

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

**CSNHS-0006-00(398)/CSNHS-0006-00(399)
FULTON COUNTY
P.I. NO. 0006398/0006399**

FEDERAL ROUTE NUMBERS: 19/NH-75-1, I-75, NH-85-1, I-85
STATE ROUTE NOS: 400, 401, 403

*SR 400 Ramp Meters from I-85 to SR 120
and I-75/I-85 Ramp Meters from University Drive to 10th Street*

Recommendation for approval:

DATE 7-8-05



State Traffic Safety & Design Administrator

The concept as 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 Traffic Operations Engineer

DATE _____

State Transportation Planning Administrator

DATE _____

State Transportation Financial Management Administrator

DATE _____

State Environmental / Location Engineer

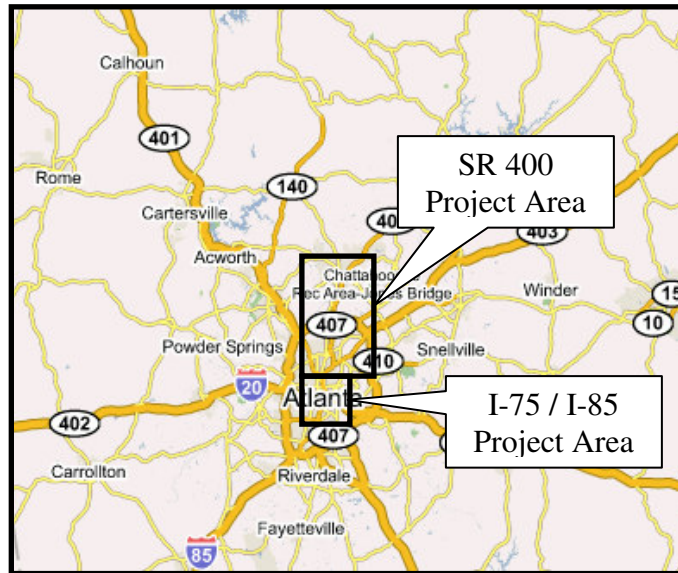
DATE _____

District Engineer

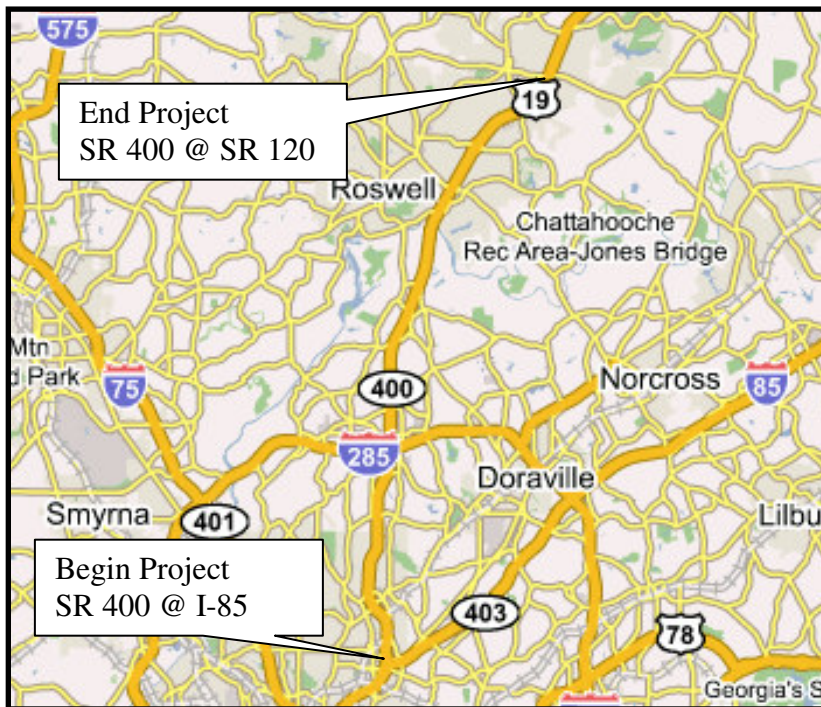
DATE _____

Project Review Engineer

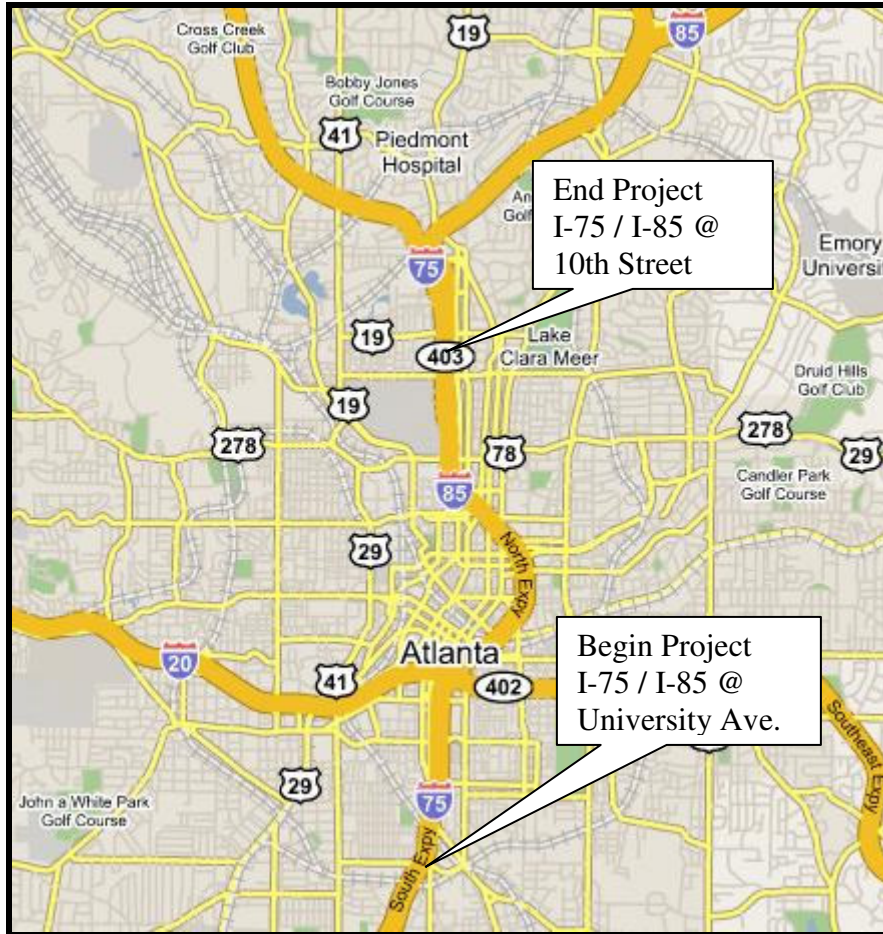
PROJECT LOCATION MAPS



Location of Projects in Fulton County



Detail Map of SR 400 Project



Detail View of I-75 / I-85 Project

Need and Purpose:

The purpose of this project is to increase the efficiency and safety of the corridor by installing ramp meters along SR 400 and I-75/I-85 in Fulton County. The limits of the project for SR 400 ramp meters are from the I-85 interchange to the State Route 120 interchange. The limits of the project for I-75/I-85 ramp meters are from the University Avenue interchange to the 10th Street interchange. The ramp meters will control the release of vehicles onto these corridors during peak hours, therefore reducing congestion and stabilizing the flow of traffic that typically occurs at heavy volume merge locations. The operation of the ramp meters will create a smoother flow of traffic and reduce the potential for traffic crashes during peak hours.

