

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 0001038, Barrow County **OFFICE** Preconstruction
STP00-0001-00(038)
SR 124@ SR 211 Intersection Improvements

DATE July 25, 2008

FROM  Genetha Rice-Singleton, Assistant Director of Preconstruction

TO  SEE DISTRIBUTION

SUBJECT APPROVED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

Attachment

DISTRIBUTION:

Brian Summers
Glenn Bowman
Ken Thompson
Michael Henry
Keith Golden
Angela Alexander
Paul Liles
Russell McMurry
Robert Mahoney
Shane Dover
BOARD MEMBER

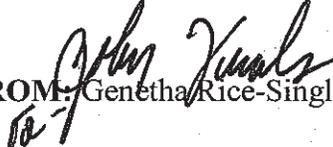
**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

FILE: P.I. No. 0001038, Barrow County
STP00-0001-00(038)
SR 124 @ SR 211 Intersection Improvements

OFFICE: Preconstruction

DATE: June 25, 2008


FROM: Genetha Rice-Singleton, Assistant Director of Preconstruction

TO: Gerald M. Ross, P.E., Chief Engineer

SUBJECT: PROJECT CONCEPT REPORT

This project is the SR 124 at SR 211 Intersection Improvements in Barrow County, Georgia. Currently, SR 124 and SR 211 consist of one, 12' lane in each direction with variable width rural shoulders. The need for this project is due to the volume of traffic that utilizes the intersection to access I-85 to the north and the city of Winder and SR 316 to the south. Projected traffic on SR 124 in the year 2011 and 2031 is estimated to be 8,273 and 12,293 VPD respectively and traffic on SR 211 is projected to be 24,207 and 35,970 respectively. As the area grows in population and traffic with numerous subdivisions being constructed in nearby areas this intersection will experience increasing congestion and potential for accidents. The accident information from 2004 to 2006 indicates a total of 12 accidents, 2 injuries and 0 fatalities within the project limits. The existing Level of Service (LOS) of the intersection is LOS "D". By the design year 2031, the level of service for the No-Build option will be LOS "F". With the proposed improvements, the design Level of Service will be LOS "C".

The proposed project will construct left turn, right turn and through lanes for the east and west bound traffic on SR 124 and north and south bound traffic on SR 211. SR 124 eastbound will consist of two left turn lanes, two through lanes, and one right turn lane at the eastbound approach to SR 211. SR 124 westbound will have one left turn lane, two through lanes, and one right turn lane. SR 211 southbound will consist of two left turn lanes, two through lanes and one right turn lane. SR 211 northbound will have one left turn lane, two through lanes and one right turn lane. Traffic will be maintained during construction.

Environmental concerns include requiring a Categorical Exclusion will be prepared; a Public hearing is not required; Time saving procedures is appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C)	\$ 2,764,000	\$ 2,350,924	L400	2009
Right-of-way	\$ 2,788,300	\$ 282,390	L240	2008
Utilities	--0--			

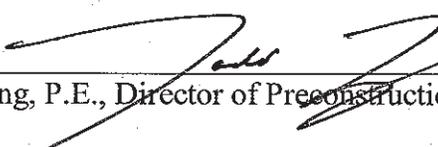
* Notification Letter sent to Barrow County 3-29-2005.

I recommend this project concept be approved.

GRS: JDQ

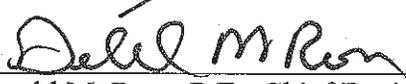
Attachment

CONCUR



Todd I. Long, P.E., Director of Preconstruction

APPROVED



Gerald M. Ross, P.E., Chief Engineer

Quarles, Johnny

From: Dover, Shane
Sent: Thursday, July 17, 2008 3:10 PM
To: Quarles, Johnny
Subject: Concept Report Info - STP00-0001-00(038), Barrow Co PI#0001038

Mr. Quarles,

As per our conversation, the concept of the SR 124 @ SR 211 intersection was prepared showing dual lefts due to the intersection failing under design traffic. The existing volume of traffic presently congests the intersection. The existing Level of Service (LOS) of the intersection is LOS "D". By the project design year without the dual lefts or a no-build alternative the intersection will be at a Level of Service (LOS) "F". If the proposed improvements are made the Level of Service (LOS) will be "C" at the time of design year.

There is also two future projects (CSSTP-007-00(830) – PI#0007830 & CSSTP-0007-009833) – PI#0007833) both long range along the SR 211 and SR 124 corridor. The ARC has a project listed as BA-013 for SR 211 corridor in Barrow County.

If you have any other questions, please call.

Shane Dover
District Location Engineer
District One
Department of Transportation
770-532-5580
E-mail - sdover@dot.ga.gov

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DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

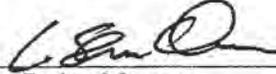
Project Number: STP-0001-00(038)
County: Barrow
P.I. Number: 0001038

Federal Route Number: N/A
State Route Number: 124 & 211

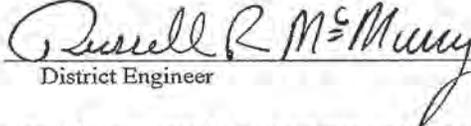
Intersection improvement for SR 124 and SR 211

Recommendation for approval:

DATE 5/12/08


Project Manager

DATE 5/13/08


District Engineer

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

DATE _____

State Transportation Planning Administrator

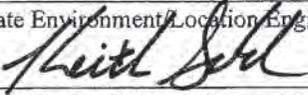
DATE _____

State Transportation Financial Management Administrator

DATE _____

State Environmental Location Engineer

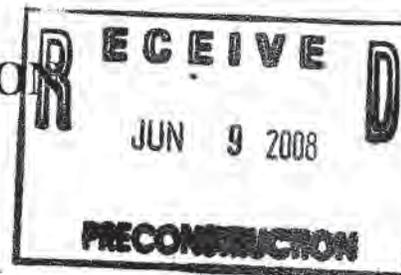
DATE 5-29-08


State Traffic Safety & Design Engineer

DATE _____

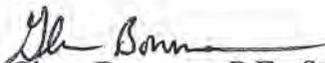
Project Review Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA



INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. Nos. 0001038 **OFFICE:** Environment/Location
PROJECT No. STP00-0001-00(038) / **DATE:** 6/5/08
BARROW County
Intersection Improvement for SR 124 and SR 211

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

TO: Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT: PROJECT CONCEPT REPORT

The Concept Report for the above project has been reviewed and appears satisfactory subject to the following comments:

1. Per the Concept Report, we are removing the Park and Ride lot and we have impacts to a church. What is the schedule for the PIOH? In order to meet the schedule, it needs to be held very soon. If it has already been held, the Concept Report should reflect.
2. A lot of Environmental work seems to be outstanding in order to meet March 2009 ROW. To do so, the CE needs to be approved no later than October 2008.
3. The 1/25/2008 Memo from Heath and Lineback mentions possible streams in the area. However, the Concept Report says no Section 404 permit needed. Has this been confirmed?
4. What is the status of the History Studies? This project could have Section 4(f) which would severely impact the project schedule.

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

GB/lc

Attachment

cc: Brian Summers
Keith Golden
Jamie Simpson
Angela Alexander
Russell M^cMurry

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Project Number: STP-0001-00(038)

County: Barrow

P.I. Number: 0001038

Federal Route Number: N/A

State Route Number: 124 & 211

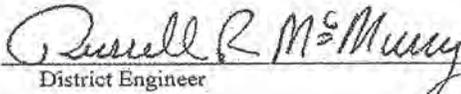
Intersection improvement for SR 124 and SR 211

Recommendation for approval:

DATE 5/13/08


Project Manager

DATE 5/13/08


District Engineer

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

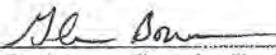
DATE _____

State Transportation Planning Administrator

DATE _____

State Transportation Financial Management Administrator

DATE 6/6/08


State Environment/Location Engineer

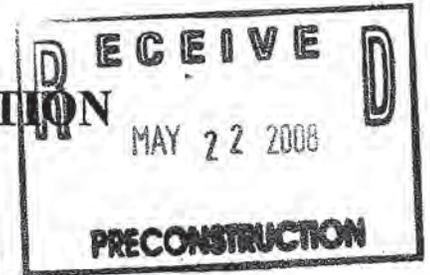
DATE _____

State Traffic Safety & Design Engineer

DATE _____

Project Review Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**



INTERDEPARTMENT CORRESPONDENCE

FILE STP00-0001-00(038), Barrow County **OFFICE** Gainesville
PI 0001038
SR 124 @ SR 211 Intersection Improvement
FROM Russell McMurry, P.E., District Engineer *(Signature)* **DATE** May 13, 2008
TO Genetha Rice-Singleton, Assistant Director of Preconstruction
SUBJECT Project Concept Report

Attached is the original copy of the Concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

- Cc Project Review Engineer
- State Environmental/Location Engineer
- State Traffic Safety and Design Engineer
- State Transportation Planning Engineer
- State Transportation Financial Management Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

PROJECT CONCEPT REPORT

Project Number: STP-0001-00(038)

County: Barrow

P.I. Number: 0001038

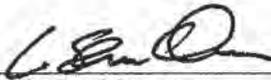
Federal Route Number: N/A

State Route Number: 124 & 211

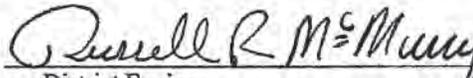
Intersection improvement for SR 124 and SR 211

Recommendation for approval:

DATE 5/13/08


Project Manager

DATE 5/13/08


District Engineer

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

DATE 5/20/08


State Transportation Planning Administrator

DATE _____

State Transportation Financial Management Administrator

DATE _____

State Environment/Location Engineer

DATE _____

State Traffic Safety & Design Engineer

DATE _____

Project Review Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

PROJECT CONCEPT REPORT

Project Number: STP-0001-00(038)

