

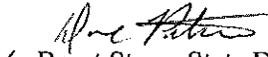
**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**OFFICE OF DESIGN POLICY & SUPPORT  
INTERDEPARTMENTAL CORRESPONDENCE**

**FILE** P.I. #0006857 & 0006866                      **OFFICE** Design Policy & Support  
CSSTP-0006-00(857) &  
CSSTP-0006-00(866)  
Paulding & Cobb Counties                      **DATE** March 25, 2010

SR 92 from Cobb County Line to CR 73/Old Burnt Hickory Road (0006857) &  
SR 92 from Paulding County Line to US 41/SR 3 (0006866)

**FROM**  for Brent Story, State Design Policy Engineer

**TO** SEE DISTRIBUTION

**SUBJECT** APPROVED CONCEPT REPORT

Attached is the approved Concept Report for the above projects.

Attachment

**DISTRIBUTION:**

Bobby Hillard, State Program Delivery Engineer  
David Norwood, Project Manager  
Genetha Rice-Singleton, Program Control Administrator  
Glenn Bowman, State Environmental Administrator  
Keith Golden, State Traffic Operations Engineer  
Ron Wishon, Project Review Engineer  
Jeff Baker, State Utilities Engineer  
Kent Sager, District 6 Engineer  
Bryant Poole, District 7 Engineer  
Kerry Bonner, District 6 Utilities Engineer  
Jonathan Walker, District 7 Utilities Engineer  
Paul Liles, State Bridge Design Engineer  
Angela Robinson, Financial Management Administrator  
Angela Alexander, State Transportation Planning Administrator  
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
PROJECT CONCEPT REPORT**

Project Numbers: CSSTP-0006-00(857) and CSSTP-0006-00(866)  
Counties: Paulding and Cobb  
P. I. Numbers: 0006857 and 0006866  
Federal Route Number: N/A  
State Route Number: 92

Widening of SR 92 from CR 73/Old Burnt Hickory Road in Paulding  
County to US 41/SR 3/Cobb Parkway in Cobb County

Submitted for approval:

DATE 01/21/2010

DATE 1/21/2010

DATE 1/21/2010

Recommendation for approval:

DATE \_\_\_\_\_

DATE \_\_\_\_\_

DATE 03/02/2010

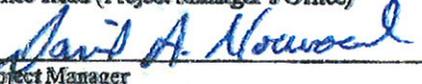
DATE 02/19/2010

DATE 02/16/2010

DATE \_\_\_\_\_

DATE \_\_\_\_\_

DATE \_\_\_\_\_

  
URS CORPORATION  
Design Consultant Name and Firm Name  
  
Office Head (Project Manager's Office)  
  
Project Manager

State Design Policy Engineer

Program Control Administrator

GLENN BOWMAN / he \*\*  
State Environmental Administrator

KEITH GOLDEN / he \*\*  
State Traffic Operations Engineer

RON WILSTON / he \*\*  
Project Review Engineer

District Six Engineer

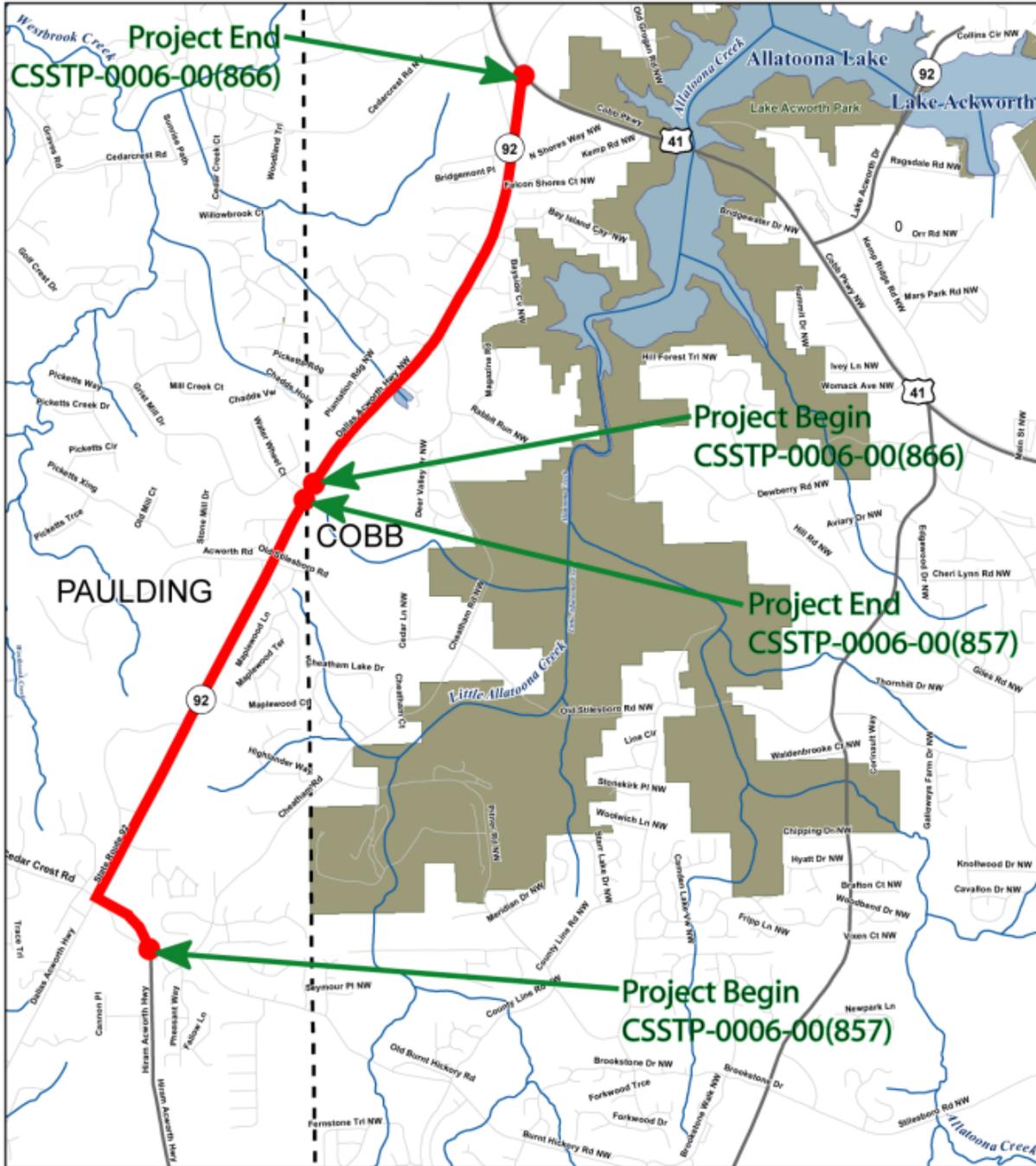
District Seven Engineer

State Transportation Financial Management 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 2/25/10  
  
State Transportation Planning Administrator

NOTE  
\*\* APPROVAL ON FILE



**PROJECT LOCATION MAP**  
Project: CSSTP-0006-00(857) & CSSTP-0006-00(866)  
Paulding and Cobb County  
PI 0006857 & 0006866

**Need and Purpose Statement:**

Traffic conditions along SR 92 between US 41/SR 3/Cobb Parkway and CR 73/Old Burt Hickory Road are currently operating at LOS “D” and are projected to operate at LOS “E” in 2032, which is an unacceptable traffic condition. This project is needed to add capacity in order to reduce congestion along the corridor by providing an additional through lane in each direction and auxiliary lanes. A raised median with limited openings should improve traffic flow by restricting left turn movements. Completion of this project may also improve safety by accommodating left turn movements at specific locations, where appropriate and feasible.

**Description of the proposed project:**

**Existing**

Currently, SR 92 between Hiram Acworth Highway/Old Burnt Hickory Road and US 41/SR 3/Cobb Parkway consists of two 12-foot lanes (one lane in each direction) with auxiliary left and right turn lanes and curb and gutter intermittently throughout the corridor, areas without curb and gutter have rural shoulders that vary from 0 to 2 feet. The existing right-of-way is approximately 100 feet. The posted speed limit is 45 mph throughout the corridor.

**Proposed**

Projects CSSTP-0006-00(857) and Project CSSTP-0006-00(866) propose to widen and reconstruct SR 92/Dallas Acworth Highway from a 2-lane facility to a divided 4-lane facility with one 11-foot inside travel and one outside 12-foot lane, a raised concrete median 20 feet in width, 12-foot shoulders with curb and gutter and 5-foot sidewalks. The proposed right-of-way varies from 100 to 135 feet. The total length of the proposed projects is 4.42 miles and is located within Paulding and Cobb Counties. Project CSSTP-0006-00(857), SR 92/Dallas Acworth Highway from CR 73/Old Burnt Hickory Road (Mile Post 16.063) to Picketts Mill Place (Mile Post 18.406) is located entirely in Paulding County. Project CSSTP-0006-00(866) SR 92/Dallas Acworth Highway from Picketts Mill Place (Mile Post 18.406/Mile Post 0.000) to US 41/SR 3/Cobb Parkway (Mile Post 2.075) is located entirely in Cobb County.

**Termini**

The southern terminus of this proposed project is the T-intersection of CR 73/Old Burnt Hickory Road an Urban Minor Arterial and SR 92/Hiram Acworth Highway. The State Route designation for SR 92 continues southbound along Hiram Acworth Highway, also an Urban Minor Arterial. Southbound traffic traveling along SR 92/Hiram Acworth Highway can continue south into Hiram, Georgia or turn left/east onto CR 73/Old Burnt Hickory Road bound for residential destinations.

The northern project terminus of the proposed project is the four-way intersection of SR 92/Dallas Acworth Highway and US 41/SR 3/Cobb Parkway. US 41/SR 3/Cobb Parkway is a four-lane Urban Minor Arterial. To the north of the intersection Dallas Acworth Highway becomes Awtrey Church Road a two-lane Urban Local Street. The State Route designation for SR 92 follows US 41/SR 3/Cobb Parkway south/east to Lake Acworth Drive. Northbound traffic can turn left onto US 41/SR 3/Cobb Parkway and proceed north into Cobb County towards Emerson, Georgia. Northbound traffic can go straight onto Awtrey Church Road and proceed east for local and residential destinations in Cobb County. Northbound traffic can turn right onto US 41/SR 3/Cobb Parkway and proceed south into Cobb County towards Marietta, Georgia.

Is the project located in a PM 2.5 Non-attainment area?       X   Yes            No.

Is this project located in an Ozone Non-attainment area?       X   Yes            No.

PDP Classification:    Major   X                      Minor       

Federal Oversight: Full Oversight ( ), Exempt( X ), State Funded( ), or Other ( )

Functional Classification:   Urban Principal Arterial  

U. S. Route Number(s):       NA                          State Route Number(s):   92  

**Traffic (AADT):**

Current Year: (2007)       19,780                      Design Year: (2032)       36,890  

**Existing design features:**

Existing Typical Section:

Currently, State Route 92 (SR 92) corridor improvements proposed for the segment extending from Old Burnt Hickory Road in Paulding County to U.S. 41 in Cobb County consist of two twelve-foot lanes (one lane in each direction) with turn lanes and curb and gutter intermittently throughout the corridor.

- Posted speed   45   mph                    Minimum radius for curve:   550'
- Maximum super-elevation rate for curve:       8       %
- Maximum mainline grade:       6       %
- Maximum cross road grade:       6       %
- Maximum driveway grade:       10       %
- Width of right-of-way:   100   ft.
- Major structures: MSE retaining wall located at Lake Allatoona High School.
- Major interchanges or intersections along the project: None
- Project CSSTP-0006-00(857), SR 92/Dallas Acworth Highway from CR 73/Old Burnt Hickory Road (Mile Post 16.063) to Picketts Mill Place (Mile Post 18.406) is located entirely in Paulding County. Project CSSTP-0006-00(866) SR 92/Dallas Acworth Highway from Picketts Mill Place (Mile Post 18.406/Mile Post 0.000) to US 41/SR 3/Cobb Parkway (Mile Post 2.075) is located entirely in Cobb County. The total length of project is 4.42 miles.

**Proposed Design Features:**

Proposed typical section:

The project proposed to widen and reconstruct SR 92/Dallas Acworth Highway from a 2-lane facility to a divided 4-lane facility with 11-foot lanes inside and 12-foot lanes outside, a raised concrete median 20 feet in width, 12-foot shoulders with curb and gutter and 5-foot sidewalks.

- Design Speed Mainline 45 mph
- Proposed Maximum super-elevation rate for curve: 4 %
  
- Proposed Maximum grade Mainline 6 %      Maximum grade allowable 6 %
- Proposed Maximum grade Side Street 9 %      Maximum grade allowable 9 %
- Proposed Maximum grade driveway 22 %
  
- Proposed Minimum radius of curve 750'      Minimum radius allowable 711'
  
- Right-of-Way
  - Width 100 to 135 Feet
  - Easements: Temporary ( ), Permanent (X), Utility ( ), Other ( )
  - Type of access control: Full ( ), Partial ( ), By Permit (X), Other ( )
  - PI 0006857  
Number of parcels: 74      Number of displacements:
    - Business: 0
    - Residences: 0
    - Mobile homes: 0
    - Other: 0
  - PI 0006866  
Number of parcels: 82      Number of displacements:
    - Business: 0
    - Residences: 0
    - Mobile homes: 0
    - Other: 0
  
- Structures: 550-foot MSE retaining wall, varying in height to a maximum of 25- feet. Located at Station 227+00 on the left side. This wall is located within project CSSTP-0006-00(866) and in Cobb County.
  
- Major intersections and interchanges: None
  
- Traffic control during construction:  
The proposed project can be staged to allow for a minimum of two lanes of traffic to remain open during all stages of construction.
  
- Transportation Management Plan Anticipated:      YES ( )      NO (X)

- Design Exceptions to controlling criteria anticipated:

	<u>UNDETERMINED</u>	<u>YES</u>	<u>NO</u>
HORIZONTAL ALIGNMENT:	( )	( )	(X)
ROADWAY WIDTH:	( )	( )	(X)
SHOULDER WIDTH:	( )	( )	(X)
VERTICAL GRADES:	( )	( )	(X)
CROSS SLOPES:	( )	( )	(X)
STOPPING SIGHT DISTANCE:	( )	( )	(X)
SUPERELEVATION RATES:	( )	( )	(X)
VERTICAL ALIGNMENT:	( )	( )	(X)
SPEED DESIGN:	( )	( )	(X)
VERTICAL CLEARANCE:	( )	( )	(X)
BRIDGE WIDTH:	( )	( )	(X)
BRIDGE STRUCTURAL CAPACITY:	( )	( )	(X)
LATERAL OFFSET TO OBSTRUCTION:	( )	( )	(X)

- Design Variances: None anticipated.
- Environmental concerns:
  - U. S. Army Corps of Engineers Section 404 Permit. Surveys to characterize and identify the extent of Jurisdictional Waters of the U.S. within the area of potential effect resulted in the identification of 18 streams, seven ephemeral drainages, three wetlands, and four open water. Impacts to several of these resources are likely to occur.
  - Informal Section 7 Coordination for potential impacts to the Georgia aster (*Aster georgianus*), Michaux's sumac (*Rhus michauxii*), and white fringeless orchid (*Platanthera integrilabia*).
  - Migratory Bird Treaty Act (MBTA)--Impacts to migratory bird species would be reduced by including Special Provision 107.23G for protection migratory birds.
  - One National Register eligible resource is located at 9945 Dallas Acworth Highway and two National Register eligible resources are located at 39 Dallas Acworth Highway.
- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ( ), No (X),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( X)
- Utility involvements:
  - Power- Cobb EMC,
  - Water- Cobb County, Cobb County Marietta, Paulding Water
  - Sewer- Cobb County, Cobb County Marietta, Paulding Water
  - Gas- AGL
  - Telephone – AT&T
  - Fiber - AT&T
  - Cable – Comcast

**VE Study Required**      **Yes(X)**      **No ( )**

The VE Study was held March 2-5, 2009. Responses were received on September 14, 2009. The Implementation of Value Engineering Alternatives was approved on September 15, 2009 and are included in attachment 11.

**Benefit/Cost Ratio** 7.69

**Project Cost Estimate and Funding Responsibilities:**

**PI # 0006857**

	PE	ROW	UTILITY	CST	MITIGATION
By Whom	GDOT	GDOT	GDOT	GDOT	GDOT
\$ Amount	\$1,807,165.77	\$2,394,688.00	\$5,135,216.00	\$15,128,580	\$0.00

**PI # 0006866**

	PE	ROW	UTILITY	CST	MITIGATION
By Whom	GDOT	GDOT	GDOT	GDOT	GDOT
\$ Amount	\$1,749,930.02	\$1,726,973.00	\$0.00	\$12,682,140	\$0.00

**Project responsibilities:**

- Design – URS Corporation
- Right-of-Way Acquisition – GDOT
- Right-of-Way funding (real property) - GDOT
- Relocation of Utilities – Utilities
- Letting to contract - GDOT
- Supervision of construction - GDOT
- Providing material pits - Contractor
- Providing detours – None Anticipated
- Environmental Studies/Documents/Permits – URS Corporation/GDOT
- Environmental Mitigation – GDOT if required

**Coordination**

- The ICTM for this project was held on April 8, 2008 at the main office of GDOT.
- The concept team meeting was held on December 15, 2009 at GDOT’s District 7, Area 2 Office
- No PAR meeting date has been set.
- No FEMA, USCG, and/or TVA meetings have been held.
- Public involvement

A total of 156 people attended the Public Information Open House held for the subject project on June 3, 2008. From those attending, 31 comment forms, 1 letter and 3 verbal statements were received. An additional 7 comments were received during the ten-day comment period following the public information open house. A total of 42 comments were received. This total includes duplicate comments from 1 respondent; however, their positions on the project has only been counted once in the following summary:

Number opposed – 5, Number in support- 15, number uncommitted – 4, and number conditional – 15.

Major concerns included: citizens recognize a need for signalization and left turn lanes at various points throughout the corridor, particularly at the schools and subdivisions. Citizens are concerned with raised median and access to properties along the corridor. Citizens are concerned with the issue of compensation and how the project will negatively affect the value of their property or business.

Officials attending included the following: Scott Greene – Paulding County DOT, Jerry Shearin – Paulding County Board of Commissioners, David A. Jackson – Cobb DOT

- Other projects in the area
  - CSSTP-0006-00(862), PI 0000862, SR 92 (Lake Acworth Drive/Cowan Road) from US 41 (North Cobb Parkway) to Cowan Road at I-75 North widening from two lanes to four lanes. (Construction 2012)
  - CSSTP-0007-00(692) , PI No 0007692 – SR 92 FM SR 120 TO CR 473/CEDARCREST ROAD - SEGMENT 3 & 4 (Construction 2012) This project proposed to widen SR 92 from two to 4-lanes.
- Railroads - none

**Scheduling – Responsible Parties’ Estimate**

- Time to complete the environmental process: 12 Months.
- Time to complete preliminary construction plans: 13 Months.
- Time to complete right-of-way plans: 3 Months.
- Time to complete the Section 404 Permit: 6 Months.
- Time to complete final construction plans: 12 Months.
- Time to complete to purchase right-of-way: 24 Months.
- List other major items that will affect the project schedule: 0 Months.

**Other alternates considered:**

**Typical Section Alternatives:**

All alternatives considered, except for the no-build alternative, propose widening and reconstruction of SR 92 between Hiram Acworth Highway/Old Burnt Hickory Road and US 41/SR 3/Cobb Parkway from 2-lanes undivided to 4-lanes divided

Alternative 1: This alternative is a 4-lane typical section with 11-foot lanes inside and 12-foot lanes outside, a raised concrete median 20 feet in width, 12-foot shoulders with curb and gutter and 5-foot sidewalks provided throughout the project limits. This is the preferred Alternative.

Alternative 2: No Build – Does not meet the Need and Purpose of the project.

**Alignment Alternatives:**

Alternative 1: This alternative is to widen existing SR 92 symmetrically along the existing alignment. This alternative minimizes impacts to environmental resources, as well as right of way impacts. This is the preferred Alternative.

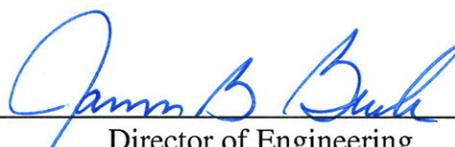
Alternative 2: This alternative proposes to widen existing SR 92 to the south in order to avoid utility conflicts on the north side of the project. This will result in an asymmetrical widening, which causes greater impacts to right of way, additional displacements and impacts to existing historical resources.

Alternative 3: No Build – Does not meet the Need and Purpose of the project.

**Attachments:**

1. Cost Estimates:
  - a. Construction including E&I,
  - b. Asphalt price adjustment,
  - c. Right-of-Way, and
  - d. Utilities
  - e. Benefit Cost Analysis
2. Sketch location map,
3. Typical sections,
4. Accident summaries,
5. Capacity Analysis summaries,
6. Minutes of Initial Concept and Concept meetings,
7. RTP Plan for ARC Project Numbers CO-329 and PA-092E,
8. Conforming plan's network schematics showing thru lanes for RTP Plan for ARC Project Numbers CO-329 and PA-092E
9. Traffic Diagrams,
10. Logical Termini,
11. VE study implementation recommendations,
12. Summary of Signal Warrant Studies
13. Need and Purpose

**Exempt projects**

Concur:   
Director of Engineering

Approve:   
Chief Engineer

Date: 03/25/2010

## CONCEPT SCORING RESULTS AS PER POLICIES AND PROCEDURES 2440-2

<b>Project Number:</b>		<b>County:</b>		<b>PI No.:</b>	
<b>Report Date:</b>		<b>Concept By:</b>			
		DOT Office:			
<input type="checkbox"/> CONCEPT		Consultant:			
<b>Project Type:</b> Choose One From Each Column		<input type="checkbox"/> Major <input type="checkbox"/> Minor	<input type="checkbox"/> Urban <input type="checkbox"/> Rural	<input type="checkbox"/> ITS <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	
<b>FOCUS AREAS</b>	<b>SCORE</b>	<b>RESULTS</b>			
Presentation					
Judgment					
Environmental					
Right-of-Way					
Utility					
Constructability					
Schedule					

# **Attachment 1**

## **Cost Estimates**



# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

-----  
INTERDEPARTMENT CORRESPONDENCE

**FILE PROJECT No.**  ,

**OFFICE**

**DATE**

P.I. No.

**FROM**

**TO** Ronald E. Wishon, Project Review Engineer

**SUBJECT REVISIONS TO PROGRAMMED COSTS**

MNGT LET DATE

PROJECT MANAGER

MNGT R/W DATE

**PROGRAMMED COST (TPro W/OUT INFLATION)**

**LAST ESTIMATE UPDATE**

CONSTRUCTION \$

DATE

RIGHT OF WAY \$

DATE

UTILITIES \$

DATE

**REVISED COST ESTIMATES**

CONSTRUCTION\* \$

RIGHT OF WAY \$

UTILITIES\*\* \$

\* Costs contain  % Engineering and Inspection and  % Construction Contingencies.

\*\* Costs contain  % contingency.

**REASON FOR COST INCREASE**

**CONTINGENCY SUMMARY**

Construction Cost Estimate:	\$ <input type="text" value="12,299,450"/>	(Base Estimate)
Engineering and Inspection:	\$ <input type="text" value="614,980"/>	(Base Estimate x <input type="text" value="5"/> %)
Construction Contingency:	\$ <input type="text" value="N/A"/>	(Base Estimate x <input type="text" value=""/> %)
		(The Construction Contingency is based on the Project Improvement Type in TPro.)
Total Fuel Adjustment	\$ <input type="text" value="928,600"/>	(From attached worksheet)
Total Liquid AC Adjustment	\$ <input type="text" value="1,285,550"/>	(From attached worksheet)
<b>Construction Total:</b>	\$ <input type="text" value="15,128,580"/>	
Utility Cost Estimate:	\$ <input type="text"/>	
Utility Contingency:	\$ <input type="text" value="0"/>	<input type="text" value=""/> %
<b>Utility Total:</b>	\$ <input type="text"/>	

**REIMBURSABLE UTILITY COST**

Utility Owner

Reimbursable Cost



Attachments

c: Genetha Rice-Singleton, State Program Control Administrator



# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

-----  
INTERDEPARTMENT CORRESPONDENCE

**FILE PROJECT No.**  ,

**OFFICE**

**DATE**

P.I. No.

**FROM**

**TO** Ronald E. Wishon, Project Review Engineer

**SUBJECT REVISIONS TO PROGRAMMED COSTS**

PROJECT MANAGER

MNGT LET DATE

MNGT R/W DATE

**PROGRAMMED COST (TPro W/OUT INFLATION)**

**LAST ESTIMATE UPDATE**

CONSTRUCTION \$

DATE

RIGHT OF WAY \$

DATE

UTILITIES \$

DATE

**REVISED COST ESTIMATES**

CONSTRUCTION\* \$

RIGHT OF WAY \$

UTILITIES\*\* \$

\* Costs contain  % Engineering and Inspection and  % Construction Contingencies.

\*\* Costs contain  % contingency.

**REASON FOR COST INCREASE**

**CONTINGENCY SUMMARY**

Construction Cost Estimate:	\$ <input type="text" value="10,270,800"/>	(Base Estimate)
Engineering and Inspection:	\$ <input type="text" value="513,540"/>	(Base Estimate x <input type="text" value="5"/> %)
Construction Contingency:	\$ <input type="text" value="N/A"/>	(Base Estimate x <input type="text" value=""/> %)
		(The Construction Contingency is based on the Project Improvement Type in TPro.)
Total Fuel Adjustment	\$ <input type="text" value="789,450"/>	(From attached worksheet)
Total Liquid AC Adjustment	\$ <input type="text" value="1,108,350"/>	(From attached worksheet)
<b>Construction Total:</b>	\$ <input type="text" value="12,682,140"/>	
Utility Cost Estimate:	\$ <input type="text"/>	
Utility Contingency:	\$ <input type="text" value="0"/>	<input type="text" value=""/> %
<b>Utility Total:</b>	\$ <input type="text"/>	

**REIMBURSABLE UTILITY COST**

Utility Owner

Reimbursable Cost



Attachments

c: Genetha Rice-Singleton, State Program Control Administrator

## Estimate Report for file "0006857\_2009-02-02"

<b>Section Roadway Items</b>					
<b>Item Number</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Price</b>	<b>Item Description</b>	<b>Cost</b>
150-1000	1	LS	300000.0	TRAFFIC CONTROL - CSSTP-0006-00(857)	300000.0
153-1300	1	EA	70578.5	FIELD ENGINEERS OFFICE TP 3	70578.5
210-0100	1	LS	450000.0	GRADING COMPLETE - CSSTP-0006-00(857)	450000.0
310-1101	30780	TN	18.06	GR AGGR BASE CRS, INCL MATL	555886.79
318-3000	5774	TN	21.01	AGGR SURF CRS	121311.74
402-1802	12943	TN	82.81	RECYCLED ASPH CONC PATCHING, INCL BITUM MATL & H LIME	1071809.83
402-1812	17261	TN	69.41	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	1198086.01
402-3121	26922	TN	59.9	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	1612627.8
402-3130	13462	TN	64.18	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	863991.16
402-3190	7949	TN	67.17	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	533934.33
413-1000	22843	GL	2.13	BITUM TACK COAT	48655.59
432-5010	4440	SY	1.25	MILL ASPH CONC PVMT, VARIABLE DEPTH	5550.0
441-0104	15364	SY	32.82	CONC SIDEWALK, 4 IN	504246.48
441-0756	16380	SY	80.32	CONCRETE MEDIAN, 8 IN	1315641.59
441-4030	5187	SY	46.42	CONC VALLEY GUTTER, 8 IN	240780.54
441-6222	32549	LF	15.89	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	517203.61
446-1100	8418	LF	5.14	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	43268.52
500-3107	1440	CY	418.23	CLASS A CONCRETE, RETAINING WALL	602251.20
500-3200	361	CY	417.35	CLASS B CONCRETE	150663.35
500-3900	720	CY	682.5	CLASS B CONCRETE, INCL REINF STEEL	491400.0
500-9999	362	CY	191.53	CLASS B CONC, BASE OR PVMT WIDENING	69333.86
550-1180	14444	LF	39.05	STORM DRAIN PIPE, 18 IN, H 1-10	564038.2
550-1240	447	LF	46.58	STORM DRAIN PIPE, 24 IN, H 1-10	20821.26
550-1300	87	LF	59.46	STORM DRAIN PIPE, 30 IN, H 1-10	5173.02
550-2180	911	LF	32.35	SIDE DRAIN PIPE, 18 IN, H 1-10	29470.85
550-3518	7	EA	1142.78	SAFETY END SECTION 18 IN, STORM DRAIN, 6:1 SLOPE	7999.46
550-3524	3	EA	716.69	SAFETY END SECTION 24 IN, STORM DRAIN, 6:1 SLOPE	2150.07
550-3530	1	EA	1000.0	SAFETY END SECTION 30 IN, STORM DRAIN, 6:1 SLOPE	1000.0
550-3618	49	EA	544.7	SAFETY END SECTION 18 IN, SIDE DRAIN, 6:1 SLOPE	26690.30
611-4001	3	EA	2662.33	RECONSTR MINOR DRAINAGE STR	7986.99
634-1200	228	EA	99.08	RIGHT OF WAY MARKERS	22590.23
668-1100	64	EA	2541.9	CATCH BASIN, GP 1	162681.6
668-1110	5	LF	202.02	CATCH BASIN, GP 1, ADDL DEPTH	1010.1
668-1200	2	EA	3078.58	CATCH BASIN, GP 2	6157.16
668-2100	5	EA	2425.77	DROP INLET, GP 1	12128.85
668-2110	5	LF	253.8	DROP INLET, GP 1, ADDL DEPTH	1269.0
668-4300	3	EA	2250.04	STORM SEWER MANHOLE, TP 1	6750.12
<b>Section Sub Total:</b>					<b>\$11,645,138.14</b>