The Georgia DOT's NaviGator – Intelligent Transportation System has been in operation since April 1996. Initially providing coverage on Interstates 75 and 85, primarily within the I-285 Perimeter Highway, it is currently being extended along Langford Parkway (SR 166) in Fulton County and Peachtree Industrial Boulevard (SR 141) in DeKalb and Gwinnett counties, with additional projects on I-20, I-75, I-85, I-285, I-575, I-675, I-985, SR 316, SR 400, and US 78 planned as part of the Fast Forward Program. The system consists of surveillance cameras (CCTV), vehicle detection system cameras (VDS), Changeable Message Signs (CMS), and ramp meters. By use of a fiber optic communications backbone, all the devices are tied to the Transportation Management Center (TMC) and various Traffic Control Centers (TCCs) in the Metro Atlanta area. Operators located at the TMC are able to detect incidents and dispatch, with minimal delay, appropriate response teams. The NaviGator program benefits the trucking industry and motorists by reducing incident response/clearance times, and providing better information with consequential safety improvements.

On April 14, 2004 Governor Sonny Perdue introduced the Fast Forward Congestion Relief Program which includes accelerated growth of the NaviGator system throughout the Metro Atlanta region. The Fast Forward Program provides \$211 million to expand the Navigator and Highway Emergency Response Operator (HERO) coverage with a goal of reducing peak hour delays by 30%. This project includes new field device connections to Hubs E and Q in Fulton County for SR 400, and to Hubs F, H and J for I-75 / I-85.

Description of the proposed project:

Coverage

This project will install ramp meters and enhanced VDS and CCTV coverage at all on ramp locations between I-85 and I-285 on SR 400, and all ramp locations along I-75 / I-85 between University Avenue and 10th Street. The new CCTV cameras will allow for improved monitoring of the interchanges and operation of the ramp meters at the TMC. The project will tie into existing fiber optic trunk lines along SR 400 as well as along I-75 / I-85 at Hubs F, H and J. Ramp meters for interchanges between I-285 and SR 120 have already been designed as part of the GRTA Xpress Bus Project.

Communications Plan

This project will use the new digital communications architecture. The video data and control communications from the new devices will be sent via Gig Ethernet network, as opposed to the older analog method involving switches and multiplexers. All network electronics required to operate and communicate with the devices in this project are included as well.

Ramp Meters

Ramp Meters will be installed along I-75/I-85 at all northbound and southbound entrance ramps except those for I-20 and at 10th Street due to a conflicting construction project. Meters will be installed along GA 400 at the Sidney Marcus Boulevard northbound entrance ramp, and entrance ramps for both directions at Lenox Road. Each ramp meter will require at least one VDS to monitor operations, as well as CCTV for visual coverage. All supporting hardware, devices, poles and/or mast arms, lane markings, traffic signal equipment, and signage for

Is the project located in a Non-attainment area? Yes No .

PDP Classification: Major Minor

Federal Oversight: Full Oversight , Exempt , State Funded , or Other

Functional Classification: Urban Principal Arterial

U. S. Route Number(s): US 19, I-75, I-85

State Route Number(s): SR 400, SR 401, SR 403

Traffic (2004 AADT)

source: http://www.dot.state.ga.us/dot/plan-prog/transportation_data/traffic_counts/index.shtml

SR 400 from I-85 to I-285	114,530
SR 400 from I-285 to SR 140	209,913
SR 400 from SR 140 to Haynes Bridge Road.....	149,890
SR 400 from Haynes Bridge Road to SR 120.....	116,290
I-75/I-85 from University Avenue to I-20	300,040
I-75/I-85 from I-20 to Edgewood Avenue	349,450
I-75/I-85 from Edgewood Avenue to Freedom Parkway	229,760
I-75/I-85 from Freedom Parkway to North Avenue	322,155
I-75/I-85 from North Avenue to 10th Street.....	336,440

Existing design features:

- Typical Sections:
 - *SR 400 from I-85 to I-285: 3 lanes*
 - *SR 400 from I-285 to SR 140: 4 lanes*
 - *SR 400 from SR 140 to Haynes Bridge Road: 3 lanes*
 - *SR 400 from Haynes Bridge Road to SR 120: 2 lanes*
 - *I-75/I-85: 5 lanes in each direction + auxiliary lanes*
- Posted speeds:
 - *SR 400 near Toll Plaza: 45 mph*
 - *SR 400 from I-85 to I-285: 55 mph*
 - *SR 400 from I-285 to SR 120: 65 mph*
 - *I-75/I-85: 55 mph*
- Minimum Radius: *N/A*
- Maximum grade: *N/A*
- Major structures along SR 400:
 - *Bridge at Sidney Marcus Boulevard underpass*
 - *Bridge at CSX overpass*
 - *Bridge at Peachtree Road overpass*
 - *Bridge at Lenox Road overpass*