County: Barrow

P.I. Number: 0001038

**Federal Route Number: N/A
State Route Number: 124 & 211**

Intersection improvement for SR 124 and SR 211

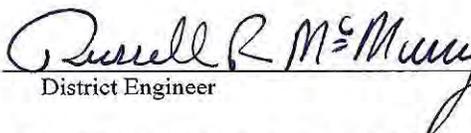
Recommendation for approval:

DATE 5/12/08



Project Manager

DATE 5/13/08



District Engineer

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

DATE _____

State Transportation Planning Administrator

DATE _____

State Transportation Financial Management Administrator

DATE _____

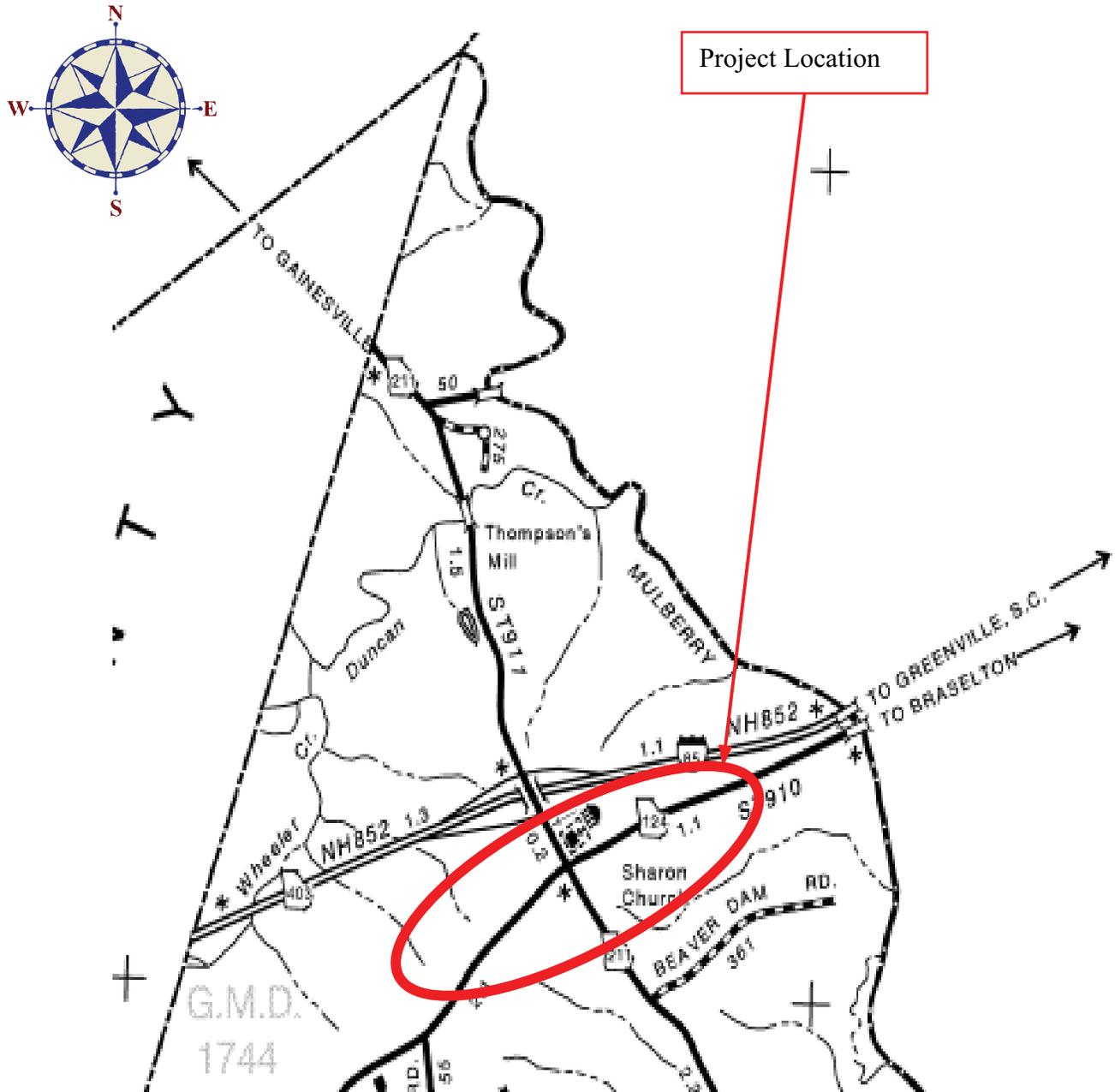
State Environment/Location Engineer

DATE _____

State Traffic Safety & Design Engineer

DATE _____

Project Review Engineer



Location Map

STP-0001-00(038), P.I. 0001038
Barrow County, Ga.
Intersection improvement for SR 124 and SR 211

Need and Purpose:

The need for improvements at the intersection of SR 124 and SR 211 is due to the volume of traffic that utilizes the intersection to access I-85 to the north and the City of Winder and SR 316 to the south. The purpose is to reduce congestion by providing an additional through lane and turning lanes at this intersection to efficiently serve intersection movements and increase intersection capacity and safety.

The existing Level of Service (LOS) rating of the intersection is LOS D. By the projects Design Year, 2031, the Level of Service for the No-Build option will be LOS F. If the proposed design improvements are made, the projects Design Year Level of Service will be LOS C.

The three year accident data, 2004 through 2006, indicated 12 total accidents at this intersection. These accidents were composed of rear end collisions, angle collisions, and sideswipe collisions. Rear end collisions were the most common, sideswipe collisions were the second most common. The majority of these accidents were in the most recent year, a trend showing that the safety of the intersection, as currently designed, is on the decline.

Proposed Project Description:

This project involves constructing left turn, right turn, and through lanes for east and west bound traffic on SR 124 and north and south bound traffic on SR 211.

The termini of SR 124 are approximately 2100 feet east and west of the intersection of SR 211. The termini of SR 211 are approximately 2000 feet north and 2000 feet south of the intersection of SR 124.

The proposed typical section for SR 124 is an urban section with a 30 ft raised median. SR 124 E.B. will have two left turn lanes, two through lanes, and one right turn lane at the east bound approach to the intersection of SR 211. SR 124 W.B. will have one left turn lane, two through lanes, and one right turn lane at the west bound approach to the intersection of SR 211.

The proposed typical section for SR 211 is an urban section with a 30 ft raised median. SR 211 S.B. will have two left turn lanes, two through lanes, and one right turn lane at the south bound approach to the intersection of SR 124 (Braselton Hwy). SR 211 N.B. will have one left turn lane, two through lanes, and one right turn lane at the north bound approach to the intersection of SR 124 (Braselton Hwy.) The existing painted gore area on the bridge over I-85 will be restriped as a left turn lane for SR 211 N.B. traffic that will be turning onto the I-85 S.B. entrance ramp to help relieve congestion on SR 211 that impacts the operation of the intersection of SR 211 and SR 124.

Is this Project in the Non-Attainment Area? Yes X No

PDP Classification: Major Minor X

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

Functional Classification: SR 124 – Rural Major Collector
SR 211 – Rural Major Collector

US Route Number(s) N/A State Route Number(s) 124 and 211

Traffic (AADT):

SR 124	Build Year: (2011)	<u>8,273</u>	Design Year: (2031)	<u>12,293</u>
SR 211	Build Year: (2011)	<u>24,207</u>	Design Year: (2031)	<u>35,970</u>

Existing Design Features:

SR 124

- Typical Section: (1) 12'-0" Wide Travel Lane in each Direction
Variable width Rural Shoulders
- Posted Speed Limit: 55 mph Minimum radius for curve: 1500
- Maximum Super-elevation rate for curve: 5.29 %
- Maximum Grade: 6.00%
- Width of Right of Way: Varies from 80 to 100 Ft. corridor

SR 211

- Typical Section: (1) 12'-0" Wide Travel Lane in each Direction
Variable width Rural Shoulders
- Posted Speed Limit: 55 mph Minimum radius for curve: 5400 ft.
- Maximum Super-elevation rate for curve: 2.45%
- Maximum Grade: 6.00%
- Width of Right of Way: Varies from 212 to 247 Ft. corridor
- Major Structures: I – 85 overpass bridge.
- Major Interchanges and Intersections: I – 85 interchange.

Proposed Design Features:

SR 124

- Proposed typical section(s): (2) 11'-0" Wide Travel Lanes in each Direction
10'-0" Outside Urban Shoulders w/ Curb, Gutter & Sidewalk
30'-0" Raised (Grassed) Median
11'-0" Left and Right Turn Lanes
- Proposed Design Speed Mainline 45 mph
- Proposed Maximum Grade Mainline 6.00 % Maximum Grade Allowable 7.0 %

- Proposed Minimum Radius for Curve 1500 Minimum radius allowable 711 ft.
- Proposed Maximum super-elevation rate for curve: 4.00%
- Proposed Maximum degree of curve 3.81°. Maximum degree allowable 8.06°
- Right of Way
 - Width: Corridor varies 130 ft. to 160 ft.
 - Easements: Temporary (X), Permanent (), Utility (), Other ().
 - Type of access control: Full (), Partial (), By Permit (X), Other ().
 - Number of parcels: 9 Number of displacements: 0

SR 211

- Proposed typical section(s): (2) 11'-0" Wide Travel Lanes in each Direction
 10'-0" Outside Urban Shoulders w/ Curb, Gutter & Sidewalk
 30'-0" Raised (Grassed) Median
 11'-0" Left and Right Turn Lanes
- Proposed Design Speed Mainline 45 mph
- Proposed Maximum Grade Mainline 6.00 % Maximum Grade Allowable 7.0 %
- Proposed Minimum Radius for Curve 5400 ft. Minimum radius allowable 711 ft.
- Proposed Maximum super-elevation rate for curve: 4.0%
- Proposed Maximum degree of curve 1.06° Maximum degree allowable 8.06°
- Right of Way
 - Width: Corridor varies 150 ft to 247 ft.
 - Easements: Temporary (X), Permanent (), Utility (), Other ().
 - Type of access control: Full (), Partial (), By Permit (X), Other ().
 - Number of parcels: 9 Number of displacements: 0
- 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)
HORIZONTAL CLEARANCE:	()	()	(X)
SPEED DESIGN:	()	()	(X)
VERTICAL CLEARANCE:	()	()	(X)
BRIDGE WIDTH:	()	()	(X)
BRIDGE STRUCTURAL CAPACITY	()	()	(X)