<b>Section Signing and Marking Items</b>					
<b>Item Number</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Price</b>	<b>Item Description</b>	<b>Cost</b>
653-1501	58042	LF	0.47	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	27279.73
653-1502	447	LF	0.48	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	214.56
653-1704	97	LF	3.48	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	337.56
653-3501	28785	GLF	0.33	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	9499.05
653-6004	781	SY	2.77	THERMOPLASTIC TRAF STRIPING, WHITE	2163.37
654-1001	159	EA	3.06	RAISED PVMT MARKERS TP 1	486.54
654-1003	1791	EA	3.26	RAISED PVMT MARKERS TP 3	5838.66
<b>Section Sub Total:</b>					<b>\$45,819.48</b>

<b>Section Erosion Control Items</b>					
<b>Item Number</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Price</b>	<b>Item Description</b>	<b>Cost</b>
163-0232	33	AC	385.22	TEMPORARY GRASSING	12712.26
163-0240	874	TN	172.38	MULCH	150660.12
163-0300	5	EA	1234.88	CONSTRUCTION EXIT	6174.40
163-0503	59	EA	451.42	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	26633.78
163-0550	75	EA	206.02	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	15451.5
165-0030	9334	LF	0.78	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	7280.52
165-0087	30	EA	110.72	MAINTENANCE OF SILT CONTROL GATE, TP 3	3321.6
165-0101	5	EA	511.06	MAINTENANCE OF CONSTRUCTION EXIT	2555.3
165-0105	38	EA	83.16	MAINTENANCE OF INLET SEDIMENT TRAP	3160.08
171-0030	18667	LF	3.46	TEMPORARY SILT FENCE, TYPE C	64587.82
700-6910	64	AC	825.66	PERMANENT GRASSING	52842.24
700-7000	194	TN	63.09	AGRICULTURAL LIME	12239.46
700-7010	160	GL	21.49	LIQUID LIME	3438.39
700-8000	58	TN	384.56	FERTILIZER MIXED GRADE	22304.48
700-8100	3430	LB	2.3	FERTILIZER NITROGEN CONTENT	7888.99
<b>Section Sub Total:</b>					<b>\$391,250.96</b>

<b>Section Traffic Signal Items</b>					
<b>Item Number</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Price</b>	<b>Item Description</b>	<b>Cost</b>
632-0003	1	EA	7982.81	CHANGEABLE MESSAGE SIGN, PORTABLE, TYPE 3	7982.81
639-3004	6	EA	12505.85	STEEL STRAIN POLE, TP IV	75035.1
647-1000	2	LS	55515.34	TRAFFIC SIGNAL INSTALLATION NO -	111030.68
647-2150	6	EA	1720.0	PULL BOX, PB-5	10320.0
682-6233	375	LF	2.96	CONDUIT, NONMETL, TP 3, 2 IN	1110.0
938-1100	2	EA	5875.76	INTERSECTION VIDEO DETECTION SYSTEM ASSEMBLY, TYPE A	11751.52
<b>Section Sub Total:</b>					<b>\$217,230.11</b>

**Total Estimated Cost: \$12,299,438.69**

## Estimate Report for file "0006866\_2009-02-02"

<b>Section Wall</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
627-1020	6500	SF	44.37	MSE WALL FACE, 20 - 30 FT HT, WALL NO -	288405.0
<b>Section Sub Total:</b>					<b>\$288,405.00</b>

<b>Section Roadway Items</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	350000.0	TRAFFIC CONTROL - CSSTP-0006-00(866)	350000.0
210-0100	1	LS	500000.0	GRADING COMPLETE - CSSTP-0006-00(866)	500000.0
310-1101	29383	TN	18.06	GR AGGR BASE CRS, INCL MATL	530656.98
318-3000	4717	TN	21.01	AGGR SURF CRS	99104.17
402-1802	10574	TN	82.81	RECYCLED ASPH CONC PATCHING, INCL BITUM MATL & H LIME	875632.94
402-1812	14102	TN	69.41	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	978819.82
402-3121	23827	TN	59.9	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	1427237.3
402-3130	11914	TN	64.18	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	764640.52
402-3190	5885	TN	67.17	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	395295.45
413-1000	20217	GL	2.13	BITUM TACK COAT	43062.21
432-5010	3627	SY	1.25	MILL ASPH CONC PVMT, VARIABLE DEPTH	4533.75
441-0104	12763	SY	32.82	CONC SIDEWALK, 4 IN	418881.66
441-0756	13862	SY	80.32	CONCRETE MEDIAN, 8 IN	1113395.83
441-4030	4237	SY	46.42	CONC VALLEY GUTTER, 8 IN	196681.54
441-6222	22974	LF	15.89	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	365056.86
446-1100	3531	LF	5.14	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	18149.34
500-3107	1176	CY	418.23	CLASS A CONCRETE, RETAINING WALL	491838.48
500-3200	295	CY	417.35	CLASS B CONCRETE	123118.25
500-3900	588	CY	682.5	CLASS B CONCRETE, INCL REINF STEEL	401310.0
500-9999	296	CY	191.53	CLASS B CONC, BASE OR PVMT WIDENING	56692.88
550-1180	515	LF	39.05	STORM DRAIN PIPE, 18 IN, H 1-10	20110.75
550-1240	260	LF	46.58	STORM DRAIN PIPE, 24 IN, H 1-10	12110.8
550-1300	87	LF	59.46	STORM DRAIN PIPE, 30 IN, H 1-10	5173.02
550-2180	650	LF	32.35	SIDE DRAIN PIPE, 18 IN, H 1-10	21027.5
550-3518	7	EA	1142.78	SAFETY END SECTION 18 IN, STORM DRAIN, 6:1 SLOPE	7999.46
550-3524	3	EA	716.69	SAFETY END SECTION 24 IN, STORM DRAIN, 6:1 SLOPE	2150.07
550-3530	1	EA	1000.0	SAFETY END SECTION 30 IN, STORM DRAIN, 6:1 SLOPE	1000.0
550-3618	37	EA	544.7	SAFETY END SECTION 18 IN, SIDE DRAIN, 6:1 SLOPE	20153.9
611-4001	3	EA	2662.33	RECONSTR MINOR DRAINAGE STR	7986.99
634-1200	165	EA	99.08	RIGHT OF WAY MARKERS	16348.19
668-1100	47	EA	2541.9	CATCH BASIN, GP 1	119469.3
668-1110	5	LF	202.02	CATCH BASIN, GP 1, ADDL DEPTH	1010.1
668-1200	1	EA	3078.58	CATCH BASIN, GP 2	3078.58
668-2100	4	EA	2425.77	DROP INLET, GP 1	9703.08
668-2110	5	LF	253.8	DROP INLET, GP 1, ADDL DEPTH	1269.0
668-4300	3	EA	2250.04	STORM SEWER MANHOLE, TP 1	6750.12
<b>Section Sub Total:</b>					<b>\$9,409,448.86</b>

<b>Section Signing and Marking Items</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
653-1501	51241	LF	0.47	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	24083.27
653-1502	447	LF	0.48	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	214.56
653-1704	97	LF	3.48	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	337.56
653-3501	24351	GLF	0.33	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN,	8035.83

				WHITE	
653-6004	547	SY	2.77	THERMOPLASTIC TRAF STRIPING, WHITE	1515.19
654-1001	130	EA	3.06	RAISED PVMT MARKERS TP 1	397.8
654-1003	1463	EA	3.26	RAISED PVMT MARKERS TP 3	4769.38
<b>Section Sub Total:</b>					<b>\$39,353.59</b>

**Section Erosion Control Items**

Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	27	AC	385.22	TEMPORARY GRASSING	10400.94
163-0240	714	TN	172.38	MULCH	123079.31
163-0300	4	EA	1234.88	CONSTRUCTION EXIT	4939.52
163-0503	47	EA	451.42	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	21216.74
163-0550	56	EA	206.02	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	11537.12
165-0030	7511	LF	0.78	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	5858.58
165-0087	24	EA	110.72	MAINTENANCE OF SILT CONTROL GATE, TP 3	2657.27
165-0101	4	EA	511.06	MAINTENANCE OF CONSTRUCTION EXIT	2044.24
165-0105	28	EA	83.16	MAINTENANCE OF INLET SEDIMENT TRAP	2328.48
171-0030	15021	LF	3.46	TEMPORARY SILT FENCE, TYPE C	51972.65
700-6910	52	AC	825.66	PERMANENT GRASSING	42934.32
700-7000	159	TN	63.09	AGRICULTURAL LIME	10031.31
700-7010	131	GL	21.49	LIQUID LIME	2815.18
700-8000	47	TN	384.56	FERTILIZER MIXED GRADE	18074.32
700-8100	2802	LB	2.3	FERTILIZER NITROGEN CONTENT	6444.59
<b>Section Sub Total:</b>					<b>\$316,334.62</b>

**Section Traffic Signal Items**

Item Number	Quantity	Units	Unit Price	Item Description	Cost
632-0003	1	EA	7982.81	CHANGEABLE MESSAGE SIGN, PORTABLE, TYPE 3	7982.81
639-3004	6	EA	12505.85	STEEL STRAIN POLE, TP IV	75035.1
647-1000	2	LS	55515.34	TRAFFIC SIGNAL INSTALLATION NO -	111030.68
647-2150	6	EA	1720.0	PULL BOX, PB-5	10320.0
682-6233	375	LF	2.96	CONDUIT, NONMETL, TP 3, 2 IN	1110.0
938-1100	2	EA	5875.76	INTERSECTION VIDEO DETECTION SYSTEM ASSEMBLY, TYPE A	11751.52
<b>Section Sub Total:</b>					<b>\$217,230.11</b>

**Total Estimated Cost: \$10,270,772.18**

P.I. Number 0006857

County PAULDING

Project Number S.R. 92 FROM OLD BURNT HICKORY RD TO US 41 COBB PKWY

**Special Provision, Section 109-Measurement and Payment**  
**FUEL PRICE ADJUSTMENT (*ENGLISH 125% MAX*)**

ENTER FPL DIESEL	2.731
ENTER FPM DIESEL	6.145

ENTER FPL UNLEADED	2.551
ENTER FPM UNLEADED	5.73975

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 (CUBIC YARD)		0.29		0.15		
Excavations paid as specified by Sections 206 (CUBIC YARD)		0.29		0.15		
GAB paid as specified by the ton under Section 310 (TON)	30780.000	0.29	8926.20	0.24	7387.20	
Hot Mix Asphalt paid as specified by the ton under Sections 400 (TON)		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 (TON)	78537.000	2.90	227757.30	0.71	55761.27	
PCC Pavement paid as specified by the square yard under Section 430 (SY)		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500				8.00		1.50		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
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Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50	
Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50	
PSC Beams____ (LF) Section 507				8.00		1.50	
PSC Beams____ (LF) Section 507				8.00		1.50	
PSC Beams____ (LF) Section 507				8.00		1.50	
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50	
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50	
Bar Reinf Steel (LB) Section 511				8.00		1.50	
Piling____inch (LF) Section 520				8.00		1.50	
Piling____inch (LF) Section 520				8.00		1.50	
Piling____inch (LF) Section 520				8.00		1.50	
Piling____inch (LF) Section 520				8.00		1.50	
Piling____inch (LF) Section 520				8.00		1.50	
Piling____inch (LF) Section 520				8.00		1.50	
Drilled Caisson,____ (LF) Section 524				8.00		1.50	
Drilled Caisson,____ (LF) Section 524				8.00		1.50	
Drilled Caisson,____ (LF) Section 524				8.00		1.50	
Pile Encasement,____(LF) Section 547				8.00		1.50	
Pile Encasement,____(LF) Section 547				8.00		1.50	

<b>SUM QF DIESEL=</b>	<b>236683.50</b>	<b>SUM QF UNLEADED=</b>	<b>63148.47</b>
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<b>DIESEL PRICE ADJUSTMENT(\$)</b>	<b>\$743,340.03</b>
<b>UNLEADED PRICE ADJUSTMENT(\$)</b>	<b>\$185,255.51</b>



# ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

ENTER APL

ENTER APM

**MISSING APL OR APM**      **MISSING APL OR APM**

Use this side for Asphalt Emulsion Only		
L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
TMT =		<input type="text"/>
REMARKS:		

Use this side for Asphalt Cement Only		
L.I.N.	TYPE	TACK (GALLONS)
TMT =		<input type="text"/>
REMARKS:		

**MONTHLY PRICE ADJUSTMENT(\$)**      **MISSING APL OR APM**

## ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT ( <i>ENGLISH 125% MAX</i> )	
DIESEL PRICE ADJUSTMENT(\$)	<u>\$743,340.03</u>
UNLEADED PRICE ADJUSTMENT(\$)	<u>\$185,255.51</u>
ASPHALT CEMENT PRICE ADJUSTMENT ( <i>BITUMINOUS TACK COAT 125% MAX</i> )	<u>\$50,155.35</u>
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT <i>125% MAX</i>	<u>\$1,235,391.48</u>
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT( <i>Surface Treatment 125% MAX</i> )	<u>MISSING APL OR APM</u>

REMARKS:

**TOTAL ADJUSTMENTS**      **\$2,214,142.37**

P.I. Number 0006866

County COBB

Project Number S.R. 92 FROM OLD BURNT HICKORY RD TO US 41 COBB PKWY

**Special Provision, Section 109-Measurement and Payment**  
**FUEL PRICE ADJUSTMENT (*ENGLISH 125% MAX*)**

ENTER FPL DIESEL	2.731
ENTER FPM DIESEL	6.145

ENTER FPL UNLEADED	2.551
ENTER FPM UNLEADED	5.73975

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 ( <b>CUBIC YARD</b> )		0.29		0.15		
Excavations paid as specified by Sections 206 ( <b>CUBIC YARD</b> )		0.29		0.15		
GAB paid as specified by the ton under Section 310 ( <b>TON</b> )	29383.000	0.29	8521.07	0.24	7051.92	
Hot Mix Asphalt paid as specified by the ton under Sections 400 ( <b>TON</b> )		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 ( <b>TON</b> )	66302.000	2.90	192275.80	0.71	47074.42	
PCC Pavement paid as specified by the square yard under Section 430 ( <b>SY</b> )		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500				8.00		1.50		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
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Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50		
Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50		
PSC Beams____ (LF) Section 507				8.00		1.50		
PSC Beams____ (LF) Section 507				8.00		1.50		
PSC Beams____ (LF) Section 507				8.00		1.50		
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50		
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50		
Bar Reinf Steel (LB) Section 511				8.00		1.50		
Piling____inch (LF) Section 520				8.00		1.50		
Piling____inch (LF) Section 520				8.00		1.50		
Piling____inch (LF) Section 520				8.00		1.50		
Piling____inch (LF) Section 520				8.00		1.50		
Piling____inch (LF) Section 520				8.00		1.50		
Piling____inch (LF) Section 520				8.00		1.50		
Drilled Caisson,____ (LF) Section 524				8.00		1.50		
Drilled Caisson,____ (LF) Section 524				8.00		1.50		
Drilled Caisson,____ (LF) Section 524				8.00		1.50		
Pile Encasement,____(LF) Section 547				8.00		1.50		
Pile Encasement,____(LF) Section 547				8.00		1.50		

<b>SUM QF DIESEL=</b>	<b>200796.87</b>	<b>SUM QF UNLEADED=</b>	<b>54126.34</b>
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<b>DIESEL PRICE ADJUSTMENT(\$)</b>	<b>\$630,632.69</b>
<b>UNLEADED PRICE ADJUSTMENT(\$)</b>	<b>\$158,787.74</b>



# ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

ENTER APL

ENTER APM

**MISSING APL OR APM**      **MISSING APL OR APM**

Use this side for Asphalt Emulsion Only		
L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
TMT =		<input style="width: 100px;" type="text"/>
REMARKS:		

Use this side for Asphalt Cement Only		
L.I.N.	TYPE	TACK (GALLONS)
TMT =		<input style="width: 100px;" type="text"/>
REMARKS:		

**MONTHLY PRICE ADJUSTMENT(\$)**      **MISSING APL OR APM**

## ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT ( <i>ENGLISH 125% MAX</i> )	
DIESEL PRICE ADJUSTMENT(\$)	<u>\$630,632.69</u>
UNLEADED PRICE ADJUSTMENT(\$)	<u>\$158,787.74</u>
ASPHALT CEMENT PRICE ADJUSTMENT ( <i>BITUMINOUS TACK COAT 125% MAX</i> )	<u>\$44,389.56</u>
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT <i>125% MAX</i>	<u>\$1,063,960.56</u>
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT( <i>Surface Treatment 125% MAX</i> )	<u>MISSING APL OR APM</u>

REMARKS:

<b>TOTAL ADJUSTMENTS</b>	<b>\$1,897,770.55</b>
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# Preliminary Right of Way Cost Estimate

Date: June 27, 2008

Project: CSSTP-0006-00 (866) Cobb

Existing/Required R/W: Varies/Varies

P.I. Number: 0006866

No. Parcels: 87

Project Termini: Begins at the intersection of Cedarcrest Road and State Route 92 and runs in a northeasterly direction to the intersection of Cobb Parkway / U.S. 41

Project Description: Dallas Acworth Highway Widening Project

Land:

Commercial		
22,900 sf @ \$ 4.00/ sf =	\$	91,600
Commercial Perm. Esmt.		
76,900 sf @ \$ 4.00 @ 50%/ sf =	\$	153,800
Residential		
158,900 sf @ \$ 0.40/ sf =	\$	63,560
Residential Perm. Esmt.		
262,000 sf @ \$ 0.40 @ 50%/ sf =	\$	52,400

**TOTAL** \$ 361,360

Improvements:

Business, Curbing, paving, signs, Fencing and

Misc. Site Improvements

\$ 215,000

Relocation:

Commercial (1) @ \$25,000/parcel = \$ 25,000

Residential (0) @ \$40,000/parcel = \$ \_\_\_\_\_

**TOTAL** \$ 25,000

Damages: Proximity (3) \$ 95,000

Consequential (0) \$ \_\_\_\_\_

Cost to Cure (0) \$ 95,000

**TOTAL** \$ 696,360

**SUB-TOTAL:** \$ 696,360

Net Cost \$ 696,360

Scheduling Contingency 55 % \$ 382,998

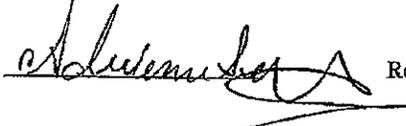
Adm/Court Cost 60 % \$ 647,615

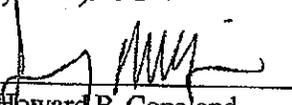
**TOTAL**

\$ 1,726,973

**Total Cost**

**\$ 1,726,973 .**

Prepared By: 

Reviewed / Approved: 

Howard P. Copeland

R/W Administrator

Note: Accuracy of estimate is the sole responsibility of the Preparer.

Note: The Market Appreciation(40%) is not included in this Preliminary Cost Estimate.

REVISED: 2-8-08

# Preliminary Right of Way Cost Estimate

Date: June 27, 2008

Project: CSSTP-0006-00 (857) Paulding

P.I. Number: 0006857

Existing/Required R/W: Varies/Varies

No. Parcels: 58

Project Termini: Begins at the intersection of Cedarcrest Road and State Route 92 and runs in a northeasterly direction to the intersection of Cobb Parkway / U.S. 41

Project Description: Dallas Acworth Highway Widening Project

**Land:**

Commercial	54,500 sf @ \$ 4.00/ sf =	\$ 218,000
Commercial Perm. Esmt.	108,700 sf @ \$ 4.00 @ 50%/ sf =	\$ 217,400
Residential	73,600 sf @ \$ 0.40/ sf =	\$ 29,440
Residential Perm. Esmt.	118,800 sf @ \$ 0.40 @ 50%/ sf =	\$ 23,760

**TOTAL** \$ 488,600

**Improvements:**

Business, Curbing, paving, signs, Fencing and

Misc. Site Improvements \$ 203,000

**Relocation:**

0 Commercial @ \$25,000/parcel	=	\$
0 Residential @ \$40,000/parcel	=	\$

**TOTAL** \$ 0

Damages: Proximity (2)	\$ 40,000.00	
Consequential (0)	\$	
Cost to Cure (7)	\$ <u>234,000.00</u>	\$ <u>274,000</u>

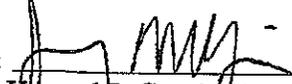
**TOTAL** \$ 965,600

**SUB-TOTAL:** \$ 965,600

Net Cost		\$ 965,600
Scheduling Contingency 55 %		\$ 531,080
Adm/Court Cost 60 %		\$ 898,008
<b>TOTAL</b>		\$ <u>2,394,688</u>

**Total Cost** **\$ 2,394,688 .**

Prepared By: 

Reviewed / Approved:   
Howard P. Copeland  
R/W Administrator

Note: Accuracy of estimate is the sole responsibility of the Preparer.

Note: The Market Appreciation(40%) is not included in this Preliminary Cost Estimate.

REVISED: 2-8-08

# Cobb & Paulding County Land Sales

<u>Highest &amp; Best Use</u>	<u>Size (acres)</u>	<u>Value/ac</u>	<u>Value/sq.ft.</u>	<u>Sales price</u>
Small Tract Residential	3.000	\$ 16,000	\$ 0.37	\$ 48,000
	3.700	\$ 17,600	\$ 0.40	\$ 65,000
	5.000	\$ 9,400	\$ 0.22	\$ 47,000
Commercial	0.660	\$ 219,700	\$ 5.04	\$ 145,000
	5.000	\$ 94,000	\$ 2.16	\$ 470,000
	7.000	\$ 114,300	\$ 2.62	\$ 800,000

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: CSSTP-0006-00(857), Paulding Co.                      OFFICE: Cartersville  
P.I. No. 0006857

FROM: Kerry D. Bonner, District Utilities Engineer              DATE: June 27, 2008

TO: Babs Abubakari, P.E., State Consultant Design & Program Delivery Engineer  
ATTN: Nicoe Alexander

SUBJECT: PRELIMINARY UTILITY COST ESTIMATE

We are furnishing you with a Preliminary Utility Cost estimate for each utility with facilities potentially located within the project limits.

FACILITY OWNER	NON-REIMBURSABLE	REIMBURSABLE	LOCAL GOVT. COST
Atlanta Gas Light Company	\$ 1,058,775.00		
AT&T Georgia (BST)	\$ 300,000.00	\$ 250,000.00	
Comcast Communications	\$ 56,441.00		
Paulding County Water			\$3,350,000.00
Cobb EMC	\$ 120,000.00		
Totals	\$ 1,535,216.00	\$250,000.00	\$3,350,000.00

Total Preliminary Utility Cost Estimate \$5,135,216.00

If you have any questions, please contact Jennifer Deems at 770-387-3616.

KDB/jd

C: Jeff Baker, P. E., State Utilities Engineer;  
Jamie Simpson, Financial Management  
Bill Dungan, Area Engineer  
File/Estimating Book

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE** **OFFICE** District Seven Utilities  
**DATE** August 18, 2008

**FROM** Jonathan Walker, District Utilities Engineer

**TO** James B. Buchan, P.E., State Urban Design Engineer

**SUBJECT** **Preliminary Utility Cost Estimate**  
**CSSTP-0006-00(866), Cobb County**  
**S.R. 92 From Paulding County Line to SR 3/US 41**  
**PI # 0006866**

As per your request, a field inspection was conducted on the above referenced project. The following companies have facilities that occupy the public right-of-way and should be relocated at no cost to the Department of Transportation:

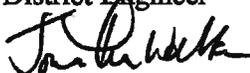
**Atlanta Gas Light Company**  
**Comcast**  
**AT&T (formerly BellSouth)**  
**City of Acworth**  
**Cobb EMC**  
**Cobb County Water System**  
**Georgia Power Distribution**  
**Georgia Power Transmission**  
**Greystone Power Company**  
**Municipal Electric Authority of Georgia (MEAG)**  
**MCI Telecommunications Corp.**  
**Oglethorpe Power**

There were no utilities observed that could potentially have prior rights. Therefore, there are no reimbursable utilities at this time. Please note that this estimate was prepared without the certification of right-of-way and could change when more detailed information is made available.

If you have any questions, please contact Mr. Clyde Cunningham at (770) 986-1117.

Sincerely,

Bryant R. Poole  
District Engineer



For: Jonathan Walker  
District Utilities Engineer

BRP:JW:CAC

c: Jeff Baker, P.E.  
File

**Benefit Cost Analysis Work Sheet  
CONGESTION Projects**

*CSSTP-0006-00(857) and CSSTP-0006-00(866)*

*PI No. 0006857 and 0006866*

*Paulding and Cobb County*

Widening of SR 92 from Cedarcrest Road to US 41

**Congestion Benefit = Tb + CMb + Fb**

**Person Time Savings Benefit (Tb)**

*Db (hrs)	0.120
ADT	35,300.00
Tb (\$s)	\$145,915,859.38

**Commercial or Truck Time Savings Benefit (CMb)**

Db (hrs)	0.120
% Truck Traffic	0.15
ADT	35,300.00
CMb	\$115,644,951.09

**Fuel Savings Benefit (Fb)**

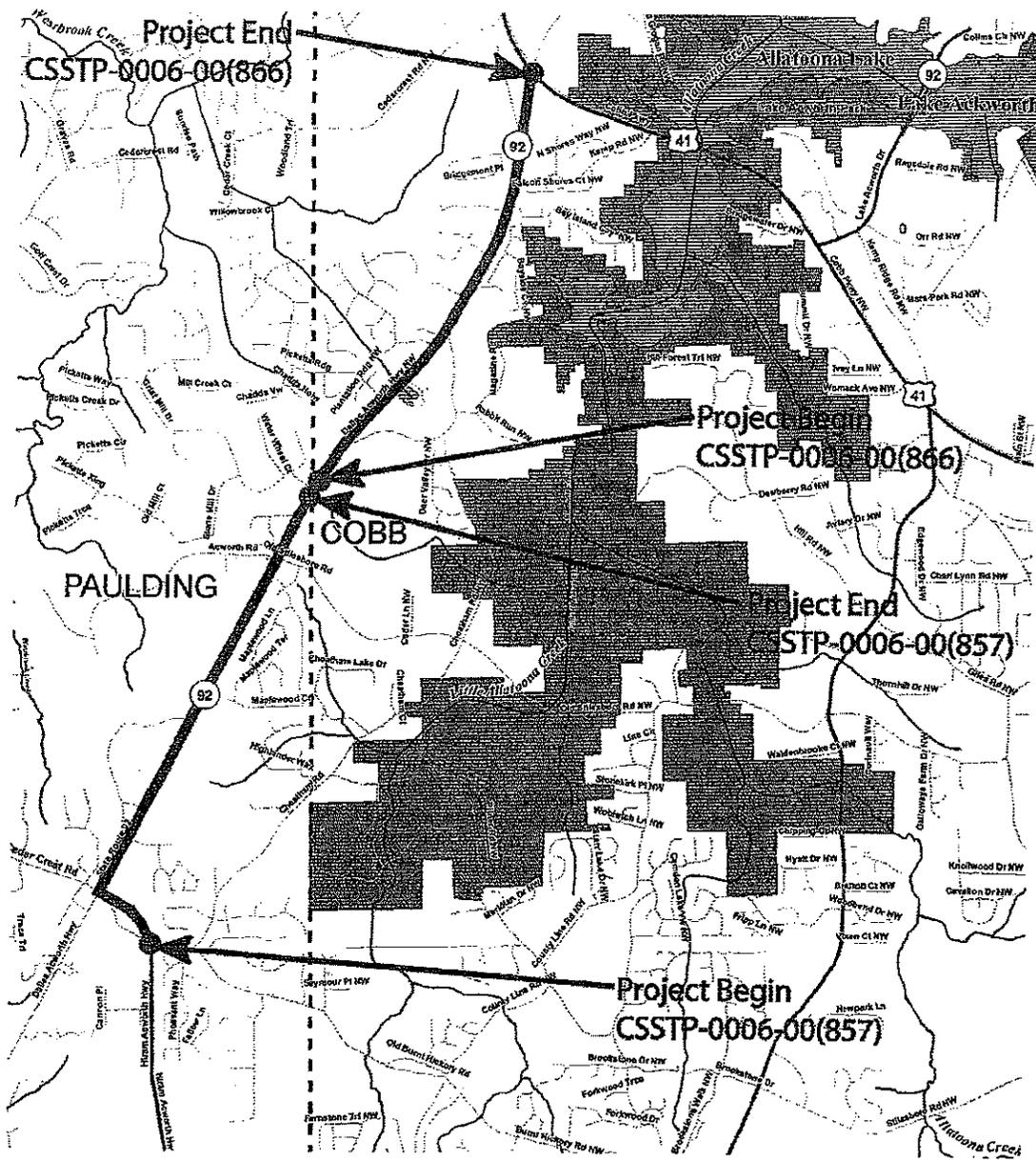
ADT	35,300.00
Fb (\$s)	\$50,849,466.15

<b>Total Congestion Benefit</b>	<b>\$312,410,276.61</b>
<b>Total Project Cost</b>	<b>\$40,624,692.79</b>
<b>B/C Ratio</b>	<b>7.69</b>

\*Reduction in delay or **Delay Benefit (D<sub>b</sub>)** can be defined as the difference between the peak hour travel time through the corridor without the proposed improvement and the peak hour travel time through the corridor with the proposed improvement.