- *Bridge at Old Ivy Road overpass*
- *Bridge at Wieuca Road overpass*
- *Bridge at Lorigans Drive overpass*
- *Bridge at Nancy Creek underpass*
- *Bridge at Windsor Parkway overpass*
- *Bridge at Northland Drive overpass*
- *Bridge at Glenridge Connector overpass*
- *Bridge at Johnson Ferry Road overpass*
- *Bridges at I-285 interchange*
- *Bridge at Hammond Drive overpass*
- *Bridge at Mount Vernon Highway overpass*
- *Bridge at Abernathy Road underpass*
- *Bridge at Spalding Drive overpass*
- *Bridge at Pitts Road overpass*
- *Bridge at Northridge Road underpass*
- *Bridge at Roberts Drive overpass*
- *Bridge at Roberts Drive underpass*
- *Bridge at Riverside Road underpass*
- *Bridge at Holcomb Bridge Road overpass*
- *Bridge at Mansell Road overpass*
- *Bridge at Center Bridge Road overpass*
- *Bridge at Haynes Bridge Road overpass*
- *Bridge at Kimball Bridge Road overpass*
- *Bridge at Old Milton Parkway/SR 120 overpass*

- Major structures along I-75/I-85:
 - *Bridge at University Avenue underpass*
 - *Bridge at Railroad underpass*
 - *Bridge at Pryor Street overpass*
 - *Bridge at Georgia Avenue underpass*
 - *Bridge at Fulton Street overpass*
 - *Bridges at I-20 overpass/underpass*
 - *Bridge at Memorial Drive overpass*
 - *Bridge at Martin Luther King, Jr. Drive overpass*
 - *Bridge at Edgewood Avenue underpass*
 - *Bridge at Wesley Dobbs Avenue underpass*
 - *Bridge at Freedom Parkway interchange overpass*
 - *Bridge at Highland Avenue. overpass*
 - *Bridge at Ralph McGill Boulevard overpass*
 - *Bridge at Peachtree Street overpass*
 - *Bridge at Peachtree Street West overpass*
 - *Bridge at Peachtree Street West off ramp overpass*
 - *Bridge at Spring Street overpass*
 - *Bridge at North Avenue. underpass*
 - *Bridge at 5th Street overpass*
 - *Bridge at 10th Street overpass*

- Major interchanges or intersections along SR 400:

- *SR 400 @ Sidney Marcus Boulevard*
- *SR 400 @ Lenox Road.*
- *SR 400 @ Glenridge Drive / Glenridge Connector*
- *SR 400 @ I-285*
- *SR 400 @ Abernathy Road*
- *SR 400 @ Northridge Road*
- *SR 400 @ Holcomb Bridge Road*
- *SR 400 @ Mansell Road*
- *SR 400 @ Haynes Bridge Road*
- *SR 400 @ SR 120/Old Milton Parkway*
- Major interchanges or intersections along I-75/I-85:
 - *I-75/I-85 @ University Avenue*
 - *I-75/I-85 @ Georgia Avenue*
 - *I-75/I-85 @ I-20*
 - *I-75/I-85 @ Martin Luther King, Jr. Drive*
 - *I-75/I-85 @ Edgewood Avenue*
 - *I-75/I-85 @ Freedom Parkway*
 - *I-75/I-85 @ Courtland Street*
 - *I-75/I-85 @ Pine Street*
 - *I-75/I-85 @ Linden Avenue*
 - *I-75/I-85 @ Spring Street*
 - *I-75/I-85 @ 10th Street*
- Existing lengths: *SR 400 from I-85 to I-285: 6.9 miles*
I-285 to SR 120/Old Milton Parkway: 12.68 miles
Total SR 400 Project Length: 19.58 miles
I-75 / I-85: 4.83 miles

