section for the Runway 10-28 tunnel and Taxiway U Bridge will be the same except the Taxiway U Bridge will not be constructed with a false ceiling. Specific recommended roadway improvements consist primarily of adding one HOV lane in each direction of I-285; extending the existing I-285 CD roads from I-75 to I-85; and the associated freeway ramp improvements. Due to the proximity of the interchanges at I-75, Clark Howell Highway/Loop Road, Riverdale Road, and I-85, many of the ramps should be braided and grade separated to eliminate potential weaving problems. The recommended I-285 typical section under the proposed Runway 10-28 is the same for the 2025 and 2055 alternatives. This section includes one HOV lane, five mainline lanes and three CD Road lanes in each direction (total of 18 lanes) (**Exhibit 3**).

The project length is approximately 1.09 miles extending along I-285 from east of the Riverdale Road overpass to west of the Loop Road overpass. These are the preferred limits since they will not require the Riverdale Road and Loop Road overpasses (bridges) to be rebuilt to accommodate temporary detour roadways.

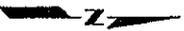
EXISTING I-285 TYPICAL SECTION
AT RUNWAY 10-28 (LOOKING EAST)



I-285

WESTBOUND I-285

EASTBOUND I-285



NOT RELEASED FOR CONSTRUCTION

| | |
|--|--|
|  <p>CITY OF ATLANTA, GEORGIA HARTSFIELD ATLANTA INTERNATIONAL AIRPORT</p> | |
| <p>PROGRAM TEAM</p>  <p>HNTB HARTSFIELD AIRPORT PROGRAM MANAGER</p> | |
| <p>INTERNATIONAL AIRPORT DESIGN PARTNER</p> | |
| <p>AVANTIC CONSULTING ENGINEERS</p> | |
| <p>HARTSFIELD PLANNING CONSULTANTS MANAGERS</p> | |
| <p>HARTSFIELD AIRPORT CONSTRUCTION DIVISION</p> | |
| <p>NO. DATE ISSUED FOR REVISIONS</p> | |
| <p>DESIGN TEAM</p> | |
| <p>PROJECT INFORMATION</p> | |
| <p>PROJECT ELEMENT NAME</p> | |
| <p>RUNWAY 10-28</p> | |
| <p>PROJECT NAME</p> | |
| <p>I-285 CONCEPT REPORT</p> | |
| <p>ISSUED FOR</p> | |
| <p>DATE 4/20/02</p> | |
| <p>SHEET NAME</p> | |
| <p>EXISTING I-285 TYPICAL SECTION</p> | |
| <p>SHEET NO.</p> | |
| <p>EXHIBIT 2</p> | |

DESCRIPTION OF THE PROPOSED PROJECT

The Hartsfield Atlanta International Airport Master Plan presents the implementation of a 9,000-foot air carrier runway (10-28). This new runway is to be constructed 4,200-feet south of and parallel to the existing Runway 9R-27L, and is supported by a full-length parallel taxiway ("U") and dual north/south taxiways ("W" and "Z") to connect to the existing airfield. Both Runway 10-28 and Taxiway U will cross over I-285 (**Exhibit 4**).

The Runway 10-28 Structures Project is located in Clayton County within the city limits of City of Atlanta and College Park. The project limits are set east of the Riverdale Road overpass and west of the Loop Road overpass. Specific project activities shall include the construction of the Runway 10-28 and Taxiway U structures as well as the relocation of Sullivan Road and the reconstruction of Riverdale Road.

The proposed project is located in an Air Quality Non-Attainment Area. The proposed project will be constructed over I-285 with minimal modifications to I-285. Therefore, within the project limits, the number of lanes on I-285 will remain the same (total of 10 lanes). It is anticipated that the opening year of the structures will be 2005

PROJECT LENGTH: 1.09 miles (Beginning Milelog: 59.35; End Milelog: 60.44).

Project Concept Report Page
 Project Number: STP-000—00(716)
 P.I. Number: 0000716
 County: Clayton

| PDP CLASSIFICATION | FUNCTIONAL CLASSIFICATION |
|--------------------|---------------------------|
| MAJOR | URBAN FREEWAY |

| FEDERAL OVERSIGHT | | | |
|--|------------|--------|---------------------|
| FULL OVERSIGHT () | EXEMPT () | SF () | NOT APPLICABLE (X)* |
| * Note: Normal PDP Procedures do not apply for this project. See comments section. | | | |

| U.S. ROUTE NUMBER(S) | STATE ROUTE NUMBER(S) |
|----------------------|-----------------------|
| I-285 | 407 |

| TRAFFIC (AADT) | | | | | |
|------------------------------------|---------|--------------|-----------|---------|--------------|
| CURRENT | | | PROJECTED | | |
| YEAR | AADT | PM PEAK HOUR | YEAR | AADT | PM PEAK HOUR |
| 2000 | 119,500 | 10,600 | 2025 | 168,300 | 14,930 |
| | | | 2055 | 227,000 | 20,140 |
| TRUCK PERCENTAGES (24 hour) | | | | | |
| Eastbound I-285 | | 23% | | | |
| Westbound I-285 | | 23% | | | |

EXISTING DESIGN FEATURES

TYPICAL SECTION:

Limited access freeway consisting of:

- Five 12 ft travel lanes in each direction;
- 14 ft paved shoulder on the outside; and,
- A median width of ± 27 ft. containing a concrete median barrier and a paved inside shoulder in each direction.

R/W WIDTH:

300 ft.; flaring out at interchanges

POSTED SPEED

55 mph

MAX DEGREE OF CURVE

2° 30'

MAXIMUM GRADE

3.2%

MAJOR STRUCTURES

Bridges:

1. Sullivan Road Bridge (to be removed)

Bridge Culverts:

1. Flint River
2. Flat Rock Creek
3. Sullivan Creek

EXISTING LENGTH OF ROADWAY: 1.09 miles

(Beginning Milelog: 59.35; End Milelog: 60.44).

PROPOSED DESIGN FEATURES

PROPOSED PROJECT LAYOUT:

Interim I-285 Conditions (During Construction)

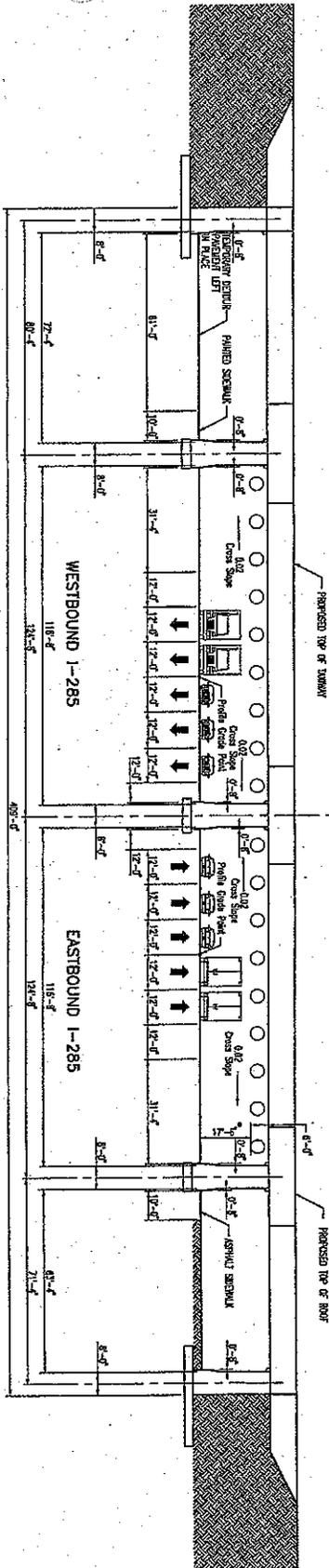
A minimum of five travel lanes in each direction with a posted speed limit of 55 mph shall be maintained on I-285 throughout the duration of construction. No off-site Interstate detours will be allowed. Detour routes and temporary roadways used during construction will be constructed with a minimum design speed of 55 mph. Temporary concrete traffic barriers with glare screens shall be located on the shoulder to separate traffic on I-285 from adjacent construction activities during all four phases of construction. A temporary concrete median barrier will also be required to separate opposing travel lanes (Eastbound from Westbound).

Opening Year 2005

In the Opening Year 2005, two cells encompassing ten of the ultimate eighteen lanes will be fully operational. The remaining lanes will be implemented as necessary based on increases in

traffic volume/congestion and inclusion of additional highway construction projects in the Regional Transportation Improvement Plan. The recommended I-285 typical sections under the proposed Runway 10-28 and Taxiway U for Opening Year 2005 are shown in **Exhibits 5 and 6**, respectively.

The project length is approximately 1.09 miles extending along I-285 from east of the Riverdale Road overpass to west of the Loop Road overpass. These are the preferred limits since they will not require the Riverdale Road and Loop Road overpasses (bridges) to be rebuilt to accommodate temporary detour roadways.



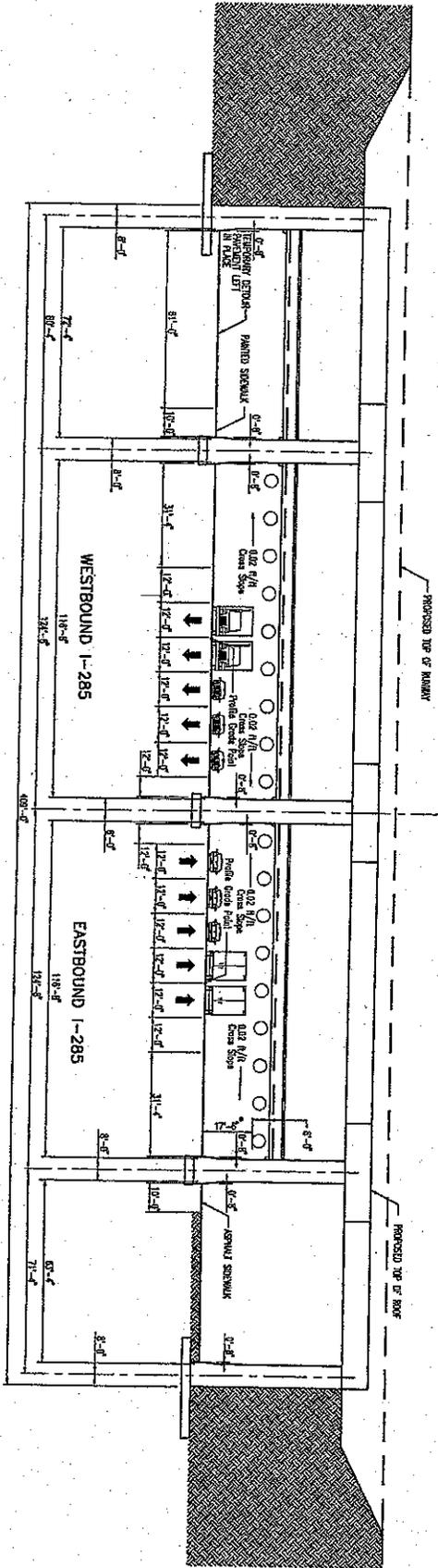
***NOTE:**
MINIMUM HEIGHTS OF TAXIWAY SUPERSTRUCTURE WILL BE AS SHOWN IN THE PLAN. MINIMUM HEIGHT OF FUTURE YEAR 2035 1-285 TYPICAL SECTION.