- Design Variances: Horizontal taper rate (64% of required taper achieved)
 Taper variance will be requested to keep widening out of limits of existing bridge
Width of Travel Lanes
 11 ft travel lanes will be requested to reduce project cost and minimize project impacts

- Environmental Concerns: Cemetery, church, UST's
- Level of Environmental Analysis:
 - Are Time Savings Procedures appropriate? Yes (X), No (),
 - Categorical exclusion (X),
- Utility Involvement:
 - Jackson EMC - Power
 - Gwinnett County - Water
 - City of Braselton - Water
 - Barrow County - Water
 - Windstream

VE Study Required Yes() No(X)

Project Responsibilities:

- Design: Heath-Lineback Engineers, Inc. / District 1
- Right of Way Acquisition: State of Georgia DOT / District 1
- Relocation of Utilities: Utility companies
- Letting Contract: State of Georgia DOT
- Supervision of Construction State of Georgia DOT / District 1
- Providing Materials pits: Contractor
- Providing Detours: No detours anticipated, Stage construction proposed

Coordination:

- Initial Concept Team Meeting: 01/11/2008
- Concept Team Meeting date: 01/25/2008
- PAR meetings, dates and results: None Anticipated
- FEMA, USCG, and / or TVA: None
- Public Involvement: PIOH
- Local Government comments: None
- Other Projects:
 - GDOT #0007830 – SR 211 from Gwinnett County line to SR 11/Athens Street
 - GDOT #0007833 - SR 124 from Gwinnett County line to Jackson County Line
 - GDOT #110620 – I-85 From SR 211 in Barrow County to SR 53 in Jackson County
- Railroads: None

Scheduling – Responsible Parties' Estimate:

- Time to complete the environmental process: 6 months
- Time to complete preliminary construction plans: 1 month
- Time to complete right of way plans: 1/4 month

- Time to complete the Section 404 Permits: None anticipated
- Time to complete final construction plans: 5 months
- Time to purchase right of way: 6 months
- List other major items that will effect the project schedule: Possible Utility Relocation

Other alternates considered:

Re-striping Bridge (Alternate "A")

This alternate involves constructing left turn, right turn, and through lanes at each approach of the SR 124 and SR 211 intersection.

The proposed typical section for SR 124 is an urban section with a 32 ft raised median and 12'-0" wide lanes. SR 124 E.B. will have two left turn lanes, two through lanes, and one right turn lane at the east bound approach to the intersection of SR 211. SR 124 W.B. will have one left turn lane, two through lanes, and one right turn lane at the west bound approach to the intersection of SR 211.

The proposed typical section for SR 211 is an urban section with a 32 ft raised median and 12'-0" wide lanes. SR 211 N.B. will have one left turn lane, two through lanes, and one right turn lane at the north bound approach to the intersection of SR 124 (Braselton Hwy.). SR 211 S.B. will have two left turn lanes, two through lanes, and one right turn lane at the south bound approach to the intersection of SR 124 (Braselton Hwy).

This alternate consists of running out the full taper length required on SR 211 N.B. This will place part of the taper on the existing bridge over I-85, with the taper extending on to the existing bridge shoulder. Re-striping of the bridge and a shoulder width variance will be required. This alternate was not chosen because extending the taper onto the bridge would reduce the shoulder widths on the bridge reducing driver safety and putting the cars within a few feet of the bridge barrier. This alternate also does not minimize impact to adjoining properties.

Re-striping Bridge (Alternate "B")

This alternate involves constructing left turn, right turn, and through lanes at each approach of the SR 124 and SR 211 intersection.

The proposed typical section for SR 124 is an urban section with a 32 ft raised median and 12'-0" wide lanes. SR 124 E.B. will have two left turn lanes, two through lanes, and one right turn lane at the east bound approach to the intersection of SR 211. SR 124 W.B. will have one left turn lane, two through lanes, and one right turn lane at the west bound approach to the intersection of SR 211.

The proposed typical section for SR 211 is an urban section with a 32 ft raised median and 12'-0" wide lanes. SR 211 N.B. will have one left turn lane, two through lanes, and one right turn lane at the north bound approach to the intersection of SR 124 (Braselton Hwy.). SR 211 S.B. will have

two left turn lanes, two through lanes, and one right turn lane at the south bound approach to the intersection of SR 124 (Braselton Hwy).

This alternate consist of a modified taper length on the northern leg of SR 211 between the intersection and the bridge. The taper for the median opening would begin after the south end of the bridge and end at the just past the I-85 interchange ramps. The taper length would be approximately 59 % of the required taper length and a variance for the taper length would be required. This alternate was not chosen because it does not minimize impacts to adjoining properties.

Four lanes across bridge (Alternate "C")

This alternate involves constructing left turn, right turn, and through lanes at each approach of the SR 124 and SR 211 intersection.

The proposed typical section for SR 124 is an urban section with a 32 ft raised median and 12'-0" wide lanes. SR 124 E.B. will have two left turn lanes, two through lanes, and one right turn lane at the east bound approach to the intersection of SR 211. SR 124 W.B. will have one left turn lane, two through lanes, and one right turn lane at the west bound approach to the intersection of SR 211.

The proposed typical section for SR 211 is an urban section with a 32 ft raised median and 12'-0" wide lanes. SR 211 N.B. will have one left turn lane, two through lanes, and one right turn lane at the north bound approach to the intersection of SR 124 (Braselton Hwy.). SR 211 S.B. will have two left turn lanes, two through lanes, and one right turn lane at the south bound approach to the intersection of SR 124 (Braselton Hwy).

This alternate consists of retaining four lanes on SR 211 north of the intersection with SR 124 until the northern end of the bridge crossing I-85. This alternate would require approximately 40 ft. of widening of the bridge crossing over I-85 and extend the projects limits north. The estimated construction cost for this alternate is \$4,635,012.31, the total estimated cost including right of way is \$7,423,312.31. This alternate was not chosen because of the high cost, and the bridge widening is already planned for a future four-lane project in the area. This alternate also does not minimize impact to adjoining properties.

Reduced Travel Lane Widths (Alternate "D")

This alternate involves constructing left turn, right turn, and through lanes at each approach of the SR 124 and SR 211 intersection.

The proposed typical section for SR 124 is an urban section with a 30 ft raised median and 11'-0" wide lanes. SR 124 E.B. will have two left turn lanes, two through lanes, and one right turn lane at the east bound approach to the intersection of SR 211. SR 124 W.B. will have one left turn lane, two through lanes, and one right turn lane at the west bound approach to the intersection of SR 211.

The proposed typical section for SR 211 is an urban section with a 30 ft raised median and 11'-0" wide lanes. SR 211 N.B. will have one left turn lane, two through lanes, and one right turn lane at the north bound approach to the intersection of SR 124 (Braselton Hwy.). SR 211 S.B. will have

two left turn lanes, two through lanes, and one right turn lane at the south bound approach to the intersection of SR 124 (Braselton Hwy).

This alternate consist of a modified taper length on the northern leg of SR 211 between the intersection and the bridge. The taper for the median opening would begin after the south end of the bridge and end at the just past the I-85 interchange ramps. The taper length would be approximately 64 % of the required taper length and a variance for the taper length would be required. This alternate was not chosen because it does not relive congestion on SR 211 N.B. from left turn movements onto the I-85 S.B. entrance ramp. This congestion impacts the operation of the intersection of SR 211 and SR 124.

Attachments:

1. Cost Estimates:
 - a. Construction including E&C,
 - b. Right-of-Way
2. Sketch location map
3. Typical sections
4. Accident summaries
5. Capacity analysis
6. Minutes of Initial Concept and Concept meetings
7. Minutes of any meetings that show support or objection to the concept
8. Location and Design Notice (On Minor Projects)
9. Conforming plan's network schematics showing thru lanes, (Note: This attachment is required for non-attainment areas only.).

Estimate Report for file "2006052 D2008214011"

Section Roadway					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	80000.00	TRAFFIC CONTROL -	80000.00
210-0100	1	LS	200000.00	GRADING COMPLETE -	200000.00
310-5100	16806	SY	16.47	GR AGGR BASE CRS, 10 INCH, INCL MATL	276794.82
402-1812	1306	TN	69.37	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	90597.22
402-3121	3697	TN	63.93	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	236349.21
402-3130	1134	TN	65.32	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	74072.88
402-3190	1849	TN	63.63	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	117651.87
413-1000	1419	GL	1.94	BITUM TACK COAT	2752.86
441-0104	6291	SY	34.31	CONC SIDEWALK, 4 IN	215844.21
441-0740	1112	SY	31.91	CONCRETE MEDIAN, 4 IN	35483.92
441-6022	12230	LF	19.98	CONC CURB & GUTTER, 6 IN X 30 IN, TP 2	244355.40
441-6720	8738	LF	15.55	CONC CURB & GUTTER, 6 IN X 30 IN, TP 7	135875.90
Section Sub Total:					\$1,709,778.29

Section Drainage					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
550-1240	6115	LF	51.40	STORM DRAIN PIPE, 24 IN, H 1-10	314311.00
550-3324	4	EA	959.27	SAFETY END SECTION 24 IN, STORM DRAIN, 4:1 SLOPE	3837.08
668-1100	31	EA	2833.12	CATCH BASIN, GP 1	87826.72
668-4300	2	EA	2586.45	STORM SEWER MANHOLE, TP 1	5172.90
Section Sub Total:					\$411,147.70

