ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. #0008253
US 27/SR 1 @ CR 586 - Intersection Improvements
GDOT District 6 - Cartersville
Walker County

OFFICE Design Policy & Support

DATE October 21, 2011

FROM for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT **APPROVED CONCEPT REPORT**

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Genetha Rice-Singleton, Program Control Administrator
Bobby Hilliard, State Program Delivery Engineer
Cindy VanDyke, State Transportation Planning Administrator
Angela Robinson, Financial Management Administrator
Glenn Bowman, State Environmental Administrator
Andy Casey, State Roadway Design Engineer
Attn: Robert Reid, Design Group Manager
Kathy Zahul, State Traffic Engineer
Georgene Geary, State Materials & Research Engineer
Ron Wishon, State Project Review Engineer
Jeff Baker, State Utilities Engineer
Ken Thompson, Statewide Location Bureau Chief
Michael Henry, Systems & Classification Branch Chief
Kent Sager, District Engineer
DeWayne Comer, District Preconstruction Engineer
Kerry Bonner, District Utilities Engineer
Derrick Cameron, Project Manager
BOARD MEMBER - 9th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Project Number: CSSFT-0008-00(253)
County: Walker
P. I. Number: 0008253
Federal Route Number: 27
State Route Number: 1

Intersection Improvement at SR 1/US 27 @ CR 586/Kay Conley Road

See Page 2 for location sketch

Submitted for approval:

DATE 7-11-11 — C. Andy Carey
Design Phase Office Head

DATE 8/29/2011 — Bobby Hilliard
Office Head (Project Manager's Office)

DATE 23 AUGUST 2011 — [signature]
Project Manager

Recommendation for approval:

DATE _____ — _____
Program Control Administrator

DATE 10/4/2011 — GLENN BOWMAN*
State Environmental Administrator

DATE 9/26/2011 — KATHY ZAHUL*
State Traffic Engineer

DATE 9/28/2011 — RON WISHON*
Project Review Engineer

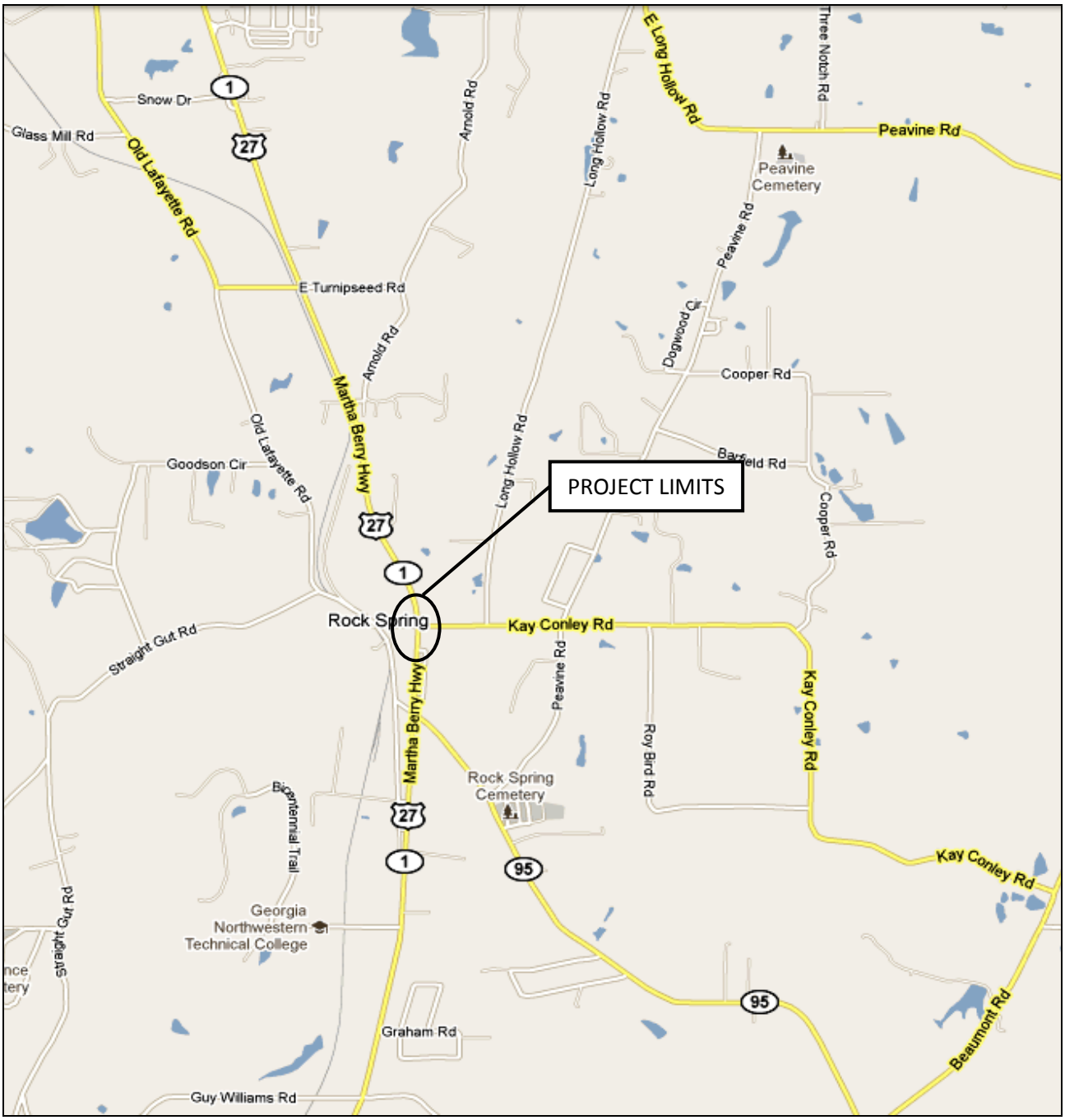
DATE _____ — _____
State Utilities Engineer

DATE 9/21/2011 — KENT SAGER*
District Engineer/District Utilities Engineer

DATE _____ — _____
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 9-26-11 — Cynthia L. VanDyke
State Transportation Planning Administrator



LOCATION MAP

Project: CSSFT-0008-00(253), Walker County, PI 0008253

Need and Purpose:

The purpose of this project is to improve mobility and reduce crash frequency at the intersection of State Route 1 and Kay Conley Road by constructing turn lanes and installing a traffic signal. The proposed project would add a right turn lane on SR 1for the northbound traffic and for westbound traffic on Kay Conley Road/CR 720. The need for such improvements is based on accident history, existing and projected traffic conditions.

Crash reports obtained for this intersection from 2004 to 2008 indicated that there were 40 crashes, which resulted in 23 injury crashes and no fatalities. Table 1 provides a summary of these crashes and injuries. Angle crashes accounted for 75% of the total crashes, with over 50% resulting in injury. Most of the angle crashes resulted from vehicles traveling westbound on Kay Conley Road/CR 720 attempting to turn onto SR 1.

Table 1: Crash/Injury Summary

Year	**Type of Crashes**					**Injury Crashes/Fatalities**
	Angle	Rear End	Sideswipe	Head on	Total	
2004	4	1	0	0	5	3/0
2005	8	2	0	1	11	6/0
2006	8	2	0	0	10	5/0
2007	8	1	1	1	11	7/0
2008	2	0	1	0	3	2/0
Total	30	6	2	2	40	23/0

Delay and traffic congestion at this intersection are expected to increase for Kay Conley Road with forecasted traffic volumes. A capacity analysis was conducted using the Highway Capacity Software (HCS) for the no-build existing conditions using current and future volumes. This analysis was used to determine the level of service (LOS) and the volume/capacity (V/C) ratio. The LOS is used to quantify delay per vehicle. There are six LOS defined by a letter, "A" represents the least delay per vehicle and "F" represents the worst. The V/C ratio measures the capacity of each lane group according to its volume. When the V/C is greater than 1 this indicates the volume is greater than the capacity for that approach. Table 2 shows the LOS and V/C for existing conditions. For Kay Conley Road/CR 720 westbound traffic, it is currently operating at LOS F for both AM and PM peak periods and is predicted to exceed a V/C of 1by 2013. For eastbound traffic LOS E/D is expected to reach by 2033.