NOT RELEASED FOR CONSTRUCTION

| | |
|--|--|
| <p>CITY OF ATLANTA, GEORGIA</p> | |
| <p>HARTSFIELD ATLANTA INTERNATIONAL AIRPORT</p> | |
| <p>PROPOSAL TEAM</p> | |
| <p>HARTSFIELD DEVELOPMENT PROGRAM</p> | |
| <p>OPERATIONAL ANALYSIS CONSULTANTS</p> | |
| <p>ANALYSIS CONSULTING BUSINESS</p> | |
| <p>HARTSFIELD AIRPORT DEVELOPMENT</p> | |
| <p>HARTSFIELD CORPORATION</p> | |
| <p>OPERATIONAL ANALYSIS</p> | |
| <p>HARTSFIELD ATLANTA INTERNATIONAL AIRPORT</p> | |
| <p>PROJECT INFORMATION</p> | |
| <p>PROJECT NAME: RUNWAY 10-28</p> | |
| <p>PROJECT NUMBER: 1285 CONCEPT REPORT</p> | |
| <p>ISSUED FOR: SHEET 6</p> | |
| <p>DATE: 4/30/02</p> | |
| <p>SHEET VALUE: 4/30/02</p> | |
| <p>PROJECT INFORMATION</p> | |
| <p>CONTRACT NO.:</p> | |
| <p>CONTRACTOR:</p> | |
| <p>DATE:</p> | |
| <p>NO. DATE REVISIONS</p> | |
| <p>DESIGN TEAM</p> | |
| <p>PROJECT MANAGER:</p> | |
| <p>ARCHITECT:</p> | |
| <p>ENGINEER:</p> | |
| <p>CONSULTANT:</p> | |
| <p>OPERATIONAL ANALYSIS:</p> | |
| <p>ANALYSIS CONSULTING BUSINESS:</p> | |
| <p>HARTSFIELD AIRPORT DEVELOPMENT:</p> | |
| <p>HARTSFIELD CORPORATION:</p> | |
| <p>OPERATIONAL ANALYSIS:</p> | |
| <p>HARTSFIELD ATLANTA INTERNATIONAL AIRPORT:</p> | |
| <p>PROJECT INFORMATION:</p> | |
| <p>PROJECT NAME: RUNWAY 10-28</p> | |
| <p>PROJECT NUMBER: 1285 CONCEPT REPORT</p> | |
| <p>ISSUED FOR: SHEET 6</p> | |
| <p>DATE: 4/30/02</p> | |
| <p>SHEET VALUE: 4/30/02</p> | |
| <p>PROJECT INFORMATION:</p> | |
| <p>CONTRACT NO.:</p> | |
| <p>CONTRACTOR:</p> | |
| <p>DATE:</p> | |
| <p>NO. DATE REVISIONS</p> | |
| <p>DESIGN TEAM</p> | |
| <p>PROJECT MANAGER:</p> | |
| <p>ARCHITECT:</p> | |
| <p>ENGINEER:</p> | |
| <p>CONSULTANT:</p> | |
| <p>OPERATIONAL ANALYSIS:</p> | |
| <p>ANALYSIS CONSULTING BUSINESS:</p> | |
| <p>HARTSFIELD AIRPORT DEVELOPMENT:</p> | |
| <p>HARTSFIELD CORPORATION:</p> | |
| <p>OPERATIONAL ANALYSIS:</p> | |
| <p>HARTSFIELD ATLANTA INTERNATIONAL AIRPORT:</p> | |
| <p>PROJECT INFORMATION:</p> | |
| <p>PROJECT NAME: RUNWAY 10-28</p> | |
| <p>PROJECT NUMBER: 1285 CONCEPT REPORT</p> | |
| <p>ISSUED FOR: SHEET 6</p> | |
| <p>DATE: 4/30/02</p> | |
| <p>SHEET VALUE: 4/30/02</p> | |
| <p>PROJECT INFORMATION:</p> | |
| <p>CONTRACT NO.:</p> | |
| <p>CONTRACTOR:</p> | |
| <p>DATE:</p> | |
| <p>NO. DATE REVISIONS</p> | |

EXHIBIT 6



NOTE:
 MINIMUM HEIGHTS OF FACE CEILINGS WILL BE
 CONTROLLED BY HIGH POINT OF FUTURE 1944
 2055 1-285 TYPICAL SECTION.

NOT RELEASED FOR CONSTRUCTION

| | |
|--|--|
|  CITY OF ATLANTA, GEORGIA HARTSFIELD ATLANTA INTERNATIONAL AIRPORT INTERNATIONAL AIRPORT | |
| PROJECT TEAM  HARTSFIELD AIRPORT AUTHORITY PROJECT MANAGER INTERNATIONAL AIRPORT CONSULTANTS AMANON CONSULTING ENGINEERS HARTSFIELD AIRPORT COLLABORATIVE MANAGERS HARTSFIELD AIRPORT CONSTRUCTION MANAGERS | |
| DESIGN TEAM DESIGNED BY DRAWN BY CHECKED BY APPROVED BY | |
| PROJECT INFORMATION PROJECT NAME PROJECT NUMBER PROJECT ELEMENT NAME RUNWAY 10-28 PROJECT VALUE 1-285 CONCEPT REPORT | |
| ISSUED FOR DATE 4/20/12 SHEET NAME OPENING YEAR 200 1-285 TYP SECTION AT RUNWAY 10-28 SHEET NO. EXHIBIT 5 | |

I-285 TYPICAL SECTION AT PROPOSED RUNWAY 10-28 AND TAXIWAY U:
 (See Exhibits 5 and 6)

- Five 12 ft travel lanes in each direction;
- Inside shoulder: 12-ft full depth Asphaltic Concrete (AC) pavement; and,
- Outside shoulder: 12-ft full depth AC pavement and 31'-4" concrete slope pavement.
- The proposed pavement inside the Runway 10-28 and Taxiway U Structures shall be Asphaltic Concrete pavement.

| DESIGN SPEED | | MAX DEGREE OF CURVE | MAX GRADE |
|--------------|-------------|-------------------------------------|---|
| 70 mph | Mainline: | 3° Allowable 2°30' Proposed | 4% Allowable 3% Proposed |
| 50 mph | CD Roadway: | 7° 30' Allowable 4° Proposed | +5%, -6% Allowable +5%, -6% Proposed |
| 50 mph | Ramps | 7° 30' Allowable 7° 30' Proposed | +5%, -8% Allowable +5%, -6% Proposed |

Structure Widths Across Roadways: RUNWAY 10-28 TAXIWAY U
 Safety Area Width, ft. (Group V Aircraft) 500 214

R/W WIDTH: 500 feet (varies)

DISPLACEMENTS
 RES: 152 SF, 1003 Apt Units. BUS: 256
 M.H.: 0 COMM.: 11

TYPE OF ACCESS CONTROL: Limited Access

EASEMENTS:

Utility:

An easement will be required for the plans the Georgia Power Company has to relocate a power transmission line over I-285 east of Riverdale Road. All other utility crossings will be maintained or reconstructed.

Airport:

Runway 10-28 and Taxiway U will require air rights over I-285.

NUMBER OF DISPLACEMENTS: 1422 (152 SF, 1003 MF, 256 BUS, and 11 COMM)

The number of displacements estimated above reflect the total necessary for the development of Runway 10-28 and related taxiways (Taxiways U, W and Z). Impacts resulting from these displacements will be mitigated by providing relocation assistance to residents in accordance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended.

ROADWAY DESIGN CRITERIA:

Federal Highway Administration (FHWA)

Revised Policy Statement (February 11, 1998 Federal Register, Volume 63, Number 28)

- Interstate Interchange Modifications

Manual on Uniform Traffic Control Devices (MUTCD)

American Association of State Highway and Transportation Officials (AASHTO)
Policy on Geometric Design of Highways and Streets, 2001
Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals
Policy on Design Standards – Interstate System
Roadside Design Guide
Standard Specifications for Highway Bridges, Sixteenth Edition, 1996 and interim specifications
An Informational Guide for Roadway Lighting
Georgia Department of Transportation
Georgia Department of Transportation Standard Specification for Construction of Roads and Bridges, 1993 Edition as amended by the 1999 Supplemental Specifications
Georgia Department of Transportation Standards and Construction Details
Georgia Department of Transportation Design Memoranda
— Georgia Department of Transportation Roadway Construction Specifications
Plan Presentation Guide
Plan Development Process

This project shall conform to the current GDOT Drainage Manual and Erosion Control Guidelines.

It will also be produced using the Georgia State Plane Coordinate System and the Hartsfield Atlanta International Airport Coordinate System with at least two control/benchmarks for use as horizontal and vertical control.

Transportation Research Board (TRB): Special Report 209 – Highway Capacity Manual

MAJOR STRUCTURES:

Bridges:

- New Tunnel and Bridge Structures over I-285 between Riverdale Road and Loop Road.
- Remove the existing bridge at Sullivan Road.

Retaining Wall:

A potential location for a retaining wall includes:

- Along the outside edges of the Eastbound and Westbound I-285 CD Roads immediately before and after the Runway 10-28 tunnel structure and Taxiway U bridge;

Life Safety Systems / Issues:

Life safety systems to be included in the Runway 10-28 tunnel design are as follows:

- Longitudinal Ventilation System (jet fans);
 - Runway 10-28 Structure: For smoke, heat, and CO evacuation
 - Taxiway U Structure: For CO Evacuation
- Closed Circuit Television (CCTV);
- Lighting;

- Exit Signs;
- Alarm and Emergency Communication Devices;
- Dry Stand Pipe System;
- Fire Pumps;
- Asphaltic Concrete Pavement;
- Sidewalks / Safety Walks;
- Cross Passage Walkways;
- Signage to Cross Passage Niches; and,
- Interior Finish (wall and ceiling colors/materials to enhance lighting system).