Section Erosion					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	2	AC	730.08	TEMPORARY GRASSING	1460.16
163-0240	55	TN	174.44	MULCH	9594.20
163-0300	4	EA	1721.91	CONSTRUCTION EXIT	6887.64
163-0550	30	EA	286.25	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	8587.50
165-0030	6750	LF	1.58	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	10665.00
165-0101	4	EA	563.73	MAINTENANCE OF CONSTRUCTION EXIT	2254.92
165-0105	15	EA	94.08	MAINTENANCE OF INLET SEDIMENT TRAP	1411.20
171-0030	13500	LF	3.96	TEMPORARY SILT FENCE, TYPE C	53460.00
603-1012	40	SY	84.00	STN PLAIN RIP RAP, 12 IN	3360.00
700-6910	4	AC	1084.13	PERMANENT GRASSING	4336.52
700-7000	11	TN	60.72	AGRICULTURAL LIME	667.92
700-7010	10	GL	21.59	LIQUID LIME	215.90
700-8000	3	TN	296.44	FERTILIZER MIXED GRADE	889.32
700-8100	190	LB	2.49	FERTILIZER NITROGEN CONTENT	473.10
Section Sub Total:					\$104,263.38

Section Striping					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1033	63	SF	19.70	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	1241.10
652-5451	19015	LF	0.19	SOLID TRAFFIC STRIPE, 5 IN, WHITE	3612.85
652-5452	15200	LF	0.19	SOLID TRAFFIC STRIPE, 5 IN, YELLOW	2888.00
652-5701	176	LF	2.61	SOLID TRAF STRIPE, 24 IN, WHITE	459.36
652-6501	9130	GLF	0.22	SKIP TRAFFIC STRIPE, 5 IN, WHITE	2008.60
653-6004	230	SY	2.93	THERMOPLASTIC TRAF STRIPING, WHITE	673.90
653-6006	2443	SY	2.96	THERMOPLASTIC TRAF STRIPING, YELLOW	7231.28
656-3600	1476	SY	5.25	REMOVE EXIST TRAF STRIPE, ALL KINDS & TYPES	7749.00
Section Sub Total:					\$25,864.09

Section Walls					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3201	157	CY	547.82	CLASS B CONCRETE, RETAINING WALL	86007.74
Section Sub Total:					\$86,007.74

Section Signal					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
647-1000	1	LS	100000.00	TRAFFIC SIGNAL INSTALLATION NO -	100000.00
Section Sub Total:					\$100,000.00

Subtotal Construction Cost	\$2,437,061.20
E&C Rate 10.0 %	\$243,706.12
Inflation Rate 0.0 % @ 2.0 Years	\$0.00
Total Construction Cost	\$2,680,767.32
Right Of Way	\$2,788,300.00
ReImb. Utilities	\$0.00
Grand Total Project Cost	\$5,469,067.32

Total Estimated Cost: \$2,437,061.20

ENGINEERING @ 5% - 121,853
 CONTINGENCY @ 8% - 204,713

TOTAL CONST. COST = \$ 2,763,627
 RIGHT-OF-WAY - 2,788,300
 REIMB UTILITIES - 0

TOTAL PROJECT COST = \$ 5,551,927

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

FILE: R/W Cost Estimate

OFFICE: Gainesville R/W

DATE: 3-7-08

FROM:  Brad Whitecotton, District Right of Way Team Manager

TO: Shane Dover

SUBJECT: RIGHT OF WAY COST ESTIMATE

PROJECT: STP-0001-00 (038)

COUNTY: Barrow

P.I. NUMBER: _____

Attached is the project Right of Way Cost Estimate on the above referenced project. It is estimated that the cost of right of way plus all related expenses will be **\$ 2,788,300.00.**

If we can offer further assistance, please contact me @ 770-532-5546 or Kevin D York @ 770-718-5050.

DETAIL COST ESTIMATE SUMMARY SHEET

DATE: 2-18-07

P.I. #:

PROJECT: STP-0001-001(038)

COUNTY: Barrow

PARCELS: 20

PROJECT DESCRIPTION: Concept layout Alternate D SR 124 at SR 211

1. LAND: (Total area and cost by category)

Right of Way:	162,138 SF*	\$ 1,099,993.00*	
Permanent and Temporary Easement:	95,081 SF*	\$ 325,690.00*	
Total	* Please See the Parcels to be acquired sheet for the breakdown of per SF price		\$ 1,425,683.00

2. IMPROVEMENTS:

Main Structures	-0-	\$ 0	
Site Improvements		\$ 58,000.00	
Total			\$ 58,000.00

3. Damages:

Damages to Land and Structures		\$ 30,000.00	
Specialty Costs (Cost to Cures, Trade Fixtures, etc.)		\$ 30,000.00	
Total			\$ 60,000.00

4. RELOCATION: (Including Consequential Displacements)

Businesses (# Displaced x \$15,000):		\$	
Residential Tenant: (# Displaced x \$20,000):		\$	
Residential Owner (# Displaced x \$40,000):		\$ -0-	
Total			\$ -0-

5. Property Management (Asbestos Removal and Demolition)

Number of Structures <u>-0-</u> x \$25,000/structure		\$	
Number of sites with UST's <u>0</u> x \$50,000		\$	
Number of signs (not billboards) <u>3</u> x \$1,500		\$ 4,500.00	
Total			\$ 4,500.00

Estimated Cost of Right of Way **\$ 1,548,183**

C/O, Condemnation Increase & Legal Cost (50% of R/W)	\$ 774,092.00
Service Fees and Appraisal Cost(# Par x \$7,500)	\$ 150,000.00
Condemnation Cost (# Par x 15% x \$7,500)	\$ 22,500.00
Incidentals (# Par x \$2,000)	\$ 40,000.00

Net Cost **\$ 2,534,775.00**

Market Appreciation (5% rural, 10% urban) **\$ 253,478.00**

TOTAL COST **\$ 2,788,253.00**

TOTAL COST (ROUNDED) **\$ 2,788,300.00**

<u>Credits:</u>	<u># Hours</u>
Kevin York	30

Cc:
Attachment(s): Project Location Map; Comparable Sales Data

REVISED: 12-8-06

COST ESTIMATE FOR PARCELS TO BE ACQUIRED

PROJECT NO STP-0001-00(038) COUNTY Barrow

UNIT OR PARCEL	NATURE OF R/W	Amount of R/W (SF) or Easements (SF)	Sale #. or Listing #	Price Per Acre or Square Foot	REQ'D R/W	EASEMENT	IMPROVEMENTS	DAMAGES	FENCE	TOTAL	REMARKS INDICATE POSSIBLE NFS
1	R/W and Easement	R/W = 8,032 E. = 9,121	Sale 1 and Listing 3	300,000/acre 6.89/SF	\$55,341	\$31,422	\$20,000	\$60,000	0	\$166,763.00	
2	R/W and Easement	R/W = 450 E. = 2,561	Sale 1 and Listing 3	300,000/acre 6.89/SF	\$3,100	\$8,823	\$20,000	0	0	\$31,923.00	
3	Easement	852	Sale 1 and Listing 3	300,000/acre 6.89/SF	0	\$2,935	\$10,000	0	0	\$12,935.00	
4	Easement	1,462	Sale 1 and Listing 3	300,000/acre 6.89/SF	0	\$5,037	\$5,000	0	0	\$10,037.00	
5	Easement	504	Sale 1 and Listing 3	300,000/acre 6.89/SF	0	\$1,737	\$3,000	0	0	\$4,737.00	
6	Easements	18,453	Sale 1 and Listing 3	300,000/acre 6.89/SF	0	\$63,571	0	0	0	\$63,571.00	
7	Easements	13,977	Sale 1 and Listing 3	300,000/acre 6.89/SF	0	\$48,151	0	0	0	\$48,151.00	
8	R/W and Easement	R/W = 31,329 E. = 13,203	Listing 2	294,193/acre or 6.75 SF	\$211,471	\$44,560	0	0	0	\$256,031.00	
9	R/W and Easement	R/W = 8,642 E. = 3,209	Listing 2	294,193/acre or 6.75 SF	\$58,334	\$10,830	0	0	0	\$69,164.00	
10	R/W and Easement	R/W = 13,421 E. = 4,962	Listing 2	294,193/acre or 6.75 SF	\$90,592	\$16,745	0	0	0	\$107,337.00	

COST ESTIMATE FOR PARCELS TO BE ACQUIRED

UNIT OR PARCEL	NATURE OF R/W	Amount of R/W (SF) or Easements (SF)	Sale #. or Listing #	Price Per Acre or Square Foot	REQ'D R/W	EASEMENT	IMPROVEMENTS	DAMAGE	FENCE	TOTAL	REMARKS (INDICATE POSSIBLE NFS)
11	R/W and Easement	R/W = 13,857 E = 4,966	Listing 2	294,193/acre or 6.75 SF	\$95,535	\$16,760	0	0	0	\$112,295.00	
12	R/W and Easement	R/W = 3,763 E = 4,776	Sale 1 and Listing 3	300,000/acre 6.89/SF	\$25,927	\$16,453	0	0	0	\$42,380.00	
13	R/W and Easement	R/W = 1,602 E = 2,109	Sale 1 and Listing 3	300,000/acre 6.89/SF	\$11,038	\$7,245	0	0	0	\$18,283.00	
14	Easement	E = 8,563	Sale 1 and Listing 3	300,000/acre 6.89/SF		\$29,500	0	0	0	\$29,500.00	
15	R/W	R/W = 18,274	Listing 1	295,000/acre or 6.77/SF	\$123,715	0	0	0	\$1,000	\$124,715.00	
16	R/W	R/W = 46,446	Listing 1	295,000/acre or 6.77/SF	\$314,440	0	0	0	\$2,000	\$316,440.00	
17	R/W	R/W = 16,322	Listing 1	295,000/acre or 6.77/SF	\$110,500	0	0	0	0	\$110,500.00	
18	Easement	E = 1,470	Sale 1 and Listing 3	300,000/acre 6.89/SF	0	\$5,064	0	0	\$500	\$5,564.00	
19	Easement	E = 2,013	Sale 1 and Listing 3	300,000/acre 6.89/SF	0	\$6,935	0	0	\$500	\$7,435.00	
20	Easement	E = 2,880	Sale 1 and Listing 3	300,000/acre 6.89/SF	0	\$9,922	0	0	0	\$9,922.00	