# **Attachment 2**

## **Sketch Location Map**



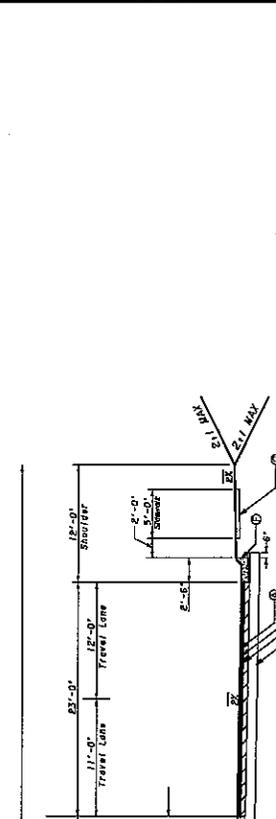
**PROJECT LOCATION MAP**  
 Project: CSSTP-0006-00(857) & CSSTP-0006-00(866)  
 Paulding County and Cobb County  
 PI 0006857 & PI 0006866

# **Attachment 3**

## **Typical Sections**

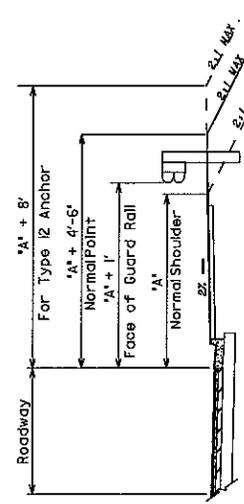
**REQUIRED PAVEMENT**

- 1 RECYCLED ASPH CONC 1.5 IN. SUPERPAVE, CP 2, INCL. BITUM. MATL. & H. LIME, 4.5 LB/ASY
- 2 RECYCLED ASPH CONC 1.5 IN. SUPERPAVE, CP 1B, INCL. BITUM. MATL. & H. LIME, 2.0 LB/ASY
- 3 RECYCLED ASPH CONC 2.5 IN. SUPERPAVE, CP 1OR, 2, INCL. BITUM. MATL. & H. LIME, 3.0 LB/ASY
- 4 GRADED AGGREGATE BASE, 1"Ø
- 5 ASPH CONC LEVELING
- 6 8" X 8" CONCRETE CURB & GUTTER, TP 2 FACE
- 7 4" CLASS B CONC.
- 8 STAMPED CONCRETE



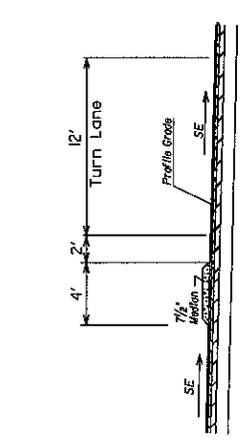
**TS-01  
 SR 92  
 TANGENT SECTION**

SLOPE CONTROLS	
SLOPE	FILL
4:1	0-10'
2:1	OVER 10'/OVER 10'



**SHOULDER DETAIL FOR GUARDRAIL  
 SEE PLAN FOR LOCATION**

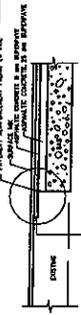
SEE GA STD 405H OR 405Z FOR DETAILS  
 NOT TO SCALE



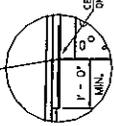
**DETAIL FOR STANDARD MEDIAN TURN LANE  
 SEE PLAN FOR LOCATION**

**PAVEMENT FABRIC DETAIL**

TYPICAL SECTION DETAIL TO BE USED WITH EXISTING PAVEMENT IS TO BE REINFORCED WITH LESS THAN TWO INCHES OF ASPHALTIC CONCRETE.



ALL EXISTING LIKE ONE FOOT DEEP TO BE REINFORCED WITH FABRIC. ALL EXISTING LIKE ONE FOOT DEEP TO BE REINFORCED WITH FABRIC. ALL EXISTING LIKE ONE FOOT DEEP TO BE REINFORCED WITH FABRIC.



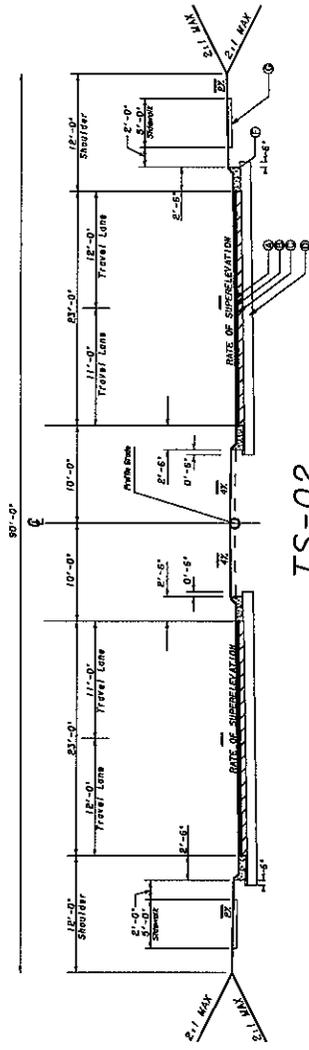
**URS**  
 400 UNIVERSITY AVENUE, SUITE 3000  
 ATLANTA, GEORGIA 30308  
 TEL: 404 880-8800 FAX: 404 880-4400

STATE OF GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
**TYPICAL SECTIONS**  
 STATE ROUTE 92

REVISION DATES	OFFICE

PROPERTY LINE  
 REQUIRED R/W LINE  
 CONSTRUCT FOR LIMITS  
 EASEMENT FOR DRIVE  
 EASEMENT FOR CONSTR. OF DRIVE

BEGIN LIMIT OF ACCESS  
 END LIMIT OF ACCESS  
 LIMIT OF ACCESS  
 R/W AND LIMIT OF ACCESS  
 EXISTING R/W LINE



**TS-02**  
**SR 92**  
**SUPERELEVATED SECTION**

SLOPE CONTROLS	
SLOPE	CONTROL
4:1	0'-10"
2:1	OVER 10' OVER 10'

- REQUIRED PAVEMENT
- (A) RECYCLED ASPH CONC 2.5 INCH SUPERPAVE OR 2 ONLY, INCL BITUM MATL & H LIME 145 LB/ST
  - (B) RECYCLED ASPH CONC 1.9 INCH SUPERPAVE OR 1OR 2, INCL BITUM MATL & H LIME 220 LB/ST
  - (C) RECYCLED ASPH CONC 2.5 INCH SUPERPAVE OR 1OR 2, INCL BITUM MATL & H LIME 330 LB/ST
  - (D) GRADED AGRICULTURE BASE 1"
  - (E) ASPH CONC LEVELING
  - (F) 8" X 30" CONCRETE CURB & GUTTER, TP 2 FACE
  - (G) 4" CLASS 5 CONC.
  - (H) STAMPED CONCRETE



BEGIN LIMIT OF ACCESS.....BLA  
 END LIMIT OF ACCESS.....ELA  
 LIMIT OF ACCESS.....L  
 LIMIT OF ACCESS.....L  
 EXISTING ROW LINE



**URS**  
 400 MARKET AVENUE, SUITE 400  
 ATLANTA, GEORGIA 30333  
 TEL: 404.524.8800 FAX: 404.524.8400

# **Attachment 4**

## **Accident Summaries**

## Crash Data

Crash data from 2002 through 2006 along the SR 92 corridor was obtained from CARE. This analysis included summarizing the accident, fatality and injury rates. The results of the crash analysis are presented in **Table 2.8** and **Table 2.9**.

**Table 2.8**  
**Corridor Wide Accident History**

Year	Accident Rate*	Fatality Rate*	Injury Rate*
2002	304 (728)	0 (1.57)	87 (180)
2003	316 (775)	10.55 (1.58)	90 (195)
2004	307 (637)	0 (1.26)	99 (159)
2005	389 (N/A)	0 (N/A)	91 (N/A)
2006	355 (N/A)	0 (N/A)	106 (N/A)

\*SR 92 MP 6.7 to MP 8.7-Cobb County & MP 16.3 to MP 18.6-Paulding County Crash rate per million vehicle miles (Statewide Average Crash rate)

**Table 2.9**  
**Crashes by Type and Location**

Intersection	Manner of Collision	2002	2003	2004	2005	2006	Total
US 41/Cobb Parkway	Angle	8	5	12	7	17	49
	Head On	1					1
	Rear End	13	20	17	19	16	85
	Sideswipe Same Direction	1		1	2	4	8
	Object		1	2	1		4
Total		23	26	32	29	37	147
Acworth/Dallas Road	Rear End		1		1		2
	Sideswipe Opposite Direction		1				1
	Object	1			1		2
Total		1	2		2		5
Bridgemont Place	Object		1				1
Total			1				1

**Table 2.9  
Crashes by Type and Location (continued)**

<b>Intersection</b>	<b>Manner of Collision</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Total</b>
North Shores Road	Angle	3	1	1	1	1	7
	Rear End	2	2	3	2		9
	Sideswipe Opposite Direction	1					1
	Object		2	3	1	1	7
<b>Total</b>		<b>6</b>	<b>5</b>	<b>7</b>	<b>4</b>	<b>2</b>	<b>24</b>
Bay Harbor	Head On				1		1
	Rear End	2	1	1	5	2	11
	Sideswipe Opposite Direction		1				1
	Object	1	1		2		4
<b>Total</b>		<b>3</b>	<b>3</b>	<b>1</b>	<b>8</b>	<b>2</b>	<b>17</b>
Bay Side Drive	Rear End	2					2
	Object					1	1
<b>Total</b>		<b>2</b>				<b>1</b>	<b>3</b>
Cheatham Road	Angle		1			1	2
	Rear End	1	3	6	3	3	16
	Object	1			1		2
<b>Total</b>		<b>2</b>	<b>4</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>20</b>
Autumn View	Angle	1	1				2
	Rear End		1			1	2
	Sideswipe Same Direction				1		1
	Object		2		2	1	5
<b>Total</b>		<b>1</b>	<b>4</b>		<b>3</b>	<b>2</b>	<b>10</b>
Picketts Ridge	Angle		1	1			2
	Rear End	2	1	1	1	2	7
	Object	3			3		6
<b>Total</b>		<b>5</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>15</b>
Picketts Mill	Angle	1	1		1		3
	Head On				1		1
	Rear End			1	1	2	4
	Sideswipe Opposite Direction				1		1
<b>Total</b>		<b>1</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>9</b>

**Table 2.9  
Crashes by Type and Location (continued)**

<b>Intersection</b>	<b>Manner of Collision</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Total</b>
Grist Mill	Angle				1	1	2
Total					1	1	2
Acworth Road/Old Stilesboro	Angle	2	1			2	5
	Head On				1		1
	Rear End		1	1		1	3
	Object	1					1
Total	3	2	1	1	3	10	
Old Dallas Acworth	Object	1		1			2
Total		1		1			2
Cedarcrest	Angle			1	3	3	7
	Head On	1			3		4
	Rear End	4	5	3	9	5	26
	Sideswipe Same Direction	1					1
	Object		1			1	2
Total		6	6	4	15	9	40
Old Burnt Hickory Rd	Angle	2	1	2	4	3	12
	Head On		1			1	2
	Rear End	2				2	4
	Sideswipe Same Direction	1					1
	Object	1					1
Total		6	2	2	4	6	20

# **Attachment 5**

## **Capacity Analysis**

**Design (2032) Year No-Build and Build Analysis  
AM & PM Design Hour Intersection Level of Service / Delay (sec)**

Location	2032 No-Build		2032 Build	
	AM	PM	AM	PM
SR 92 & US 41/Cobb Parkway (Signalized)	F / 235	F / 371	F / 188	F / 261
SR 92 & Acworth/Dallas Road Eastbound Stopped Movements	F / 341	F / Err	F / 86	F / 738
SR 92 & Bridgemont Place Eastbound Stopped Movements	F / 525	F / 403	B / 12	C / 23
SR 92 & North Shores Road Westbound Stopped Movements	F / Err	F / Err	F / Err	F / Err
SR 92 & Deer Springs Eastbound Stopped Movements	F / 699	F / 871	B / 13	C / 24
SR 92 & Bay Harbor Westbound Stopped Movements	F / 610	F / 281	F / 53	B / 14
SR 92 & Silver Lace Lane Eastbound Stopped Movements	F / 833	F / 397	B / 12	C / 24
SR 92 & Bay Side Drive Westbound Stopped Movements	F / 420	F / 222	F / 119	E / 47
SR 92 & Cheatham Road Eastbound Stopped Movements	F / Err	F / 850	F / Err	F / 143
SR 92 & Autumn View Eastbound Stopped Movements	F / Err	F / Err	B / 14	C / 23
SR 92 & Picketts Ridge Eastbound Stopped Movements	F / Err	F / Err	F / 1013	F / Err
SR 92 & Picketts Mill Eastbound Stopped Movement	F / 130	F / Err	F / 51	F / 154
SR 92 & Grist Mill Eastbound Stopped Movement	F / 190	F / 241	B / 13	C / 19
SR 92 & Acworth Road/Old Stilesboro Eastbound Stopped Movements	F / Err	F / Err	F / Err	F / Err
SR 92 & Acworth Road/Old Stilesboro Westbound Stopped Movements	F / Err	F / Err	F / Err	F / Err
SR 92 & Old Dallas Acworth Eastbound Stopped Movement	F / 239	F / 536	E / 43	F / 228
SR 92 & Cedarcrest (Signalized)	F / 324	F / 1006	F / 204	F / 156
SR 92 & Old Burnt Hickory Road Westbound Stopped Movements				

*\* Err – Volume greatly exceeds capacity, methodology to calculated delay not available*

**Attachment 6**

**Minutes of ICTM**

**&**

**Concept Team Meeting**



## SUMMARY OF MEETING MINUTES

**MEETING DATE:** April 8, 2008  
9:00AM Urban Design Conference Room

**PARTICIPANTS:** Nicoe Alexander, GDOT – OCD, nialexander@dot.ga.gov  
Michael Haithcock, GDOT – OCD, mhaithcock@dot.ga.gov  
Art Buckly, GDOT - R/W, abuckly@dot.ga.gov  
Melanie Nable, GDOT – OEL, mnable@dot.ga.gov  
Tony Belcher, GDOT - Bridge Design, tbelcher@dot.ga.gov  
Mark Hipp, City of Acworth, mhipp@acworth.org  
Brandon Douglas, City of Acworth, bdouglas@acworth.org  
Bill Deugan, GDOT District 6 - Area 5, bdeugan@dot.ga.gov  
Mike Lobdell, GDOT District 7 – Preconstruction, mlobdell@dot.ga.gov  
Clarence Harris, GDOT District 7 – Area 2, clarence.harris@dot.state.ga.us  
Jennifer Deems, GDOT District 6 – Utilities, jdeems@dot.ga.gov  
Yulonda Foster, GDOT District 7 – Utilities, ccunningham@dot.ga.gov  
Curtis Scott, GDOT – OCD/OPD, cuscott@dot.ga.gov  
Adrian Jackson, GDOT, adjackson@dot.ga.gov  
Roxana Ene, GDOT – Planning, rene@dot.ga.gov  
Sean Pharr, URS Corporation, sean\_pharr@URSCorp.com  
Jennifer Harper, URS Corporation, jennifer\_harper@URSCorp.com  
Patrick Smith, URS Corporation, patrick\_smith@URSCorp.com  
Bridgett Nero, URS Corporation, bridgett\_nero@URSCorp.com  
Erica Parish, Paulding DOT, eparish@paulding.gov  
David Jackson, Cobb DOT, david.jackson@cobbcounty.org  
Gena Wilder, GA Power, gmwilder@southernco.com

**DISCUSSION:** ICTM for SR 92 from Cedarcrest Road to US 41 in Cobb and Paulding County  
CSSTP-0006-00(857) and CSSTP-0006-00(866)

A meeting of the above listed participants was held on April 8, 2008 at 9:00AM in the Urban Design Conference Room for the Initial Concept Team Meeting for SR 92 from Cedarcrest Road to US 41. The purpose of this meeting was to evaluate the Need and Purpose and determine the logical termini for the projects. Nicoe Alexander opened the meeting by welcoming the attendees and listing the description of the project. Jennifer Harper was introduced and discussed the design features of the project.

Nicoe Alexander from GDOT – OCD outlined that the Let date for both projects (PI 0006857 & PI 0006866) is 05/2011.

Jennifer Harper from URS Corporation discussed the southern terminus for the project at Cedarcrest Rd. She pointed out that the traffic almost evenly diverts at Cedarcrest Road with approximately half of the vehicular movement continuing south at the intersection along CR 382/Harmony Grove Road and approximately half turning east to continue along SR 92 to Hiram. There is a programmed project with a 2012 let date to continue widening and reconstructing SR 92 from the intersection of Cedarcrest Road towards Hiram.

Melanie Nable from GDOT – OEL pointed out the fact there is a separate programmed project adjacent to this project can't be used as justification for the logical termini. The FHWA will make the final determination regarding logical termini.

Mike Lobdell from GDOT – District 7 Preconstruction asked what is the change in traffic delay along the corridor from the build/no build conditions. *Jennifer Harper indicated that there was no analysis information for that at this time, however, it would be added to the need and purpose document.*

Patrick Smith from URS Corporation discussed the potential environmental, archeological, contamination and historical concerns of the project.

Art Buckley from GDOT – Right of Way asked about potential right of way impacts. *Jennifer Harper outlined that the existing R/W is 80-100', proposed R/W will be 100' typical and 120' in portions with turn lanes.*

Jennifer Harper began a general group discussion about the Cobb County project at Cheatham Rd. and the new alignment at that intersection. A further re-alignment will not be considered as part of this project.

David Jackson from Cobb County DOT informed the group that Cobb County plans to re-align Autumn View Road eliminating the need to re-align Cheatham again, so it is Cobb County's recommendation to leave Cheatham where it is, and the County will provide a new alignment from the neighborhood on the west side of SR 92 to line up with Cheatham Rd.

Erica Parish from Paulding County DOT informed the group that Paulding County doesn't see a need for a 4-lane section on Dallas-Acworth Road continuing south from Cedarcrest at the proposed project termini.

David Jackson asked about the raised median in the typical section. *Jennifer Harper responded that the median would be raised concrete.*

David Jackson requested grassed median rather than concrete and stated that Cobb County will maintain the median and pay for upgrades for plantings.

Erica Parish pointed out that Paulding County has a programmed project that will construct a 4-lane section from Acworth Street to Cedarcrest Road. Paulding County will furnish electronic files for this project.

David Jackson requested on the behalf of Cobb County that the project should provide a 3-lane approach from Stilesboro Rd.

David Jackson pointed out that the proposed 3<sup>rd</sup> Army Road Interchange project could cause the need for dual lefts and a free flow right turn onto Cedarcrest Rd. and recommends placing dual rights in the interim from SR 92 onto Cobb parkway. *Mike Lobdell suggested striping out a lane for offset of future lanes instead of dual rights for the interim.*

Erica Parish pointed out that Paulding County has a project that will be under construction soon that will make a 4-lane section at Old Dallas Acworth Rd. with intersection improvements. She will make the plans for that project available.

David Jackson suggests anticipating new signals at the intersections near the new school. He recommended that the plans should also include upgrading Stilesboro to a 3-lane section with right turn onto SR 92 to accommodate the new Allatoona High School.

Jennifer Harper began a general group discussion about median breaks for the Baptist Church north of the Cheatham Road and SR 92 intersection. She pointed out the location of the Baptist Church entrance does not meet GDOT's 1000' minimum spacing for signalized median openings and would therefore require a variance if a opening were to be provided for the Church.

Roxana Ene from GDOT – Planning indicated that the accident summary needs to be included in the need and purpose. Also show LOS for the corridor and termini in report. The construction for CSSTP-0006-00(857) is long range and not funded. (Paulding County portion, Cedarcrest to Cobb County line)

Right of Way is currently programmed in 05/2009 for CSSTP-0006-00(857) and 2010 CSSTP-0006-00(866)

Michael Haithcock from GODT – OCD indicated the R/W for both projects is funded. Projects may get pushed out but most likely won't get eliminated. Also pointed out that R/W and Environmental will both be on a tight schedule.

Melanie Nable pointed out that if a noise study needs to be done and the use of noise walls are considered, that it has to be done before the PIOH.

Nicoe Alexander asked if there were any other questions or comments from any of the offices represented in the meeting.

Jennifer Deems from GDOT – District 6 Utilities indicated this is a SUE project and coordination for the utilities will not be handled out of the District Office.

Melanie Nable pointed out that due to the potential environmental constraints the R/W dates are unrealistic.

There was a general group discussion begun by Nicoe Alexander that the PFPR needed to be as soon as possible. Schedule the PIOH in May, and concept approval in July.

Erica Parish suggested meeting at the elementary school in Paulding County and that she can help with the coordination.

Mike Lobdell asked that District 6 make the signs and put them up. Bill Deugan from GDOT – District 6- Area 5 said to contact Ken Howard or Buddy Bigsby at District 6- Area 5 Maintenance about the signs.

Melanie Nable informed the group that the Federal Highway contact for both South projects is Jennifer Giersch, District 7.

The meeting ended with Nicoe Alexander from GDOT – OCD asking for any other comments or questions and him thanking everyone for their input and for attending the meeting.



## SUMMARY OF MEETING MINUTES

MEETING DATE: December 15, 2009  
1:30 PM GDOT District 7, Area 2 Office

PARTICIPANTS: Michael Haithcock, GDOT – OPD, [mhaithcock@dot.ga.gov](mailto:mhaithcock@dot.ga.gov)  
David Norwood, GDOT - OPD, [dnorwood@dot.ga.gov](mailto:dnorwood@dot.ga.gov)  
Brandon Kirby, GDOT – OPD, [bkirby@dot.ga.gov](mailto:bkirby@dot.ga.gov)  
Melanie Nable, GDOT – OES, [mnable@dot.ga.gov](mailto:mnable@dot.ga.gov)  
Ron Wishon, GDOT – Engineering Services, [rwishon@dot.ga.gov](mailto:rwishon@dot.ga.gov)  
Steve Carter, GDOT – Engineering Services, [scarter@dot.ga.gov](mailto:scarter@dot.ga.gov)  
Jun Birnkammer, GDOT Utilities, [jbirnkammer@dot.ga.gov](mailto:jbirnkammer@dot.ga.gov)  
Jan Phelps, GDOT Utilities, [jphelps@dot.ga.gov](mailto:jphelps@dot.ga.gov)  
Kayce Mertz, GDOT Planning, [kmertz@dot.ga.gov](mailto:kmertz@dot.ga.gov)  
Bill Dungan, GDOT – District 6, Area 5, [bdungan@dot.ga.gov](mailto:bdungan@dot.ga.gov)  
Dee Corson, GDOT District 6 Traffic Ops, [dcorson@dot.ga.gov](mailto:dcorson@dot.ga.gov)  
Dale Ferris, GDOT – District 7 Area 2 - Construction, [dferris@dot.ga.gov](mailto:dferris@dot.ga.gov)  
Mike Lobdell, GDOT District 7 – Preconstruction, [mlobdell@dot.ga.gov](mailto:mlobdell@dot.ga.gov)  
Sebastian Nesbitt, GDOT District 7– Area 2 Office, [snesbitt@dot.ga.gov](mailto:snesbitt@dot.ga.gov)  
Bruce Savage, GDOT District 7 - RW, [bsavage@dot.ga.gov](mailto:bsavage@dot.ga.gov)  
Jennifer Deems, GDOT District 6 Utilities, [jdeems@dot.ga.gov](mailto:jdeems@dot.ga.gov)  
Kerry Bonner, GDOT District 6 Utilities, [kbonner@dot.ga.gov](mailto:kbonner@dot.ga.gov)  
Clyde Cunningham, GDOT District 7 Utilities, [ccunningham@dot.ga.gov](mailto:ccunningham@dot.ga.gov)  
David Jackson, Cobb DOT, [david.jackson@cobbcounty.org](mailto:david.jackson@cobbcounty.org)  
Erica Parish, PCDOT Preconstruction, [eparish@paulding.gov](mailto:eparish@paulding.gov)  
Kathy Stallard, PCDOT Preconstruction, [kstallard@paulding.gov](mailto:kstallard@paulding.gov)  
Fred Babb – AGL, [fbabb@agresources.com](mailto:fbabb@agresources.com)  
Russell Cook, Cobb County Water Systems, [Russell.cooke@cobbcounty.org](mailto:Russell.cooke@cobbcounty.org)  
Victor Brannan, Comcast, [victor\\_brannan@comcast.com](mailto:victor_brannan@comcast.com)  
Max Laurenceau, Comcast, [maxime\\_laurenceau@comcast.com](mailto:maxime_laurenceau@comcast.com)  
Sean Pharr, URS Corporation – Project Manager, [sean\\_pharr@URSCorp.com](mailto:sean_pharr@URSCorp.com)  
Jennifer Harper, URS Corporation - Design, [jennifer\\_harper@URSCorp.com](mailto:jennifer_harper@URSCorp.com)  
Patrick Smith, URS Corporation - NEPA, [patrick\\_smith@URSCorp.com](mailto:patrick_smith@URSCorp.com)

DISCUSSION: CTM for SR 92 from Old Burnt Hickory Road in Paulding County to  
US 41/Cobb Parkway in Cobb County  
CSSTP-0006-00(857) and CSSTP-0006-00(866)

A meeting of the above listed participants was held on December 15, 2009 at 1:30 PM in the GDOT District 7, Area 2 Office for the Concept Team Meeting for SR 92 from Old Brunt Hickory Road to US 41/Cobb Parkway. The purpose of this meeting was to evaluate the concept report and solicit input for the proposed project. David Norwood opened the meeting by welcoming the attendees, introductions and listing the description of the project. Jennifer Harper was introduced to discuss the design features of the project.

It is noted the meeting was attended by the following local government agencies; Paulding County DOT –Preconstruction, and Cobb County DOT.

It is noted the meeting was attended by the representatives of the following utility companies; Atlanta Gas Light, Comcast, and Cobb County Water Systems.

David Norwood indicated the need and purpose was recently approved by the Office of Planning and the approved need and purpose would be incorporated into the Final Concept Report.

Jennifer Harper noted that this project has undergone a Value Engineering (VE) study and the VE implementation recommendations have been incorporated into the concept layout. It was also noted that this project has approved Logical Termini from FHWA, with Old Brunt Hickory Road at the southern terminus and US 41/Cobb Parkway as the northern terminus.

Jennifer Harper gave a brief overview of the project. The design speed is 45 MPH, the proposed typical section includes an urban section with 12-foot graded shoulders with sidewalks on both sides of the roadway, 2 travel lanes in each direction with an 11-foot interior lane and 12 foot outside lane, a 20-foot raised median is proposed. There are 3 existing signals which will be modified within the project limits; SR 92 at Cedarcrest, SR 92 at Acworth High School, and SR 92 at Cobb Parkway. There are 15 existing side roads within the project limits.

Mike Lobdell questioned if there would be any grade changes. Jennifer Harper responded there is one potential substandard vertical curve near existing open water (pond) which may require some leveling, otherwise the profile will generally match the existing grades.

Sean Pharr mentioned there is an existing substandard shoulder south bound at Acworth High School which will require either a substantial fill or a retaining wall. The VE study recommended filling in this area as a cost saving measure. The cost savings would be studied in further detail during the preliminary design phase.

David Jackson noted the Interchange Justification Report (IJR) at Third Army Road at I-75 was recently approved by FHWA. The IJR indicates northbound traffic along SR 92 would make left turning movements that could necessitate the need for a dual left.

David Norwood indicated the Department would coordinate with Cobb County in regards to the needs of Third Army Road as it relates to the SR 92 project.

Jennifer Harper noted that the existing skew of the intersection will be looked to see if it can be improved in preliminary design.

Sean Pharr indicated the existing design would not limit dual lefts in the future.

Mr. Lobdell stated he would like to see a continuous flow design be studied for this intersection.

Sean Pharr responded no alternative intersection designs have been studied to date.

Kathy Stallard indicated Paulding County has a project at Old Stilesboro Road, which will require right of way. David Norwood instructed URS to send the Concept Layout CAD files to Paulding County.

Jennifer Harper discussed the status of the Environmental Document, the Assessment of effects (AOE) and Archeology Reports are complete and the Ecology Report is ready to submit once final limits of stream impacts are completed. A PIOH was held with general support shown for the project. A meeting was held with the Office of Environmental Services (OES) and FHWA. The FHWA requested an Environmental Assessment (EA) be prepared for this project.

The use of a 17-foot median in lieu of the 20-foot raised meeting was discussed. Steve Carter indicated this was only used in certain situations. David Jackson recommended a 24-foot raised median. The VE Study did not recommend modifications to the 20-foot raised median and therefore it will remain as recommended in the Draft Concept Report.

Jennifer Harper went over the design alternatives; widen to the east, widen to the west, and widening symmetrically which is the preferred alternative since it minimizes overall right of way impacts.

Sebastian Nesbitt noted that any lane closure on this route would need to be studied very carefully and be avoided, but staging on the preferred alternative seems practical at this time.

David Jackson and Erica Parish indicated support for using grassed medians and indicated their respective counties would enter into maintenance agreements for the medians.

David Norwood indicated May 2011 is the programmed right of way date.

It was noted there is a 20" water main on the east side of the roadway. There is no existing sewer along SR 92 or plans for sewer. There is a high pressure gas main that needs QL/A test holes to avoid if possible when designing the drainage.

Jun Birnkammer noted the utility impact analysis could be handled under a SUE task order at a later date.

David Norwood asked if there were any other issues or comments regarding the Draft Concept. He then thanked all the attendees and closed the meeting.