The Runway 10-28 and Taxiway U structures' electrical utilities shall derive from the Georgia Power Company with sufficient capacity to supply all systems required for normal and emergency operation. The emergency power source shall be provided for all life safety systems and shall meet the requirements of NFPA 502 (Recommended Practice on Fire Protection for Tunnels), NFPA 70 (National Electrical Code), and NFPA 101 (Life Safety Code), latest editions. These requirements guarantee an uninterrupted power supply furnished by the Georgia Power Company.

TRAFFIC CONTROL DURING CONSTRUCTION: Staged Construction
 (See Attachment G, "Traffic Control Working Paper No. 5 Summary")

DESIGN EXCEPTION TO CONTROLLING CRITERIA LIST:

| | Undetermined | Yes | No |
|----------------------------|--------------|-----|-----|
| Horizontal Alignment | () | () | (N) |
| Lane Width | () | () | (N) |
| Shoulder Width | () | () | (N) |
| Vertical Alignment | () | () | (N) |
| Cross Slopes | () | () | (N) |
| Stopping Sight Distance | () | () | (N) |
| Superelevation | () | () | (N) |
| Horizontal Clearance | () | () | (N) |
| Speed Design | () | () | (N) |
| Vertical Clearance | () | () | (N) |
| Bridge Widths | () | () | (N) |
| Bridge Structural Capacity | () | () | (N) |

DESIGN VARIANCES REQUIRED: None

ENVIRONMENTAL IMPACTS:

Environmental impacts related to this project were documented in the Final Environmental Impact Statement and Record of Decision (ROD) for the 9,000-Foot Fifth Runway and Associated Projects. The ROD was issued by the Federal Aviation Administration on September 27, 2001. Environmental impacts include surface transportation, noise, land use, relocations,

economic, water quality, hazardous materials, biotic communities, streams, floodplains, wetlands, and historic and archeological resources. The DOA will mitigate the above impacts by the implementation of its approved mitigation plan.

The impacts to floodplains will be mitigated to the extent that the floodway will carry a 100-year flood without increasing the flood water elevation more than one foot. The impacts to floodplains will be minimized to the extent practicable during detailed design and construction activities. This project is expected to produce some temporary increases in siltation within the wetlands and stream crossings during the construction phase. The City of Atlanta has secured a 404 permit, and the City through standard construction erosion and sedimentation control devices will mitigate the wetland impacts.

The historic and archeological resources within the project area were assessed to determine impacts of the proposed project on the resources. A total of 32 buildings, structures, and historic districts were identified during the March-June 2000 field survey of resources potentially eligible for the NRHP. In addition to the historic resources, two 19th century railroads were considered eligible for the NRHP. The railroads would not be affected by an increase in noise or acquisition. As for the buildings, structures, and districts, there would be No Effect on 28 resources and No Adverse Effect on four resources within the APE if appropriate acoustical treatment measures are installed without impacting the historic integrity of the resources. At present the only archeological resources of concern within the project area are the Hart, Flat Rock, and Pope cemeteries. The Hart and Flat Rock cemeteries were previously determined to be eligible for the National Register. The Pope cemetery has been recommended eligible for the NRHP. None of the cemeteries would be physically impacted; however, there would be indirect noise effects upon these sites, similar to the existing conditions.

Aircraft noise impacts will be mitigated by optimizing departure flight tracks, acquiring properties in the 75 DNL contour and by implementing acoustical treatments of buildings where feasible. Noise abatement will also be implemented for noise sensitive sites with the 65 DNL contour. Surface noise from related projects will be mitigated with noise abatement measures where feasible.

Potential hazardous materials impacts related to possible asbestos containing materials and/or possible leaking/combustible underground storage tanks (UST's) were identified for sixty (60) sites. Twenty-eight (28) of the above sites have possible leaking and/or combustible UST's.

Impacts to surface streets will be mitigated by implementing intersection improvements. Implementing a CCTV camera surveillance system, changeable message signs, lane control signals and a vehicle detection system will mitigate impacts to I-285. A maintenance of traffic plan will be developed to maintain five lanes of traffic in each direction of I-285 during peak traffic periods.

Construction activities are also expected to temporarily impact noise, air emissions, and I-285 traffic. Covering trucks, watering the construction site, and encouraging the use of MARTA public transportation will mitigate construction air emissions. Operating construction equipment with mufflers will mitigate construction noise.

Permits Required: (4f, COE, 404, etc.): COE, 404

Underground Storage Tanks: 28 sites

Potential Hazardous Sites: 60 sites (including 28 UST sites)

HAZMAT STUDY:

A Hazardous Materials Flow Survey was conducted for the I-285 corridor in 2001. The study characterized the movement of HAZMAT along I-285. A copy of the executive summary is included as Attachment N.

LEVEL OF ENVIRONMENTAL ANALYSIS:

| | | |
|--|---|--|
| Are Time Savings Procedures Appropriate? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Categorical Exclusion | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Environmental Assessment/Findings of No Significant Impact (FONSI) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Environmental Impact Statement (EIS) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Other: <u>Record of Decision</u> | | |

UTILITY INVOLVEMENT:

The following utilities are located in the vicinity of the Hartsfield Atlanta International Airport Runway 10-28 Structures Project and I-285:

- Georgia Power Company
- Bell South
- Atlanta Gas & Light Company
- City of Atlanta Sanitary Sewer
- City of Atlanta Water Main System
- Clayton County Water Main System
- College Park Sanitary Sewer

PROJECT RESPONSIBILITIES

DESIGN: Design/Build Contractor

RIGHT OF WAY ACQUISITION: City of Atlanta

RELOCATION OF UTILITIES: Design/Build Contractor, Georgia Power Company, Bell South, Clayton County

LETTING TO CONTRACT: City of Atlanta

SUPERVISION OF CONSTRUCTION: City of Atlanta (Hartsfield Construction Managers)

PROVIDING MATERIAL PITS: Design/Build Contractor

PROVIDING DETOURS: Design/Build Contractor

COORDINATION

INITIAL CONCEPT MEETING DATE: June 28, 2001 (See Attachment C for minutes).

CONCEPT TEAM MEETING DATE: February 8, 2002 (See Attachment Q for minutes).

PAR: Not Required

FEDERAL, STATE, AND LOCAL AGENCY COORDINATION: The City of Atlanta Department of Aviation (DOA) coordinated with the Federal Emergency Management Agency (FEMA), U.S. Army Corps of Engineers (COE), Federal Aviation Administration (FAA), Federal Highway Administration (FHWA), U.S. Environmental Protection Agency (EPA), Georgia Environmental Protection Division (EPD), Georgia Department of Community Affairs (DCA), Metropolitan Atlanta Rail Transit Authority (MARTA), and Atlanta Regional Commission (ARC). FAA is the lead agency for the EIS and FHWA is a cooperating agency. An agency scoping meeting was held on April 13, 1999.

CONFORMS TO TIP/STIP: Yes. The project conforms to the TIP/STIP since it does not include improvements to I-285.

MEETS LOGICAL TERMINI REQUIREMENTS: Yes. The project limits are set based on the need to construct the Runway 10-28 tunnel and Taxiway U bridge and to provide safe lane tapers during construction..

LOCATION INSPECTION DATE: Not required for a programming concept. PFPR will be requested.

IMPLEMENTATION SCHEME:

The I-285 structures project will be implemented by the City of Atlanta, at no cost to GDOT, by the Design/Build method of contracting. Improvements include the construction of Runway 10-28 and Taxiway U and the removal of the Sullivan Road Bridge. These improvements will be constructed while maintaining traffic on I-285 (See Attachment G, "Traffic Control Working Paper No. 5 Summary"). The remaining elements of construction for Runway 10-28, Taxiways "U", "W" and "Z" will be contracted using the typical design, bid, and build process.

LEVEL OF PUBLIC INVOLVEMENT:

Public involvement requirements under the National Environmental Policy Act (NEPA) and FAA orders served as a baseline for public involvement activities for the EIS. The public involvement and coordination activities completed by DOA during the EIS process include:

- Agency scoping meeting (April 13, 1999);
- Public scoping meetings (April 13, 14, and 15, 1999);
- Public information workshops (July 11 and 12, 2000);
- Public information workshop and public hearing (January 2001);
- Media and agency coordination;
- Newsletters; and,
- Website (www.atleis.com).

The FAA issued the Record of Decision on September 27, 2001. The FAA stated that DOA's preferred alternative was "reasonable, feasible, practicable and prudent".

LOCAL GOVERNMENT COMMENTS: See Attachment O, "Runway 10-28 Agency Scoping Meeting Summary/Comments and Public Scoping Meeting Comments."

OTHER PROJECTS IN THE AREA:

The Atlanta Regional Commission Transportation Improvement Plan (ARC TIP) provides a twenty-year development plan for the metropolitan Atlanta area. The following projects from the ARC TIP are located in the I-285 project area and their impacts were considered during the traffic analysis and design of the proposed Runway 10-28 and Taxiway U Structures.

AR353A I-75 HOV Phase I

AR332A I-85 HOV Phase I

CL-AR011 I-75 FM SR 3/US 41/Old Dixie Hwy to I-285 & Aviation Blvd

CL-AR237A and B Reloc SR 139/Riverdale Rd & SR 214/W. Fayetteville Rd @ 5th Rnwy

CL-AR-230 Loop Rd Realignment from Lake Mirror Road to Riverdale Rd

CL-AR-231 Sullivan Rd Realignment from Lees Mill Road to Riverdale Road

CL-AR-236A and B Sullivan Rd Alignment Change from West of I-285 to Riverdale Rd

CL-AR179 I-285 East to I-75 South Ramp Alignment

CL-AR223A I-75 New Interchange Between SR 54 & Old Dixie Hwy & CD Sys

CL-AR235 Southern Crescent Transportation Study at Old Dixie Highway and Aviation Blvd
AR337 MARTA South Line – Hapeville Spur – Hapeville to Southern Crescent Center
AR338 MARTA South Line – Airport Spur – Airport to I-285/Airport Area
I-285/I-75 Interchange (under consideration for improvement by GDOT)
Programs not within the State Transportation Improvement Plan (STIP) will not be developed.