PROJECT NO. STP-0001-00 (038)

COMPARABLE SALES DATA
COUNTY Barrow

Rev 4-11-05

SALE NO.	DATE	GANTOR	GRANTEE	RECORDED BOOK PAGE	LOCATION	SALES PRICE	SIZE	PER UNIT VALUE	HIGHEST & BEST USE	REMARKS
1	2-15-07	Guyen Behice	ONE Best, LLC	1278 249	BR023 025	2,289,000	8.48	269,930	Commercial	On Project
2	7-27-06	L Auberge International	Paradise Group Braselton, INC	1208 608	BR023 001B	5,850,000	2.33	200,000	Commercial	Land Value est. as 466,000.00
3	12-22-05	Lawson William	Century Center @ Braselton, LLC	1140 504	BR023 020	690,500	4.6	150,111	Commercial	
4	12-22-05	James A Craft	Century Center @ Braselton, LLC	1140 518	BR023 021	699,800	4.79	146,096	Commercial	
5	12-22-05	Connie P Walley	Century Center @ Braselton, LLC	1140 511	BR023 023	585,600	3.89	150,540	Commercial	
6	11-29-06	David E White	Century Center @ Braselton, LLC	1122 175	BR025 003	1,242,750	8.83	140,742	Commercial	
7	6-15-05	Madison Ventures, LTD	Braselton Ventures, LLC	1070 705	BR024 004	2,378,616	20.11	118,280	Commercial	
8	4-4-05	Charles E Thomas	Century Center @ Braselton, LLC	1041 556	BR023 022	686,400	2.8	245,142	Commercial	
9	1-21-04	Matthew L Strickland	Dewey White	900 593	BR023 024	2,150,000	11.09	193,890	Commercial	ON Project

Sales Verification and Source:

The historical population growth rate for Barrow County from 2000-2006 was 5.52%. A growth rate of 5% per year for 4 years was applied to the existing 2007 peak hour traffic volumes to account for background growth in traffic to determine Base Year 2011 traffic volumes. Additionally, a growth rate of 1.5% per year for 20 years was applied to the Base Year 2011 peak hour traffic volumes to account for background growth in traffic to determine No-Build Design Year 2031 traffic volumes. And finally a growth rate of 2% per year for 20 years was applied to the Base Year 2011 peak hour traffic volumes to account for background growth in traffic to determine Build Design Year 2031 traffic volumes. **Table 2** summarizes the existing peak hour truck percentages at the intersection of SR 211 at SR 124 (Braselton Hwy).

Table 2			
Truck Percentages for SR 211 @ SR 124			
<i>SR 211 (West of Intersection with SR 124)</i>			
	<i>AM Peak Hour</i>	<i>PM Peak Hour</i>	<i>24hr Total</i>
Truck Percentage	13%	10%	13 %
<i>SR 124 (South of Intersection with SR 211)</i>			
	<i>AM Peak Hour</i>	<i>PM Peak Hour</i>	<i>24hr Total</i>
Truck Percentage	8%	12%	13%

Copies of the traffic counts are included in the Appendix.

3.0 ACCIDENT DATA

Accident data for the intersection of SR 211 @ SR 124 (Braselton Hwy) was obtained from the Georgia Department of Transportation for the years 2004, 2005, and 2006. **Table 3** summarizes the number of accidents, injuries, and fatalities for this intersection in each year, respectively.

- **Intersection of SR 211 @ SR 124 (Braselton Hwy):** The three-year accident data for this intersection indicates 12 total accidents with 2 total injuries and 0 fatalities. Further analysis of the accident data reveals that the majority of these accidents were rear end collisions. The second most frequent type of accident was angle collisions. During the three year period, accident data indicates that 2 injuries occurred in 2006 at this intersection and 0 fatalities.

Table 3: Accident History (2004-2006)				
Year	Number of Accidents	Number of Injuries	Number of Fatalities	Type of Accident
Intersection of SR 211 @ SR 124 (Braselton Hwy)				
2004	0	0	0	---
2005	1	0	0	1 Rear End Collision
2006	11	2	0	8 Rear End Collisions, 2 Angle Collisions, and 1 Sideswipe Collision

4.0 EXISTING YEAR 2007 TRAFFIC ANALYSIS

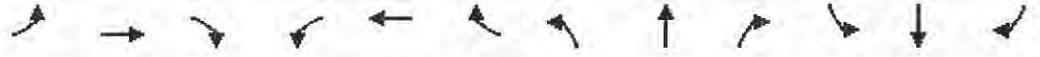
Existing Year 2007 traffic conditions were analyzed for the study intersection of SR 211 @ SR 124 (Braselton Hwy). The existing condition of the signalized intersection of SR 211 and SR 124 is as follows:

- SR 211 westbound has an exclusive left-turn lane and a shared through/right-turn lane.
- SR 211 eastbound has an exclusive left-turn lane, an exclusive through lane, and an exclusive right-turn lane.
- SR 124 (Braselton Hwy) northbound has a shared left-turn/through/right-turn lane.
- SR 124 (Braselton Hwy) southbound has an exclusive right-turn lane and shared left-turn/through lane.

Level of service determinations were made for the study intersection during the weekday AM and PM peak hours. Intersection laneage was based on Existing Year 2007 traffic conditions. Intersection analyses were performed using *Synchro Professional, Version 6.0* (signalization optimization and analysis program).

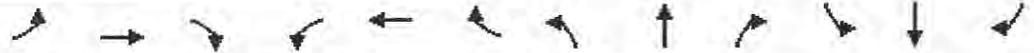
Level of service (LOS) is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists perceptions with a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A being the best and F the worst. Copies of the intersection capacity analyses are included in the Appendix.

Capacity Analyses – Existing Year 2007



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑			↕			↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	1.00
Frnt	1.00	1.00	0.85	1.00	0.99			0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			0.99	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1853			1788			1847	1583
Flt Permitted	0.20	1.00	1.00	0.57	1.00			0.64			0.93	1.00
Satd. Flow (perm)	377	1863	1583	1066	1853			1183			1735	1583
Volume (vph)	117	290	122	12	618	23	148	53	10	20	97	83
Peak-hour factor, PHF	0.94	0.94	0.94	0.93	0.93	0.93	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	124	309	130	13	665	25	166	60	11	24	117	100
RTOR Reduction (vph)	0	0	52	0	1	0	0	1	0	0	0	73
Lane Group Flow (vph)	124	309	78	13	689	0	0	236	0	0	141	27
Turn Type	pm+pt		Perm	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		4				8		8
Actuated Green, G (s)	71.0	65.2	65.2	57.6	56.3			29.0			29.0	29.0
Effective Green, g (s)	72.0	66.2	66.2	61.1	59.3			30.0			30.0	30.0
Actuated g/C Ratio	0.65	0.60	0.60	0.56	0.54			0.27			0.27	0.27
Clearance Time (s)	4.5	5.0	5.0	4.5	7.0			5.0			5.0	5.0
Vehicle Extension (s)	3.0	7.0	7.0	3.0	7.0			3.0			3.0	3.0
Lane Grp Cap (vph)	357	1121	953	604	999			323			473	432
v/s Ratio Prot	c0.03	0.17		0.00	c0.37							
v/s Ratio Perm	0.20		0.05	0.01				c0.20			0.08	0.02
v/c Ratio	0.35	0.28	0.08	0.02	0.69			0.73			0.30	0.06
Uniform Delay, d1	12.5	10.5	9.2	10.9	18.6			36.3			31.7	29.6
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.6	0.6	0.2	0.0	3.9			13.5			1.6	0.3
Delay (s)	13.1	11.1	9.3	11.0	22.5			49.8			33.3	29.9
Level of Service	B	B	A	B	C			D			C	C
Approach Delay (s)		11.1			22.3			49.8			31.9	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.99			0.99			1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00			0.97			0.98	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1850			1790			1831	1583
Fl _t Permitted	0.36	1.00	1.00	0.22	1.00			0.64			0.79	1.00
Satd. Flow (perm)	679	1863	1583	418	1850			1179			1473	1583
Volume (vph)	123	762	171	20	445	22	150	109	29	47	87	154
Peak-hour factor, PHF	0.92	0.92	0.92	0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	134	828	186	21	473	23	169	122	33	52	96	169
RTOR Reduction (vph)	0	0	59	0	1	0	0	3	0	0	0	131
Lane Group Flow (vph)	134	828	127	21	495	0	0	321	0	0	148	38
Turn Type	pm+pt		Perm	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		4				8		8
Actuated Green, G (s)	80.5	73.5	73.5	68.3	65.8			25.0			25.0	25.0
Effective Green, g (s)	81.5	74.5	74.5	71.8	68.8			26.0			26.0	26.0
Actuated g/C Ratio	0.71	0.65	0.65	0.62	0.60			0.23			0.23	0.23
Clearance Time (s)	4.5	5.0	5.0	4.5	7.0			5.0			5.0	5.0
Vehicle Extension (s)	3.0	7.0	7.0	3.0	7.0			3.0			3.0	3.0
Lane Grp Cap (vph)	561	1202	1021	295	1102			265			332	356
v/s Ratio Prot	c0.02	c0.44		0.00	0.27							
v/s Ratio Perm	0.15		0.08	0.04				c0.27			0.10	0.02
v/c Ratio	0.24	0.69	0.12	0.07	0.45			1.21			0.45	0.11
Uniform Delay, d ₁	7.0	13.1	7.9	11.2	12.9			44.8			38.5	35.5
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	1.00
Incremental Delay, d ₂	0.2	3.2	0.3	0.1	1.3			124.6			4.3	0.6
Delay (s)	7.2	16.3	8.2	11.3	14.2			169.4			42.8	36.1
Level of Service	A	B	A	B	B			F			D	D
Approach Delay (s)		14.0			14.1			169.4			39.3	
Approach LOS		B			B			F			D	
Intersection Summary												
HCM Average Control Delay			39.3			HCM Level of Service					D	
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			115.5			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			75.9%			ICU Level of Service					D	
Analysis Period (min)			15									
c Critical Lane Group												