Attachments:  
Sign in Sheet  
Agenda



## AGENDA

December 15, 2009 1:30pm

### CONCEPT TEAM MEETING

### SR 92 WIDENING AND RECONSTRUCTION

PROJECTS: CSSTP-0006-00(857), Paulding County, P.I. 0006857  
CSSTP-0006-00(866), Cobb County, P.I. 0006866

- I. INTRODUCTIONS
- II. OVERVIEW OF TEAM RESPONSIBILITIES
- III. "NEED & PURPOSE"
- IV. PROJECT CORRIDOR
- V. ENVIRONMENTAL CONCERNS/POSSIBLE PERMITS
- VI. PUBLIC INVOLVEMENT
- VII. CONCEPT DEVELOPMENT
- VIII. DESIGN CRITERIA
- IX. DISCUSSION OF PROPOSED ALTERNATES/TYPICAL SECTIONS
- X. EXISTING STRUCTURES
- XI. PROJECT SCHEDULE
- XII. OTHER PROJECTS IN THE AREA
- XIII. LOCAL GOVERNMENT COORDINATION
- XIV. LOGICAL TERMINI
- XV. VE STUDY RECOMENDATIONS
- XVI. ADJOURN



### Sign In Sheet

December 15, 2009, 1:30 pm

Concept Team Meeting - Sign in sheet  
 CSSTP-0006-00(857) & CSSTP-0006-00(866)

Name	Organization Project Role	Email Address	Phone
✓ Sean Pharr	URS Project Manager	Jennifer_harper@urscorp.com	678.808.8839
✓ Jennifer Harper	URS Design Lead	Sean_pharr@urscorp.com	678.808.8978
✓ Patrick Smith	URS Environmental	Patrick_Smith@urscorp.com	678.808.8876
✓ David Norwood	GDOT - OPD	dnorwood@dot.ga.gov	404-631-1581
✓ Michael Haithcock	GDOT - OPD	mhaithcock@dot.ga.gov	
✓ Melanie Nable	GDOT - office of env. Svcs	mnable@dot.ga.gov	404.631.1174
✓ Bill Dungan	GDOT Disb A/S	bdungan@dot.ga.gov	770-646-5522
✓ Steve Carter	GDOT-Engineering Services	scarter@dot.ga.gov	404-631-1771
✓ Ron Wisson	GDOT-ENG SVCS	rwisson@dot.ga.gov	404-631-1753
Brandon Kirby	GDOT - OPD	bkirby@dot.ga.gov	678. 343.0816
✓ Michael Haithcock	GDOT - OPD	mhaithcock@dot.ga.gov	404 631 1534



Mike Lobdell	GDOT-D7 Person	mlobdell@dot.ga.gov	7/986-1257
SEBASTIAN O. NESBITT	CDOT-D7/AZ	SNESBITT@DOT.GA.GOV	7-528-3238
JUN BIRNKAMMER	GDOT-UTILITIES	jbrinkammer@dot.ga.gov	404.691.1360
Jan Phelps	CDOT. Utilities	japhelps@dot.ga.gov	4) 031.1258
MAX LAURENCEAU	COMCAST	MAXINE-LAURENCEAU@CABLE.COMM.GA	770-559-2096
Victor Brannan	Comcast	Victor_Brannan@cable.comcast.com	770-559-6894
RUSSELL COOKE	CORB COUNTY WATER SYSTEM/SECOURS	RUSSELL.COOKE@CORB.COUNTY.GA	770-419-6343
DUDE WASHINGTON	D7-UTILITIES	DWNINGHAM@DOT.GA.GOV	77986-1117
KERRY BONNER	DIST. SIX UTILITIES	Kbonner@dot.ga.gov	770-387-3614
Jennifer Deems	GDOT-D6 UTILITIES	jdeems@dot.ga.gov	770-387-3616
DEE CORSON	GDOT-D6 T-OPS	dcorson@dot.ga.gov	770-387-3637
Dale Ferris	GDOT-D7 AZ construction	dferris@dot.ga.gov	770-528-3238
FRED BABB	AGC	FBABB@AGC.RESOURCES.COM	(4) 313-2566
Bruce Sawyer	Dist. Six R/W	bsawyer@dot.ga.gov	770-387-3856



# **Attachment 7**

## **RTP Plan Sheets**



FY 2008-2013 Transportation Improvement Program

**SR-92 (HIRAM ACWORTH HIGHWAY)**

Jurisdiction: [REDACTED]

Existing: 2 Planned: 2 Length (mi.): N/A

Network Year: 2010

Open Year: 2008

Status: PE AUTH

Year: 2006

Fund Type: Local Jurisdiction/Municipality Funds

Amount: \$0,000

Service Type: Roadway Operational Upgrades

Analysis: Exempt from Air Quality Analysis (40 CFR 93)

0006928

Programmed

Status	Year	Fund Type	Federal	State	Local	Bonds	Total
PE AUTH	2006	Local Jurisdiction/Municipality Funds	\$0,000	\$0,000	\$0,000	\$0,000	\$0,000
ROW AUTH	2006	Local Jurisdiction/Municipality Funds	\$0,000	\$0,000	\$0,000	\$0,000	\$0,000
CST	2008	Congestion Mitigation and Air Quality	\$424,000	\$0,000	\$106,000	\$0,000	\$530,000
			\$424,000	\$0,000	\$106,000	\$0,000	\$530,000

**METRO ARTERIAL CONNECTOR - SR 92 (DALLAS ACWORTH HIGHWAY)**

Jurisdiction: [REDACTED]

Existing: 2 Planned: 4 Length (mi.): 4.5

Network Year: 2010

Open Year: 2008

Status: PE AUTH

Year: 2009

Fund Type: STP - Statewide Flexible (GDOT)

Amount: \$1,230,400

Service Type: General Purpose Roadway Capacity

Analysis: In the Region's Air Quality Conformity Analysis

0006857

Programmed

Status	Year	Fund Type	Federal	State	Local	Bonds	Total
PE AUTH	2006	STP - Statewide Flexible (GDOT)	\$0,000	\$0,000	\$0,000	\$0,000	\$0,000
ROW	2009	STP - Statewide Flexible (GDOT)	\$1,230,400	\$0,000	\$307,600	\$0,000	\$1,538,000
CST	LR 2014-2020	General Federal Aid - 2014-2030	\$6,760,000	\$0,000	\$1,690,000	\$0,000	\$8,450,000
			\$7,990,400	\$0,000	\$1,997,600	\$0,000	\$9,988,000

**DALLAS CONNECTING SIDEWALKS PROGRAM**

Jurisdiction: [REDACTED]

Existing: N/A Planned: N/A Length (mi.): 2

Network Year: 2010

Open Year: 2008

Status: PE AUTH

Year: 2006

Fund Type: Congestion Mitigation and Air Quality

Amount: \$0,000

Service Type: Pedestrian Facility

Analysis: Exempt from Air Quality Analysis (40 CFR 93)

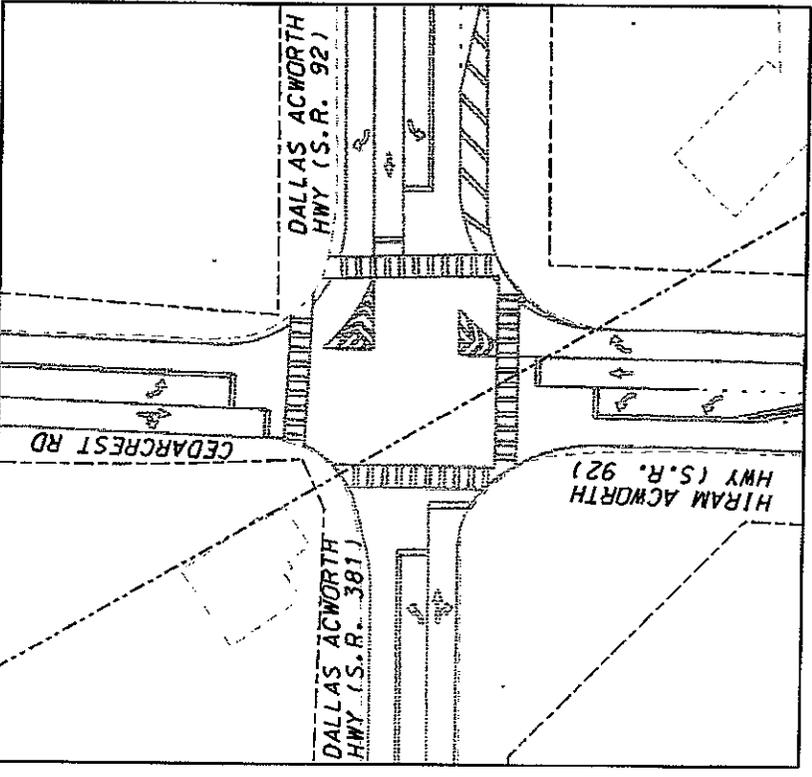
0004208

Programmed

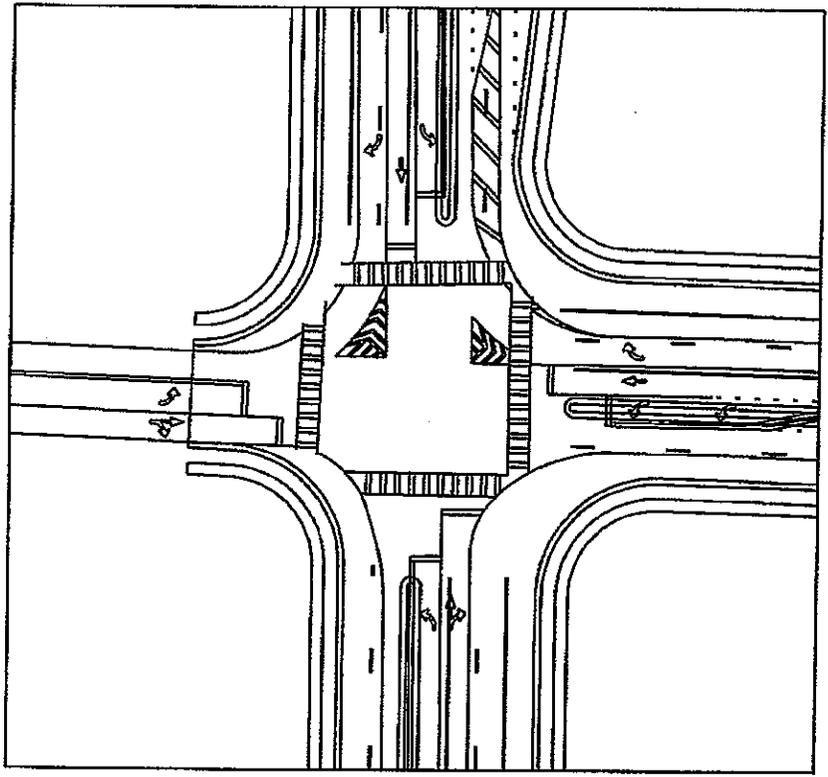
Status	Year	Fund Type	Federal	State	Local	Bonds	Total
PE AUTH	2006	Congestion Mitigation and Air Quality	\$0,000	\$0,000	\$0,000	\$0,000	\$0,000
ROW AUTH	2006	Local Jurisdiction/Municipality Funds	\$0,000	\$0,000	\$0,000	\$0,000	\$0,000
CST	2008	Congestion Mitigation and Air Quality	\$700,000	\$0,000	\$175,000	\$0,000	\$875,000
			\$700,000	\$0,000	\$175,000	\$0,000	\$875,000

# **Attachment 8**

## **Schematics**



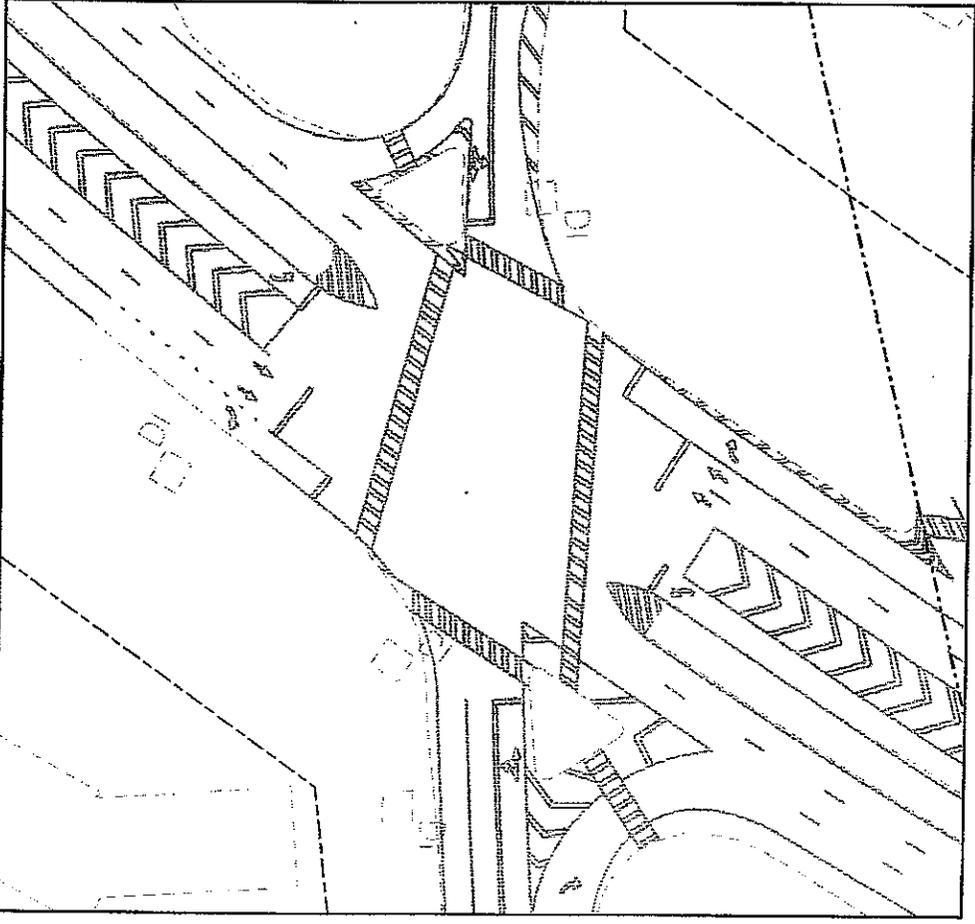
**EXISTING CONDITIONS**



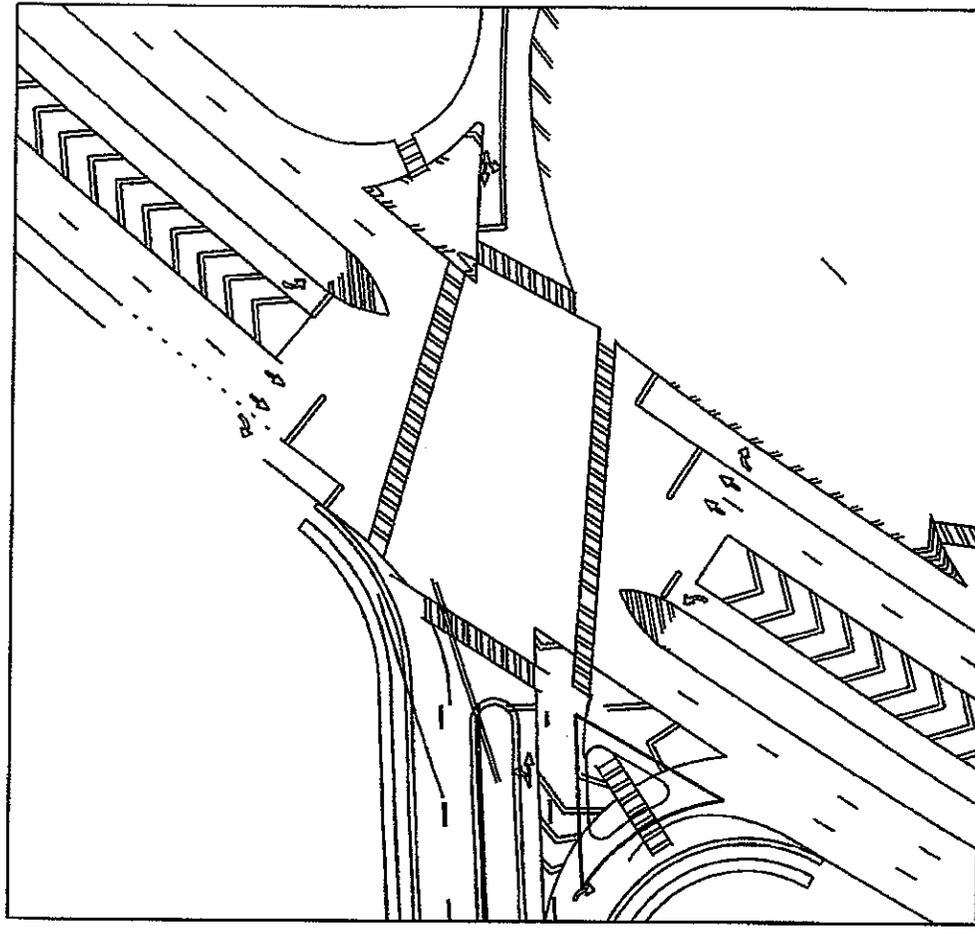
**PROPOSED CONDITIONS**

**NORTH COBB PKWY. (US 41) AT SR 92**

NOT TO SCALE



EXISTING CONDITIONS



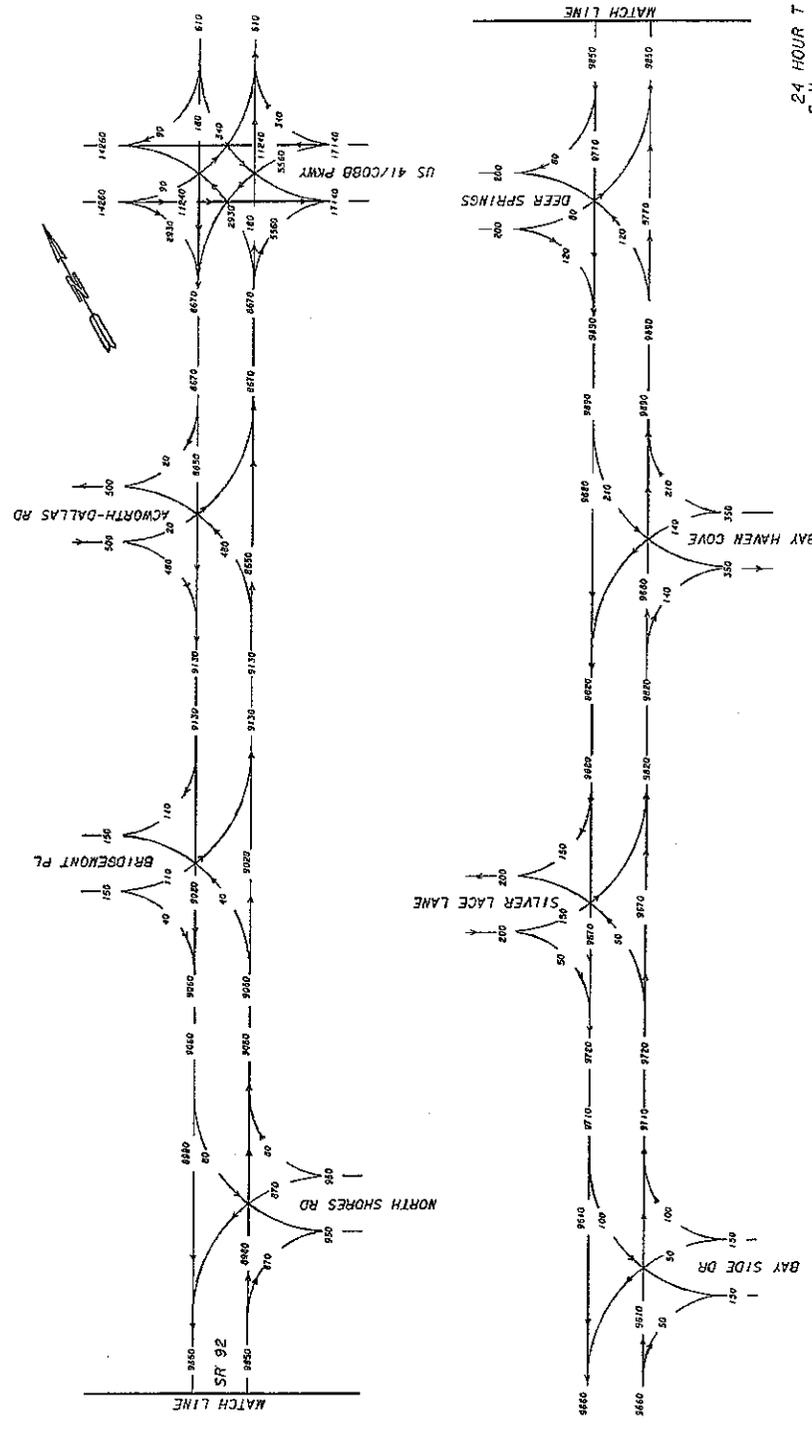
PROPOSED CONDITIONS

# NORTH COBB PKWY.(US 41) AT SR 92

NOT TO SCALE

# **Attachment 9**

## **Traffic Diagrams**

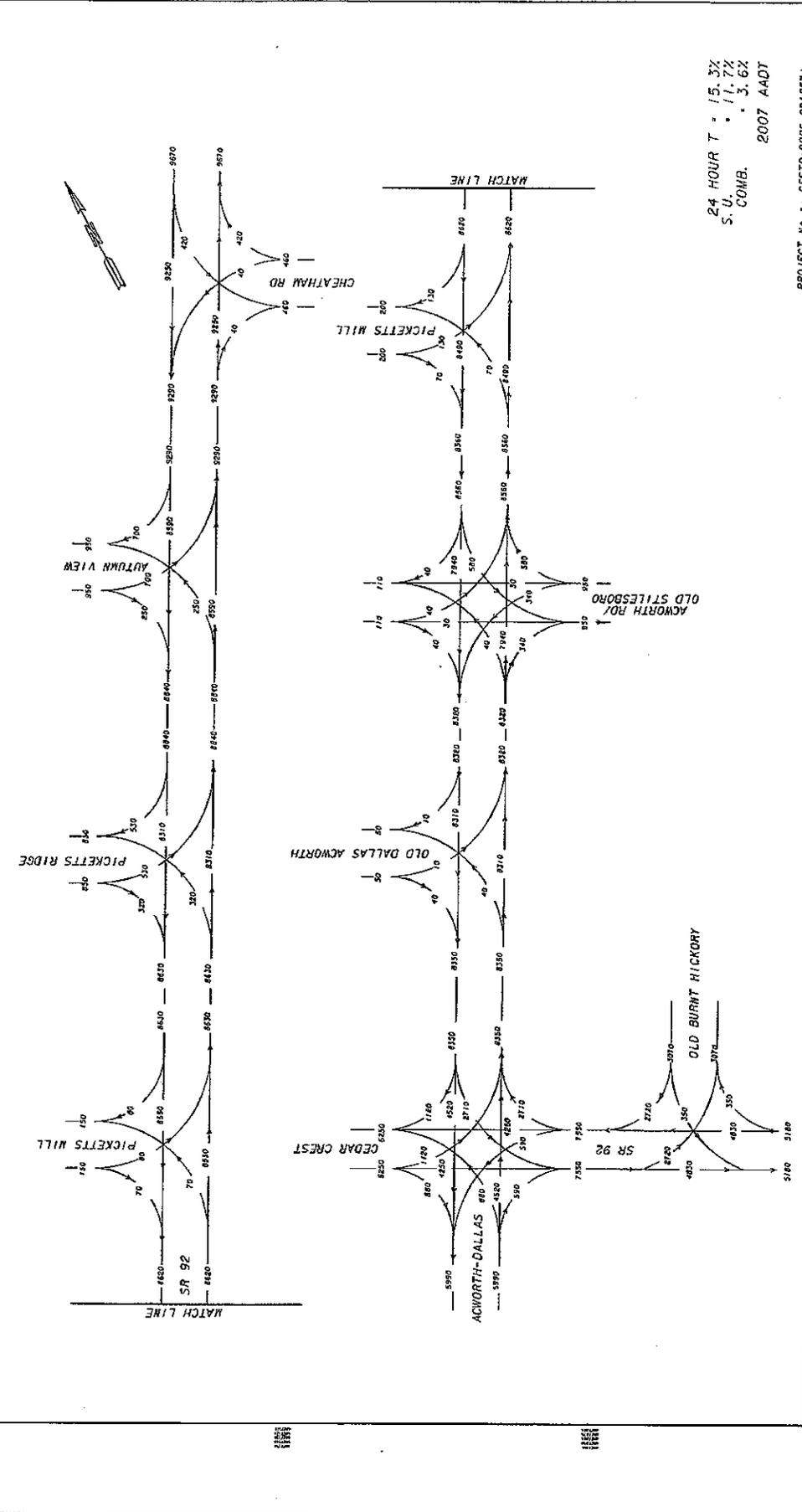


24 HOUR T : 15.3%  
 S. U. : 11.7%  
 COMB. : 3.6%  
 2007 AADT

PROJECT No. 61 CSSTP-0006-02/0571  
 CSSTP-0008-02/0581  
 STATE OF GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
 OFFICE OF CONSULTANT DESIGN  
 TRAFFIC FLOW DIAGRAMS  
 PI No. 5: 0006857, 0006858  
 DRAWING NO. 1 OF 8

REVISION DATES

**URS**  
 430 NORTHPARK TOWER CENTER  
 4000 ALLENTOWN ROAD, SUITE 900  
 FARMINGTON, GEORGIA 30134  
 TEL: (678) 855-8800 FAX: (678) 855-8800



24 HOUR T = 15.3%  
 S.U. = 11.7%  
 COMB. = 3.6%  
 2007 AADT

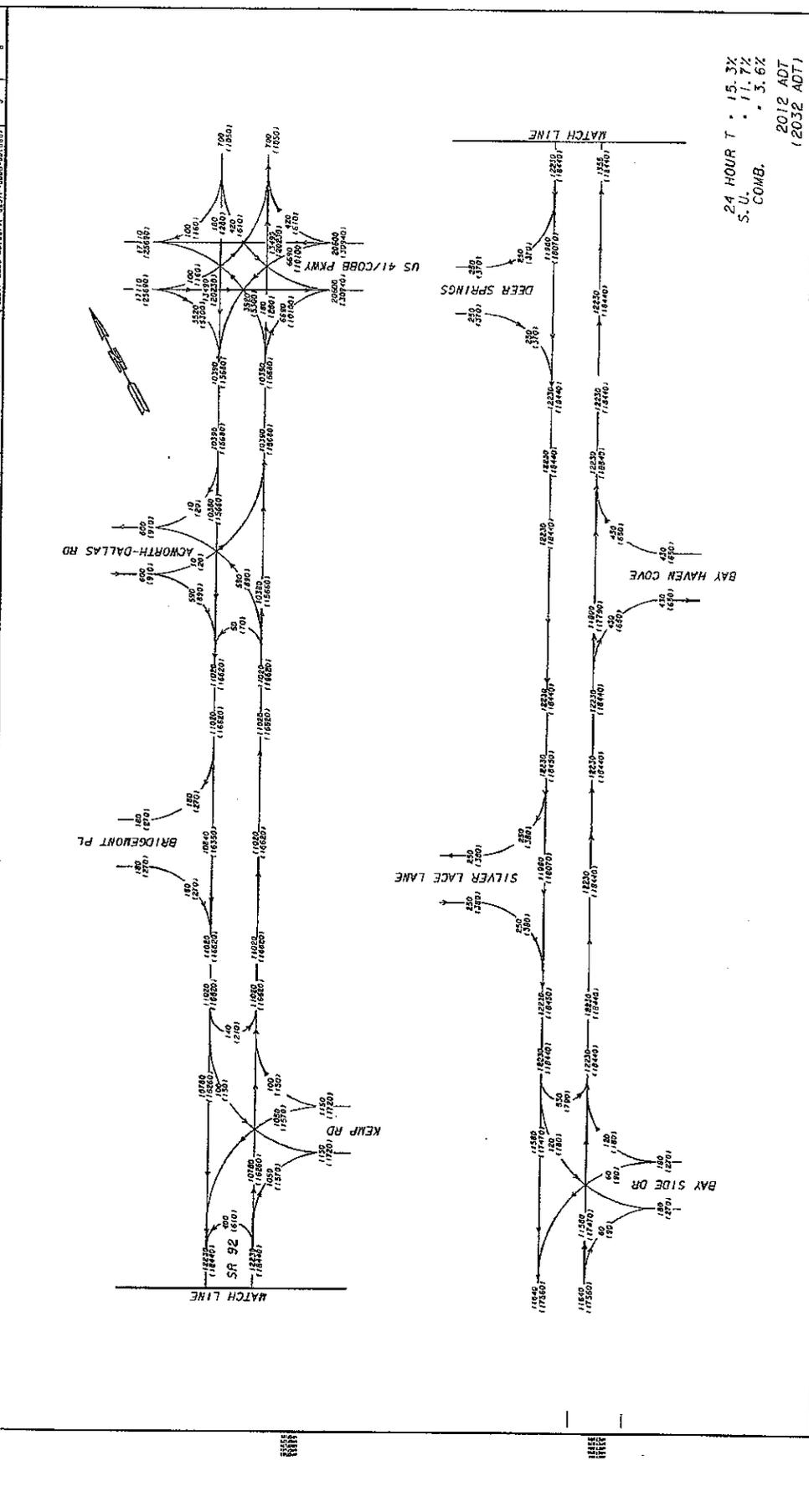
PROJECT No. s: CSSTP-0005-001857 / CSSTP-0005-001856

STATE OF GEORGIA  
DEPARTMENT OF TRANSPORTATION  
OFFICE OF CONSULTANT DESIGN  
TRAFFIC FLOW DIAGRAMS

REVISION DATES	PI No. s: 0006857, 0006856
	2 OF 8

URS  
 410 NORTH PARK TOWN CENTER  
 1000 AVENUE HIGHWAY 900  
 ATLANTA, GEORGIA 30338  
 TEL: (404) 888-8800 FAX: (404) 888-9800