HEAVY RAIL CORRIDOR:

The cost to widen the proposed runway and parallel taxiway structures to accommodate a future heavy rail facility would cost approximately \$400,000 per foot of width (\$12M - \$18M) plus the additional cost of urban right of way, reconstruction of I-285, and the difficulties and expense of modifying or rebuilding the I-285/I-85 and I-285/I-75 interchanges. It was determined not to be cost effective when considering the absence of any specific plans to implement this type of project in the I-285 corridor.

SCHEDULING – RESPONSIBLE PARTIES' ESTIMATE

TIME TO COMPLETE THE ENVIRONMENTAL PROCESS: Complete

TIME TO COMPLETE PRELIMINARY CONSTRUCTION PLANS: By Design/Build Contract

TIME TO COMPLETE RIGHT OF WAY PLANS: By Design/Build Contract

TIME TO COMPLETE THE SECTION 404 PERMIT: Complete

TIME TO COMPLETE FINAL CONSTRUCTION PLANS: By Design/Build Contract

TIME TO COMPLETE THE PURCHASE OF RIGHTS-OF-WAY: All right of way will be secured by the City of Atlanta prior to issuing a Notice to Proceed to the Design/Build Contractor.

OTHER ALTERNATES CONSIDERED

1. No Build
2. Concept R1: Extended Runways
Extension of Runway 26L, Runway 9L, and the commuter runway.
3. Concept R2: South Duals
Extension of the commuter runway paired with another runway 2,500 feet south of the extended commuter runway.
4. Concept R3: South Quad
Extension of Runway 26L, Runway 9L, and the commuter runway as well as the placement of an additional runway 5,000 feet south of the extended commuter runway.
5. Concept R4: South Converging
Extension of Runway 26L, Runway 9L, and the commuter runway as well as the placement of a converging runway on the south side of the airfield.
6. Concept R5: North Quad
Extension of Runway 26L, Runway 9L, and the commuter runway as well as the placement of an additional runway on the north side of the airport.
7. Concept R6: North Converging
Extension of Runway 26L, Runway 9L, and the commuter runways as well as the placement of a converging runway on the north side of the airfield.
8. Runway 10-28 and Taxiway U
Addition of Runway 10-28 4,200 feet south of the existing Runway 9R-27L.

Project Concept Report Page
Project Number: STP-000—00(16)
P.I. Number: 0000716
County: Clayton

Costs associated with the construction of Runway 10-28, Taxiway U, Riverdale Road improvements, and Sullivan Road relocation are being implemented by the City of Atlanta Department of Aviation at no cost to the Georgia Department of Transportation. The conceptual costs are estimated as follows:

| | |
|--------------------------------|---------------|
| Structures | \$231,000,000 |
| Roadway, Drainage, and Signing | \$ 40,000,000 |
| Mechanical | \$ 13,000,000 |
| Electrical | \$ 10,000,000 |

COMMENTS: This concept report was prepared to assist the Georgia Department of Transportation with the approval process for the I-285 typical section related to the Hartsfield Atlanta International Airport Runway 10-28 Structures Project. A traffic forecasting technical memorandum and traffic analysis technical memorandum were previously submitted to GDOT to support the recommendations in this report (see Attachments D and E). GDOT comments and responses to these comments are attached (see Attachment F).

As shown in the working paper summaries (Attachments D, E, and G), substantial improvements are needed and recommended in the I-285 corridor including additional HOV lanes, CD roadways, and numerous interchange improvements over the next 20 years and beyond. By copy of this concept report, the GDOT Office of Planning is requested to take the necessary steps to initiate the identified projects into the RTP.

The concept recommended herein does not preclude future improvements to I-285 identified in Attachment K, "I-285 Future Build Draft Concept Report."

ATTACHMENTS:

- A. I-285 Design/Build Cost Estimate
- B. Initial Concept Meeting Minutes
- C. Initial Concept Meeting Review Meeting Minutes
- D. Traffic Forecast Working Paper No. 2 Summary
- E. Traffic Analysis Working Paper No. 3 Summary including Line Diagrams
- F. GDOT Comments on Working Paper Numbers 2 and 3 with HPC Responses
- G. Traffic Control Working Paper No. 5 Summary
- H. Bridge Inventory.
- I. Accident Summaries
- J. 11"x17" Plots of Layout for Design/Build Project
- K. I-285 Future Build Draft Concept Report
- L. I-285 Future Build Cost Estimate
- M. 11"x17" Plots of Layout for Future Build Project
- N. Hazardous Materials Flow Survey
- O. Runway 10-28 Agency Scoping Meeting Summary/Comments and Public Scoping Meeting Comments
- P. Master Agreement
- Q. Concept Meeting Minutes
- R. Blast Analysis Summary

ATTACHMENT A

I-285 Design/Build Cost Estimate

ATTACHMENT A
I-285 Design/Build Cost Estimate

PRELIMINARY COST ESTIMATE

DATE: December 17, 2001
PREPARED BY: HPC

COUNTY: CLAYTON
ESTIMATED LETTING DATE: February 2002
PROJECT LENGTH: 1.09 miles

CONCEPT DEVELOPMENT ESTIMATE (By the City of Atlanta):

| | |
|--------------------------------|----------------------|
| Structures | \$231,000,000 |
| Roadway, Drainage, and Signing | \$ 40,000,000 |
| Mechanical | \$ 13,000,000 |
| Electrical | <u>\$ 10,000,000</u> |
| | <u>\$294,000,000</u> |

— Right of Way: By the City of Atlanta

Utilities: By the City of Atlanta

ATTACHMENT B

Initial Concept Meeting Minutes

ATTACHMENT B
Initial Concept Meeting Minutes

Meeting Minutes

PROJECT: 5th Runway Structures

MEETING SITE: GDOT

MEETING DATE: June 28, 2001

SUBJECT: I-285 Initial Concept Meeting

PRESENT:

| | |
|------------------|-----------------------------------|
| Scott Lee | GDOT District 7 |
| Steve Gaffory | GDOT District 7 (Utilities) |
| Clyde Cunningham | GDOT District 7 (Utilities) |
| Jim Tolson | GDOT Utility |
| Jeff Carroll | GDOT Planning |
| Del Clippard | GDOT Traffic Operations |
| Jim Hitt | GDOT |
| Stan Hames | GDOT |
| Tom Turner | GDOT |
| Ben Buchan | GDOT |
| Glenn Bowman | GDOT |
| Gus Shanine | FHWA |
| Walter Boyd | FHWA |
| Mark Bartlett | FHWA |
| Tom Nissalke | City of Atlanta / DOA |
| Michael Floyd | City of Atlanta / DOA |
| Tom Gandolfi | IAC |
| TeMika Grooms | Hartsfield Planning Collaborative |
| Keith Strickland | Hartsfield Planning Collaborative |
| Jim Drinkard | Hartsfield Planning Collaborative |
| Stephanie Stefan | Hartsfield Planning Collaborative |

HNTB Corporation

B&E Jackson & Associates, Inc.

Charles F. McAfee
FAIA NOMA PA

SL King & Associates, Inc.

Cecil Chan & Associates, Inc.

Discussion:

The following is a summary of the meeting with GDOT, FHWA, City of Atlanta / DOA, and HPC team members regarding the status of the 5th Runway Structures Project.

The following is a summary of the meeting including comments and suggestions by those in attendance.

1. Status of 5th Runway Project

I-285 Traffic Forecasts

Traffic forecasts for the years 2025 and 2055 have been completed. The year 2025 traffic forecast projections were based on the ARC model whereas the year 2055 traffic forecast projections were based on an annual growth rate of one percent. Traffic forecasts were projected to the year 2055 due to the design life of the proposed structures over I-285. Working Paper No. 2, Traffic Forecasts, has been

Hartsfield Planning
Collaborative

34 Peachtree Street NW
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Atlanta Georgia 30303

submitted to GDOT for review and comment. Due to the tight schedule of the 5th Runway Project, traffic analysis for the years 2025 and 2055 has been completed using the traffic projections outlined in Working Paper No. 2, pending review and comment.

I-285 2025/2055 Roadway Concepts

An ultimate build concept plan for I-285 for the years 2025 and 2055 has been developed based on the traffic analysis results.

5th Runway Structures Over I-285

In parallel to the above-mentioned efforts, a report describing the details of the 5th Runway Structures over I-285 has been started. This report can not be finalized until a typical section for I-285 is decided on.

2. I-285 Roadway Planning Methodology

Future Rail Corridors

Future rail corridors were considered when developing the preliminary concept plans for I-285. According to the ARC, the following is a list of future rail corridors in the vicinity of Hartsfield International Airport:

- CL-AR 235 Southern Crescent Trans Study;
- AR 337 MARTA South Line – Hapeville Spur; and,
- AR 338 MARTA South Line – Airport Spur.

These projects would not impact I-285 or the 5th Runway Structures due their location and magnitude.

Representatives from GDOT Planning suggested that provisions for future rail lines in the vicinity of I-285 and the 5th Runway Structures be made. Keith Strickland, HPC, will contact GDOT Planning to discuss in more detail.

Subsequent discussion determined that providing additional width under the runway and taxiways was not feasible due to the cost of the wider structures and the absence of any specific plans to construct a heavy rail line within the I-285 corridor.

Weaving and other CORSIM Modeling Issues

Weaving will not be allowed inside the I-285 tunnel structure. Signs warning motorists of the non-weaving conditions will be located in advance of the tunnel structure. The CORSIM model does not have an input that can be used to prohibit weaving on a particular freeway segment. Therefore, the animation portion of the model shows vehicles weaving on I-285 in the vicinity of the tunnel structure. This may actually be more realistic due to the fact that not all motorists will heed the advance warning signs.

CORSIM also has limitations on the number of freeway and arterial street segments as well as on the number of links. Due to the size of the area being modeled, the number of freeway segments and links was exceeded. Therefore, several of the collector / distributor roads were modeled as arterial street segments instead of freeway segments. The only concern with this arrangement is that the arterial street segments do not operate as well as the freeway segments in terms of merging, diverging, and weaving.

In the CORSIM model for the year 2055, traffic congestion on I-75, I-85, and the arterial street system was preventing the appropriate traffic volumes to enter the I-285 study area. To solve this problem, entry nodes at critical locations were added to the network to ensure that the traffic volumes analyzed in the model matched the projected 2055 traffic volumes.

Highway Capacity Manual 2000 Procedures

The Highway Capacity Manual 2000 procedures were used to conduct the traffic analysis for the years 2025 and 2055. The Highway Capacity Manual 2000 and CORSIM analysis results were utilized to develop the ultimate build concept plan.