Table 2: No-Build Existing and Anticipated Future LOS and V/C Ratio (AM/PM)

Year	North		South		West		East	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
2008	A/A	0.01/0.01	B/A	0.02/0.10	F/F	0.96/0.82	C/C	0.08/0.09
2013	A/A	0.01/0.01	B/A	0.02/0.01	F/F	1.17/0.85	C/C	0.09/0.08
2033	A/B	0.01/0.02	B/B	0.04/0.17	F/F	2.09/1.85	D/D	0.17/0.12

A signal warrant analysis was performed based on the standards in the Manual of Uniform Traffic Control Devices (MUTCD). There are 8 warrants that were analyzed to determine if a signal is justified at this intersection. The result of the analysis was that the 8 hour vehicular volume (Warrant 2) and 4 hour peak vehicular volume (Warrant 3) warrants were satisfied.

Delay and traffic congestion at this intersection are expected to increase with forecasted traffic volumes. A capacity analysis was conducted using the Highway Capacity Software (HCS) for the proposed condition. This analysis was used to determine the level of service (LOS) and the volume/capacity (V/C) ratio for comparison against the no-build condition. The proposed improvements to the intersection are projected to improve westbound conditions to generate a LOS C and V/C below 1for future traffic demands. Eastbound traffic conditions are expected to improve to a LOS B.

Table 3: Future Intersection Level of Service by Approaches (AM/PM)

Year	North		South		West		East	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
2013	A/A	0.42/.27	A/A	0.35/0.40	C/C	0.67/0.72	B/B	0.07/0.06
2033	A/A	0.55/0.36	A/B	0.45/0.54	C/C	0.79/0.79	B/B	0.08/0.07

Description of the proposed project: The proposed intersection improvement project consists of replacing flashing beacons with a new traffic signal at the intersection of State Route 1/US 27 and Kay Conley Road. A right turn lane is proposed on State Route 1 for northbound traffic onto Kay Conley Road/CR 720. Additionally, a right turn lane will be installed on Kay Conley Road /CR 720 for westbound traffic onto State Route 1.
The logical termini for this project is the intersection of SR 1 and Kay Conley Road. The project limits begin at mile log 16.85 and extends for approximately 0.15 miles north along SR 1 to mile log 17.00 and extends approximately 100 feet west on Kay Conley Road/CR 586 and 400 feet east of the intersection along Kay Conley Road/CR 720.

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? _____Yes___X___No

PDP Classification: Major_____ Minor: X

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

Functional Classification: SR 1/US 27- Rural Principal Arterial
Kay Conley Road/ CR 586-Rural Local
Kay Conley Road/ CR 720-Rural Major Collector

U. S. Route Number(s): 27 State Route Number(s): 1

Traffic (AADT):
Open Year (2013): SR 1 – 17,950
Kay Conley Rd/CR 586 – 400
Kay Conley Rd/CR 720 – 5,350
Design Year (2033): SR 1 – 22,850
Kay Conley Rd/CR 586 – 600
Kay Conley Rd/CR 720 – 6,850

Existing design features:

- Typical Section:
  - SR 1: Rural Five-lane section which consists of four 12-ft travel lanes, a 14-ft two way center left turn lane and variable 10 to 12-ft shoulders (2 to 12-ft paved).
  - Kay Conley Road/CR 586: Two 9-ft travel lanes with 2-ft grass shoulders.
  - Kay Conley Road/CR 720: Two 10-ft travel lanes with 8-ft grass shoulders.
- Posted Speed SR 1: 45 mph
- Posted Speed Kay Conley Rd/CR 586: 25 mph
- Posted Speed Kay Conley Rd/CR 720: 35 mph

- Maximum superelevation rate for curve: 8%
- Maximum grade: SR 1 - 6% Kay Conley Rd/CR 586 - 2%
  Driveways - 6% Kay Conley Rd/CR 720 – 3.5%
- Width of right-of-way:
  - Kay Conley Road /CR 586: 35-ft
  - Kay Conley Road /CR 720: 80-ft
  - SR 1: Varies from 130-ft to 145-ft
- Major Structures: N/A
- Intersections along project: SR 1/US 27 at Kay Conley Road and SR 1/US 27 at Pruett Lane
- Existing length of roadway segment:
  - SR 1: 800-ft
  - Kay Conley Rd/CR 586: 100-ft
  - Kay Conley Rd/CR 720: 325-ft

Proposed Design Features:

- Proposed typical section(s):
  - SR 1: Five-lane section consisting of four 12- ft travel lanes, a 14-ft left turn lane, with 10-ft shoulders. North of the intersection is to remain as existing. South of the intersection a 12-ft right turn lane is proposed with curb and gutter.
  - Kay Conley Road/CR 586: The roadway is to remain as existing (two 9-ft travel lanes with 2-ft grassed shoulders).
  - Kay Conley Road/CR 720:Three-lane section consisting of one 12-ft eastbound through lane, a 12-ft westbound combined through/left turn lane and one 12-ft westbound right turn lane with 8-ft shoulders.
- Proposed Design Speed SR 1: 45 mph
- Proposed Maximum grade SR 1: 6 %
- Maximum grade allowable SR 1: 6 %
- Proposed Design Speed Kay Conley Rd/CR 586: 25 mph
- Proposed Maximum grade Kay Conley Rd/CR 586: 2 %
- Maximum grade Kay Conley Rd/CR 586: 11 %
- Proposed Design Speed Kay Conley Rd/CR 720: 35 mph
- Proposed Maximum grade Kay Conley Rd/CR 720: 3.5 %
- Maximum grade Kay Conley Rd/CR 720: 9 %
- Proposed Maximum grade commercial driveway: 6 %
- Proposed Minimum radius of curve: 2083 ft
- Minimum Radius allowable: 587 ft
- Maximum Allowable superelevation rate : 8%
- Proposed maximum superelevation rate : 8% (To match existing superelevation)

- Right-of-Way Width:
  - SR 1- No additional right of way required.
  - Kay Conley Road/CR 586 - No additional right of way required.
  - Kay Conley Road/CR 720-Varies up to 100-ft.
  - Easements: Temporary (X), Permanent ( ), Utility ( ), Other ( ).
  - Type of access control: Full ( ), Partial ( ), By Permit (X), Other ( ).
  - Number of parcels: 7 Number of displacements: N/A
    - Business: N/A
    - Residences: N/A
    - Mobile homes: N/A
    - Other: N/A
- Structures: N/A
- Signal Control Location: Intersection of SR 1/US 27 and Kay Conley Road (Signal Warrant Study attached)
- Traffic Management Plan Anticipated: Yes ( ) No (X)
- Design Exceptions to controlling criteria anticipated:

	YES	NO	UNDETERMINED
1. DESIGN SPEED	( )	(X)	( )
2. LANE WIDTH:	( )	(X)	( )
3. SHOULDER WIDTH:	( )	(X)	( )
4. BRIDGE WIDTH:	( )	(X)	( )
5. HORIZONTAL ALIGNMENT	( )	(X)	( )
6. SUPERELEVATION:	( )	(X)	( )
7. VERTICAL GRADES:	( )	(X)	( )
8. GRADE	( )	(X)	( )
9. STOPPING SIGHT DISTANCE:	( )	(X)	( )
10. CROSS SLOPES:	( )	(X)	( )
11. VERTICAL CLEARANCE:	( )	(X)	( )
12. LATERAL OFFSET TO OBSTRUCTION	( )	(X)	( )
13. BRIDGE STRUCTURAL CAPACITY	( )	(X)	( )

- Design Variances: None Anticipated
- Environmental concerns: Historic site on Kay Conley Road/CR 586 and UST's are present at a gas station in the Southeast corner of the intersection.
- Anticipated Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes (X), No ( )
  - Categorical Exclusion anticipated(X),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( ), or
  - Environmental Impact Statement (EIS) ( ).
- Utility involvements: Atlanta Gas Light, City of LaFayette Water and Sewer, Chickamauga Telephone, Windstream Communications, Comcast, North Ga EMC, Walker County Water and Sewer
- Public Interest Determination Policy and Procedure Required? Yes ( ), No (X)

- VE Study Anticipated : Yes ( ), No (X)
- Benefit/Cost Ratio: 3.63

Project Cost Estimate and Funding Responsibilities:

	PE	ROW	UTILITY	CST	MITIGATION
By Whom	GDOT	GDOT	GDOT	GDOT	N/A
$ Amount	$110,000	$115,900	*$718,750	**$409,715	N/A

* Cost includes the cost for utility assistance for relocation for water and sewer facilities.

** Cost included 5% Engineering and Inspection, Fuel Cost Adjustment, and Asphalt Cement Cost Adjustment.

Project Activities Responsibilities:

- Design: Office of Roadway Design
- Right-of-Way Acquisition: District Six Preconstruction
- Right-of-Way funding (real property): District Six Preconstruction
- Relocation of Utilities: District Six Utilities Office
- Letting to contract: Office of Construction Bidding Administration
- Supervision of construction: District Six Construction
- Providing material pits: Contractor
- Providing detours: N/A
- Environmental Studies/Documents/Permits: Office of Environmental Services
- Environmental Mitigation: N/A

Coordination:

- Concept Meeting Date: March 10, 2010 (minutes attached)
- Public Involvement: N/A
- Other projects in the area: N/A

Scheduling – Responsible Parties' Estimate

- Time to complete the environmental process: Begin: June 11 End: Oct 11
- Time to complete preliminary construction plans: Begin: Aug 11 End: Dec 11
- Time to complete right-of-way plans: Begin: Dec 11 End: Feb 12
- Time to complete the Section 404 Permit: Begin: N/A End: N/A
- Time to complete final construction plans: Begin: Dec 11 End: Aug 12
- Time to complete to purchase right-of-way: Begin: Feb 12 End: Feb 13

Other alternates considered:

1. No Build: This alternative was considered, but not recommended because it would not satisfy the need to reduce crashes at this intersection.
2. Multilane Roundabout: This alternative was considered, but not favorable due to the traffic volumes at this intersection consisting of an 85/15 ratio of mainline traffic over side road traffic, where a more uniform ratio is desired. Also this alternative would require additional right of way on Kay Conley Road/CR 586, which would impact the historic district.

Attachments:

1. Cost Estimates:
    a. Construction including Engineering & Inspection
    b. Completed Fuel & Asphalt Price Adjustment forms
    c. Right-of-Way
    d. Utilities
2. Concept Plan Layout
3. Typical Sections
3. Traffic Diagrams
4. Capacity Analysis
5. Roundabout Analysis
6. Signal Warrant Summary
7. Minutes of Concept Team Meeting
8. Benefit Cost Analysis