PROJECT NUMBER: CSSTP-0008-001857.1, CSSTP-0008-001858.1  
 COUNTY: COBB  
 SHEET NO.: 5  
 TOTAL SHEETS: 4  
 DATE: 12/15/03 BY: [redacted]  
 P: 11251902.50 30 Concrete Retention Wall/Obstructive Edge and 80% Max. 6'6"



PROJECT NO. 01 CSSTP-0008-001857.1  
 STATE OF GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
 OFFICE OF CONSULTANT DESIGN  
 TRAFFIC FLOW DIAGRAMS  
 PI. No. 01 0006957. 0006906  
 SHEET NO. 5 OF 8

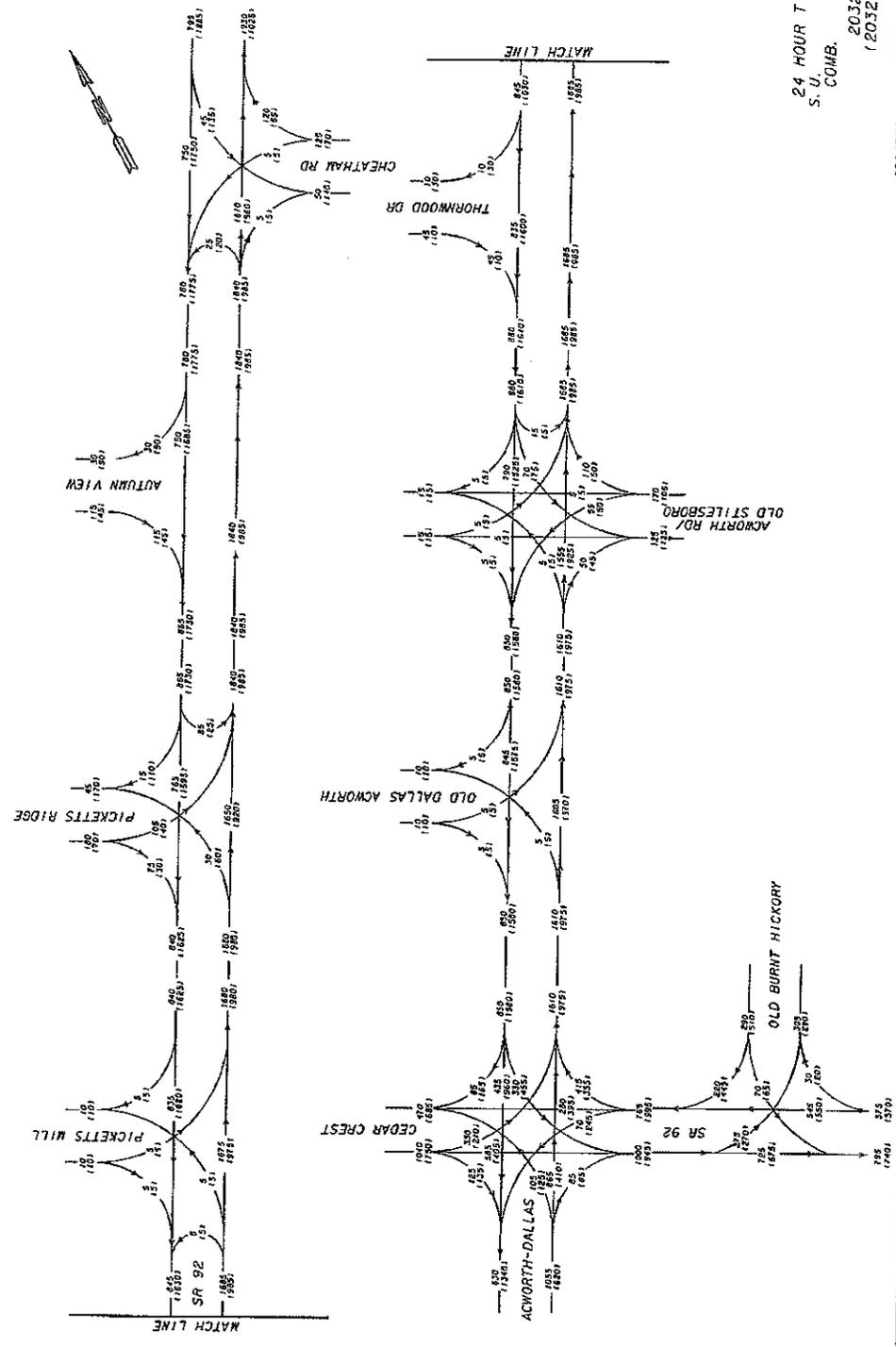
**URS**  
 400 NORTH PARK TOWER CENTER  
 1000 ASENATHY ROAD, N.E. SUITE 1000  
 ATLANTA, GEORGIA 30328  
 TEL: (404) 878-8800 FAX: (404) 878-8400

24 HOUR T : 15.3%  
 S. U. : 11.7%  
 COMB. : 3.6%  
 2012 ADT  
 (2032 ADT)





9/17/2008  
 PROJECT NUMBER  
 PROJECT NO. 0006866  
 SHEET NO. 8 OF 8  
 COUNTY  
 COB  
 PROJECT NO. 0006866  
 SHEET NO. 8 OF 8  
 PROJECT NO. 0006866  
 SHEET NO. 8 OF 8



24 HOUR T = 15.3%  
 S. U. COMB. = 11.7%  
 2032 DHV AM  
 (2032 DHV PM)

PROJECT No. 01 CSSTP-0006-0018571  
 CSSTP-0006-0018566  
 STATE OF GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
 OFFICE OF CONSULTANT DESIGN  
 TRAFFIC FLOW DIAGRAMS  
 P. No. 01 0006866 0006866  
 8 OF 8

**URS**  
 400 NORTH PARK TOWN CENTER  
 1000 JENKINS ROAD, N.E. SUITE 900  
 ATLANTA, GA 30328  
 TEL: 404/881-4800 FAX: 404/881-4800

REVISION DATES

# **Attachment 10**

## **Logical Termini**

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**Logical Termini Justification**

Project Numbers CSSTP-0006-00(857) and CSSTP-0006-00(866)

Paulding County & Cobb County

P.J. Numbers 0006857 and 0006866

SR 92/Dallas Acworth Highway from CR 73/Old Burnt Hickory Road to US 41/SR 3/Cobb  
Parkway

**I. Need and Purpose**

The purpose of State Route 92 (SR 92) corridor improvements proposed for this segment extending from CR 73/Old Burnt Hickory Road in Paulding County to US 41/SR 3/Cobb Parkway in Cobb County is to:

- Alleviate traffic congestion; accommodate the need for mobility, access, and goods movement; and better accommodate future travel demand through the addition of travel lanes and auxiliary lanes;
- Facilitate more efficient and safe operation of SR 92 through the addition of a median, which will restrict left turn movements to median openings and, thus, better manage traffic flow;
- Address unsafe driving conditions, such as inadequate stopping sight distance by correction of geometric deficiencies along SR 92, where appropriate/feasible; and
- Provide improved transportation options for the traveling public through the addition of sidewalks.

**II. Project Description (include tie-in roads)**

**Existing:**

Currently, SR 92/Dallas Acworth Highway between CR 73/Old Burnt Hickory Road and US 41/SR 3/Cobb Parkway consist of two 12-foot lanes (one lane in each direction) with auxiliary left and right turn lanes and curb and gutter intermittently throughout this corridor. The existing right-of-way is approximately 100 feet. The posted speed limit is 45 mph through the corridor.

**Proposed:**

The project proposes to widen SR 92/Dallas Acworth Highway from CR 73/Old Burnt Hickory Road to US 41/SR 3/Cobb Parkway. SR 92 changes from Dallas Acworth Highway to Hiram Acworth Highway at the intersection with CR 473/Cedarcrest Road. The project proposes to widen SR 92 to a divided four-lane facility with four 12-foot lanes, 2 lanes in each direction separated with a raised concrete median varying in width from 8 to 20 feet. The proposed shoulders are 16-foot with curb and gutter and a 5-foot wide sidewalk on both sides of the road. The proposed right-of-way varies from 100 to 135 feet. The proposed posted speed limit is 45 mph. The total length of the project is approximately 4.42 miles. A proposed 550-foot MSE retaining wall, varying in height to a maximum of 25-feet is proposed at station 227+00 on the left side of SR 92.

**III. Proposed Termini**

**A. Original Proposed Termini**

SR 92/ Dallas Acworth Highway is an Urban Principal Arterial along the SR 92 corridor. Existing 2007 Annual Average Daily Traffic (AADT) along SR 92/ Dallas Acworth Highway is 19,780 vehicles per day (vpd) and design year 2032 Average Daily Traffic

(ADT) along SR 92/Dallas Acworth Highway is 36,890 vpd. The original proposed termini of the project as identified by GDOT and programmed in the Statewide Transportation Improvement Program (STIP) describes the southern terminus to be the intersection of CR 473/Cedarcrest Road/SR 92/Hiram Acworth Highway at SR 92/Dallas Acworth Highway and the northern terminus to be the intersection of US 41/SR 3/Cobb Parkway.

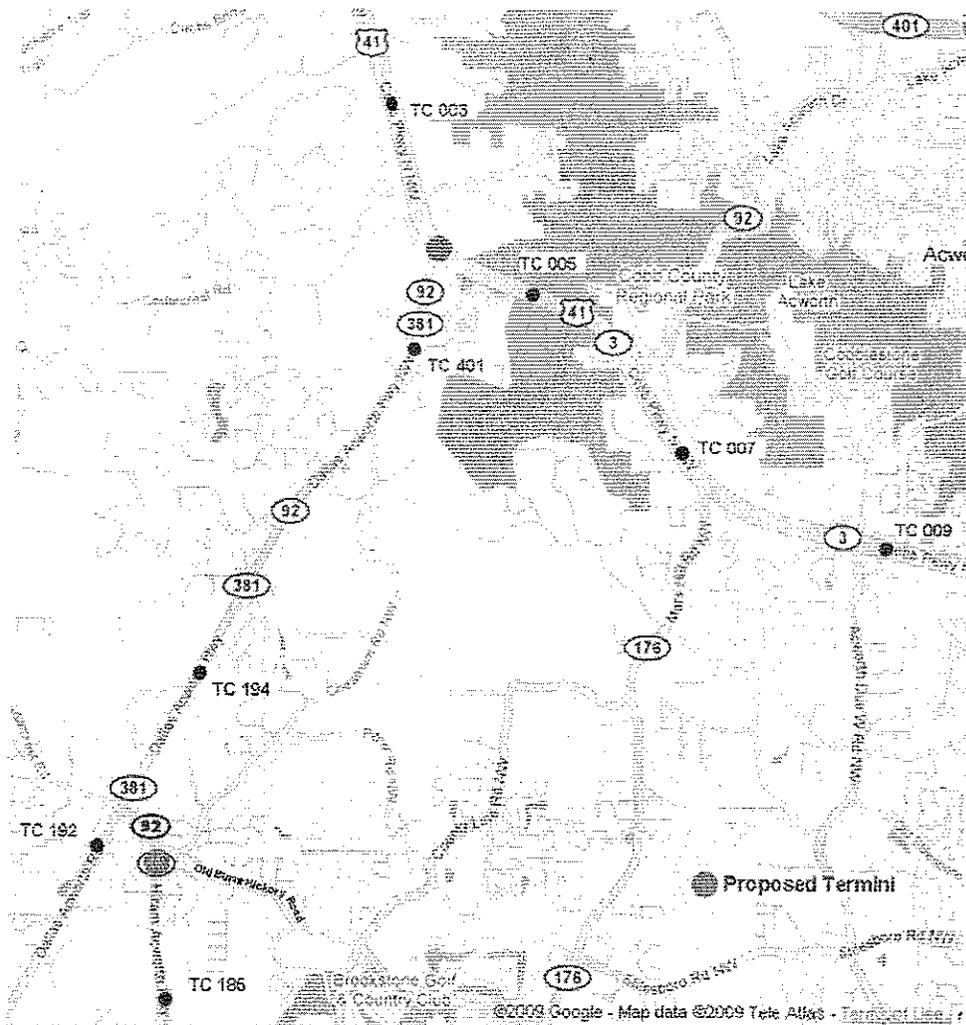
### **B. Methodology Used**

The HCM2000 provides the methodology and assumptions used in our analysis to determine the number of lanes required to achieve an acceptable Level of Service (LOS). SR 92 is an Urban Principal/Minor Arterial through Paulding and Cobb Counties according to the AASHTO classifications. For the LOS analysis per HCM this roadway is classified as a two-lane highway in the existing condition and a multi-lane highway in the proposed condition. The roadway is also considered to operate as an uninterrupted flow condition due to the signal spacing exceeding two miles. Since the HCM refers to LOS in terms of Vehicles per Hour (vph) and our traffic analysis is provided in ADT to meet GDOT's requirements we have provided an attachment called Table 5 the GRTA DRI Review Package Technical Guidelines used by Georgia Regional Transportation Authority and dated May 9, 2008 and this is the basis for our traffic analysis with regards to the number of lanes required based on ADT service volumes.

Detailed traffic analysis and study from the required traffic counts and projections were performed per GDOT standards and approved in 2008. The GDOT approved traffic diagrams are provided as an attachment to this document and are used for all ADT and DHV volumes. This analysis of the project found the original northern terminus to be the logical location to end the project. The analysis found that traffic did not drop at the original southern terminus and it was not logical from a traffic standpoint to stop the project at this location.

In order to study the SR 92 corridor to find a logical southern terminus and confirm the northern terminus all available existing traffic count data from GDOT, Paulding County and Cobb County was compiled. The Traffic Counter (TC) Station data locations are represented in Figure 1. The same methodology that was used on the original traffic study was applied to this TC Station data. The 2007, 2012 and 2032 ADT volumes were compiled for the areas outside of the original study area. A significant drop off in traffic outside the limits of the project south of the intersection of CR 73/Old Burnt Hickory Road and SR 92/Hiram Acworth Highway was apparent. New counts were then performed adding this section of SR 92/Hiram Acworth Highway to the traffic study and ultimately to the GDOT approved traffic diagrams and report. It is the recommendation of this report that the STIP be amended to reflect CR 73/Old Burnt Hickory Road as the southern terminus of GDOT PI Number 0006857/ARC TIP # CO-311.

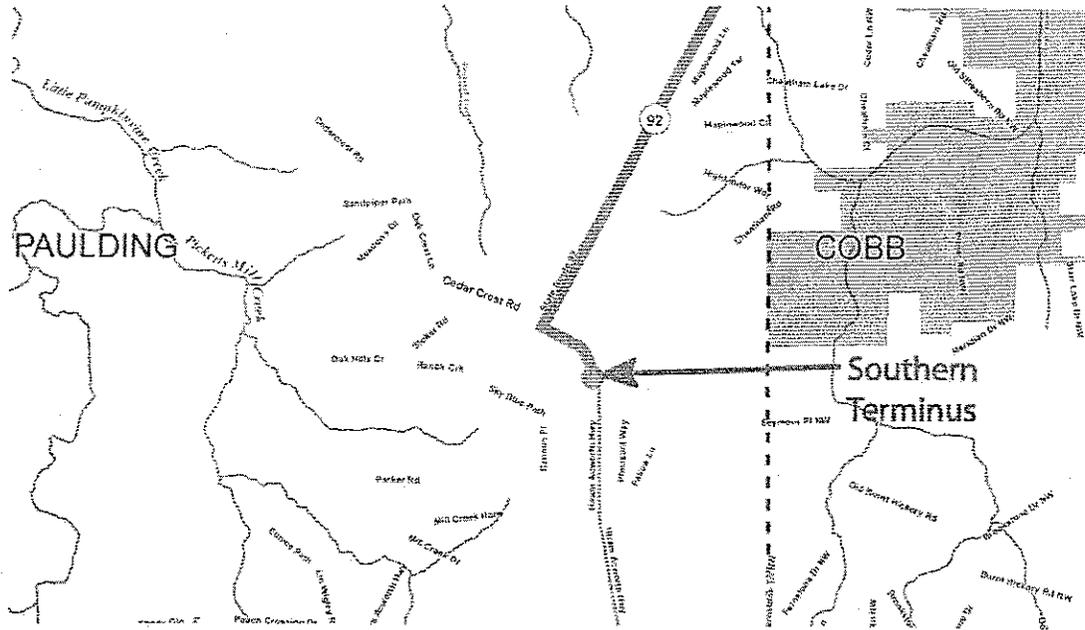
**Figure 1 on the next page illustrates the Traffic Counter (TC) locations.**



**Figure 1: Traffic Counter (TC) Locations**

**c. Southern/Western Terminus:**

The southern terminus of this proposed project is the T-intersection of CR 73/Old Burnt Hickory Road and SR 92/Hiram Acworth Highway. Figure 1 illustrates the location of this terminus. CR 73/Old Burnt Hickory Road is a two lane Urban Minor Arterial. The State Route designation for SR 92 continues southbound along Hiram Acworth Highway, also an Urban Minor Arterial. Southbound traffic traveling along SR 92/Hiram Acworth Highway can continue south into Hiram, Georgia or turn left/east onto CR 73/Old Burnt Hickory Road bound for residential destinations. The traffic study finds a significant drop off in traffic at the intersection of CR 73/Old Burnt Hickory Road and SR 92/Hiram Acworth Highway therefore, it has been determined that a large portion of traffic traveling along this corridor is coming from residential neighborhoods located off CR 73/Old Burnt Hickory Road and primarily going to US 41/SR 3/Cobb Parkway.



**Figure 2: Southern Terminus of P.I. 0006857**

In the design year (2032), of the 13,280 vpd utilizing the southbound travel lanes of SR 92/Hiram Acworth Highway towards Hiram, 4,780 vpd (approximately 36%) turn left and travel eastbound on CR 73/Old Burnt Hickory Road, and 8,500 vpd (approximately 64%) continue southbound on SR 92/Hiram Acworth Highway.

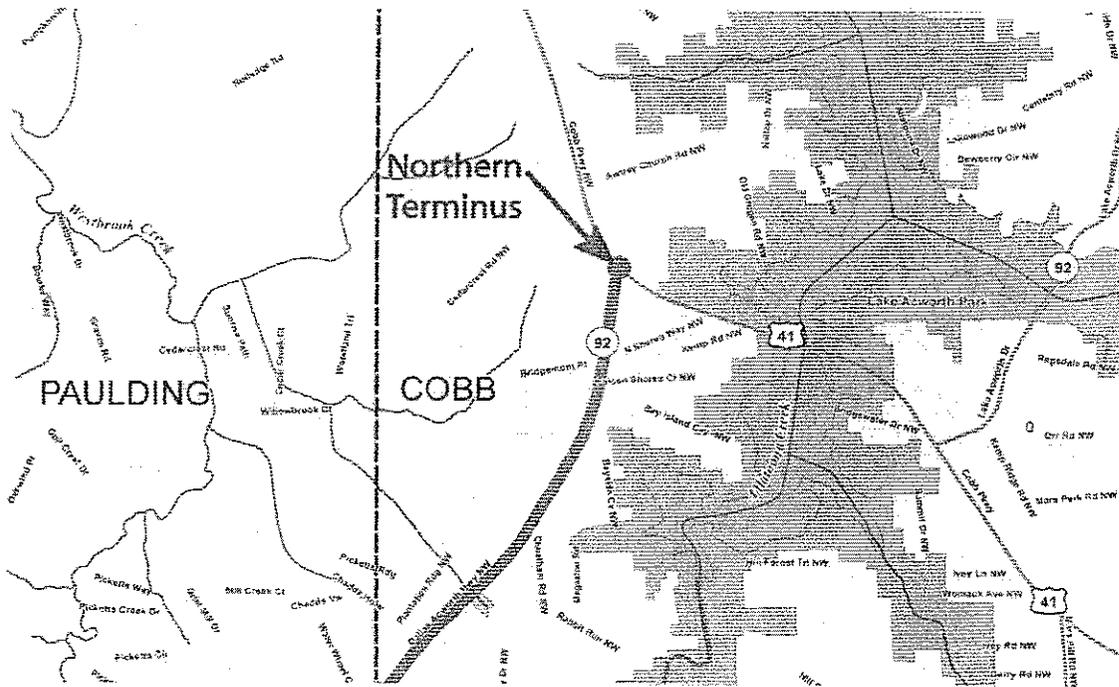
CR 73/Old Burnt Hickory Road has an existing AADT (2007) of 6,140 east of the intersection of CR 73/Old Burnt Hickory Road and SR 92/Hiram Acworth Highway. CR 73/Old Burnt Hickory Road will have a design year (2032) ADT of 11,340. This portion of CR 73/Old Burnt Hickory Road will function at level of service (LOS B) through the year 2032.

SR 92/Hiram Acworth Highway has an existing AADT (2007) of 10,360 vpd south of the intersection of CR 73/Old Burnt Hickory Road and SR 92/Hiram Acworth Highway. SR 92/Hiram Acworth Highway will have a design year (2032) ADT of 18,780 vpd. This two-lane portion of Hiram Acworth Highway will function at an acceptable level of service (LOS C) through the year 2032.

The no-build and build design traffic projections are the same with regards to this project. SR 92 is not a traffic generator and, as there are no parallel roadways, it is not expected to draw traffic. Therefore, widening SR 92/Dallas Acworth Highway and SR 92/Hiram Acworth Highway from 2 to 4 lanes does not further impact the operations of CR 73/Old Burnt Hickory Road, CR 381/Old Dallas Highway/Harmony Grove Church Road or Cedarcrest Road in this area. This project does in fact improve the intersection operations of Cedarcrest Road and SR 92 as well as CR73/Old Burnt Hickory Road and SR 92, by reducing the delay.

**D. Northern/Eastern Terminus:**

The northern project terminus of the proposed project is the four-way intersection of SR 92/Dallas Acworth Highway and US 41/SR 3/Cobb Parkway. Figure 3 illustrates the location of this terminus. US 41/SR 3/Cobb Parkway is a four-lane Urban Minor Arterial at the intersection with SR 92/Dallas Acworth Highway. To the north of the intersection, Dallas Acworth Highway becomes Awtrey Church Road, a two-lane Urban Local Street. The State Route designation for SR 92 follows US 41/SR 3/Cobb Parkway east to Lake Acworth Drive. Northbound traffic on SR 92 can turn left onto US 41/SR 3/Cobb Parkway and proceed west into Cobb County towards Emerson, Georgia. Northbound traffic on SR 92 can go straight onto Awtrey Church Road and proceed north for local and residential destinations in Cobb County. Northbound traffic on SR 92 can turn right onto US 41/SR 3/Cobb Parkway and proceed east towards Marietta, Georgia.



**Figure 3: Northern Terminus of P.I. 0006866**

In the design year (2032), of the 15,680 vpd traveling northbound along SR 92/Dallas Acworth Highway, 10,100 vpd (approximately 64%) travel eastbound on US 41/SR 92/SR 3/Cobb Parkway, 280 vpd (approximately 2%) continue northbound on Awtrey Church Road, and 5,300 vpd (approximately 34%) travel westbound on US 41/SR 3/Cobb Parkway.

Awtrey Church Road to the north is a two-lane facility with an existing AADT (2007) of 1,220 and a design ADT (2032) of 2,100. This facility has an acceptable LOS A in the design year.

US 41/SR 3/Cobb Parkway to the north has an existing AADT (2007) of 16,460 at count station 0003 (north of the intersection of US 41/SR 3/Cobb Parkway and Dallas Acworth Highway approximately 1/2 mile north). US 41/SR 3/Cobb Parkway will have a design

year (2032) ADT of 32,090. This portion of US 41/SR 3/Cobb Parkway will function at an acceptable LOS C through the year 2032.

US 41/SR 3/Cobb Parkway to the south has an existing AADT (2007) of 31,310 at count station 0005 (near the Lake Allatoona Bridge approximately 1/2 mile south). US 41/SR 3/Cobb Parkway at this location will require a six-lane facility in 2010 (35,070 ADT) and an eight-lane facility in the year 2023 (52,600 ADT).

US 41/SR 3/Cobb Parkway to the south has an existing AADT (2007) of 21,220 at count station 0007 (north of Ivey Lane approximately 1.75 miles south). US 41/SR 3/Cobb Parkway at this location will require a six-lane facility in 2022 (35,010 ADT).

US 41/SR 3/Cobb Parkway to the south has an existing ADT (2007) of 34,520 at count station 0009 (approximately 3.5 miles south of Due West Road). US 41/SR 3/Cobb Parkway at this location will require a six-lane facility in 2008 (35,900 ADT) and an eight-lane facility in 2018 (52,810 ADT).

Although the traffic forecasts for US 41/SR 3/Cobb Parkway show that a six or eight,-lane section will be required in some areas before the design year of 2032, those types of improvements would cause significant impacts to the community from a right of way standpoint. In addition this project is not a traffic generator and the traffic patterns are not anticipated to change given a build/no-build scenario as the corridor is mainly providing users with access to US 41/SR 3/Cobb Parkway and Interstate 75. Cobb Parkway is currently a four-lane roadway and its operation will not be negatively impacted by the proposed project because it is not going to increase the volume of cars on Cobb Parkway when comparing the build/no-build scenarios. Widening SR 92/Dallas Acworth Highway from two to four lanes does not further impact the operations of US 41/SR 3/Cobb Parkway in this area.

#### IV. Supporting Data

##### Traffic Data:

Location	Existing Year (2007)		Build Year* No-Build (2012)		Build Year* Proposed Project (2012)		Design Year** No-Build (2032)		Design Year** Proposed Project (2032)	
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
<b>Roadway Links Within Proposed Termini</b>										
Southern: SR 92 at Old Burnt Hickory Road	15,100	C	18,140	C	18,140	A	26,560	E	26,560	B
Northern: SR 92 at SR US 41	17,340	C	20,780	D	20,780	A	31,360	E	31,360	B
Middle of Project Corridor: SR 92 west of Cheatham Road	18,580	C	22,240 ***	D	22,840 ***	B	33,320 ***	F	34,240 ***	B
<b>Intersections Within Proposed Termini</b>										
	AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS
Southern: SR 92 at Old Burnt Hickory Road (Eastbound Approach)	D	C	D	E	C	C	F	F	F	F
Northern: SR 92 at SR US 41	E	E	F	F	E	E	F	F	F	F
<b>Roadway Links Outside Proposed Termini</b>										
Southern: SR 92 west/south of Old Burnt Hickory Road	10,360	B	12,500	B	12,500	C	18,780	C	18,780	C

Project Number: CSSTP-0006-00(857) and CSSTP-0006-00(866)

County: Paulding & Cobb

P.I. Number: 0006857 and 0006866

Date: April 2009

Southern: SR 92 at Count Station 185 (2.15 miles south of Old Burnt Hickory Road)	9,000	B	10,800	B	10,800	B	16,200	C	16,200	C
Northern: US 41 south/east of SR 92	34,280	D	41,200	F	41,200	F	61,880	F	61,880	F

Notes:

\* Build Year (2012) denotes when the project corridor will be open to traffic.

\*\*Design Year (2032) denotes the twenty year projection from when the project was open to traffic.

\*\*\* Differences between the no-build/build scenarios are due to the addition of a median and the resulting u-turn movements associated with the location of the median openings.

**A. For the design year, describe the build traffic conditions within the proposed termini.**

Design year (2032) ADT for the SR 92 corridor between CR 73/Old Burnt Hickory Road and US 41/SR 3/Cobb Parkway is projected to be 36,890 vpd. This is an approximate 87 percent increase over the existing volumes of 19,780 vpd. Of these anticipated traffic volumes, 15.3 percent are expected to be trucks. The increasing traffic volumes, larger percentage of trucks, and lack of passing opportunities will cause the LOS along SR 92 to deteriorate to a LOS F without the proposed improvements.

**B. For the design year, describe traffic conditions immediately adjacent to the proposed project. How would the proposed project affect the need for and feasibility of adjacent transportation improvements?**

Design year (2032) ADT south/west of the intersection of SR 92 and CR 73/Old Burnt Hickory Road is projected to be 18,780 vpd in the build and no-build scenarios. This is an approximate 81 percent increase over the existing volumes of 10,360 vpd. The traffic volumes are projected to grow at the same rate with or without the proposed project. The proposed project would not impair or promote adjacent transportation improvements. A two lane roadway with this traffic would operate at a LOS C in the design year (2032).

Approximately 2.15 miles south/west of the southern project terminus on SR 92 at GDOT Count Station 0185, the current year traffic has an approximate ADT of 9,000 vpd; the design year (2032) ADT is projected to be 16,200 vpd in the build and no-build scenarios. A two lane roadway with this traffic would operate at a LOS C in the design year (2032). The traffic volumes are projected to grow at the same rate with or without the proposed project. The proposed project would not impair or promote adjacent transportation improvements.

Design year (2032) ADT south/east of the northern project terminus at US 41 is projected to be 61,880 vpd in the build and no-build scenarios. This is an approximate 80 percent increase over the existing volumes of 34,280 vpd. The traffic volumes are projected to grow at the same rate with or without the proposed project. The proposed project would not impair or promote adjacent transportation improvements.

At US 41 the links adjacent to the project termini exceed or are near capacity without the proposed improvements in the design year. The proposed project would have no bearing on the need for adjacent transportation improvements. Traffic volumes are projected to grow at the same rate with or without the proposed project. The proposed project would not impair or promote adjacent transportation improvements.

## V. Adjacent Projects

Describe how the proposed project is connected with or related to other adjacent projects. Indicate status and schedule of each adjacent project.

The project is adjacent to project CSSTP-0006-00(862), PI No 0006862 – SR 92 improvements extending from US 41/SR3/Cobb Parkway to Glade Road (AKA Bartow Road, Cherokee Street) (Construction 2012). This project will continue the widening of SR 92 to a four-lane section north towards Interstate 75.

The project is adjacent to project CSSTP-0007-00(692), PI No 0007692 – SR 92 from SR 120 to CR 473/Cedarcrest Road – Segment 3&4 (Construction 2012) This project proposes to widen SR 92 to a four-lane section from SR 120/Marietta Highway to CR 473/Cedarcrest Road.