Level of Service Criteria

The ultimate build concept plan was developed with the following level of service criteria:

- Level of Service "D" or better for the year 2025 and
- Level of Service "E" or better for the year 2055.

3. I-285 Roadway Alternatives

Alternative No. 1 – HOV Lanes and Auxiliary Lanes

The first alternative included one HOV lane in each direction as well as one auxiliary lane in each direction between Riverdale Road and Loop Road.

Alternative No. 2 – Extend Collector / Distributor Roadways to Riverdale Road

The second alternative involved extending the existing collector / distributor roadways parallel to I-285 to Riverdale Road. The collector / distributor roadways consisted of two lanes in each direction.

Alternative No. 3 – Widen and Extend Collector / Distributor Roadways to I-85

The third alternative involved widening the collector / distributor roadways to three lanes in each direction and extending them to I-85. This alternative achieved the level of service criteria described above.

4. I-285 Roadway Recommended Alternative

I-285 Typical Section

The I-285 Roadway recommended alternative is Alternative No. 3 – Widen and Extend Collector / Distributor Roadways to I-85. With this alternative the typical section for the 5th Runway tunnel structure encompasses eighteen lanes (four cells) – one HOV lane, five mainline lanes, and three collector / distributor lanes in each direction. Under direction from GDOT, the HOV lanes are being designed as barrier separated.

Changes in Access to I-285

Currently, access to and from I-285 and the I-85, Riverdale Road, Loop Road, and I-75 Interchanges occurs directly with I-285. Alternative No. 3 allows access between the I-285 mainline and I-85, Riverdale Road, Loop Road and I-75 to occur via the I-285 Collector / Distributor Roads instead of the I-285 mainline.

I-285 / I-75 Improvements

The GDOT improvements planned for the I-285 / I-75 Interchange were incorporated into Alternative No. 3. The planned improvements include constructing a flyover ramp from Northbound I-75 to Westbound I-285 and eliminating the existing loop ramp for this movement.

Critical Operational Areas

The following critical operational areas have been recognized:

- I-285 mainlines between I-75 and I-85 and
- I-285 collector / distributor roadways at I-75 and I-85.

Maintenance of Traffic

It is assumed that the 5th Runway Structures will be constructed away from traffic. One alternative for maintaining traffic on I-285 during construction involves three

stages. Stage one involves completing the substructure and a temporary roadway for the collector / distributor roadways. Stage two involves constructing the mainline tunnels. Stage three involves completing the construction of the collector / distributor roadway tunnels. This alternative provides a reduced number of construction stages. Other alternatives for maintenance of traffic may be possible and input from GDOT, contractors, and others is welcome. The final alternative for maintenance of traffic should try to avoid the reconstruction of the Riverdale Road and Loop Road bridges over I-285.

Opening Year Concept

Concurrence needs to be reached regarding the typical section of the ultimate build concept plan before work can be completed on the opening year concept.

5. CORSIM Demonstration

Keith Strickland, HPC, offered to provide demonstrations of the CORSIM models for the years 2025 and 2055.

6. I-285 Roadway Planning Next Steps

Traffic Report

A traffic report with the details of the Highway Capacity Manual 2000 and CORSIM traffic analysis results will be submitted to GDOT for review and comment. Based on the comments received from GDOT, the HPC team will develop a concept report and plans as well as an opening year concept for further review by GDOT.

Discussion

- In Alternative No. 3 the I-285 HOV Lanes are barrier separated and access was provided at Riverdale Road (full diamond). The volumes assigned to the HOV lanes is approximately ten percent of the mainline volumes.
- Signing issues on the I-285 mainline and collector / distributor roadways have not been addressed. One concern is the signing of the exits located after the 5th Runway tunnel structure. One possibility is to sign the individual lanes prior to entering the tunnel structure. Addressing this and other signing issues is the next step in the concept plan level of detail.

A conceptual signing plan will be submitted with the roadway concept report.

- Riverdale Road is about to be relocated / reconstructed. In the ultimate build concept plan, the ramp from the Westbound I-285 Collector / Distributor Roadway to Westbound I-285 located after Riverdale Road is shown to go over a portion of the relocated Riverdale Road. As far as the airport is concerned the Riverdale Road relocation / reconstruction is a throwaway.
- In the ultimate build concept plan the centerline of I-285 has not been shifted. At most, the centerline of I-285 may need to be shifted five to ten feet in future concept plans.
- An earlier concept of the 5th Runway Structures showed it as one continuous tunnel under the runway and taxiway instead of the tunnel and bridge combination shown in the ultimate concept plan. It has been determined that the one continuous tunnel under the runway and taxiway would be cost prohibitive.
- Intelligent Transportation System (ITS) components such as closed circuit television cameras and detection systems will need to be located in the 5th Runway Structures. These components will need to be compatible with existing ITS components in the Atlanta area. An action plan for emergencies will also need to be developed.

- The year 2025 traffic projections are based on the same methodology used for the EIS report (ARC model). Since there is no similar socioeconomic data available through the year 2055, traffic projections for the year 2055 are based on an annual growth rate of one percent.
- The CORSIM and Highway Capacity Manual 2000 results modeled the PM peak hour conditions (i.e. traffic volumes, directional split, etc.).
- The next step in the design process is to study the horizontal and vertical alignment, ramp braiding, and design standards for the ultimate build concept plan. It is too early in the design process to determine if changes in access will be necessary.
- Wilbur Smith and Associates calibrated the existing conditions CORSIM model for the EIS report. This calibrated model was modified to reflect the years 2025 and 2055 conditions.
- The I-85/I-285 interchange was not modified in the 2025 or 2055 CORSIM models due to the fact that GDOT design plans were not available.
- It was suggested to complete the tunnels, which will remain empty under opening year conditions, to the point where they could be used to reroute traffic during an emergency in the main tunnel.
- A hazardous materials study has been initiated as directed by GDOT.
- The fourteen-foot shoulders shown in the typical section reflect a twelve foot paved shoulder with a two-foot offset.
- The opening year concept needs to conform to the ARC.
- Glenn Bowman, GDOT, identified the following initial comments: shoulder width and number of lanes seems reasonable and the HOV access seems reasonable and logical.
- The GDOT requested ten additional copies of the Alternative No. 3 ultimate build concept plan for review and comment. The copies can be sent directly to Glenn Bowman, GDOT, for distribution.

The foregoing is our understanding of the issues discussed and conclusions reached. Please direct any comments or differences of opinion to the undersigned.

Authored by: Stephanie Stefan

Issue Date: 7/9/01

Copy to: All Attendees and Attached List

ATTACHMENT C

Initial Concept Meeting Review Meeting Minutes

ATTACHMENT C
Initial Concept Meeting Review Meeting Minutes

Meeting Minutes: Initial Concept Meeting Review
Subject: 5th Runway Structures over I-285 Concept Study
Date: Tuesday July 3, 2001

Attendees:

Glenn Bowman
Mike Lobdell
Joe Palladi (Partial)
Keith Strickland
Walker Scott

I-285 Concept Development

- Review the Initial Concept Meeting key points and other thoughts after reflection.
 - Was the objective of the Initial Concept Meeting met? *Yes*
 - Better understanding of the project scope, *Some attendees were overwhelmed by the scope of the project as this was the first time they had been given any detailed information.*
 - What is needed, and
 - What are the next steps? *Proceed with concept development!*
 - Who is preparing the minutes? *HPC –Stephanie Stefan for Keith Strickland.*

From this point forward, the discussions were with Glenn and Mike and partially with Joe. They will take our discussions forward to confirm any decisions with upper management.

- Discuss and agree that the "Project" as far as I-285 is concerned is not a programmed project and therefore falls under the criteria of a Preliminary Concept for Hardship and Protective Buying, though not specifically addressed in that section. *Agree.*
 - The level of detail required for this concept report is between that of a planning concept and a final concept. *Agree.*
 - Need to address all those areas required in an initial and final concept except to a limited degree. *Agree.*
 - Only address those areas affected by the "Project". *Agree. The interchanges on each end of the project, I-85/I-285 and I-75/I-285, restrict the flow of traffic into the study section. The traffic analysis therefore placed a node at these points and injected the traffic onto the system. The scope of the concept and the traffic studies will not include any concept*

development of these interchanges other than what is currently in the ARC program and that developed by GDOT to date.

- Value engineering study will not be done at the concept stage. *Agree.*
- The objective of the concept report is:
 - To briefly describe existing I-285 between I-85 and I-75. *Agree.*
 - To describe one possible conceptual "footprint" of a future I-285 for the year 2025. *Agree.*
 - To review the needs of an I-285 in the year of 2055 and relate to the 2025 concept. Note the inability of the I-285/I-75 and I-85 interchanges to deliver the 2055 traffic without major reconstruction. *Agree using the conditions stated above for the areas affected by the project.*
 - To describe the proposed "footprint" of I-285 on airport opening day (2005) *in some detail. Agree.*
- Is a concept meeting required? *Yes.*
- Items to be included in the Concept Report:
 - Need and Purpose, not in the traditional sense, but a description of the Airport expansion project and the need to cross over I-285. *Agree.*
 - Location *by scoping* and effects to environmental resources: *Agree.*
 - Wetlands,
 - Rivers and streams,
 - Park lands,
 - Historic and archaeological sites,
 - Cemeteries,
 - Hazardous waste sites,
 - Underground storage tanks,
 - Etc.
 - Environmental Permits required (404, PAR, etc.),
 - Public input to date. *Include a summary of the public involvement process used in the approved environmental document. Discuss any changes in the design from the approved environmental document.*
 - For opening day and 2025 concepts:
 - Preliminary horizontal and vertical alignments, *Agree.*
 - What level of detail is needed? *Sufficient to determine r/w, structure clearances, order of magnitude construction limits, and selected cross sections.*
 - Typical sections,
 - Under all structures, *Agree.*
 - At key points along I-285, *Agree.* and
 - Overpass structures. *Agree.*

- HOV considerations,
 - Access, *Agree.*
 - What level of detail?
 - Separated or not separated? *Joe P. to discuss with upper management to get a decision. If separated they will allow a column in the divided area. Pointed out to provide a separate HOV will most probably require r/w to implement opening day concept and may require the rebuilding of the Riverdale Rd. bridge if sufficient distance is not available to bring the widened median back to the existing width.*
- Heavy rail considerations, *Need to briefly discuss and show cost to accommodate is unreasonable.*
- Cross drain and surface drainage requirements, *Agree.*
- Access control, *Discuss.*
- Sign plans, *A must!*
 - What level of detail? *Show locations and legends.*
- Right of way requirements including easements, *Agree but are based on limited cross section data. The displacements can be shown as buildings displaced rather than number of displacees.*
- Name, size, and locations of existing utilities with emphasis on those in conflict with the opening day (2005) concept, *Agree.*
- Structural concepts and needs (Bridges and Retaining walls),
 - For the long structures, Conceptual ITS components such as CCTV, Call boxes, detection systems, etc., *Agree.*
 - For the long structures, Lighting, Mechanical, Electrical, and Plumbing requirements. *Agree.*
- Some preliminary cross-sections and Construction limits. *Provide cross sections at 500' intervals, critical points, and at all bridge structures.*
- Maintenance of traffic/constructability, *For the opening day concept only.*
 - How does it affect current ramp and access points? *See variances below.*
- Preliminary capacity analysis including weaving analysis, *The traffic report is to be attached to the concept report.*
- Navais crossing I-285, *Agree.*
- Landscaping requirements, *Agree.*
- Any design exceptions or variances anticipated. *Although not a design exception or design variance, on opening day (2005) the on ramps and off ramps at Riverdale Rd. and Airport Loop Rd. create a weaving opportunity between the two. This opportunity is minimized by the fact that there are no lane drops or auxiliary lanes only merge*

and diverge points. It is proposed to install advanced exit signing well before the runway and parallel taxiway structures to minimize weaving under these structures. In addition, supplemental signing will be added to remind motorist that the section under these two structures is a no weaving area.