- **Exempt projects**

Concur: _____
Director of Engineering

Approve: _____ Date: 10-20-11
Chief Engineer

DETAILED COST ESTIMATE

Georgia Department of Transportation

Job: 0008253_CONCEPT

JOB NUMBER: *0008253_CONCEPT* FED/STATE PROJECT NUMBER

SPEC YEAR: *01*

DESCRIPTION: *INTERSECTION IMPROVEMENT-SR 1/US 27 @ CR 586/KAY CONLEY ROAD*

ITEMS FOR JOB 0008253_CONCEPT

0010 - ROADWAY

Line Numbe	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0010	150-1000	1.000	LS	$100,000.00	TRAFFIC CONTROL - CSSFT-0008-00(253)	$100,000.00
0020	210-0100	1.000	LS	$75,000.00	GRADING COMPLETE - CSSFT-0008-00(253)	$75,000.00
0030	310-1101	65.000	TN	$27.87	GR AGGR BASE CRS, INCL MATL	$1,811.72
0035	318-3000	160.000	TN	$20.34	AGGR SURF CRS	$3,254.06
0039	402-1812	60.000	TN	$79.03	RECYL AC LEVELING,INC BM&HL	$4,742.00
0040	402-3121	155.000	TN	$80.27	RECYL AC 25MM SP,GP1/2,BM&HL	$12,442.39
0050	402-3130	80.000	TN	$64.23	RECYL AC 12.5MM SP,GP2,BM&HL	$5,138.09
0060	402-3190	110.000	TN	$85.22	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	$9,374.28
0070	413-1000	145.000	GL	$2.25	BITUM TACK COAT	$326.25
0080	441-0108	50.000	SY	$50.00	CONC SIDEWALK, 8 IN	$2,500.00
0090	441-5002	30.000	LF	$12.00	CONC HEADER CURB, 6", TP 2	$360.00
0092	441-6022	390.000	LF	$14.09	CONC CURB & GUTTER, 6"X30"TP2	$5,495.62
0095	641-1200	115.000	LF	$22.29	GUARDRAIL, TP W	$2,563.79
0096	641-5001	1.000	EA	$679.01	GUARDRAIL ANCHORAGE, TP 1	$679.01
0097	641-5012	1.000	EA	$1,760.60	GUARDRAIL ANCHORAGE, TP 12	$1,760.60
					SUBTOTAL FOR ROADWAY:	**$225,447.81**

0020 - SIGNAL

Line Numbe	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0100	639-4004	4.000	EA	$5,600.00	STRAIN POLE, TP IV	$22,400.00
0110	647-1000	1.000	LS	$70,000.00	TRAF SIGNAL INSTALLATION NO - INSTALLATION 1	$70,000.00
0120	687-1000	1.000	LS	$4,600.00	TRAFFIC SIGNAL TIMING - INSTALLATION 1	$4,600.00
					SUBTOTAL FOR SIGNAL:	**$97,000.00**

0030 - DRAINAGE

Line Numbe	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0200	500-3101	2.000	CY	$285.03	CLASS A CONCRETE	$570.05
0210	550-1180	100.000	LF	$42.35	STM DR PIPE 18",H 1-10	$4,234.68
0515	550-3418	2.000	EA	$494.17	SAFETY END SECTION 18",SD,4:1	$988.35
0220	668-1100	2.000	EA	$2,723.74	CATCH BASIN, GP 1	$5,447.47
0230	668-2100	3.000	EA	$2,165.39	DROP INLET, GP 1	$6,496.16
					SUBTOTAL FOR DRAINAGE:	**$17,736.71**