Capacity Analyses – No-Build Year 2031



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑			↕			↖	↗
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.99			0.99			1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00			0.97			0.99	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1853			1788			1847	1583
Fl _t Permitted	0.07	1.00	1.00	0.39	1.00			0.55			0.92	1.00
Satd. Flow (perm)	133	1863	1583	726	1853			1021			1705	1583
Volume (vph)	191	474	199	20	1011	38	242	86	16	32	159	136
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	208	515	216	22	1099	41	263	93	17	35	173	148
RTOR Reduction (vph)	0	0	94	0	1	0	0	1	0	0	0	87
Lane Group Flow (vph)	208	515	122	22	1139	0	0	372	0	0	208	61
Turn Type	pm+pt			Perm	pm+pt			Perm			Perm	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	60.8	55.3	55.3	50.2	49.0			29.0			29.0	29.0
Effective Green, g (s)	62.0	56.3	56.3	53.7	52.0			30.0			30.0	30.0
Actuated g/C Ratio	0.62	0.56	0.56	0.54	0.52			0.30			0.30	0.30
Clearance Time (s)	4.5	5.0	5.0	4.5	7.0			5.0			5.0	5.0
Vehicle Extension (s)	3.0	7.0	7.0	3.0	7.0			3.0			3.0	3.0
Lane Grp Cap (vph)	181	1049	891	408	964			306			512	475
v/s Ratio Prot	c0.07	0.28		0.00	0.61							
v/s Ratio Perm	c0.64		0.08	0.03				c0.36			0.12	0.04
v/c Ratio	1.15	0.49	0.14	0.05	1.18			1.21			0.41	0.13
Uniform Delay, d ₁	49.2	13.2	10.3	11.3	24.0			35.0			27.9	25.5
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	1.00
Incremental Delay, d ₂	112.7	1.6	0.3	0.1	92.2			122.7			2.4	0.6
Delay (s)	162.0	14.8	10.7	11.3	116.2			157.7			30.3	26.0
Level of Service	F	B	B	B	F			F			C	C
Approach Delay (s)		46.5			114.3			157.7			28.5	
Approach LOS		D			F			F			C	

Intersection Summary			
HCM Average Control Delay	86.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99			0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			0.98	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1850			1791			1831	1583
Flt Permitted	0.05	1.00	1.00	0.06	1.00			0.57			0.74	1.00
Satd. Flow (perm)	100	1863	1583	105	1850			1040			1377	1583
Volume (vph)	202	1247	280	32	729	36	245	178	47	77	143	252
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	220	1355	304	35	792	39	266	193	51	84	155	274
RTOR Reduction (vph)	0	0	58	0	1	0	0	3	0	0	0	158
Lane Group Flow (vph)	220	1355	246	35	830	0	0	507	0	0	239	116
Turn Type	pm+pt		Perm	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	1	6		5	2			4				8
Permitted Phases	6		6	2		4				8		8
Actuated Green, G (s)	88.9	82.0	82.0	70.2	67.8			52.0			52.0	52.0
Effective Green, g (s)	89.9	83.0	83.0	73.7	70.8			53.0			53.0	53.0
Actuated g/C Ratio	0.60	0.55	0.55	0.49	0.47			0.35			0.35	0.35
Clearance Time (s)	4.5	5.0	5.0	4.5	7.0			5.0			5.0	5.0
Vehicle Extension (s)	3.0	7.0	7.0	3.0	7.0			3.0			3.0	3.0
Lane Grp Cap (vph)	227	1025	871	83	868			365			484	556
v/s Ratio Prot	c0.10	c0.73		0.01	0.45							
v/s Ratio Perm	0.48		0.16	0.20				c0.49			0.17	0.07
v/c Ratio	0.97	1.32	0.28	0.42	0.96			1.39			0.49	0.21
Uniform Delay, d1	51.6	33.9	18.1	74.0	38.6			48.9			38.4	34.3
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	50.4	151.8	0.8	3.4	21.6			191.7			3.6	0.9
Delay (s)	102.0	185.7	18.9	77.5	60.1			240.6			42.0	35.1
Level of Service	F	F	B	E	E			F			D	D
Approach Delay (s)		148.9			60.8			240.6			38.3	
Approach LOS		F			E			F			D	
Intersection Summary												
HCM Average Control Delay	126.0		HCM Level of Service				F					
HCM Volume to Capacity ratio	1.35											
Actuated Cycle Length (s)	150.9		Sum of lost time (s)				12.0					
Intersection Capacity Utilization	119.9%		ICU Level of Service				H					
Analysis Period (min)	15											
c Critical Lane Group												

Capacity Analyses – Design Year 2031



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↗	↔↔	↕↕	↗	↔	↕↕	↗	↔	↕↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.55	1.00	1.00	0.69	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1033	3539	1583	1280	3539	1583
Volume (vph)	211	523	220	22	1116	42	267	95	18	36	175	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	568	239	24	1213	46	290	103	20	39	190	163
RTOR Reduction (vph)	0	0	132	0	0	29	0	0	14	0	0	100
Lane Group Flow (vph)	229	568	107	24	1213	17	290	103	6	39	190	63
Turn Type	Prot		Perm	Prot		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		8
Actuated Green, G (s)	6.5	32.7	32.7	1.2	25.4	25.4	25.2	20.2	20.2	20.0	17.6	17.6
Effective Green, g (s)	7.0	33.7	33.7	1.7	28.4	28.4	26.2	21.2	21.2	21.0	18.6	18.6
Actuated g/C Ratio	0.09	0.45	0.45	0.02	0.38	0.38	0.35	0.28	0.28	0.28	0.25	0.25
Clearance Time (s)	4.5	5.0	5.0	4.5	7.0	7.0	4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	320	1590	711	78	1340	599	410	1000	447	374	878	393
v/s Ratio Prot	c0.07	0.16		0.01	c0.34		c0.05	0.03		0.00	0.05	
v/s Ratio Perm			0.07			0.01	c0.20		0.00	0.03		0.04
v/c Ratio	0.72	0.36	0.15	0.31	0.91	0.03	0.71	0.10	0.01	0.10	0.22	0.16
Uniform Delay, d ₁	33.0	13.5	12.2	36.1	22.0	14.6	20.6	19.9	19.4	19.9	22.4	22.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	7.4	0.6	0.4	2.2	10.3	0.1	5.5	0.2	0.1	0.1	0.6	0.9
Delay (s)	40.4	14.2	12.6	38.3	32.4	14.7	26.1	20.1	19.4	20.0	23.0	23.0
Level of Service	D	B	B	D	C	B	C	C	B	C	C	C
Approach Delay (s)		19.6			31.8			24.3			22.7	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM Average Control Delay	25.6		HCM Level of Service		C							
HCM Volume to Capacity ratio	0.83											
Actuated Cycle Length (s)	75.0		Sum of lost time (s)		16.0							
Intersection Capacity Utilization	71.7%		ICU Level of Service		C							
Analysis Period (min)	15											
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗	↖	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.58	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1077	3539	1583	1152	3539	1583
Volume (vph)	223	1376	309	36	804	40	270	196	52	85	158	278
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	242	1496	336	39	874	43	293	213	57	92	172	302
RTOR Reduction (vph)	0	0	172	0	0	26	0	0	43	0	0	168
Lane Group Flow (vph)	242	1496	164	39	874	17	293	213	14	92	172	134
Turn Type	Prot		Perm	Prot		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		8
Actuated Green, G (s)	9.4	39.1	39.1	1.8	29.5	29.5	24.8	18.8	18.8	20.8	16.8	16.8
Effective Green, g (s)	9.9	40.1	40.1	2.3	32.5	32.5	25.8	19.8	19.8	21.8	17.8	17.8
Actuated g/C Ratio	0.12	0.49	0.49	0.03	0.40	0.40	0.31	0.24	0.24	0.27	0.22	0.22
Clearance Time (s)	4.5	5.0	5.0	4.5	7.0	7.0	4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	413	1726	772	96	1399	626	389	852	381	336	766	343
V/s Ratio Prot	c0.07	c0.42		0.01	0.25		c0.06	0.06		0.01	0.05	
v/s Ratio Perm			0.10			0.01	c0.18		0.01	0.06		0.08
V/c Ratio	0.59	0.87	0.21	0.41	0.62	0.03	0.75	0.25	0.04	0.27	0.22	0.39
Uniform Delay, d1	34.2	18.7	12.0	39.3	20.0	15.2	24.6	25.2	23.9	23.4	26.5	27.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	6.2	0.6	2.8	2.1	0.1	8.0	0.7	0.2	0.4	0.7	3.3
Delay (s)	36.3	24.8	12.7	42.1	22.1	15.3	32.6	25.9	24.1	23.9	27.2	30.9
Level of Service	D	C	B	D	C	B	C	C	C	C	C	C
Approach Delay (s)		24.2			22.6			29.2			28.6	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	25.1		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.85											
Actuated Cycle Length (s)	82.2		Sum of lost time (s)				16.0					
Intersection Capacity Utilization	76.3%		ICU Level of Service				D					
Analysis Period (min)	15											
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖	↕	↗	↖↗	↕	↗	↖	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.44	1.00	1.00	0.95	1.00	1.00	0.69	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	817	3539	1583	3433	3539	1583	1280	3539	1583
Volume (vph)	211	523	220	22	1116	42	267	95	18	36	175	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	568	239	24	1213	46	290	103	20	39	190	163
RTOR Reduction (vph)	0	0	132	0	0	29	0	0	14	0	0	82
Lane Group Flow (vph)	229	568	107	24	1213	17	290	103	6	39	190	81
Turn Type	Prot		Perm	pm+pt		Perm	Prot		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6	2		2			4	8		8
Actuated Green, G (s)	6.5	34.7	34.7	28.6	27.4	27.4	8.0	23.2	23.2	20.0	17.6	17.6
Effective Green, g (s)	7.0	35.7	35.7	32.1	30.4	30.4	8.0	24.2	24.2	21.0	18.6	18.6
Actuated g/C Ratio	0.09	0.45	0.45	0.40	0.38	0.38	0.10	0.30	0.30	0.26	0.23	0.23
Clearance Time (s)	4.5	5.0	5.0	4.5	7.0	7.0	4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	300	1579	706	348	1345	602	343	1071	479	351	823	368
v/s Ratio Prot	c0.07	0.16		0.00	c0.34		c0.08	0.03		0.00	c0.05	
v/s Ratio Perm			0.07	0.03		0.01			0.00	0.03		0.05
v/c Ratio	0.76	0.36	0.15	0.07	0.90	0.03	0.85	0.10	0.01	0.11	0.23	0.22
Uniform Delay, d1	35.7	14.6	13.2	14.5	23.4	15.5	35.4	20.0	19.5	22.2	24.9	24.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.9	0.6	0.5	0.1	10.0	0.1	17.1	0.2	0.0	0.1	0.7	1.4
Delay (s)	46.6	15.3	13.6	14.6	33.4	15.6	52.5	20.2	19.6	22.4	25.6	26.2
Level of Service	D	B	B	B	C	B	D	C	B	C	C	C
Approach Delay (s)		21.8			32.4			42.9			25.5	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM Average Control Delay	29.4		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.68											
Actuated Cycle Length (s)	80.0		Sum of lost time (s)				16.0					
Intersection Capacity Utilization	64.5%		ICU Level of Service				C					
Analysis Period (min)	15											
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖	↕	↗	↖↗	↕	↗	↖	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Fl _t Permitted	0.95	1.00	1.00	0.13	1.00	1.00	0.95	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	237	3539	1583	3433	3539	1583	1152	3539	1583
Volume (vph)	223	1376	309	36	804	40	270	196	52	85	158	278
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	242	1496	336	39	874	43	293	213	57	92	172	302
RTOR Reduction (vph)	0	0	176	0	0	27	0	0	43	0	0	150
Lane Group Flow (vph)	242	1496	160	39	874	16	293	213	14	92	172	152
Turn Type	Prot		Perm	pm+pt		Perm	Prot		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6	2		2			4	8		8
Actuated Green, G (s)	9.4	38.1	38.1	30.3	28.5	28.5	7.0	19.8	19.8	20.8	16.8	16.8
Effective Green, g (s)	9.9	39.1	39.1	33.8	31.5	31.5	7.0	20.8	20.8	21.8	17.8	17.8
Actuated g/C Ratio	0.12	0.48	0.48	0.41	0.38	0.38	0.09	0.25	0.25	0.27	0.22	0.22
Clearance Time (s)	4.5	5.0	5.0	4.5	7.0	7.0	4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	413	1683	753	140	1356	607	292	896	401	336	766	343
v/s Ratio Prot	c0.07	c0.42		0.01	0.25		c0.09	c0.06		0.01	0.05	
v/s Ratio Perm			0.10	0.11		0.01			0.01	0.06		c0.10
v/c Ratio	0.59	0.89	0.21	0.28	0.64	0.03	1.00	0.24	0.04	0.27	0.22	0.44
Uniform Delay, d ₁	34.2	19.6	12.6	17.6	20.8	15.8	37.6	24.4	23.1	23.4	26.5	27.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	2.1	7.4	0.6	1.1	2.4	0.1	53.5	0.6	0.2	0.4	0.7	4.1
Delay (s)	36.3	27.0	13.2	18.7	23.1	15.9	91.1	25.0	23.3	23.9	27.2	32.0
Level of Service	D	C	B	B	C	B	F	C	C	C	C	C
Approach Delay (s)		25.9			22.6			59.3			29.2	
Approach LOS		C			C			E			C	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Memorandum