- o Attach the Hazardous materials flow study. *Agree.*
- o Attach traffic study. *Agree.*
- o Attach minutes of the Initial concept meeting and note the resolution of each comment. *Agree.*

ATTACHMENT D

Traffic Forecast Working Paper No. 2 Summary

ATTACHMENT D
Working Paper No. 2 Summary
Traffic Forecasts: Daily and Design Hourly Traffic Volumes for 2025 and 2055

Introduction

Working Paper No. 2 provides a summary of the travel demand modeling tasks performed to develop design hourly traffic volumes for I-285 and other associated roadways in the vicinity of Hartsfield Atlanta International Airport. It also summarizes the revisions made to the 2010 and 2025 Atlanta Regional Commission (ARC) model in order to develop a project model suitable for forecasting design hourly volumes in the airport vicinity for the 5th Runway I-285 Structures Study.

Modeling Overview

The development of the 2025 CORSIM model is closely related to the regional travel demand model. The methodology used for this project includes the following steps:

- Modify the regional TRANPLAN-based travel demand model to generate revised daily traffic volumes for 2025;
- Calculate growth rates using 2010 and 2025 daily volumes for common links in the two TRANPLAN models;
- Relate each link in the 2025 CORSIM model to a corresponding link in the 2025 TRANPLAN model; and
- Apply the growth rates calculated from the TRANPLAN model daily volumes to the 2010 hourly volumes along each link in the CORSIM model.

ARC Modeling Revisions

These revisions primarily affect the trip distribution (trip tables) and assignment (roadway network) modules of ARC's TRANPLAN-based travel demand model. Two model versions of the Atlanta area were provided to HPC at the onset of the 5th Runway Structures modeling effort. The first was ARC's 1995 and 2025 model (including intervening years in five-year increments). The second version was an updated version of an earlier ARC model prepared for the 5th Runway Environmental Impact Statement by Wilbur Smith Associates (WSA) in 2000; as documented in the report titled *2005/2010 Regional Travel Demand Model Working Paper*.

The ARC model provided to HPC included many of the revisions made through the WSA study efforts. Revisions made by WSA not reflected in the 2010 and 2025 ARC models were checked and added to the 5th Runway Structures project model if they were identified in the airport's current growth plans.

The final 5th Runway Structures project model included the following revisions:

- Disaggregation of traffic analysis zones in the airport vicinity to incorporate five new traffic analysis zones
- Increasing overall trips to/from airport area zones
- Redistribution of trips to/from existing ARC zones representing the airport and convention center area
- Adding to/modifying the ARC roadway network

The end product of this effort was a set of daily link volumes from which 2010 to 2025 growth rates were calculated. These growth rates could then be used as inputs for the airport area CORSIM model. More specific details related to the procedures and results of the 5th Runway Structures TRANPLAN model are provided hereinafter.

ARC Network Modifications

Zone Splits

In the 2010/2025 ARC networks, the general airport area was represented by a single zone (639) as shown in **Exhibit 1**, "Original 2010/2025 ARC Network". To better represent the location and vehicle movement to and from the activity centers within the general airport area, five analysis zones were added.

The centroid locations (assumed centers of trip activity) of the new zones, 1006-1010, are shown on **Exhibit 2**, "Revised 2010/2025 ARC Network". The zones and the area each represents include:

- Zone 1006 -- East Concourse Terminal, Delta Technical Operations Center and Air Cargo
- Zone 1007 -- CONRAC facility
- Zone 1008 -- 5th Runway area
- Zone 1009 -- Gateway Development
- Zone 1010 -- southern side of the existing main terminal

In the 5th Runway Structures project model, Zone 639 (the ARC airport zone) represents only the northern side of the existing main terminal. Zone 640, which had included the Convention Center, was retained, but the Convention Center was moved to the Gateway Development area. Trips associated with the proposed south domestic terminal are now reflected in Zone 640.

Roadway Network Changes

Exhibit 2 also illustrates the revised ARC network used in the 2025 TRANPLAN model. The roadway network additions to the original ARC network include:

- Riverdale Road relocated westerly between I-285 and I-85
- Sullivan Road extended easterly across I-85
- Direct access roadways to CONRAC facility
- Circulation-oriented segments in Main Terminal area

Other roadway network modifications include:

- Adjusted the speeds to 35 mph on Camp Creek Parkway
- Adjusted the speeds to 30 mph on the frontage roads north and south of I-285 between Sullivan Road and Clark Howell Highway
- Adjusted the speed to 25 mph on Sullivan Road between Clark Howell Highway and I-285
- Deleted a southbound ramp from I-85 to Camp Creek Parkway

Trip Generation Results

Tables 1 and 2 show the 2010 and 2025 zonal trip generation results for both the original ARC and revised versions of the regional model. The results are summarized below.

For both 2010 and 2025, overall daily trips to/from airport area zones were increased to more accurately reflect the projected growth in airline passengers and changes in land use and development in the vicinity of the airport. For 2010, the increase was approximately 70,600 trips, or a 22% increase over the ARC model. For 2025, the increase was approximately 79,600 trips, or 21% greater than the ARC model.

The majority of the additional 2010 and 2025 daily trips were assigned to the new zones (1006-1010), with some additional trips also being assigned to Zone 640 and Zone 641 (area south of I-285 and west of Riverdale Road). Trips to/from Zone 639 were redistributed to account for the new zones.