Proposed Design Features:

- Typical Sections: Existing section to remain. There will be no change to the lanes or typical sections.
- Posted speeds:
 - *SR 400 near Toll Plaza: 45 mph*
 - *SR 400 from I-85 to Spalding Drive: 55 mph*
 - *SR 400 from Spalding Drive to SR 120: 65 mph*
 - *I-75 / I-85: 55 mph*
- Minimum Radius: *N/A*
- Maximum grade: *N/A*
- Proposed Maximum grade Mainline: *N/A* Maximum grade allowable: *N/A*
- Proposed Maximum grade Side Street: *N/A* Maximum grade allowable: *N/A*
- Proposed Maximum grade driveway : *N/A*
- Proposed Minimum Radius Mainline: *N/A* Minimum Radius allowable: *N/A*
- Proposed Minimum Radius Side Street: *N/A* Minimum Radius allowable: *N/A*
- Type of Access: *Limited Access*
- Right of way: *Project will be constructed within the existing Limited Access Right of Way. No additional right of way and/or easements will be required.*
 - Number of parcels: *0* Number of displacements: *0*
 - Business: *0*

- Residences: 0
- Mobile homes: 0
- Other: 0

- Structures:
 - Strain Poles for CCTV and VDS
- Major intersections and interchanges along SR 400:
 - SR 400 @ Sidney Marcus Boulevard
 - SR 400 @ Lenox Road
 - SR 400 @ Glenridge Drive / Glenridge Connector
 - SR 400 @ I-285
 - SR 400 @ Abernathy Road
 - SR 400 @ Northridge Road
 - SR 400 @ Holcomb Bridge Road
 - SR 400 @ Mansell Road
 - SR 400 @ Haynes Bridge Road
 - SR 400 @ SR 120/Old Milton Parkway
- Major intersections and interchanges along I-75 / I-85:
 - I-75/I-85 @ University Avenue
 - I-75/I-85 @ Georgia Avenue
 - I-75/I-85 @ I-20
 - I-75/I-85 @ Martin Luther King, Jr. Boulevard
 - I-75/I-85 @ Edgewood Avenue
 - I-75/I-85 @ Freedom Parkway
 - I-75/I-85 @ Courtland Street
 - I-75/I-85 @ Pine Street
 - I-75/I-85 @ Linden Avenue
 - I-75/I-85 @ Spring Street
 - I-75/I-85 @ 10th Street
- Traffic control during construction: *Shoulder closures and/ or lane closures will be necessary during installation of conduit, fiber optic cables and strain poles.*
- Design Exceptions to controlling criteria anticipated: *None*

	<u>UNDETERMINED</u>	<u>YES</u>	<u>NO</u>
HORIZONTAL ALIGNMENT:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ROADWAY WIDTH:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SHOULDER WIDTH:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VERTICAL GRADES:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CROSS SLOPES:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
STOPPING SIGHT DISTANCE:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SUPERELEVATION RATES:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
HORIZONTAL CLEARANCE:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SPEED DESIGN:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VERTICAL CLEARANCE:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BRIDGE WIDTH:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BRIDGE STRUCTURAL CAPACITY:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- Design Variances: *None*
- Environmental Concerns: *None*
- Probable Locations of UST's: *N/A*

- Probable Locations of Hazardous Waste: *None*
- Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes , No ,
 - Categorical Exclusion ,
 - Environmental Assessment/Finding of No Significant Impact (FONSI) , or
 - Environmental Impact Statement (EIS) .
- Utility involvements: *Power service will be required for all CCTV cameras, VDS and ramp meter equipment.*
- Meets Logical Termini Requirements: *Yes*
- Conforms to TIP/STIP: *Yes*

Project responsibilities:

- Design: *Gresham Smith and Partners on Behalf of the Georgia DOT.*
- Right of Way Acquisition: *N/A*
- Relocation of Utilities: *GDOT*
- Letting to contract: *GDOT*
- Supervision of construction: *GDOT*
- Providing material pits: *None Required*
- Providing detours: *None Anticipated*

Coordination

- Pre-Concept Meeting: *x-x-05*
- Initial Concept Meeting date and brief summary: *To be determined.*
- Concept meeting date and brief summary: *To be determined.*
- P. A. R. meetings, dates and results: *None Required*
- Public involvement: *No public meetings are anticipated.*
- Local government comments: *N/A*
- Other projects in the area: *See attached list*
- Other coordination to date: *None*

Scheduling – Responsible Parties’ Estimate

- Time to complete the environmental process: *4 Months*
- Time to complete preliminary construction plans: *6 Months*
- Time to complete right of way plans: *N/A*
- Time to complete the Section 404 Permit: *N/A*
- Time to complete final construction plans: *7 Months*
- Time to complete to purchase right of way: *N/A*

Other alternates considered:

Alternative #1: No Build

Comments: *Extension of NaviGator system, current fiscal year FY 05*

Attachments:

1. Cost Estimate including E & C
2. List of other projects in the area (Projects in Area summarized below)

3. Concept Report Rating Form

Projects in Area:

1. Description: HOV lanes, GA 400 from I-285 to McFarland Road
GDOT Project ID: 0001757
2. Description: HOV interchange and C-D road system, GA 400 and I-285
GDOT Project ID: 0000784
3. Description: Peachtree Road pedestrian and bike improvements from Shadowlawn Avenue to Roxboro Road
GDOT Project ID: 0004689
4. Description: Abernathy Road widening from SR 9 (Roswell Road) to GA 400
GDOT Project ID: 751640
5. Description: Holcomb Bridge Road ATMS from SR 9 (Alpharetta Highway) to Barnwell Road
GDOT Project ID: 0006820
6. Description: Interchange Improvement, GA 400 at Old Milton Parkway
GDOT Project ID: 0006058
7. Description: Interchange Improvement, GA 400 at Northridge Road
GDOT Project ID: 751580
8. Description: SR 400 widening from Holcomb Bridge Road to McFarland Road
GDOT Project ID: 722010
9. Description: New flyover ramps from SB I-85 to NB SR 400 and from SB SR 400 to NB I-85
GDOT Project ID: 762380
10. Description: Addition of 4-lane collector / distributor system on SR 400 from S. of Hammond / Abernathy Rd. to N. of Spalding Dr.
GDOT Project ID: 721850
11. Description: Maintenance of Approach / Departure Ramps on I-75 / I-85
GDOT Project ID: 001533

**ATMS / SR 400 Ramp Meters from I-85/Fulton to I-285/Fulton
 CSNHS-0006-00(398), PI 0006398
 Fulton County
 Quantities and Cost Summary
 Concept Cost Estimate**

Item Code	Description	Unit	Quantity	Engineer Estimate	
				Unit Price (\$)	Amount (\$)
150-1000	Traffic Control CSNHS-0006-00(398)	Lump	Lump	\$ 150,000.00	\$ 150,000.00
xxx-xxxx	Ramp Meter Equipment	Each	3	\$ 75,000.00	\$ 225,000.00
Total Estimate					\$ 375,000.00

Total Estimate:	\$ 375,000.00
Inflation:	0
10% E & C	\$ 37,500.00
Total Project Cost	\$ 412,500.00

**ATMS / I-75/I-85 Ramp Meters from University Avenue/Fulton to 10th Street/Fulton
 CSNHS-0006-00(399), PI 0006399
 Fulton County
 Quantities and Cost Summary
 Concept Cost Estimate**

Item Code	Description	Unit	Quantity	Engineer Estimate	
				Unit Price (\$)	Amount (\$)
150-1000	Traffic Control CSNHS-0006-00(398)	Lump	Lump	\$ 150,000.00	\$ 150,000.00
xxx-xxxx	Ramp Meter Equipment	Each	9	\$ 75,000.00	\$ 675,000.00
Total Estimate					\$ 825,000.00