From: Tom Barwick

Date: 01/11/2008

Re: SR 211 AT SR 124 PRE CONCEPT MEETING
District One
STP-0001-00(038) Barrow County, P.I. #0001038

SR 211 at SR 124 Pre Concept Meeting

Attendees: Robert Mahoney
Shane Dover
Neil Kantner
Doug Fadool
Tom Barwick
Warren Dimsdale

SR 211 at SR 124

Barrow County - P.I. #0001038

- Don't Touch Bridge – No Restriping or Widening
- Geotech – Need Corings of Existing Pavement
- Go With Variance Request (Variance for Lane Taper Length) Alt “B”
- Grass Median Will Be Used
- Need Soil To Get Pavement Design
- Look at Turning Templates for Trucks at the Intersection
- *Concept Meeting Will Be Held On January 25th, 2008
- Send R/W Cost Estimate Down To Phil Copeland
 - o Get Layout of Areas of Take, Areas of Easements
- Show Turn Lane In SR 211 Median at Ramps
- Add Driveway at Waffle House
- Need Soil Report and Environmental Screening for Approved Concept, or Get Wavier

Memorandum

From: Tom Barwick

Date: 01/25/2008

Re: SR 211 AT SR 124 CONCEPT TEAM MEETING
District One
STP-0001-00(038) Barrow County, P.I. #0001038

SR 211 at SR 124 Concept Team Meeting

Attendees: See attached sign in sheet

SR 211 at SR 124 Barrow County - P.I. #0001038

Introduction:

Robert Mahoney introduced himself and gave an over view of the project.

Concept Report:

The Concept Report was reviewed and the following comments were made:

Page One (Cover page):

- No Comments

Page Two:

- No Comments

Page Three:

- Need and Purpose statement needs to be modified. The Need and Purpose statement should address the reason for adding a through lane (capacity). The traffic LOS and accident data should be included in the need and purpose

Page Four:

- Verify the Right of Way (SR 211)
- Verify the super rate (SR 211), Robert believes that 4% should be the max super rate

Page Five:

- Verify the super rate (SR 124), Robert believes that 4% should be the max super rate
- Robert does not wish to touch bridge, a taper variance is preferred.
- Get list of who the utility owners are on the project.

- Remove petroleum listed as a utility

Page Six:

- In the coordination section note coordination of design with SR 211 and SR 124 future widening as well as and I-85 widening.

Attachments:

- Need cost estimates (Construction and Right of Way)
- Location Map
- Typical Sections
- Accident Summaries
- Capacity Analysis
- Minutes of Initial Concept and Concept meetings
- Location and Design Notice
- Plan's Schematics

Schedule:

- Although the current schedule is aggressive, we will try to meet the schedule

Utilities:

- Heath and Lineback needs to get utility companies a copy of the proposed plans so that the utility companies can look at adjustments as needed, several companies are currently upgrading/relocating their utilities in the area.
- No additional LPGAs
- wind stream – Have conduits on south side of SR 124 (gas station side) and on the west side of SR 211 (Chatue Élan side)
- Jackson EMC
- Water line goes down 211 and turns down 124
- Gwinnett county line crosses under 211 (gravity & sewer line near church)

Alternates:

Warren Dimsdale with Heath and Lineback Engineers gave an over view of the four alternates that are being considered. The four alternates consisted of:

Alternate "A" – Urban section with 32'-0" median, 12'-0" thru and turn lanes, tapers as required at 45 mph design speed. This will place part of the taper on the existing bridge over I-85, with the taper extending onto the existing bridge shoulder. Re-stripping of the

bridge and a shoulder width variance will be required.

Alternate "B" – Urban section with 32'-0" median, 12'-0" thru and turn lanes, tapers as required at 45 mph design speed, except the taper on the northern leg of SR 211. This taper will begin after the I-85 overpass bridge; approximately 59% of the required taper will be achieved. A taper variance will be required.

Alternate "C" – Urban section with 32'-0" median, 12'-0" thru and turn lanes, tapers as required at 45 mph design speed. The four lane section is continued across the I-85 overpass bridge on SR 211 then tapers down to the existing condition. Approximately 40 ft x 230 ft of bridge widening would be required.

Alternate "D" - SR 211 consist of an Urban section with 30'-0" median, 11'-0" thru and turn lanes, tapers as required at 45 mph design speed except the taper on the northern leg of SR 211. This taper will begin after the I-85 overpass bridge; approximately 64% of the required taper will be achieved. A taper variance will be required. SR 124 consist of an Urban section with 32'-0" median, 12'-0" thru and turn lanes, tapers as required at 45 mph design speed

Alternate "D" was favored at this time. It was suggested to use alternate "D" and reduce all lane widths to 11'-0". The shoulder width would also be reduced from 16'-0" wide to 10'-0" wide (2'-0" grass strip and 5'-0" sidewalk) and reduce the median width from 32'-0" to 30'-0". This will help reduce impacts to the church property and the gas station property in addition to helping to reduce the length of required taper.

Everyone was in agreement with the idea of reducing the speed limit to 45 mph.

Environmental

Todd Barker from Kimely-Horn spoke of environmental concerns in the area. The following items were found in the area:

- Streams
- Gas Station (UST'S)
- Oil Changing Facility (UST'S)
- Church
- Possible Historic Property

The park and ride will be removed by this project; this should be addressed in the Environmental Document

A PIOH will probably be required due to the removal of the park and ride and impacts to church

Funding:

- L240 for PE and R/w
- ARC non urban funding
- No L230 funding as shown in TPRO

General Comments:

The city of Braselton would like to know where they can safely permit new buildings (outside of proposed right of Way)

Reduction of speed limit – Sign Posting:

2/10 mile from intersection (minimum for Speed Limits Sign)

500' warning sign before that

Change speed limit before taper

T. E. Study to GDOT traffic opps

Bridge should be wide enough to get four lanes across, shoulders widths would be reduced.