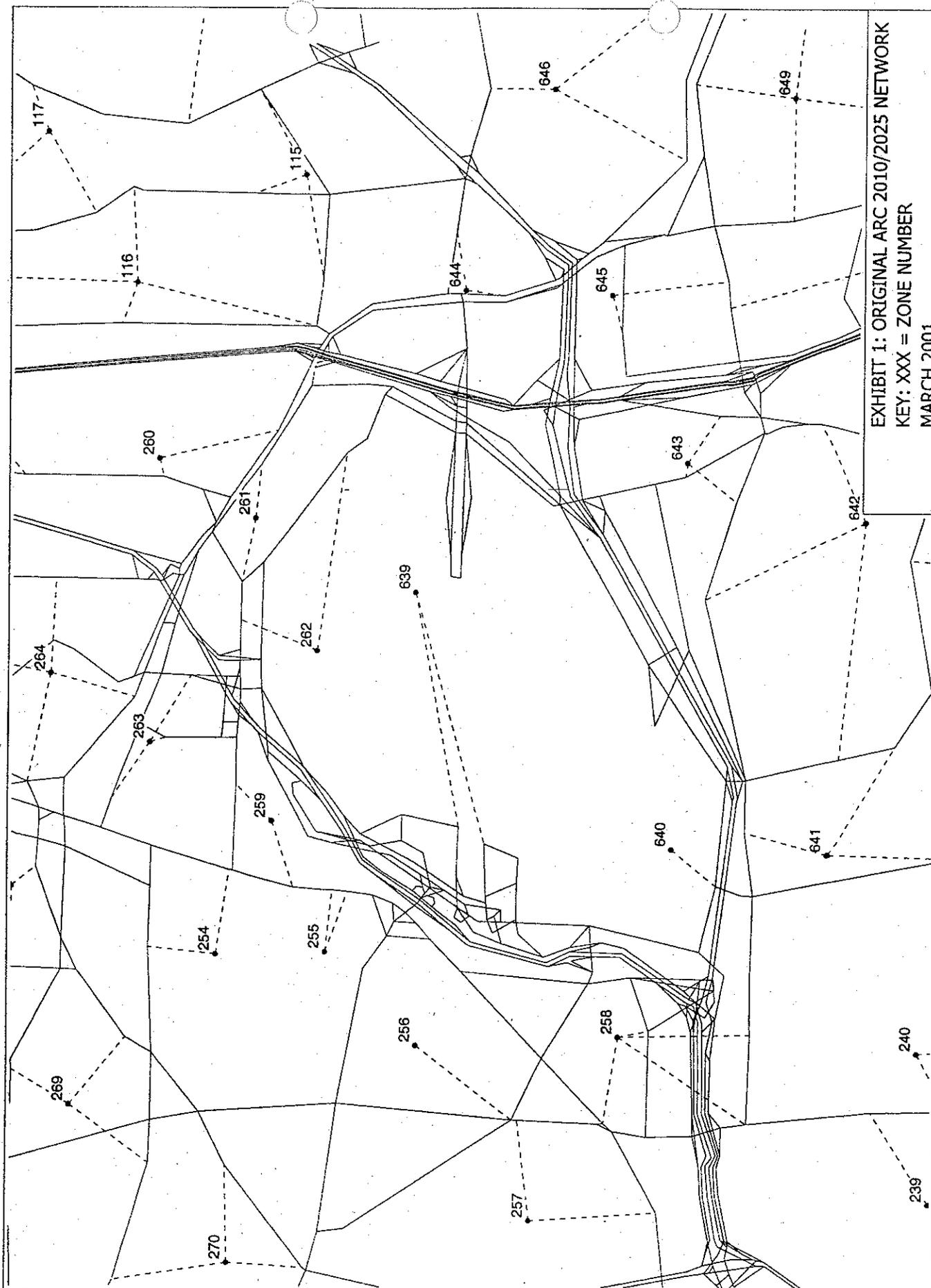


EXHIBIT 1: ORIGINAL ARC 2010/2025 NETWORK
KEY: XXX = ZONE NUMBER
MARCH 2001

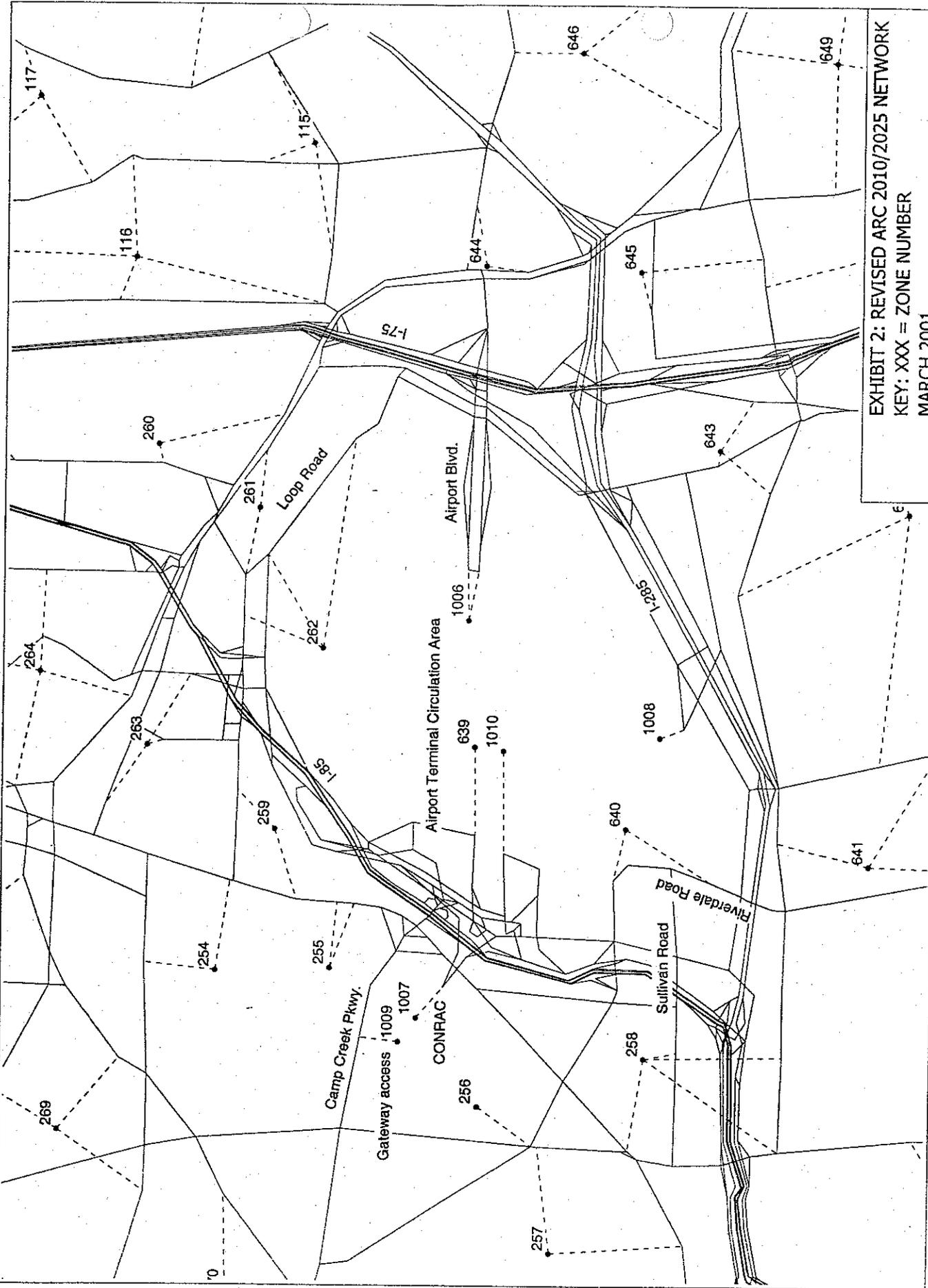


EXHIBIT 2: REVISED ARC 2010/2025 NETWORK
 KEY: XXX = ZONE NUMBER
 MARCH 2001

In the 2010 ARC model, trips to/from Zone 639 and Zone 640 totaled 162,719. In the 2010 revised version, trips to these zones, and the new zones (1006-1010), total 220,646, for an increase of 57,927 trips, or about 36%.

In the 2025 ARC model, trips to/from Zone 639 and Zone 640 totaled 210,438. In the 2025 revised version, trips to these zones, and the new zones (1006-1010), total 284,258, for an increase of 73,820 trips, or about 35%.

Given these increases, the overall 2010-2025 percentage growth in daily trips to/from airport area zones remained generally consistent with the ARC model results. Under the original ARC version, the overall 2010-2025 percentage growth was 16.6%. Under the revised version, the overall 2010-2025 percentage growth was 15.9%.

Trip making is expected to increase from 12,793,000 trips per day to 15,667,900 trips per day within the Greater Atlanta area during the period between 2010 and 2025. This equates to a growth rate of about 22 percent. As the growth factors derived from the regional TRANPLAN model are applied to base traffic volumes in work being done with the peak-hour analysis model (CORSIM), a region-wide growth factor may need to be applied where TRANPLAN model data indicates an unrealistic growth factor. This might occur where a small number of base trips increase to a relatively high number over time. In that case, use of the region-wide factor, rather than the TRANPLAN link factor, should be considered.

Table 1 Comparison Of Total Trips For Airport Area Zones (2010-2025)

| Zone | Description | 2010 ARC Zone Total | 2010 Rev. Zone Total | 2025 ARC Zone Total | 2025 Rev. Zone Total | ARC Total Growth | Revised Growth |
|---------------|-----------------------------------|------------------------|-------------------------|------------------------|-------------------------|---------------------|-------------------|
| 255 | N of Camp Creek Pkwy | 3,019 | 3,216 | 3,007 | 3,159 | -0.40% | -1.77% |
| 256 | W of CONRAC Facility | 12,259 | 12,835 | 11,135 | 11,680 | -9.17% | -9.00% |
| 258 | N of Sullivan Rd, W of I-85 | 18,047 | 18,814 | 18,646 | 19,517 | 3.32% | 3.74% |
| 260 | Btwn I-75, I-85, N of Central Ave | 29,890 | 30,584 | 33,129 | 33,924 | 10.84% | 10.92% |
| 261 | Btwn I-75, I-85, S of Central Ave | 9,519 | 9,803 | 9,897 | 10,304 | 3.97% | 5.11% |
| 262 | North of Airport | 33,247 | 34,328 | 35,282 | 36,457 | 6.12% | 6.20% |
| 263 | S of Central Ave | 13,357 | 13,785 | 14,096 | 14,619 | 5.53% | 6.05% |
| 639 | Main Airport (North) | 140,494 | 37,247 | 183,581 | 48,180 | 30.67% | 29.35% |
| 640 | Proposed S Domestic Terminal | 22,225 | 31,921 | 26,857 | 41,432 | 20.84% | 29.80% |
| 641 | S of I-85, W of Riverdale Rd | 15,827 | 24,574 | 22,695 | 23,599 | 43.39% | -3.97% |
| 644 | E of I-75 | 7,852 | 7,471 | 6,096 | 6,196 | -22.36% | -17.07% |
| 645 | S of I-285, E of I-75 | 17,602 | 17,864 | 12,614 | 12,891 | -28.34% | -27.84% |
| 1006 | East Terminal | n.a. | 44,242 | n.a. | 57,389 | n.a. | 29.72% |
| 1007 | CONRAC Facility | n.a. | 30,422 | n.a. | 47,945 | n.a. | 57.60% |
| 1008 | Southside/5th Runway | n.a. | 6,260 | n.a. | 8,191 | n.a. | 30.85% |
| 1009 | Gateway Development | n.a. | 33,390 | n.a. | 33,009 | n.a. | -1.14% |
| 1010 | Main Airport (South) | n.a. | 37,164 | n.a. | 48,112 | n.a. | 29.46% |
| Totals | | 323,338 | 393,920 | 377,035 | 456,604 | 16.6% | 15.9% |

Table 2 Comparison Of Airport Zones (2010 - 2025)

| Zone | Description | 2010 ARC Zone Total | Revised Zone Total | 2025 ARC Zone Total | Revised Zone Total |
|---|------------------------------|------------------------------------|-------------------------------|------------------------------------|-------------------------------|
| 639 | Main Airport (North) | 140,494 | 37,247 | 183,581 | 48,180 |
| 640 | Proposed S Domestic Terminal | 22,225 | 31,921 | 26,857 | 41,432 |
| 1006 | East Terminal | n.a. | 44,242 | n.a. | 57,389 |
| 1007 | CONRAC Facility | n.a. | 30,422 | n.a. | 47,945 |
| 1008 | Southside/5th Runway | n.a. | 6,260 | n.a. | 8,191 |
| 1009 | Gateway Development | n.a. | 33,390 | n.a. | 33,009 |
| 1010 | Main Airport (South) | n.a. | 37,164 | n.a. | 48,112 |
| Total Airport Area | | 162,719 | 220,646 | 210,438 | 284,258 |
| Absolute Change (Old to Revised) | | | 57,927 | | 73,820 |
| Percentage Change (Old to Revised) | | | 35.6% | | 35.1% |

Note: Zone 640, Existing Convention Center trips were redistributed. Some of these trips were placed in the Gateway area; the remainder was distributed throughout the county.

Traffic Assignment Results

The traffic assignment results were reviewed to assess the extent of growth projected by the TRANPLAN model. Since the primary emphasis of this study is the ultimate roadway section of I-285 in the vicinity of the 5th Runway Structures, three locations in the general vicinity of the proposed structures were included in this assessment. The first two locations are on I-285 immediately east and west of the Riverdale Road interchange. The third location is on Riverdale Road immediately north of I-285. **Table 3** summarizes the 2000, 2010 and 2025 daily traffic projections for these locations.

These results indicate that the TRANPLAN model predicts similar growth rates in two-way traffic on different sections of I-285 between 2000 and 2010. The 19% total growth over 10 years is equivalent to an annual growth rate of 1.7%. The I-285 growth rates between 2010 and 2025 at the same locations are 19% and 21%, which are slightly below the region-wide average of 22%. These growth rates are equivalent to annual growth rates between 1.1% and 1.3%. These projections support the theory that in a highly developed area, percentage annual growth rates tend to decrease over time.