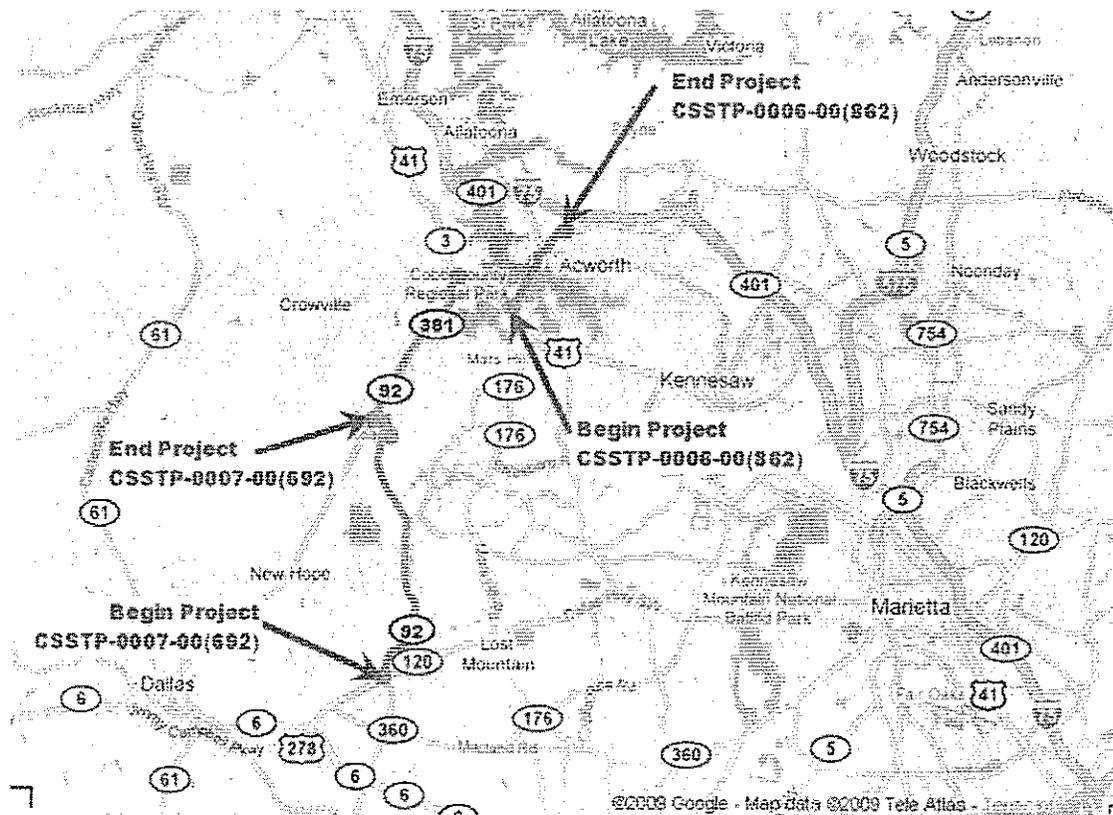


Figure 4: Adjacent Project Locations

Project Number: CSSTP-0006-00(857) and CSSTP-0006-00(866)  
 County: Paulding & Cobb  
 P.I. Number: 0006857 and 0006866  
 Date: April 2009

## VI. Justification of Logical Termini

Describe how proposed termini in Section III are adequate to address the need and purpose, have independent utility, and enable consideration of other reasonably foreseeable improvements.

### Connect Logical Termini

The southern terminus of this proposed project is the T-intersection of SR 92/Hiram Acworth Highway with CR 73/Old Burnt Hickory Road. The proposed project does not increase traffic when comparing the build scenario to the no-build scenario ADT (2032). Therefore, the proposed project along SR 92/Hiram Acworth Road terminating at CR 73/Old Burnt Hickory Road does not negatively impact the operations of CR 73/Old Burnt Hickory Road. The ADT (2032) of CR 73/Old Burnt Hickory Road in the build and no-build scenarios is 11,340 vpd. The proposed level of service for both the build and no-build scenarios on CR 73/Old Burnt Hickory Road is a LOS C.

The intersection of SR 92/Hiram Acworth Road and CR 73/Old Burnt Hickory Road is currently operating at a LOS E and will operate at a LOS F in the build scenario as well as the no-build scenario of this project. Although the intersection LOS fails, this project gives significant relief to the traffic on CR73/Old Burnt Hickory Road by reducing the delay at this intersection. The delay in the design year (2032) in the morning peak drops from 590 seconds in the no-build scenario to 166 seconds in the build scenario a reduction of approximately 72%. The delay in the design year (2032) during the afternoon peak drops approximately 82% from 707 seconds in the no-build scenario to 129 seconds in the build scenario. Therefore the proposed project along SR 92 does not negatively impact the operations of CR 73/Old Burnt Hickory Road, and shows an overall benefit through decreased delay.

The northern project terminus of the proposed project is the four-way intersection of SR 92/Dallas Acworth Highway and US 41/SR 3/Cobb Parkway. The proposed project does not increase traffic when comparing the build scenario to the no-build scenario ADT (2032). Therefore, the proposed project along SR 92 does not negatively impact the operations of US 41/SR 3/Cobb Parkway. The ADT (2032) of US 41/SR 3/Cobb Parkway in the build and no-build scenarios is 61,880 vpd, which is based on the traffic and LOS provided. The proposed level of service for both the build and no-build scenarios on US 41/SR 3/ Cobb Parkway is a LOS F.

The intersection of SR 92/Dallas Acworth Highway and US 41/SR 3/Cobb Parkway is currently operating at a LOS F and will continue to operate at a LOS F in the build and no-build scenarios. Although the intersection LOS fails, this project gives significant relief to the traffic on Cobb Parkway by reducing the delay at the intersection. The delay in the design year (2032) in the morning peak drops approximately 20% from 235 seconds in the no-build to 188 seconds in the build scenario. The delay in the design year (2032) during the afternoon peak drops approximately 30% from 371 seconds in the no-build scenario to 261 seconds in the build scenario. Therefore, the proposed project along SR 92/Dallas Acworth Highway does not negatively impact the operations of US 41/SR3/Cobb Parkway and shows an overall benefit through decreased delay.

Therefore, the length of the proposed project, approximately 4.4 miles, is sufficient to significantly reduce the travel time for the local build up along the SR 92 Corridor and move the traffic more efficiently between US 41/SR 3/Cobb Parkway and CR 73/Old Burnt Hickory Road. This will significantly reduce the congestion along SR 92 as well as improving the operation at the signalized intersections throughout the corridor, thus improving the quality of life to the citizens of Paulding and Cobb Counties.

Project Number: CSSTP-0006-00(857) and CSSTP-0006-00(866)  
County: Paulding & Cobb  
P.I. Number: 0006857 and 0006866  
Date: April 2009

Independent Utility

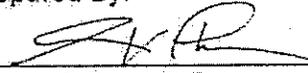
The proposed project will have independent utility without the construction of adjacent projects as the area between CR 73/Old Burnt Hickory Road and US 41/SR 3/Cobb Parkway is experiencing growth with respect to commercial, institutional, and residential development. Residents and employees of the area utilize the SR 92 corridor to reach US 41/SR 3/Cobb Parkway as well as other major side streets located within the corridor. This project will significantly reduce the travel time for these citizens through the corridor as well as improve the function of the intersections at both termini. The need for upgrades along US 41/SR 3/Cobb Parkway is independent of this project. The SR 92/Dallas Acworth Highway widening project is not a traffic generator and the lack of parallel roadways ensures that it will not draw additional traffic to the area. The construction of this project has no effect on US 41/SR 3/Cobb Parkway other than to reduce the delay at the signalized intersection with SR 92/Dallas Acworth Highway

Therefore, the proposed project would have independent utility, be usable, and be a minimum optimum segment for expenditure of funds even if no additional transportation improvements in the area are made.

Restriction of Consideration

The proposed improvements would create a safer and more efficient transportation facility for users and has been designed in such a way as to not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. As a result of the preliminary concept development and the environmental screening, it can be determined that the preferred alternative has enough flexibility that future projects to the north and south of SR 92 can be designed or improved without forcing environmental impacts or restricting alternative alignments.

Prepared By:

  
Sean H. Pharr, P.E.

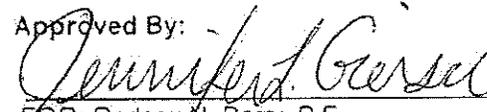
April 25, 2009  
Date

Concurred By:

  
Glenn Bowman, P.E.  
State Environmental /Location Engineer

June 4, 2009  
Date

Approved By:

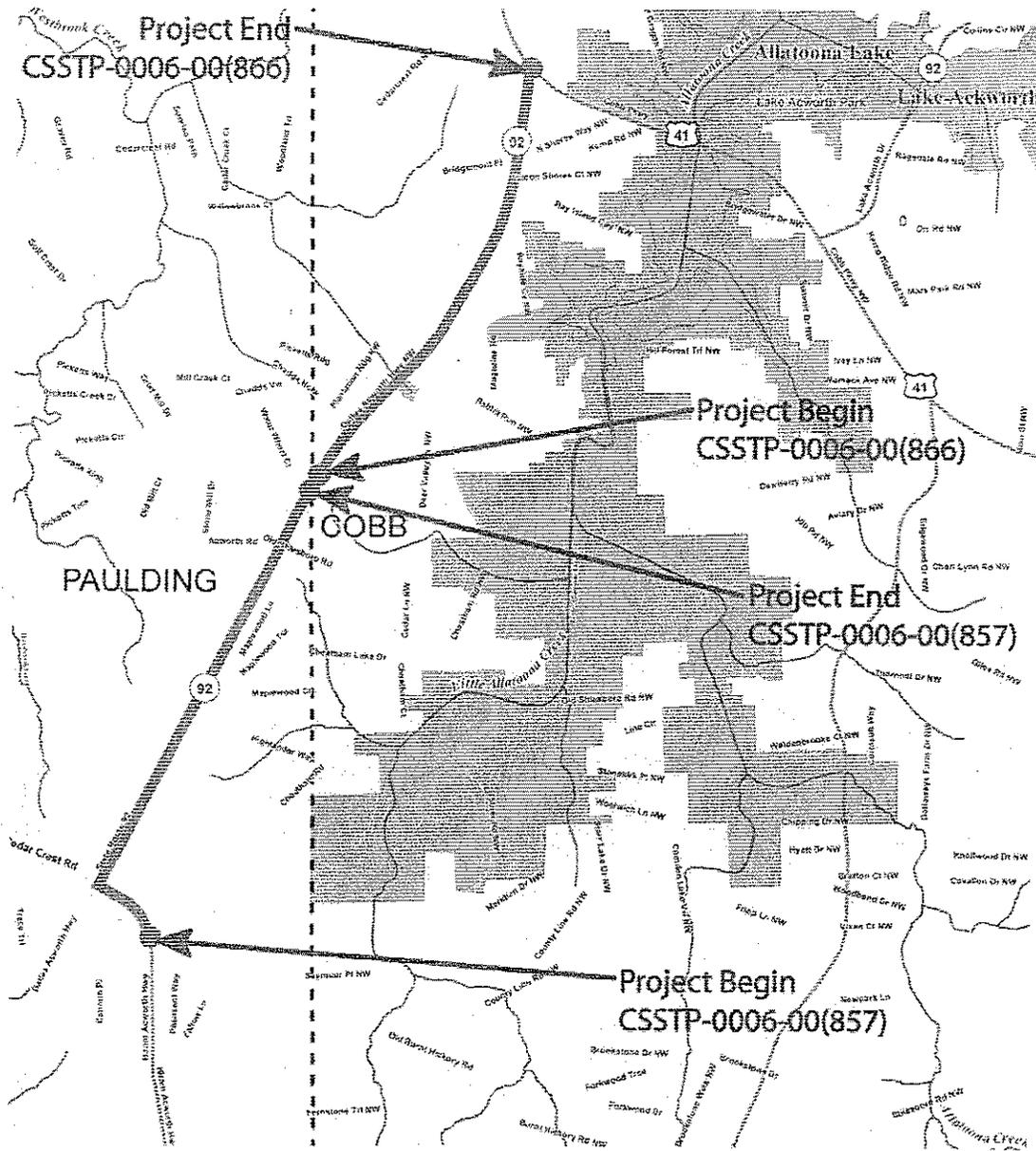
  
FOR: Rodney N. Barry, P.E.  
Federal Highway Administration

10-29-09  
Date

*\* Signed as amended by the additional information provided with the August 6, 2009 memorandum. If traffic conditions change, this issue may need to be revisited.*

Attachments:

- Project Location Map
- Table 5
- Traffic Diagrams
- Intersection Diagrams



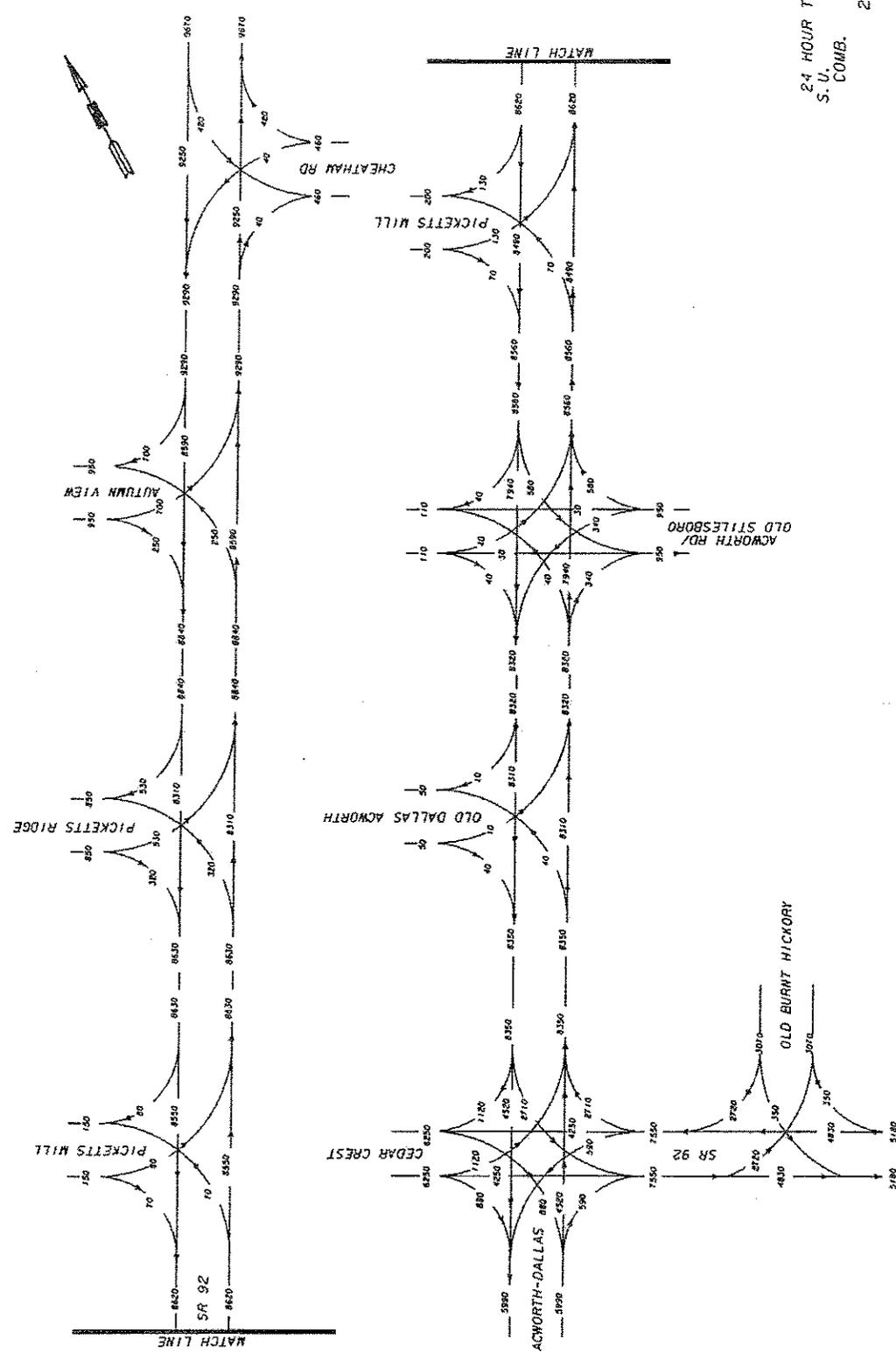
**PROJECT LOCATION MAP**  
 Project: CSSTP-0006-00(857) & CSSTP-0006-00(866)  
 Paulding County and Cobb County  
 PI 0006857 & PI 0006866

Project Number: CSSTP-0006-00(857) and CSSTP-0006-00(866)  
 County: Paulding & Cobb  
 P.I. Number: 0006857 and 0006866  
 Date: April 2009

TABLE 5

Generalized Annual Average Daily Volumes for Use in GRTA's DRI Review											
<b>State Two-Way Arterials</b>						<b>Freeways</b>					
<b>Unsignalized (Uninterrupted Flow)</b>						<b>Group I (w/in urban area 500,000+ w/in 5 miles of CBD)</b>					
<b>Lanes</b>	<b>Level of Service</b>					<b>Lanes</b>	<b>Level of Service</b>				
<b>/Divided</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	
2/undivided	8,900	13,900	18,900	24,900	33,100	4	21,200	34,200	51,500	66,200	81,700
4/divided	21,500	35,800	50,100	60,100	71,600	6	32,600	52,700	79,000	101,500	125,400
6/divided	32,200	53,700	73,200	90,200	107,400	8	44,300	71,800	107,300	138,600	171,100
						10	55,600	89,800	134,700	173,200	213,800
						12	65,200	105,400	158,100	203,200	258,900
<b>Interrupted Flow</b>						<b>Group II (w/in urban area 500,000+ not included in Group I)</b>					
<b>Class I (&gt; 2 signalized intersections per mile)</b>						<b>Level of Service</b>					
<b>Lanes</b>	<b>Level of Service</b>					<b>Lanes</b>	<b>Level of Service</b>				
<b>/Divided</b>	<b>A**</b>	<b>B</b>	<b>C</b>	<b>D***</b>	<b>E***</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	
2/undivided	N/A	10,300	15,800	18,600	16,600	4	20,900	32,900	49,200	62,500	74,500
4/divided	N/A	23,500	33,200	35,000	35,000	6	32,100	50,400	75,600	96,200	114,500
6/divided	N/A	35,500	40,900	52,500	52,500	8	43,200	58,900	103,200	131,300	156,300
8/divided	N/A	45,300	61,400	64,400	64,400	10	54,700	66,900	129,000	164,200	195,400
						12	64,100	100,800	151,200	192,400	229,100
<b>Class II (2-4.5 signalized intersections per mile)</b>						<b>Non-State Roadways (Major City/County Roads)</b>					
<b>Lanes</b>	<b>Level of Service</b>					<b>Level of Service</b>					
<b>/Divided</b>	<b>A**</b>	<b>B**</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>Lanes</b>	<b>A**</b>	<b>B**</b>	<b>C</b>	<b>D</b>	<b>E</b>
2/undivided	N/A	N/A	8,900	14,300	16,200	2/undivided	N/A	N/A	8,900	14,600	15,800
4/divided	N/A	N/A	22,900	32,600	34,300	4/divided	N/A	N/A	19,500	31,700	33,800
6/divided	N/A	N/A	35,500	48,900	51,700	6/divided	N/A	N/A	30,800	47,900	51,800
8/divided	N/A	N/A	44,700	60,100	63,400						
<b>Class III (&gt; 4.5 signalized intersections per mile but not in CBD)</b>						<b>Other Signalized Roadways (Signalized Intersection Analysis)</b>					
<b>Lanes</b>	<b>Level of Service</b>					<b>Level of Service</b>					
<b>/Divided</b>	<b>A**</b>	<b>B**</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>Lanes</b>	<b>A**</b>	<b>B**</b>	<b>C</b>	<b>D</b>	<b>E</b>
2/undivided	N/A	N/A	3,300	12,100	15,800	2/undivided	N/A	N/A	4,900	10,900	11,900
4/divided	N/A	N/A	7,800	27,800	33,600	4/divided	N/A	N/A	11,600	23,800	25,400
6/divided	N/A	N/A	12,100	43,300	50,500						
8/divided	N/A	N/A	15,300	54,200	62,100						
<b>Class IV (&gt; 4.5 signalized intersections per mile within CBD)</b>						<b>Adjustments (Divided/Undivided)</b>					
<b>Lanes</b>	<b>Level of Service</b>					<b>(Alter corresponding two-way volumes by indicated percentages)</b>					
<b>/Divided</b>	<b>A**</b>	<b>B**</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>Left Turn</b>		<b>Adjustment</b>			
2/undivided	N/A	N/A	3,700	13,800	15,300	<b>Lanes</b>	<b>Median</b>	<b>Bays</b>	<b>Factor</b>		
4/divided	N/A	N/A	8,900	29,900	32,900	2	divided	Yes	+5%		
6/divided	N/A	N/A	14,000	45,500	49,000	2	undivided	No	-20%		
8/divided	N/A	N/A	17,600	56,200	60,100	Multi	undivided	Yes	-5%		
						Multi	undivided	No	-25%		
* This table is based on the 1997 Highway Capacity Manual and data generated by the Florida DOT. For the purposes of GRTA review this table can be used for Level of Service Analysis in Section 2.2. ** Cannot be achieved. *** Volumes are comparable because intersection capacities have been reached.						<b>One-Way</b>					
						<b>(Alter corresponding two-way volumes by indicated percentages)</b>					
						<b>One-Way</b>	<b>Equivalent</b>	<b>Adjustment</b>			
						<b>Lanes</b>	<b>2-Way Lanes</b>	<b>Factor</b>			
						2	4	-30%			
						3	6	-40%			
						4	8	-40%			
						5	8	-25%			
SOURCE: The Florida Department of Transportation, Systems Planning Office, 605 Suwannee Street - Mail Station # 19, Tallahassee, Florida, 32399-0190 September 1998 - www.dot.state.fl.us/planning <<<The assumptions made in the development of this table appear in the 1998 Level of Service Handbook published by Florida DOT.>>>											





24 HOUR T : 15.3%  
 S. U. : 11.7%  
 COMB. : 3.6%  
 2007 AADT

PROJECT NO. 3: CSSTP-0006-0018571  
 CSSTP-0006-0018571

STATE OF GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
 OFFICE OF CONSULTANT DESIGN  
 TRAFFIC FLOW DIAGRAMS

URS  
 400 NORTHWEST CORNER CENTER  
 1000 ACWORTH ROAD, SUITE 500  
 ATLANTA, GEORGIA 30338  
 TEL: (404) 521-8800 FAX: (404) 521-9100

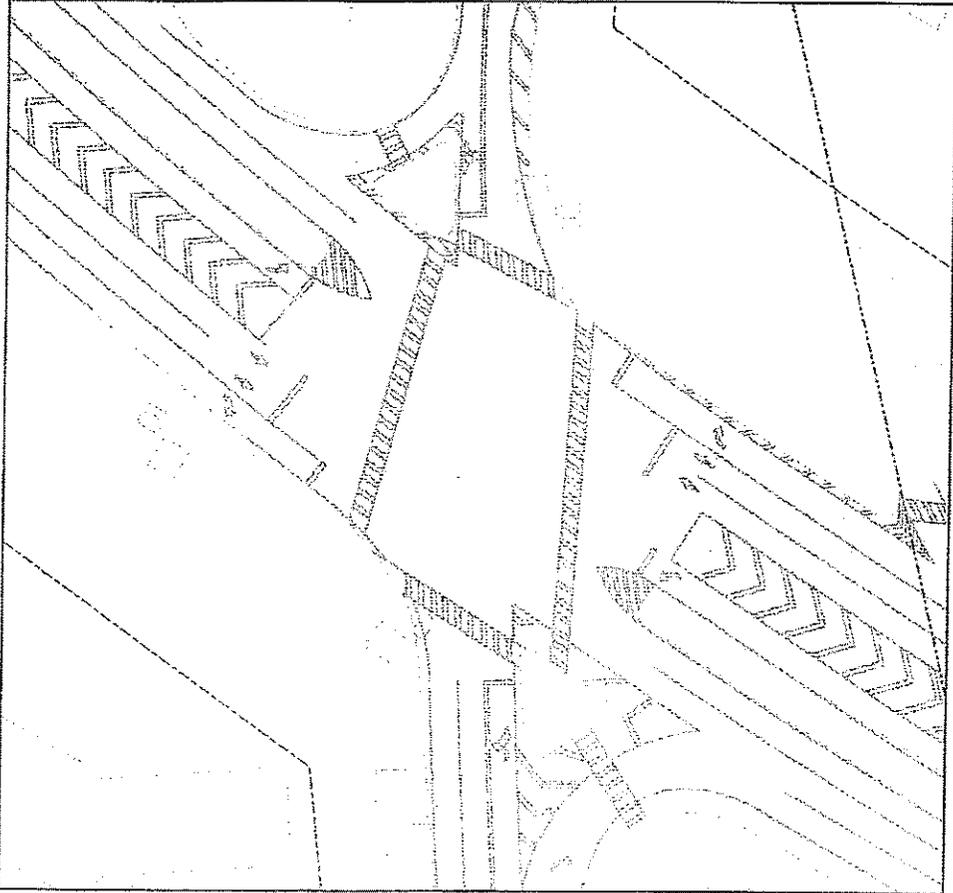
PI NO. 3: 0006857, 0006856  
 SHEET NO. 2 OF 8



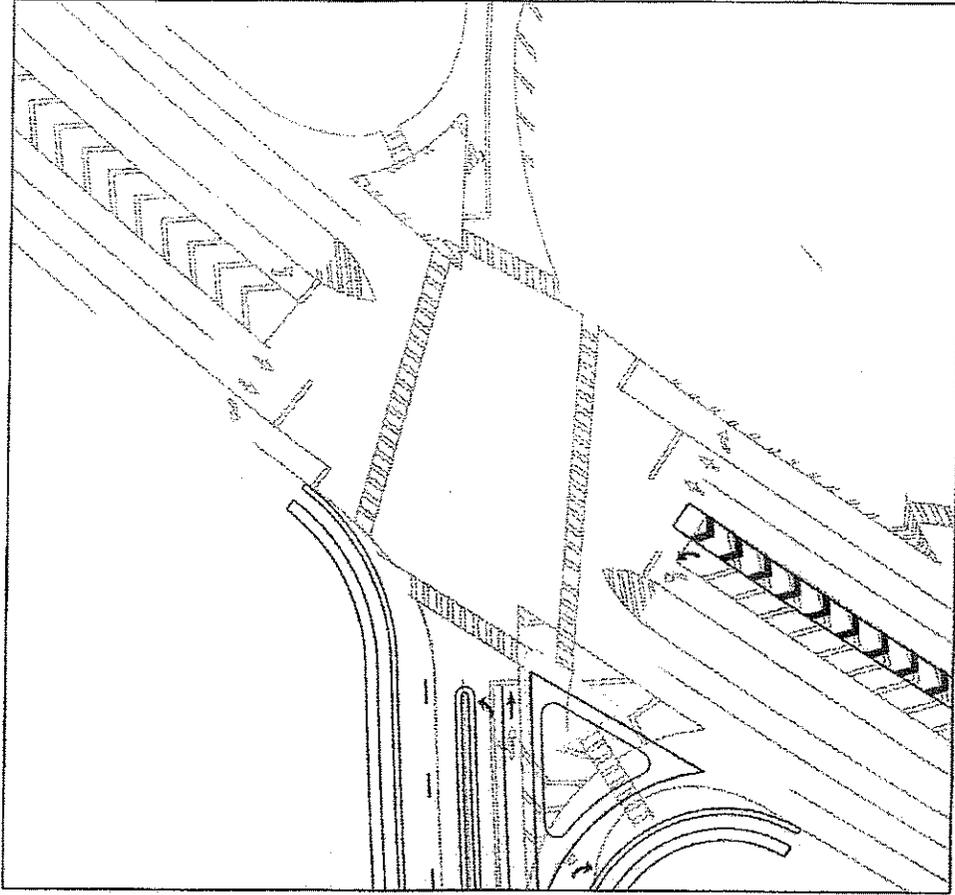








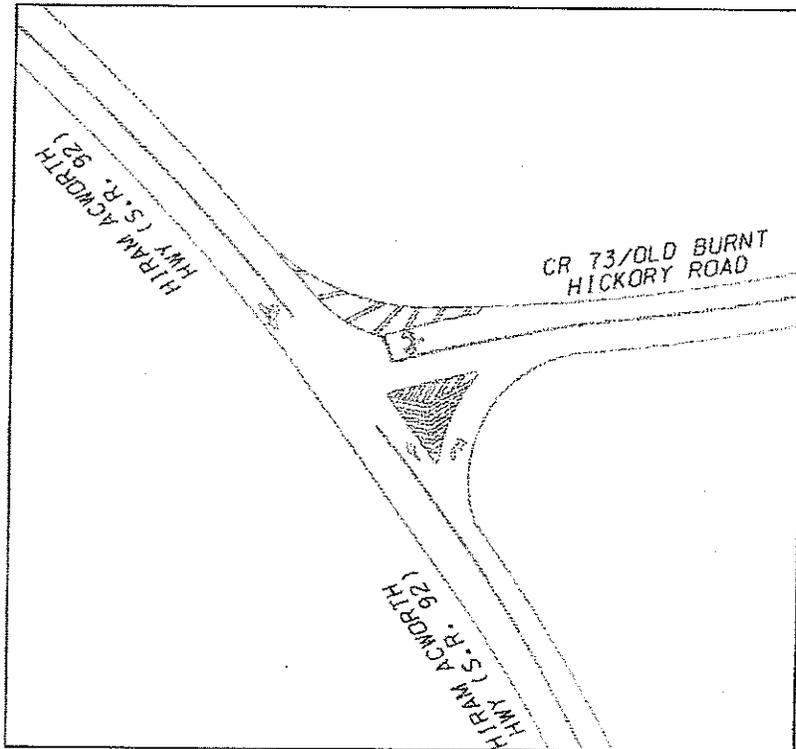
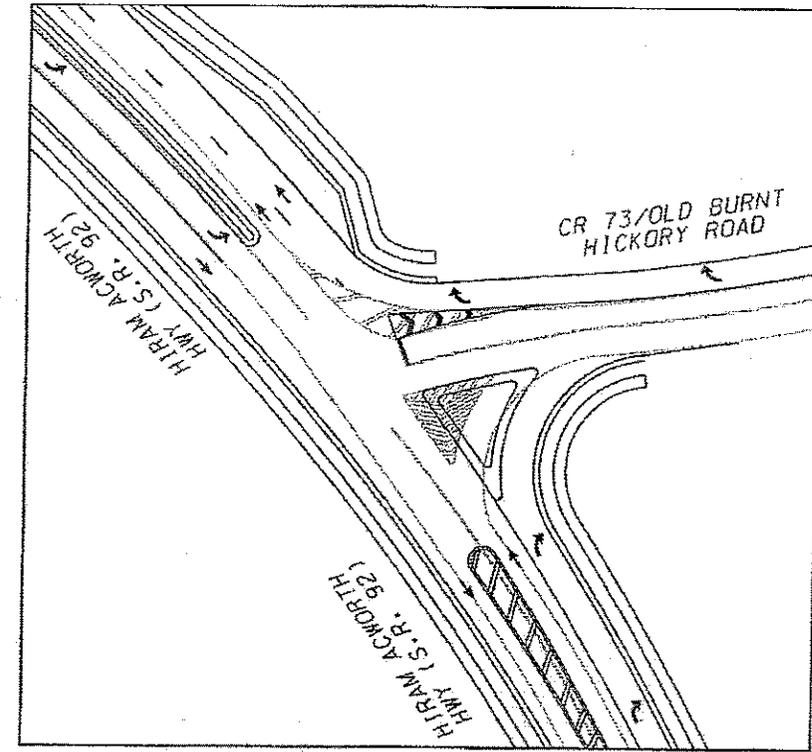
EXISTING CONDITIONS



PROPOSED CONDITIONS

# NORTH COBB PKWY. (US 41) AT SR 92

NOT TO SCALE



CR 73 OLD BURNT HICKORY ROAD AT SR 92

...DGN\INTERSECTION\_11X17.dgn 2/11/2009 10:54:06 AM

NOT TO SCALE

# **Attachment 11**

## **VE Study**

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

-----  
**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** CSSTP-0006-00(857)(866) Paulding Cobb      **OFFICE:** Engineering Services  
P.I. Nos.: 0006857 & 0006866  
SR 92 from Cedarcrest Rd. To SR 3/US 41      **DATE:** September 14, 2009

**FROM:** Ronald E. Wishon, Project Review Engineer *REW*

**TO:** Bobby Hilliard, PE, Program Delivery Engineer  
Attn.: David Norwood

**SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES**

The VE Study for the above projects was held March 2-5, 2009. Responses were received on September 14, 2009. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
RD-1	Use 12 foot shoulders in lieu of 16 foot	\$901,648	Yes	At this time, utility relocation is unknown. If a 16 ft shoulder is needed for utilities, a reversal for this recommendation will be submitted.
RD-3	Use one 11 ft travel lane and one 12 ft travel lane	\$185,975	Yes	The inside lane will be reduced to 11 foot lane width.
RD-4	Eliminate MSE wall between Sta. 227+00 and Sta. 232+50	\$113,192	Yes	At this time, it appears that this recommendation can be implemented. There is a stream identified at Sta. 232+00 that will have significant impacts if there is no retaining wall. The 404 permit will require mitigation for the impacts to the stream. At \$525 per linear foot of impacts stream mitigation credits amount to \$26,000. ROW and utility impacts will also be part of the wall selection process as the project moves further along in the design process.