Would like to get limited access from I-85 down to intersection to prevent future access to SR 211 in this area

Need to nail down location of historic property and streams to push along project. If the buildings that are possibly historic are gone that will help, will need paper work from SHPO

Do not show proposed right of way along SR 211 inside of existing right of way, even if it is part of a trade in the works.

NOTICE OF LOCATION AND DESIGN APPROVAL

**PROJECT STP-0001-00(038) BARROW COUNTY
P. 1. NO. 0001038**

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

The date of location approval is July 25, 2008.

This project is an intersection improvement project involving construction of left turn, right turn, and through lanes for east and west bound traffic on SR 124 and north and south bound traffic on SR 211. This project is located in Barrow County.

The proposed construction for SR 124 is an urban section with a 30 ft raised median. SR 124 E.B. will have two left turn lanes, two through lanes, and one right turn lane at the east bound approach to the intersection of SR 211. SR 124 W.B. will have one left turn lane, two through lanes, and one right turn lane at the west bound approach to the intersection of SR 211.

The proposed construction for SR 211 is an urban section with a 30 ft raised median. SR 211 S.B. will have two left turn lanes, two through lanes, and one right turn lane at the south bound approach to the intersection of SR 124 (Braselton Hwy). SR 211 N.B. will have one left turn lane, two through lanes, and one right turn lane at the north bound approach to the intersection of SR 124 (Braselton Hwy.)

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

Harold Mull

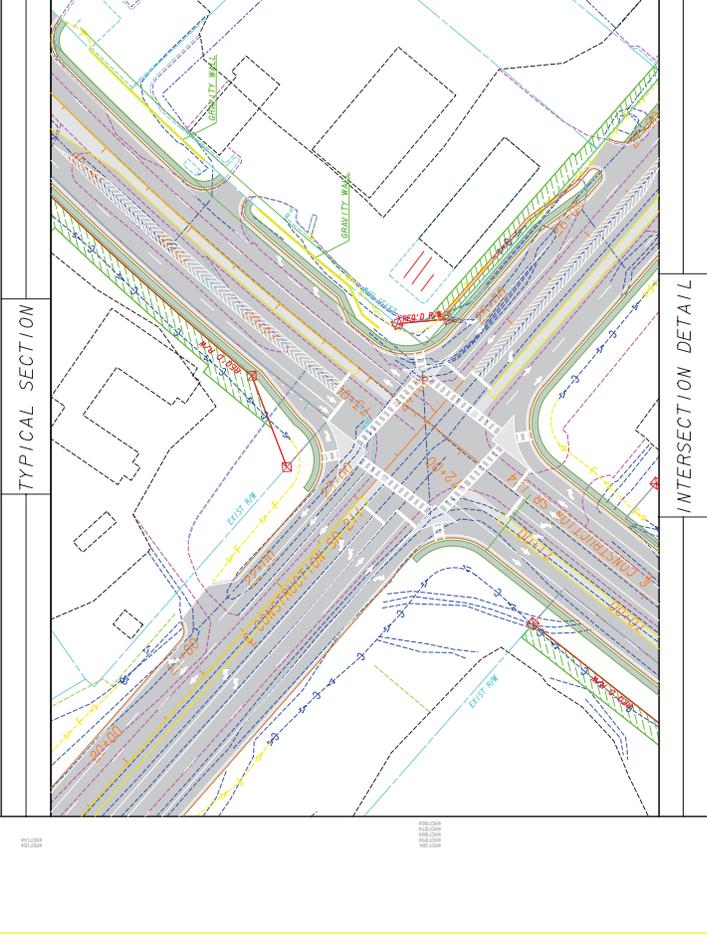
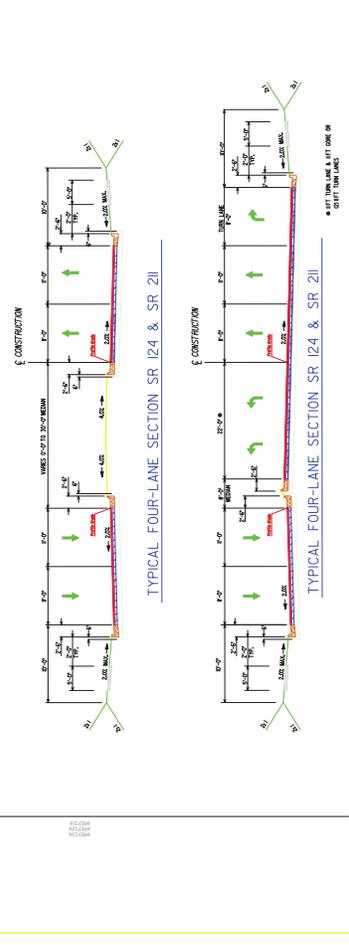
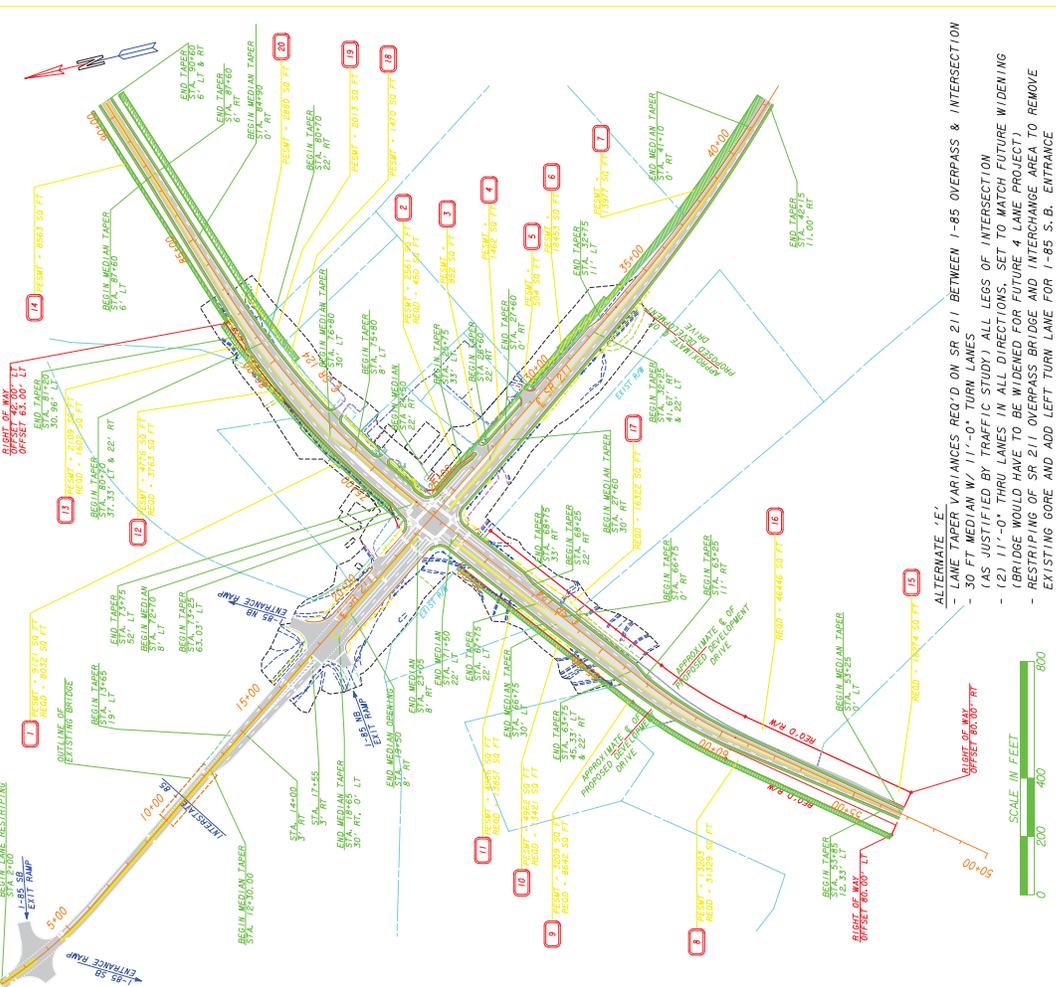
hmull@dot.ga.gov

410 Hurricane Shoals Rd, NW
Lawrenceville, Georgia 30045
(770)339-2308

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

Robert Mahoney
Georgia Department of Transportation
District Preconstruction Engineer
rmahoney@dot.ga.gov
2505 Athens Highway, SE
PO Box 1057
Gainesville, Georgia 30503
(770)532-5520

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



STATE		PROJECT NUMBER		SHEET NO.		TOTAL SHEETS	
GA		STP-000-1001038		5		5	

REVISION DATES		DEPARTMENT OF TRANSPORTATION	

OFFICE:		DRAWING No.	
SR 124 AT SR 211		CONCEPT LAYOUT	
ALTERNATE E		BARROW COUNTY	

HEALTH & LINEBACK ENGINEERS	
2300 CANTON ROAD, SUITE 200	MANASSAS, VIRGINIA 20108-5395

- ALTERNATE 'E'
- LANE TAPER VARIANCES REQ'D ON SR 211 BETWEEN I-85 OVERPASS & INTERSECTION
 - 30 FT MEDIAN W/ 11'-0" TURN LANES
 - (AS JUSTIFIED BY TRAFFIC STUDY) ALL LEGS OF INTERSECTION
 - (2) 11'-0" THRU LANES IN ALL DIRECTIONS. SET TO MATCH FUTURE WIDENING (BRIDGE WOULD HAVE TO BE WIDENED FOR FUTURE 4 LANE PROJECT)
 - RESTRIPING OF SR 211 OVERPASS BRIDGE AND INTERCHANGE AREA TO REMOVE EXISTING GORE AND ADD LEFT TURN LANE FOR I-85 S.B. ENTRANCE