The percentage growth in traffic predicted for Riverdale Road, north of I-285, is significantly higher than growth on I-285. The differences can be attributed to the lower traffic volumes on Riverdale Road and a greater influence from airport related traffic. The 62% total growth over 10 years (2000-2010) is equivalent to an annual growth rate of 4.9%. The Riverdale Road growth rate between 2010 and 2025 at the same location is equivalent to an annual growth rate of 2.9%.

Table 3 Link Volume Changes for Critical Roadways

| LINK | | Description | 2000 Volume (1) | 2010 Volume (1) | 2025 Volume (1) | 2000-2010 % Change | 2010-2025 % Change | 2000-2025 % Change |
|-----------|-----------|------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A NODE | B NODE | | | | | | | |
| | | <i>I-285 East of Riverdale Rd</i> | | | | | | |
| 3285 | 3303 | Eastbound | 63,000 | 70,200 | 81,100 | | | |
| 3309 | 3300 | Westbound | 56,500 | 71,800 | 87,200 | | | |
| | | Total | 119,500 | 142,000 | 168,300 | 18.83 | 18.52 | 40.84 |
| | | <i>I-285 West of Riverdale Rd</i> | | | | | | |
| 3283 | 3284 | Eastbound | 62,400 | 70,500 | 84,800 | | | |
| 3302 | 3963 | Westbound | 59,900 | 74,800 | 90,900 | | | |
| | | Total | 122,300 | 145,300 | 175,700 | 18.81 | 20.92 | 43.66 |
| | | <i>Riverdale Rd North of I-285</i> | | | | | | |
| 3301 | 3388 | Northbound | 5,900 | 8,100 | 11,700 | | | |
| 3388 | 3301 | Southbound | 8,800 | 15,700 | 18,600 | | | |
| | | Total | 14,700 | 23,800 | 30,300 | 61.90 | 27.31 | 106.1 |

Note:

- 1) 2000, 2010 and 2025 volumes taken from the TRANPLAN model.

CORSIM Network Modifications

As part of the 5th Runway Environmental Impact Statement, an existing PM Peak Hour CORSIM model was developed and calibrated for roadways in the vicinity of the Airport by using an extensive number of traffic counts taken in 1999 for the project. Then, a 2010 CORSIM model was developed to forecast I-285 traffic volumes for the planning year 2010. This was accomplished by factoring traffic volumes from the calibrated 1999 CORSIM model using growth rates derived from modified versions of ARC's 2000 and 2010 TRANPLAN models.

The PM Peak Hour case was selected for the design hour condition because the PM peaking characteristics of the airport more closely coincide with the regional PM peaking conditions than do the AM peaking conditions. The AM Peak Hour of the airport is later than the AM peak hour of I-285.

Network Geometry

An updated version of CORSIM was available at the beginning of the analysis process. The updated version, CORSIM Version 4.32, increased several of the physical limits of the model. For instance, the maximum number of freeway sections in FRESIM was increased from ten to twenty. This particular increase allowed freeway ramps and freeway CD (collector/distributors) roadways previously modeled using NETSIM to be modeled using FRESIM. Locations where this change was made include:

- Eastbound and Westbound CD roadways parallel to I-85/I-285 and
- Northbound and Southbound CD roadways parallel to I-85.

In addition, based on the Atlanta Regional Commission 2025 Regional Transportation Plan (RTP) (Appendix I (a) – RTP Database Listing by Jurisdiction), planned roadway improvements for 2025 were documented (Table 4). The road network was modified in the 2025 model as appropriate to accommodate these planned changes.

Traffic Projections

2025 Model

The growth rates developed from the TRANPLAN daily volumes were applied to 2010 hourly volumes along each link in the CORSIM model to arrive at volume inputs for the 2025 CORSIM model. Due to extremely high growth rates for some links, a maximum growth rate of 100% was used.

The majority of 2025 CORSIM link volume inputs were used to distribute traffic throughout the CORSIM network. The overall increase in traffic volumes in the 2025 CORSIM network was controlled solely by the external link and the source/sink link volumes. These controlling 2025 volumes typically increased less than 50% over the 2010 volumes.

The overall growth rate from 2010 to 2025 for roadways in the Atlanta region is 22%, which is equivalent to an annual growth rate of 1.33%.

2055

After extensive research, the study team concluded that no socioeconomic data or any other data, by which annual traffic growth could be estimated, were available for the Atlanta Metropolitan Area in the planning year 2055. Also, no major roadway or transportation facilities are planned in the I-285/Southwest Atlanta corridor that would reduce future traffic growth along I-285 in the vicinity of the airport. Therefore, the rate of traffic growth estimated by the TRANPLAN model from 2010 to 2025, given in the preceding section, was used as the starting point to assume beyond 2025.

A second assumption was made in this study that as the Atlanta region becomes more developed in the future, the annual growth rates in traffic will decrease. Therefore, an annual growth rate of 1% for thirty years (which is 0.33% less than annual growth rate from 2010 to 2025) was applied to the 2025 link volumes for traffic projections for the year 2055. This is equivalent to an overall growth factor of approximately 1.35.

CORSIM Model Results

Six runs of the 2025 CORSIM model were made to simulate traffic operations during PM peak conditions. Data sets for each run were identical, except for the random number seed used to generate vehicle entry headways. Due to severe traffic congestion related to the higher link volumes estimated for 2025, it was not possible to run the simulation for an entire 60-minute period. A simulation period of 30 minutes was used instead.

2025 CORSIM model results noted related to I-285 in the vicinity of the 5th Runway Structures include:

- Hourly volumes for the I-285 Westbound links in the vicinity of Riverdale Road range from 8.3% to 9.3% of the daily volumes and
- Hourly volumes for the I-285 Eastbound links in the vicinity of Riverdale Road range from 7.4% to 7.9% of the daily volumes.

I-75 Northbound CORSIM results show that the hourly link volumes are a relatively low percentage of the daily volumes. This is due to a traffic capacity constrained situation on the network.

Table 4 CORSIM Network Modifications

| RTP Identification Number | Network Year | Road | Modification |
|----------------------------------|---------------------|---------------------------|--|
| AR353A | 2010 | I-75 HOV Phase I | An HOV facility with one lane in each direction will be added to the cross-section of I-75 from Aviation Boulevard to SR 54. |
| CL057 | 2015 | US 29 / SR 14 | US 29/SR 14 will be widened from two to four lanes from Camp Creek Parkway to the Fulton County Line |
| AR332A | 2020 | I-85 HOV Phase I | An HOV facility with one lane in each direction will be added to the cross-section of I-85 from I-75/I-85 to I-285. |
| FS051 | 2020 | Camp Creek Parkway | Camp Creek Parkway will be widened from four to six lanes from Herschel Road to I-285. |
| FS058 | 2020 | Camp Creek Parkway | Camp Creek Parkway will be widened from four to six lanes from US 29/Main Street to Herschel Road. |
| FS049 | 2020 | US 29 / Roosevelt Highway | US 29/Roosevelt Highway will be widened from two to four lanes from Clayton County to SR 279/Old National Highway. |
| | | I-75 / I-285 Interchange* | <p>The I-75/I-285 Interchange will be reconstructed. Reconstruction will include:</p> <ul style="list-style-type: none"> • Northbound and Southbound CD roadways parallel to I-75. Traffic, which currently enters and exits I-285 in this area, will enter and exit from the CD roadways. I-285 will only accommodate through traffic in this area. • Fly-over from I-75 Northbound to I-285 Westbound. The fly-over will replace the existing loop ramp for this movement. |

* The I-75/I-285 Interchange modifications are based on plans from the Georgia Department of Transportation.

ATTACHMENT E

**Traffic Analysis Working Paper No. 3 Summary
including Line Diagrams**

ATTACHMENT E
Working Paper No. 3 Summary
Traffic Analysis for Planning Years 2025 and 2055

Working Paper No. 3 provides a summary of the traffic analysis performed to establish the number of vehicular lanes needed for the 5th Runway Structures over I-285 at the Hartsfield Atlanta International Airport. The number of lanes on I-285 and the associated roadways were estimated using projected traffic volumes for the planning years 2025 and 2055.

The planning year 2025 was selected because it is approximately 20 years after the opening of the 5th Runway, which is a typical highway-planning horizon. The planning year 2055 was selected to represent an approximate design life of the runway structures over I-285. The intent was to design the I-285 structures large enough so that they would not have to be reconstructed to accommodate greater freeway traffic volumes prior to each structure reaching its design life.

The roadway improvement recommendations for I-285 and Riverdale Road are based on maintaining a minimum Level of Service "D" for the planning year 2025 and Level of Service "E" for the planning year 2055.

The traffic analysis included capacity analysis using 2000 Highway Capacity Manual procedures and traffic simulation analysis using CORSIM, which is a micro-simulation computer model that analyzes the operations of a highway network. The feasibility of the proposed roadway improvements will be verified in subsequent roadway concept design tasks.

In general, existing I-285 consists of five lanes in each direction between Riverdale Road and Loop Road. Access between I-285 and the I-85, Riverdale Road, and Loop Road interchanges occurs via the I-285 mainline. In other words, the entrance and exit ramps merge/diverge on the I-285 mainline lanes. The Eastbound Old National Highway/Collector Distributor (CD) Road merges with Eastbound I-285 at the I-85 Interchange. The Westbound I-285 CD Road merges with Westbound I-285 prior to the Loop Road Exit. The existing lane configurations for I-285 and the associated roadways in the vicinity of the Hartsfield Atlanta International Airport are shown in **Exhibit 1**.

The recommended roadway improvements necessary to accommodate future 2025 and 2055 traffic consist primarily of adding one HOV lane in each direction of I-285; extending the existing I-285 CD roads from I-75 to I-85; and the associated freeway ramp improvements. Due to the proximity of the interchanges at I-75, Clark Howell/Loop Road, Riverdale Road and I-85, many of the ramps should be braided and grade separated to eliminate potential weaving problems. The recommended I-285 typical section under the proposed 5th Runway is the same for the 2025 and 2055 alternatives. This section includes one HOV lane, five mainline lanes and three CD Road lanes in each direction (total of 18 lanes). The recommended lane configurations and overall levels of service are shown in **Exhibit 2** and **Exhibit 3** for the planning years 2025 and 2055, respectively.