RD-5	Use raised grassed mediana in lieu of raised concrete median	Proposed = \$2,666,761 Actual = \$1,097,594	Yes	Cobb County has requested a grassed median, and agreed to maintain the median. The Project Manager will pursue an agreement with Paulding County. Savings were adjusted due to the implementation of RD-26.
RD-6	Use a five lane urban section	\$5,105,981	No	The ADT for this project is greater than 35,000. A two-way left turn lane is generally appropriate for projects with projected ADT <24,000. A TWLTL in this urban section will not operate efficiently.
RD-10	Eliminate sidewalks in selective areas	\$554,035	No	The need and purpose of this project includes non-motorized transportation options. There are schools, residential areas and commercial areas located throughout this corridor.
RD-13	Obtain a design exception in lieu of a sag vertical correction at Sta. 160+51	\$230,643	No	The need and purpose of the project includes correcting deficiencies in the alignment. There are no constructability issues or negative environmental impacts associated with raising the grade to correct the deficiency in this area.
RD-17	Review/modify select intersection configurations	Design Suggestion	Yes	The VE Study report recommends a variety of modifications to intersection configurations. See attached responses for locations where changes will be implemented.
RD-24	Use 6 inch concrete median, 6 inch valley gutter, and 30 inch curb and gutter at 6 inch height	\$832,623	Yes	The concrete median will be reduced to 6" height where the median is being dowelled into existing asphalt. The concrete median will be reduced to 4" where the proposed median is not built on existing pavement. The curb width will be reduced to 24". The 6" curb height shall be used everywhere except radius returns and turn lanes. In areas where off-tracking is likely, the 8" curb height shall be used.

RD-26	Use 4 inch concrete median	Proposed = \$1,569,167  Actual = \$784,584	Yes	The median will be dowelled into the existing asphalt. Where the median is dowelled in, the curb is 6" high and therefore the median should be 6" to remain flush with the back of curb. Where the median is not built on the existing pavement, the median will be 4" concrete. It is estimated that the curb can be 4" for 50% of the proposed typical, therefore the savings was reduced by half.
RD-27	Use modular block walls in lieu of cast in place gravity walls	\$215,098	Yes, pending approval of soil survey	The wall will be reviewed when the soil survey is approved. ROW and utility impacts will also be part of the wall selection process as the project moves further along in the design process.

The Office of Engineering Services concurs with the Project Manager's responses.

Approved:                     *Gerald M. Ross*                     Date:                     9/15/09                      
 Gerald M. Ross, PE, Chief Engineer

REW/LLM  
 Attachments

- c: Genetha Rice Singleton
- Michael Haitcock/David Norwood
- Mickey McGee
- Patrick Bowers/Kenny Beckworth
- Nabil M. Raad
- Michael Hester
- Lisa Myers
- Matt Sanders

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

**FILE:** CSSTP-0006-00(857) and CSSTP-0006-00(866) Paulding and Cobb Co.  
PI Nos.: 0006857 and 0006866  
SR 92 Improvements from Old Burnt Hickory  
to US 41/SR3/Cobb Parkway

**OFFICE:** Program Delivery

**DATE:** September 12, 2009

**TO:** Ron Wishon, State Project Review Engineer

  
**FROM:** Bobby Hilliard, P.E., State Program Delivery Engineer

**SUBJECT:** Value Engineering Study-Responses

Reference is made to the recommendations that were contained in the Value Engineering Study Report dated March 2009 for the above referenced project. Our responses and recommendations are as follows:

1. **Value Engineering Alternative No. RD-1:** Use 12' Shoulders in-lieu of 16' shoulders. Approval of the VE Alternative No. RD-1 is recommended at this time.
  - Utility relocation is unknown at this time and a 16' shoulder may be necessary for utility accommodation. If a 16' shoulder is needed for utilities a revision to VE responses will be generated documenting the location and cost.
2. **Value Engineering Alternative No. RD-3:** Use one 11' and one 12' traffic lane. Approval of VE Study Alternative No. RD-3 is recommended.
  - The inside lane will be reduced to 11-foot lane width.
3. **Value Engineering Alternative No. RD-4:** Eliminate MSE wall between sta. 227+00 and sta. 232+50. Approval of VE Study Alternative No. RD-4 is recommended at this time.
  - There is a stream identified at STA 232+00 that will have significant impacts if there is no retaining wall therefore the 404 permit will require we mitigate these impacts to the stream. Should the Corp of Engineers allow us to not propose a wall, stream credits would be the alternative to mitigation and the metro area credits are approximately \$525 per linear foot of impacts. Stream mitigation credits would cost approximately \$26,000. Right of Way and Utility impacts will also be part of the wall selection process as the project moves further along the design process.
4. **Value Engineering Alternative No. RD-5:** Use raised grass median in lieu of concrete raised median. Approval of VE Study Alternative No. RD-5 is recommended to pursue at this time.
  - As the VE Study noted, Cobb County has requested the median be grassed and they want to maintain. We will pursue an agreement with Paulding County. Also, since we are now putting in a 4" raised median (VE Recommendation RD-26) the Initial Cost savings of RD-5 is \$1,097,594. This was figured

by subtracting the savings gained from the 4" median (RD-26) from the savings of not constructing the concrete median (RD-5).

**5. Value Engineering Alternative No. RD-6:** Use a 5 lane urban section.  
Approval of VE Study Alternative No. RD-6 is not recommended.

- Two-way left turn lanes (TWLTL) are generally appropriate for Urban/suburban multi-lane roadways with a projected ADT < 24,000, access point density > 10 ap/mi and < 85 ap/mi and left-turn volume < 100 vph according to the "Access Management Manual" Transportation Research Board, Washington D.C., 2003 and the "NCHRP Report 420: Impacts of Access Management Techniques." Transportation Research Board, Washington, D.C., 1999. The ADT of the project is over 35,000 and is classified as Urban Principal Arterial. The use of a TWLTL in this urban section will not operate efficiently.

**6. Value Engineering Alternative No. RD-10:** Eliminate sidewalks in selected areas.  
Approval of VE Study Alternative No. RD-10 is not recommended.

- The need and purpose of the project includes non-motorized transportation options and therefore the sidewalk is necessary to the project meeting the intended purpose. GDOT will provide safe and continuous ADA compliant access adjacent to SR 92 to meet guidelines set forth by FHWA.

**7. Value Engineering Alternative No. RD-13:** Obtain Design Exception in lieu of eliminating sag vertical curve correction.  
Approval of VE Study Alternative No. RD-13 is not recommended.

- The need and purpose of the project includes correcting deficiencies in the alignment to meet current AASHTO standards. A design exception should be requested only when correcting the deficiency of the vertical alignment is not part of the scope of the project, when raising the grade will cause significant negative impacts to the environment or RW or raising the grade is not feasible because of constructability issues. None of these situations apply and therefore a design exception is not warranted in this situation.

**8. Value Engineering Alternative No. RD-17:** Review/modify select intersection configurations.  
Approval of VE Study Alternative No. RD-17 recommendations are as follows:

- A. SR92/Cedarcrest Road Intersection – Construct a dual right turn from SR 92/Hiram Acworth Highway northbound/eastbound onto SR 92/Dallas Acworth Highway northbound/eastbound.

RD-17A is not recommended.

An exclusive right turn lane is justified if right turn volume exceeds 300 veh/hr per HCM 2000. 2032 AM right turn volume is 415 veh/hr. HCM does not provide volume thresholds for dual rights. The delay is calculated below for the design year using Syncro and there is very little benefit recognized by adding the dual right turn lane.

single right delay (sec)	dual right delay (sec)
2032 AM - 191	2032 AM - 179
2032 PM - 177	2032 PM - 176

- B. SR92/Cedarcrest Road Intersection – Construct a dual left turn from SR 92/Dallas Acworth Highway southbound/westbound onto SR 92/Hiram Acworth Highway southbound/westbound.

RD-17B is recommended.

The dual left turn is currently proposed in the concept.

- C. SR92/US41 Intersection- Construct the channelized left turn from SR92 eastbound onto US 41 Northbound. This will segregate the left right and through movements at the intersection and allow more flexibility with the signal phasing.

RD-17C is not recommended.

The intersection is not a T-intersection. To the north of the intersection, SR 92/Dallas Acworth Highway becomes Awtrey Church Road, a two-lane Urban Local Street. The channelized left turn would eliminate the ability for westbound traffic from Awtrey Church Road to cross the intersection or turn left.

- D. Close the median opening at Old Dallas Acworth Road. This will reduce interference with the queues for US 41. It will discourage the use of Old Dallas Acworth Road by queue jumpers. Local traffic going south on Old Dallas Acworth Road will be able to access US41 by U-turning at the median opening at Bridgemont Place.

RD-17D is not recommended.

95% Queue for northbound left

2032 AM - 945 ft                      2032 PM - 405 ft

The queue length never exceeds the distance between the intersections which is 1090 feet. The maximum spacing of the median openings is 1320 feet. The distance to the next median opening at Bridgemont Place is 1766 feet which exceeds the maximum spacing requirements.

- E. Perform signal warrants for the following intersections and consider the installation of signals:

- Royal Sunset Drive - Station ~125+00
- Old Stilesboro Road - Station ~195+00
- Pickett's Ridge - Station ~240+00
- Cheatham Road -Station ~259+00
- North Shores Road - Station ~296+00

RD-17E has already been performed on all of these intersections except Royal Sunset Drive.

Royal Sunset Drive is a new residential street not part of the approved study therefore no Signal Warrant Analysis was completed due to no available volumes. Signal Warrant Analysis were performed on Old Stilesboro Road, Pickett's Ridge, Cheatham Road and North Shores Road and no signals were warranted at these locations.

9. **Value Engineering Alternative No. RD-24:** Use 6" concrete median; 6" valley gutter; and 30' combo curb and gutter at the 6" height.

Approval of VE Study Alternative No. RD-24 is recommended.

- The concrete median will be reduced to 6" height where the median is being dowelled in on existing asphalt. The concrete median will be reduced to 4" where the median is not being built on existing pavement. The concrete valley gutter is a driveway item and is not to be used in the median. The curb width will be reduced to 24" curb and gutter on the project.
- The 6" curb height shall be used everywhere on the project except radius returns and turn lanes. The construction office suggested there would be maintenance issues where the curb gets run over from off-tracking vehicles. In areas where off-tracking is likely the 8" curb height shall be used.

**10. Value Engineering Alternative No. RD-26:** Use 4" concrete in lieu of 6" or 8" concrete in the median. Approval of VE Study Alternative No. RD-26 is recommended except where the median is placed on existing asphalt.

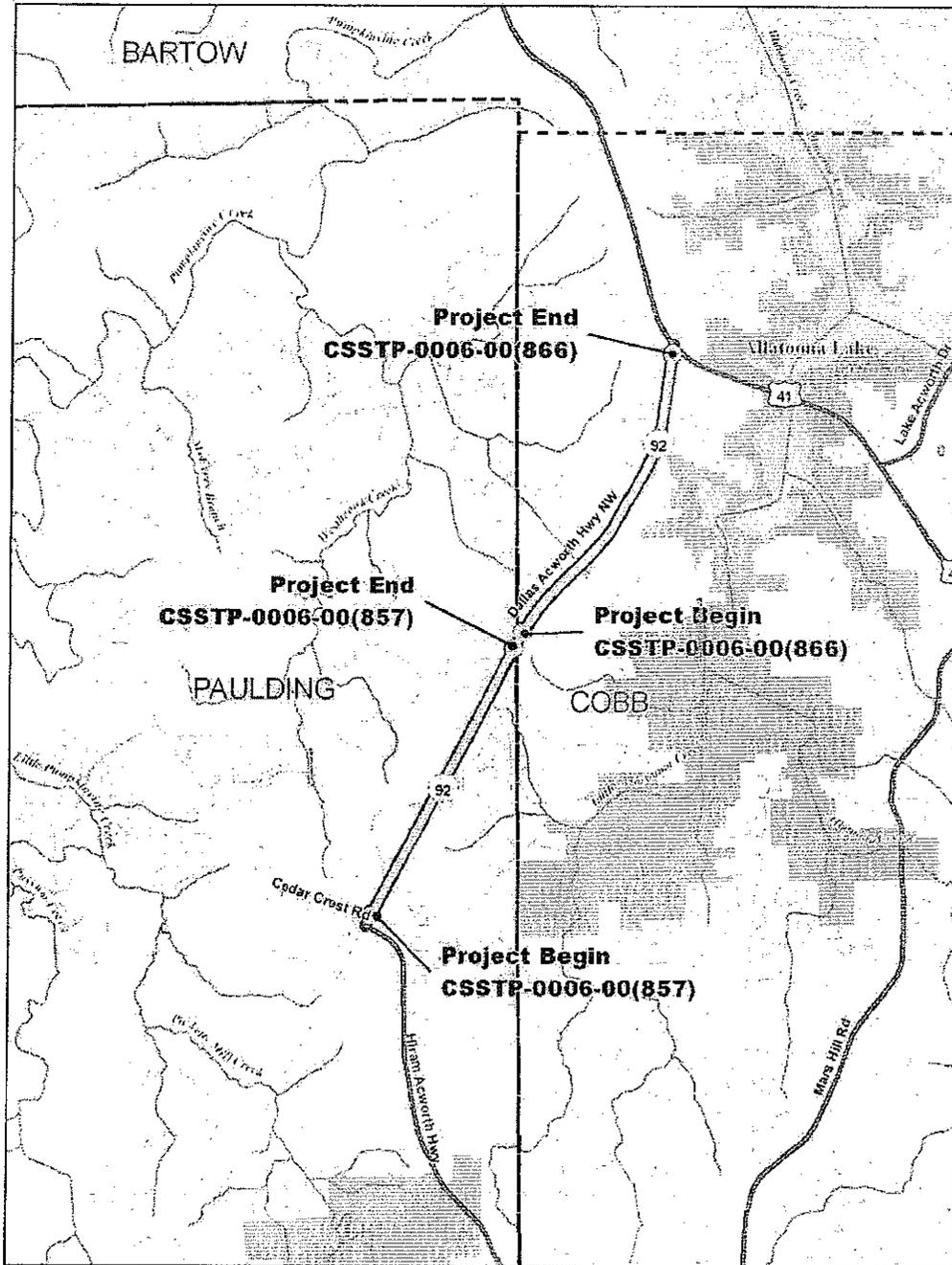
- The median will be dowelled in on the existing asphalt. Where the median is dowelled in the curb is 6" high and therefore the median should be 6" to remain flush with the back of curb. The 6" median prevents standing water behind the curb in these areas. Where the median is not built on the existing pavement the median will be 4" concrete. At this time it is estimated the curb can be 4" for 50% of the proposed typical.

**11. Value Engineering Alternative No. R-27:** Use modular block walls in-lieu of gravity walls. Approval of VE Study Alternative No. R-27 is recommended at this time if feasible.

- The wall will be looked at when the soil survey report is approved. It is not possible to know if this is feasible at this time in the design process. Right of way and utility impacts will also be part of the wall selection process as the project moves further along the design process.

BKH:MAH:DAN:jmh

CC: URS Corporation – Sean Pharr



**PROJECT LOCATION MAP**  
 Project: CSSTP-0006-00(857) & CSSTP-0006-00(866)  
 Paulding County and Cobb County  
 PI 0006857 & PI 0006866

Project Number: CSSTP-0006-00(862) and BRST-213-01(5)  
 County: Cobb  
 P.I. Number: 0006862 and 731865  
 Date: April 2008

**PRECONSTRUCTION STATUS REPORT FOR PI:0006857,0006866**

SR 92 FROM PAULDING COUNTY LINE TO SR 37/US 41

PROJ ID : 0006866  
 COUNTY : Cobb  
 LENGTH (MI) : 2.08  
 PROJ NO. : CSSTP-0006-00(866)  
 PROJ MGR : Norwood, David  
 AOHD Initials : MAH  
 OFFICE : Program Delivery  
 CONSULTANT : Turnkey Consultant, (Contract with GDOT)  
 SPONSOR : GDOT  
 DESIGN FIRM : URS Corporation

MGMT LET DATE : 09/15/2012  
 MGMT ROW DATE : 03/15/2011  
 BASELINE LET DATE : 09/19/2012  
 SCHED LET DATE : 8/31/2012  
 WHO LETS? : Local Let  
 LET WITH :  
 DOT DIST : 7  
 CONG. DIST : 11  
 BIKE : N  
 MEASURE : E  
 NEEDS SCORE : 6  
 BRIDGE SUFF :

MFO : Atlanta TMA  
 TIP # : CO-329  
 MODEL YR : 2020  
 TYPE WORK : Widening  
 CONCEPT : WIDEN & RECONST  
 PROJ TYPE : Reconstruction/Rehabilitation  
 Prov. for ITS : N  
 BOND PROJ :

LATE START	LATE FINISH	TASKS	ACTUAL START	ACTUAL FINISH	%
2/19/2010	3/19/2010	Concept Development	7/6/2007		26
3/9/2010	3/5/2010	Concept Meeting			0
3/8/2010	3/19/2010	PM Submit Concept Report			0
3/19/2010	3/19/2010	Receive Preconstruction Concept Approval			0
3/19/2010	3/19/2010	Management Concept Approval Complete			0
10/6/2009	10/6/2009	Value Engineering Study	7/30/2008	6/3/2008	85
4/8/2010	4/8/2010	Public Information Open House Held	6/5/2008		100
10/1/2010	11/25/2010	Environmental Approval	7/7/2007		9
11/13/2009	12/3/2009	Pub Hear Held/Commi Resp (EA/FONSI, GEPA)			0
11/2/2009	8/9/2010	Mapping			0
9/25/2009	1/7/2010	Field Surveys/SDE			48
8/5/2010	9/1/2010	Preliminary Plans			0
9/2/2010	11/24/2010	Underground Storage Tanks	8/27/2008		0
11/25/2010	12/5/2011	404 Permit Obtainment			0
1/26/2011	11/30/2010	PPPR Inspection			0
6/6/2011	6/17/2011	PPPR Inspection			0
2/8/2010	7/21/2010	R/W Plans Preparation			0
12/1/2010	12/29/2011	R/W Plans Final Approval			0
1/20/2012	1/23/2012	L & D Approval			0
2/6/2012	2/17/2012	R/W Acquisition			0
		Stake R/W			0
		Soil Survey			0
		Final Design			0
		FPFR Inspection			0
		Submit FPFR Responses (OES)			0

Activity	Approved	Proposed	Cost	Fund	Status	Date Auth
PE	2006	2006	1,749,930.02	L240	AUTHORIZED	3/27/2006
ROW	2009	LR	3,397,217.28	L240	PRECST	
CST	2010	LR	10,913,000.00	L230S	PRECST	

Activity	Cost	Fund
PE	1,726,973.00	L240
ROW	10,913,000.00	L240
CST	4,622,000.00	L230S

PE Cost Est Amt	Date
1,726,973.00	10/10/2008
10,913,000.00	10/10/2008

**STIP AMOUNTS**

PE Cost Est Amt: 1,726,973.00 Date: 10/10/2008  
 ROW Cost Est Amt: 10,913,000.00 Date: 10/10/2008  
 CST Cost Est Amt: 4,622,000.00 Date: 10/10/2008

**District Comments**

Same Env Doc w/ 0006857  
 PROJECT ADDED TO TURNKEY LIST BY CE ON 8/4/05 (1/6/06) NO ACTIVITY. DISTRICT TO CONTACT COUNTY. (5/1/06) STILL WAITING TO HEAR BACK FROM COUNTY. (7/17/06)

Precl. Parcel CT:	Total Parcel in ROW System:	Contd. Filed:	Acquired by:	DEEDS CT:
Under Review:	Options - Pending:	Relocations:	Acquisition MGR:	
Released:	Condemnations- Pend:	Acquired:	ROW Cert Date:	



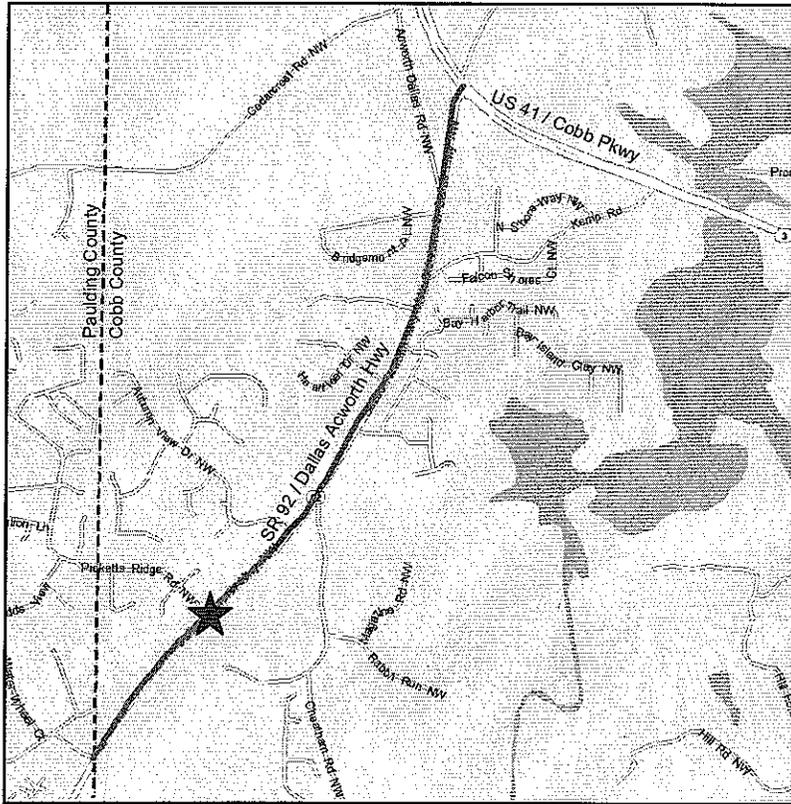
# **Attachment 12**

## **Signal Warrant Studies**

# STATE ROUTE 92 AT PICKETT'S RIDGE ROAD SIGNAL WARRANT ANALYSIS

GDOT Project CSSTP -0006-00(866)  
Cobb County  
P.I. # 0006866

April 17, 2009



Prepared for:  
Georgia Department of Transportation

**URS**

1000 Abernathy Road  
400 Northpark Town Center  
Suite 900  
Atlanta, Georgia 30328  
678/808-8800

## Executive Summary

GDOT proposed project CSSTP-0006-00(866) will widen and reconstruct State Route (SR) 92/Dallas Acworth Highway from Paulding County line to US 41/SR 3/Cobb Parkway from a two lane to a four-lane divided roadway. Design year traffic projections at the intersection of SR 92 and Pickett's Ridge Road in Cobb County, GA were evaluated to determine if minimum traffic signal warrants as outlined in the 2003 (MUTCD) will be met. The signal warrant analysis was completed using the full volume requirement and a 100% reduction of the minor approach right turns.

The results of the analysis indicate that Warrant 1, Eight-Hour Vehicular Volume, does not meet the minimum requirement for the installation of traffic signal.

## Table of Contents

1. Introduction .....	1
2. Design Traffic Volumes .....	2
3. Signal Warrant Analysis .....	3
4. Conclusions and Recommendations .....	4

## 1. INTRODUCTION

The Georgia Department of Transportation (GDOT) proposed project CSSTP-0006-00(866) is located in Cobb County, Georgia. The proposed project will widen and reconstruct State Route (SR) 92/Dallas Acworth Highway from Paulding County line to US 41/SR 3/Cobb Parkway from a two lane to a four-lane divided Roadway.

As a means of improving safety and efficiency it was proposed by the *SR 92 Improvements VE Study* that a traffic signal be installed at the intersection of SR 92 and Pickett's Ridge Road. In order to determine if signalization is warranted at this intersection, the eight signal warrants described in Section 4C of the 2003 edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD) were evaluated.

## 2. DESIGN TRAFFIC VOLUMES

The design year (2032) forecast volumes were developed by URS for the project and approved by GDOT on September 18, 2008. The 24-hour turning movement volumes used for the signal warrant evaluation at the subject intersection were developed using the approved design traffic methodology and are shown in **Table 1**.

Table 1: Hourly Traffic Volumes							
Time	SR 92 (SB)			SR 92 (NB)		Pickett's Ridge Rd (EB)	
	Through	Right	U-Turn	Left	Through	Left	Right
12:00 AM	39	2	9	4	123	7	1
1:00 AM	37	2	5	2	64	3	1
2:00 AM	50	3	4	2	48	3	2
3:00 AM	125	7	5	2	64	3	4
4:00 AM	426	23	10	4	125	7	14
5:00 AM	1183	63	22	10	292	15	39
6:00 AM	1652	87	47	20	606	32	54
7:00 AM	914	48	106	45	1380	73	30
8:00 AM	377	20	109	46	1411	75	12
9:00 AM	325	17	85	36	1107	59	11
10:00 AM	410	22	82	35	1070	57	13
11:00 AM	596	32	70	30	913	48	20
12:00 PM	670	35	69	30	900	48	22
1:00 PM	740	39	62	27	808	43	24
2:00 PM	973	51	57	24	738	39	32
3:00 PM	1188	63	61	26	793	42	39
4:00 PM	1640	87	58	25	751	40	54
5:00 PM	1337	71	67	29	877	46	44
6:00 PM	884	47	60	26	778	41	29
7:00 PM	518	27	57	24	737	39	17
8:00 PM	410	22	41	17	526	28	13
9:00 PM	252	13	31	13	404	21	8
10:00 PM	132	7	20	8	255	13	4
11:00 PM	61	3	13	6	170	9	2

### 3. SIGNAL WARRANT ANALYSIS

Using the volumes from **Table 1**, a signal warrant analysis was performed evaluating the eight signal warrants described in Section 4C of the 2003 edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices (MUTCD)*. Following GDOT preferences the volume reduction for speed was not utilized and a 100% reduction was applied to the minor approach right turn volumes.