Total Estimate:	\$ 825,000.00
Inflation:	0
10% E & C	\$ 82,500.00
Total Project Cost	\$ 907,500.00

SCORING RESULTS AS PER TOPPS 2440-2

Project Number: CSNHS-0006-00(398)		County: Fulton		PI No.: 0006398		
Report Date:		Concept By: DOT Office: Traffic Safety and Design				
<input checked="" type="checkbox"/> CONCEPT		Consultant: Gresham Smith and Partners				
Project Type: Choose One From Each Column		<input type="checkbox"/> Major <input checked="" type="checkbox"/> Minor	<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Rural	<input checked="" type="checkbox"/> ATMS <input type="checkbox"/> Bridge <input type="checkbox"/> Building <input type="checkbox"/> Interchange <input type="checkbox"/> Intersection <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous		
FOCUS AREAS	SCORE	RESULTS				
Presentation						
Judgment						
Environmental						
Right of Way						
Utility						
Constructability						
Schedule						

NOTICE OF LOCATION AND DESIGN APPROVAL

PROJECT: CSNHS-0006-00(398) - FULTON COUNTY P. I. NO. 0006398

Notice is hereby given in compliance with Georgia Code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of the above projects.

Date of Location and Design Approval: _____

Project CSNHS-0006-00(398) in Fulton County consists of installing ramp meters along SR 400 in Fulton County. The limits of the project for SR 400 ramp meters are from the I-85 interchange to the State Route 120 interchange. The ramp meters will control the release of vehicles onto these corridors during peak hours, therefore reducing congestion and stabilizing the flow of traffic that typically occurs at heavy volume merge locations. The operation of the ramp meters will create a smoother flow of traffic and reduce the potential for traffic crashes during peak hours. In addition to ramp meters, the project will also provide enhanced VDS and CCTV coverage at all entrance ramp locations between I-85 and I-285. The new CCTV cameras will allow for improved monitoring of the interchanges and operation of the ramp meters at the TMC. The project will tie into existing fiber optic trunk lines along SR 400.

Drawings of the proposed project, as approved, are on file and are available for public inspection at the Georgia Department of Transportation:

Mr. Jim Tolson, Traffic Design Manager
935 E. Confederate Avenue
Wayne Shackelford Building
Atlanta, GA 30316
(404) 635-8139
email: jim.tolson@dot.state.ga.us

Any interested party may obtain a copy of the drawings or portions thereof by paying a nominal fee and requesting in writing to:

Keith Golden, P.E.
Office of Traffic Safety & Design
935 E. Confederate Avenue
Building 24
Atlanta, GA 30316
email: keith.golden@dot.state.ga.us

Any written request or communication in reference to this project or notice should include the Project and P.I. Number as noted at the top of this notice.

NOTICE OF LOCATION AND DESIGN APPROVAL

PROJECT: CSNHS-0006-00(399) FULTON COUNTY P. I. NO. 0006399

Notice is hereby given in compliance with Georgia Code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of the above projects.

Date of Location and Design Approval: _____

Project CSNHS-0006-00(399) in Fulton County consists of increasing the efficiency and safety of the corridor by installing ramp meters along I-75/I-85 in Fulton County. Project limits are from the University Avenue interchange to the 10th Street interchange. The ramp meters will control the release of vehicles onto these corridors during peak hours, therefore reducing congestion and stabilizing the flow of traffic that typically occurs at heavy volume merge locations. The operation of the ramp meters will create a smoother flow of traffic and reduce the potential for traffic crashes during peak hours. In addition to ramp meters, the project will provide enhanced VDS and CCTV coverage at all on ramp locations at all ramp locations along I-75 / I-85 between University Avenue and 10th Street. The new CCTV cameras will allow for improved monitoring of the interchanges and operation of the ramp meters at the TMC. The project will tie into existing fiber optic trunk lines along I-75 / I-85 at Hubs F, H and J.

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