The results of the signal warrant analysis are summarized in **Table 2**. A more detailed description of the analysis of the eight signal warrants and the related worksheets are in the Appendix section Signal Warrants Analysis.

<b>Table 2 Signal Warrant Analysis Summary</b>		
<i>Warrant 1, Eight-Hour Vehicular Volume</i>		
<b>Warrant 1</b>	<b>Not Satisfied</b>	
Condition A	Not Satisfied	0 Hours
Condition B	Not Satisfied	2 Hours
<i>Warrant 2, Four-Hour Vehicular Volume</i>		
<b>Warrant 2</b>	<b>Not Satisfied</b>	0 Hours
<i>Warrant 3, Peak Hour</i>		
<b>Warrant 3</b>	<b>Not Satisfied</b>	0 Hours
<i>Warrant 4, Pedestrian Volume</i>		
<b>Warrant 4</b>	<b>Not Satisfied</b>	
<i>Warrant 5, School Crossing</i>		
<b>Warrant 5</b>	<b>Not Applicable</b>	
<i>Warrant 6, Coordinated Signal System</i>		
<b>Warrant 6</b>	<b>Not Satisfied</b>	
<i>Warrant 7, Crash Experience</i>		
<b>Warrant 7</b>	<b>Not Satisfied</b>	1 Crashes
<i>Warrant 8, Roadway Network</i>		
<b>Warrant 8</b>	<b>Not Applicable</b>	

The results of the analysis indicate that the traffic projected in the design year does not meet Warrant 1, Eight-Hour Vehicular Volume, as defined in 2003 MUTCD.

## 4. CONCLUSIONS AND RECOMMENDATIONS

This study was performed to assess the warrant for a traffic signal at the intersection of SR 92 and Pickett's Ridge Road.

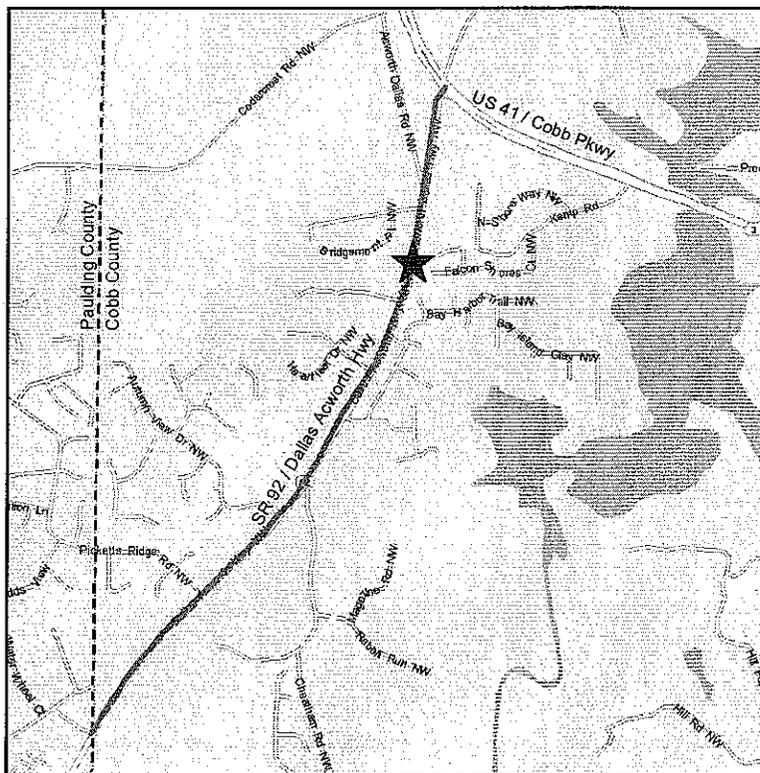
Using the approved design traffic methodology, the 24-hour turning movement volumes for the design year were determined. This data was analyzed to determine if minimum warrants for signalization as defined in the 2003 MUTCD were met.

The analysis indicated that the projected traffic does not meet Warrant 1, Eight-Hour Vehicular Volume, as defined in 2003 MUTCD. Therefore, installation of a traffic signal at the intersection of SR 92 and Pickett's Ridge Road is not recommended for the design year 2032.

# STATE ROUTE 92 AT NORTH SHORES ROAD SIGNAL WARRANT ANALYSIS

GDOT Project CSSTP -0006-00(866)  
Cobb County  
P.I. # 0006866

April 17, 2009



Prepared for:  
Georgia Department of Transportation

**URS**

1000 Abernathy Road  
400 Northpark Town Center  
Suite 900  
Atlanta, Georgia 30328  
678/808-8800

## Executive Summary

GDOT proposed project CSSTP-0006-00(866) will widen and reconstruct State Route (SR) 92/Dallas Acworth Highway from Paulding County line to US 41/SR 3/Cobb Parkway from a two lane to a four-lane divided roadway. Design year traffic projections at the intersection of SR 92 and North Shores Road in Cobb County, GA were evaluated to determine if minimum traffic signal warrants as outlined in the 2003 (MUTCD) will be met. The signal warrant analysis was completed using the full volume requirement and a 100% reduction of the minor approach right turns.

The results of the analysis indicate that Warrant 1, Eight-Hour Vehicular Volume, does not meet the minimum requirement for the installation of traffic signal.

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1. Introduction ..... 1

2. Design Traffic Volumes ..... 2

3. Signal Warrant Analysis ..... 3

4. Conclusions and Recommendations ..... 4

## 1. INTRODUCTION

The Georgia Department of Transportation (GDOT) proposed project CSSTP-0006-00(866) is located in Cobb County, Georgia. The proposed project will widen and reconstruct State Route (SR) 92/Dallas Acworth Highway from Paulding County line to US 41/SR 3/Cobb Parkway from a two lane to a four-lane divided Roadway.

As a means of improving safety and efficiency it was proposed by the *SR 92 Improvements VE Study* that a traffic signal be installed at the intersection of SR 92 and North Shores Road. In order to determine if signalization is warranted at this intersection, the eight signal warrants described in Section 4C of the 2003 edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD) were evaluated.

## 2. DESIGN TRAFFIC VOLUMES

The design year (2032) forecast volumes were developed by URS for the project and approved by GDOT on September 18, 2008. The 24-hour turning movement volumes used for the signal warrant evaluation at the subject intersection were developed using the approved design traffic methodology and are shown in **Table 1**.

Time	SR 92 (NB)			SR 92 (SB)		North Shores Rd (WB)	
	Through	Right	U-Turn	Left	Through	Left	Right
12:00 AM	75	6	5	1	62	5	1
1:00 AM	57	5	4	1	41	3	0
2:00 AM	66	5	4	1	43	3	1
3:00 AM	149	12	6	1	64	5	1
4:00 AM	362	29	15	3	172	14	3
5:00 AM	721	58	56	11	648	52	6
6:00 AM	885	71	126	25	1459	117	7
7:00 AM	1225	98	97	19	1121	90	10
8:00 AM	1214	97	52	10	596	48	10
9:00 AM	1281	102	30	6	350	28	10
10:00 AM	1196	96	39	8	453	36	10
11:00 AM	1017	81	54	11	618	49	8
12:00 PM	990	79	64	13	739	59	8
1:00 PM	912	73	71	14	822	66	7
2:00 PM	933	75	83	16	957	76	7
3:00 PM	998	80	99	20	1147	92	8
4:00 PM	998	80	133	26	1531	122	8
5:00 PM	840	67	162	32	1864	149	7
6:00 PM	625	50	121	24	1400	112	5
7:00 PM	673	54	66	13	757	60	5
8:00 PM	491	39	52	10	600	48	4
9:00 PM	274	22	39	8	453	36	2
10:00 PM	181	14	21	4	241	19	1
11:00 PM	107	9	9	2	131	10	1

### 3. SIGNAL WARRANT ANALYSIS

Using the volumes from **Table 1**, a signal warrant analysis was performed evaluating the eight signal warrants described in Section 4C of the 2003 edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices (MUTCD)*. Following GDOT preferences the volume reduction for speed was not utilized and a 100% reduction was applied to the minor approach right turn volumes.

The results of the signal warrant analysis are summarized in **Table 2**. A more detailed description of the analysis of the eight signal warrants and the related worksheets are in the Appendix section Signal Warrants Analysis.

<b>Table 2 Signal Warrant Analysis Summary</b>		
<i>Warrant 1, Eight-Hour Vehicular Volume</i>		
<b>Warrant 1</b>	<b>Not Satisfied</b>	
Condition A	Not Satisfied	0 Hours
Condition B	Not Satisfied	7 Hours
<i>Warrant 2, Four-Hour Vehicular Volume</i>		
<b>Warrant 2</b>	<b>Satisfied</b>	6 Hours
<i>Warrant 3, Peak Hour</i>		
<b>Warrant 3</b>	<b>Satisfied</b>	4 Hours
<i>Warrant 4, Pedestrian Volume</i>		
<b>Warrant 4</b>	<b>Not Satisfied</b>	
<i>Warrant 5, School Crossing</i>		
<b>Warrant 5</b>	<b>Not Applicable</b>	
<i>Warrant 6, Coordinated Signal System</i>		
<b>Warrant 6</b>	<b>Not Satisfied</b>	
<i>Warrant 7, Crash Experience</i>		
<b>Warrant 7</b>	<b>Not Satisfied</b>	1 Crashes
<i>Warrant 8, Roadway Network</i>		
<b>Warrant 8</b>	<b>Not Applicable</b>	

The results of the analysis indicate that the traffic projected in the design year does not meet Warrant 1, Eight-Hour Vehicular Volume, as defined in 2003 MUTCD.

## 4. CONCLUSIONS AND RECOMMENDATIONS

This study was performed to assess the warrant for a traffic signal at the intersection of SR 92 and North Shores Road.

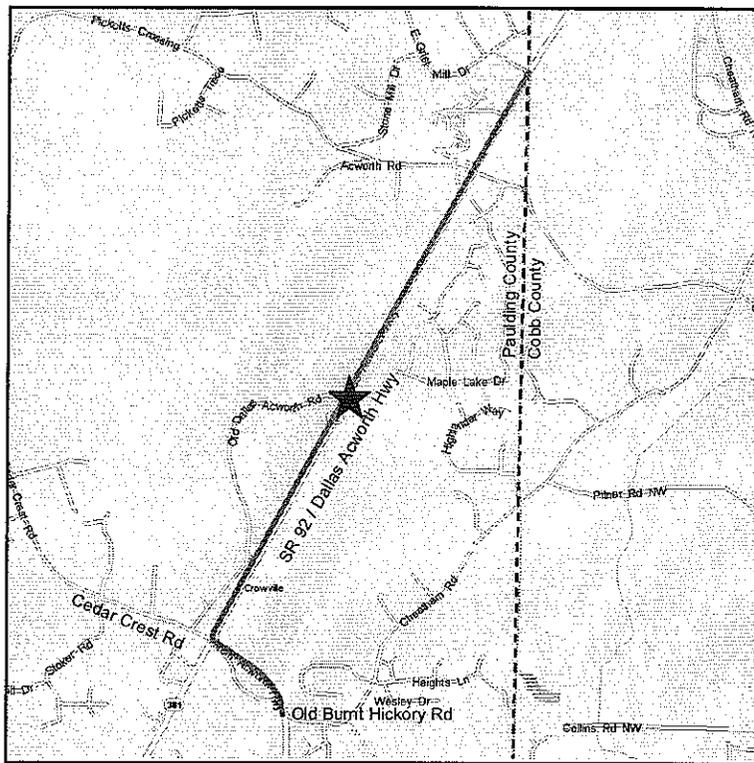
Using the approved design traffic methodology, the 24-hour turning movement volumes for the design year were determined. This data was analyzed to determine if minimum warrants for signalization as defined in the 2003 MUTCD were met.

The analysis indicated that the projected traffic does not meet Warrant 1, Eight-Hour Vehicular Volume, as defined in 2003 MUTCD. Therefore, installation of a traffic signal at the intersection of SR 92 and North Shores Road is not recommended for the design year 2032.

# STATE ROUTE 92 AT OLD STILESBORO ROAD SIGNAL WARRANT ANALYSIS

GDOT Project CSSTP -0006-00(857)  
Paulding County  
P.I. # 0006857

April 17, 2009



Prepared for:  
Georgia Department of Transportation

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## Executive Summary

GDOT proposed project CSSTP-0006-00(857) will widen and reconstruct State Route (SR) 92/Dallas Acworth Highway from Old Burnt Hickory Road to Cobb County line from a two lane to a four-lane divided roadway. Design year traffic projections at the intersection of SR 92 and Old Stilesboro Road in Paulding County, GA were evaluated to determine if minimum traffic signal warrants as outlined in the 2003 (MUTCD) will be met. The signal warrant analysis was completed using the full volume requirement and a 100% reduction of the minor approach right turns.

The results of the analysis indicate that Warrant 1, Eight-Hour Vehicular Volume, does not meet the minimum requirement for the installation of traffic signal.

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## 1. INTRODUCTION

The Georgia Department of Transportation (GDOT) proposed project CSSTP-0006-00(857) is located in Paulding County, Georgia. The proposed project will widen and reconstruct State Route (SR) 92/Dallas Acworth Highway from Old Burnt Hickory Road to Cobb County line from a two lane to a four-lane divided Roadway.

As a means of improving safety and efficiency it was proposed by the *SR 92 Improvements VE Study* that a traffic signal be installed at the intersection of SR 92 and Old Stilesboro Road. In order to determine if signalization is warranted at this intersection, the eight signal warrants described in Section 4C of the 2003 edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD) were evaluated.

## 2. DESIGN TRAFFIC VOLUMES

The design year (2032) forecast volumes were developed by URS for the project and approved by GDOT on September 18, 2008. The 24-hour turning movement volumes used for the signal warrant evaluation at the subject intersection were developed using the approved design traffic methodology and are shown in **Table 1**.

Time	SR 92 (NB)			SR 92 (SB)			Acworth Rd (EB)			Old Stilesboro Rd (WB)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
12:00 AM	0	0	0	3	0	7	0	111	4	4	67	0
1:00 AM	0	0	0	2	0	4	0	65	2	3	43	0
2:00 AM	0	0	0	2	0	3	0	47	2	3	42	0
3:00 AM	0	0	0	2	0	4	0	63	2	3	51	0
4:00 AM	0	0	0	5	0	7	0	114	4	8	128	0
5:00 AM	1	1	1	16	1	18	1	272	10	27	406	1
6:00 AM	1	1	3	41	2	34	1	518	20	69	1059	3
7:00 AM	4	3	3	42	3	85	4	1306	50	72	1105	3
8:00 AM	4	1	2	25	2	95	4	1446	55	42	646	2
9:00 AM	3	1	1	14	2	79	3	1210	46	23	358	1
10:00 AM	3	1	1	16	1	69	3	1050	40	27	406	1
11:00 AM	2	1	2	22	1	55	2	839	32	37	567	2
12:00 PM	2	2	2	24	1	55	2	844	32	42	636	2
1:00 PM	2	2	2	28	1	48	2	741	28	48	733	2
2:00 PM	2	2	2	31	2	48	2	737	28	54	822	2
3:00 PM	2	3	3	39	2	47	2	712	27	66	1009	3
4:00 PM	2	2	4	51	2	47	2	723	28	86	1319	4
5:00 PM	2	2	5	62	3	54	2	832	32	106	1624	5
6:00 PM	2	3	4	50	2	48	2	740	28	85	1305	4
7:00 PM	2	3	2	27	2	46	2	701	27	46	700	2
8:00 PM	1	1	1	21	1	33	1	497	19	35	536	1
9:00 PM	1	1	1	17	1	25	1	389	15	28	434	1
10:00 PM	1	0	1	9	0	16	1	241	9	15	231	1
11:00 PM	0	1	0	5	0	11	0	163	6	9	133	0

### 3. SIGNAL WARRANT ANALYSIS

Using the volumes from **Table 1**, a signal warrant analysis was performed evaluating the eight signal warrants described in Section 4C of the 2003 edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices (MUTCD)*. Following GDOT preferences the volume reduction for speed was not utilized and a 100% reduction was applied to the minor approach right turn volumes.

The results of the signal warrant analysis are summarized in **Table 2**. A more detailed description of the analysis of the eight signal warrants and the related worksheets are in the Appendix section Signal Warrants Analysis.

<b>Table 2 Signal Warrant Analysis Summary</b>		
<i>Warrant 1, Eight-Hour Vehicular Volume</i>		
<b>Warrant 1</b>	<b>Not Satisfied</b>	
Condition A	Not Satisfied	0 Hours
Condition B	Not Satisfied	0 Hours
<i>Warrant 2, Four-Hour Vehicular Volume</i>		
<b>Warrant 2</b>	<b>Not Satisfied</b>	0 Hours
<i>Warrant 3, Peak Hour</i>		
<b>Warrant 3</b>	<b>Not Satisfied</b>	0 Hours
<i>Warrant 4, Pedestrian Volume</i>		
<b>Warrant 4</b>	<b>Not Satisfied</b>	
<i>Warrant 5, School Crossing</i>		
<b>Warrant 5</b>	<b>Not Applicable</b>	
<i>Warrant 6, Coordinated Signal System</i>		
<b>Warrant 6</b>	<b>Not Satisfied</b>	
<i>Warrant 7, Crash Experience</i>		
<b>Warrant 7</b>	<b>Not Satisfied</b>	0 Crashes
<i>Warrant 8, Roadway Network</i>		
<b>Warrant 8</b>	<b>Not Applicable</b>	

The results of the analysis indicate that the traffic projected in the design year does not meet Warrant 1, Eight-Hour Vehicular Volume, as defined in 2003 MUTCD.

## 4. CONCLUSIONS AND RECOMMENDATIONS

This study was performed to assess the warrant for a traffic signal at the intersection of SR 92 and Old Stilesboro Road.

Using the approved design traffic methodology, the 24-hour turning movement volumes for the design year were determined. This data was analyzed to determine if minimum warrants for signalization as defined in the 2003 MUTCD were met.

The analysis indicated that the projected traffic does not meet Warrant 1, Eight-Hour Vehicular Volume, as defined in 2003 MUTCD. Therefore, installation of a traffic signal at the intersection of SR 92 and Old Stilesboro Road is not recommended for the design year 2032.



## Executive Summary

GDOT proposed project CSSTP-0006-00(866) will widen and reconstruct State Route (SR) 92/Dallas Acworth Highway from Paulding County line to US 41/SR 3/Cobb Parkway from a two lane to a four-lane divided roadway. Design year traffic projections at the intersection of SR 92 and Cheatham Road in Cobb County, GA were evaluated to determine if minimum traffic signal warrants as outlined in the 2003 (MUTCD) will be met. The signal warrant analysis was completed using the full volume requirement and a 100% reduction of the minor approach right turns.

The results of the analysis indicate that Warrant 1, Eight-Hour Vehicular Volume, does not meet the minimum requirement for the installation of traffic signal.

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## 1. INTRODUCTION

The Georgia Department of Transportation (GDOT) proposed project CSSTP-0006-00(866) is located in Cobb County, Georgia. The proposed project will widen and reconstruct State Route (SR) 92/Dallas Acworth Highway from Paulding County line to US 41/SR 3/Cobb Parkway from a two lane to a four-lane divided Roadway.

As a means of improving safety and efficiency it was proposed by the *SR 92 Improvements VE Study* that a traffic signal be installed at the intersection of SR 92 and Cheatham Road. In order to determine if signalization is warranted at this intersection, the eight signal warrants described in Section 4C of the 2003 edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD) were evaluated.

## 2. DESIGN TRAFFIC VOLUMES

The design year (2032) forecast volumes were developed by URS for the project and approved by GDOT on September 18, 2008. The 24-hour turning movement volumes used for the signal warrant evaluation at the subject intersection were developed using the approved design traffic methodology and are shown in **Table 1**.

Time	SR 92 (NB)			SR 92 (SB)		Cheatham Rd (WB)	
	Through	Right	U-Turn	Left	Through	Left	Right
12:00 AM	134	0	2	5	89	0	8
1:00 AM	73	0	2	5	78	0	4
2:00 AM	55	0	1	3	47	0	3
3:00 AM	63	0	1	2	34	0	4
4:00 AM	140	1	2	4	64	0	8
5:00 AM	321	1	3	8	140	1	19
6:00 AM	688	3	13	31	521	2	40
7:00 AM	1484	5	19	46	790	3	87
8:00 AM	1564	6	18	42	726	3	92
9:00 AM	1147	4	15	37	626	2	67
10:00 AM	1181	4	14	34	579	2	69
11:00 AM	1015	4	17	40	687	3	59
12:00 PM	985	4	19	45	763	3	58
1:00 PM	888	3	21	50	855	3	52
2:00 PM	801	3	25	60	1022	4	47
3:00 PM	866	3	29	70	1198	4	51
4:00 PM	824	3	38	92	1573	6	48
5:00 PM	960	4	47	112	1907	7	56
6:00 PM	877	3	40	96	1640	6	51
7:00 PM	825	3	27	65	1109	4	48
8:00 PM	594	2	20	48	818	3	35
9:00 PM	436	2	15	35	599	2	26
10:00 PM	291	1	8	20	336	1	17
11:00 PM	188	1	5	12	201	1	11

### 3. SIGNAL WARRANT ANALYSIS

Using the volumes from **Table 1**, a signal warrant analysis was performed evaluating the eight signal warrants described in Section 4C of the 2003 edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices (MUTCD)*. Following GDOT preferences the volume reduction for speed was not utilized and a 100% reduction was applied to the minor approach right turn volumes.

The results of the signal warrant analysis are summarized in **Table 2**. A more detailed description of the analysis of the eight signal warrants and the related worksheets are in the Appendix section Signal Warrants Analysis.

<b>Table 2 Signal Warrant Analysis Summary</b>		
<i>Warrant 1, Eight-Hour Vehicular Volume</i>		
<b>Warrant 1</b>	<b>Not Satisfied</b>	
Condition A	Not Satisfied	0 Hours
Condition B	Not Satisfied	0 Hours
<i>Warrant 2, Four-Hour Vehicular Volume</i>		
<b>Warrant 2</b>	<b>Not Satisfied</b>	0 Hours
<i>Warrant 3, Peak Hour</i>		
<b>Warrant 3</b>	<b>Not Satisfied</b>	0 Hours
<i>Warrant 4, Pedestrian Volume</i>		
<b>Warrant 4</b>	<b>Not Satisfied</b>	
<i>Warrant 5, School Crossing</i>		
<b>Warrant 5</b>	<b>Not Applicable</b>	
<i>Warrant 6, Coordinated Signal System</i>		
<b>Warrant 6</b>	<b>Not Satisfied</b>	
<i>Warrant 7, Crash Experience</i>		
<b>Warrant 7</b>	<b>Not Satisfied</b>	1 Crashes
<i>Warrant 8, Roadway Network</i>		
<b>Warrant 8</b>	<b>Not Applicable</b>	

The results of the analysis indicate that the traffic projected in the design year does not meet Warrant 1, Eight-Hour Vehicular Volume, as defined in 2003 MUTCD.

## 4. CONCLUSIONS AND RECOMMENDATIONS

This study was performed to assess the warrant for a traffic signal at the intersection of SR 92 and Cheatham Road.

Using the approved design traffic methodology, the 24-hour turning movement volumes for the design year were determined. This data was analyzed to determine if minimum warrants for signalization as defined in the 2003 MUTCD were met.

The analysis indicated that the projected traffic does not meet Warrant 1, Eight-Hour Vehicular Volume, as defined in 2003 MUTCD. Therefore, installation of a traffic signal at the intersection of SR 92 and Cheatham Road is not recommended for the design year 2032.

# **Attachment 13**

## **Need and Purpose**

## Description of the proposed project:

### **Existing Conditions**

Currently, SR 92 between US 41/SR 3/Cobb Parkway and CR 73/Old Burnt Hickory Road consists of two 12-foot lanes (one lane in each direction) with auxiliary left and right turn lanes and curb and gutter intermittently throughout the corridor. Areas without curb and gutter have rural shoulders that vary from 0 to 2 feet. The existing right-of-way is approximately 100 feet. The posted speed limit is 45 mph throughout the corridor. This portion of SR 92 is functionally classified as urban minor arterial street.

This location is not a designated bicycle route according to the State Bicycle and Pedestrian Plan, the Cobb County Comprehensive Transportation Plan, the Paulding County Comprehensive Transportation Plan, and the Atlanta Regional Bicycle and Pedestrian Plan.

### **Existing and Future Land Use**

Existing development along the SR 92 corridor mostly consists of single family residential. The corridor also contains some commercial and institutional development, including a high school. According to the Cobb County Comprehensive Plan, the future land use of the area around the intersection of SR 92 and Cobb Parkway is "neighborhood activity center". From just south of this intersection to the Cobb County line is designated "rural residential". According to the Paulding County Comprehensive Plan future land use is "medium residential" from the County line to Old Stilesboro Road and "commercial" from Old Stilesboro Road to the southern project terminus.

### **Community Issues**

The project area falls in two counties and two Census tracts, tract 301.01 in Cobb and tract 1201 in Paulding. Census 2000 data was used to compare the project area to the entire county and state in terms of total population, poverty status, and minorities. The combined population of the two census tracts is 20,257. The project area's percent of minority population is less than that of Paulding County and significantly less than Cobb County and the State. The percent of population in the project area living below the poverty line is less than that of Cobb and Paulding Counties and significantly less than the State.

	<b>Population</b>	<b>Percent Minority</b>	<b>Percent Below Poverty Level</b>
Census Tract 301.1(Cobb)	5,864	8.6	3.3
Census Tract 1201 (Paulding)	14,393	5.6	3.3
Cobb County	607,751	27.7	6.5
Paulding County	81,678	9.8	5.5
Georgia	8,186,453	34.9	13.0

### **Traffic Volume and Capacity**

Three traffic count stations are located on SR 92 within the project area. Station #0401 is located in Cobb County. Station #0194 is located in Paulding County, north of Cedarcrest Road and station #0185 is also in Paulding County, south of Cedarcrest Road. Each segment of SR 92 is

currently operating at level of service of “D” or “C” and is projected to decline to level “E” by 2032. Historic and future traffic volumes and level of service are summarized in Table 2 and Table 3, respectively. Future traffic volumes were projected by the Office of Planning by extrapolating historic growth rates, which range from approximately 2% to 5%. These growth rates are still within the values assumed in the Department’s approved Logical Termini Justification Report.

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2032
<b>TC 0401</b> Cobb	10,800	11,000	13,800	14,600	15,426	15,410	16,370	15,240	12,760	15,450	14,540	23,500
<b>TC 0194</b> Paulding	10,100	11,000	10,100	10,500	10,581	9,506	12,449	12,280	14,770	13,300	12,970	23,000
<b>TC 0185</b> Paulding	5,200	5,600	5,800	6,100	6,179	6,942	8,156	8,190	10380	9,000	9,640	22,000

	2008	2032
<b>TC 0401</b> (Cobb)	LOS “D” V/C = 0.52	LOS “E” V/C = 0.84
<b>TC 0194</b> (Paulding, North of Cedarcrest Road)	LOS “D” V/C = 0.46	LOS “E” V/C = 0.82
<b>TC 0185</b> (Paulding, South of Cedarcrest Road)	LOS “C” V/C = 0.35	LOS “E” V/C = 0.79

A detailed analysis of peak hour volumes determined that SR 92, through numerous intersections in the project area, currently operates at level of service “E” or “F”, which are unacceptable conditions. These intersections include SR 92 at SR 41/Cobb Parkway, Bridgemont Place, North Shores Road, Deer Springs, Silver Lace Lane, Autumn View, Pickets Ridge, Acworth Road/Old Stilesboro, and Cedarcrest Road. Without improvements to SR 92, all of the intersections within the project area are projected to operate at level of service “F” during peak hours in the year 2032.

## Safety

A detailed analysis of crash records on SR 92 revealed that the project area's crash rates, injury rates, and fatality rates are lower than the statewide average for urban minor arterials.

<b>Table 4. Safety Analysis</b>			
<b>SR 92 from MP 6.7 to MP 8.7 (Cobb County) and MP 16.4 to MP 18.6 (Paulding County)</b>			
	<b>2006</b>	<b>2007</b>	<b>2008</b>
Total Crashes	75	72	72
Crash Rate (per 100 MVM)	348	325	325
Statewide Average Crash Rate on Urban Minor Arterials	531	514	471
Injuries	37	29	33
Injury Rate (per 100 MVM)	172	131	149
Statewide Average Injury Rate on Urban Minor Arterials	201	190	176
Fatalities	0	1	0
Fatality Rate (per 100 MVM)	0	4.52	0
Statewide Fatality Rate on Urban Minor Arterials	1.51	1.47	1.46
Manner of Collision:			
Angle	26	20	16
Head On	1	2	3
Not Crash with Other Vehicle	10	15	11
Rear End	35	31	39
Sideswipe	3	4	3

## Logical Termini

The northern terminus of the proposed project is the four-way intersection of SR 92/Dallas Acworth Highway and US 41/SR 3/Cobb Parkway, a four-lane, divided urban minor arterial. To the east of this intersection, US 41/SR 3/Cobb Parkway becomes cosigned as US 41/SR 92. To the north of this intersection, Dallas Acworth Highway becomes Awtrey Church Road, a two-lane urban local street. The northern terminus of the proposed project is considered logical since it ties into an existing four-lane, divided facility.

The southern terminus of this proposed project is the T-intersection of SR 92 with CR 73/Old Burnt Hickory Road, which is classified as an urban minor arterial. The State Route designation for SR 92 continues southbound along Hiram Acworth Highway, also an urban minor arterial, instead of Dallas Acworth Highway. The southern terminus is considered logical since 2008 traffic volume declines approximately 26% on Hiram Acworth Highway south of Cedarcrest Road, compared to the section of this project north of Cedarcrest Road.