0040 - SIGNING AND MARKING

Line Numbe	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0300	636-1041	100.000	SF	$36.00	HWY SIGNS,TP 2MAT,REFL SH TP 9	$3,600.00
0310	653-0120	10.000	EA	$71.79	THERM PVMT MARK, ARROW, TP 2	$717.87
0320	653-1501	3500.000	LF	$0.46	THERMO SOLID TRAF ST 5 IN, WHI	$1,610.00
0330	653-1502	1800.000	LF	$0.51	THERMO SOLID TRAF ST, 5 IN YEL	$918.00
0340	653-1704	110.000	LF	$5.00	THERM SOLID TRAF STRIPE,24",WH	$550.00
0350	653-1804	1300.000	LF	$2.25	THERM SOLID TRAF STRIPE, 8",WH	$2,925.00
0360	653-3501	1500.000	GLF	$0.50	THERMO SKIP TRAF ST, 5 IN, WHI	$750.00
0370	653-6006	525.000	SY	$3.25	THERM TRAF STRIPING, YELLOW	$1,706.25
					SUBTOTAL FOR SIGNING AND MARKING:	**$12,777.12**

File Location: Div of Preconstruction > CES

DETAILED COST ESTIMATE

Georgia Department of Transportation

Job: 0008253_CONCEPT

0050 - EROSION CONTROL

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0400	163-0232	1.000	AC	$600.00	TEMPORARY GRASSING	$600.00
0410	163-0240	20.000	TN	$250.00	MULCH	$5,000.00
0420	163-0503	4.000	EA	$500.00	CONSTR AND REMOVE SILT CONTROL GATE,TP 3	$2,000.00
0430	165-0030	500.000	LF	$1.50	MAINT OF TEMP SILT FENCE, TP C	$750.00
0440	165-0087	4.000	EA	$205.00	MAINT OF SILT CONTROL GATE, TP 3	$820.00
0450	171-0030	1000.000	LF	$4.00	TEMPORARY SILT FENCE, TYPE C	$4,000.00
0455	643-8200	850.000	LF	$2.03	BARRIER FENCE (ORANGE), 4 FT	$1,722.60
0460	700-6910	1.000	AC	$1,000.00	PERMANENT GRASSING	$1,000.00
0470	700-7000	4.000	TN	$65.00	AGRICULTURAL LIME	$260.00
0490	700-8000	2.000	TN	$350.00	FERTILIZER MIXED GRADE	$700.00
0500	700-8100	10.000	LB	$2.30	FERTILIZER NITROGEN CONTENT	$23.00
0510	716-2000	100.000	SY	$1.24	EROSION CONTROL MATS, SLOPES	$124.00
					SUBTOTAL FOR EROSION CONTROL:	**$16,999.60**

TOTALS FOR JOB 0008253_CONCEPT

ITEMS COST:	**$369,961.24**
COST GROUP COST:	**$0.00**
ESTIMATED COST:	**$369,961.24**
CONTINGENCY PERCENT:	**0.00**
ENGINEERING AND INSPECTION:	**0.05**
ESTIMATED COST WITH CONTINGENCY AND E&I:	**$388,459.30**

File Location: Div of Preconstruction > CES

Date 8/15/2011

P.I. Number 8253 County Walker

Project Number CSFT-0008-00(253)

Special Provision, Section 109-Measurement and Payment

FUEL PRICE ADJUSTMENT (*ENGLISH 125% MAX)*

ENTER FPL DIESEL	3.959
ENTER FPM DIESEL	8.908

ENTER FPL UNLEADED	3.714
ENTER FPM UNLEADED	8.3565

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

INCREASE ADJUSTMENT
125.00%

INCREASE ADJUSTMENT
125.00%

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)**	65.000	0.29	18.85	0.24	15.60	
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)**	405.000	2.90	1174.50	0.71	287.55	
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
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
Stru Steel Plan Quantity (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 Plan Quantity(LB) Section 511				8.00		1.50		
Stru Reinf Plan Quantity(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		

SUM QF DIESEL=	1193.35	SUM QF UNLEADED=	303.15

DIESEL PRICE ADJUSTMENT($)	$5,433.14
UNLEADED PRICE ADJUSTMENT($)	$1,294.78

ASPHALT CEMENT PRICE ADJUSTMENT
(BITUMINOUS TACK COAT 125% MAX)

APPLICABLE TO CONTRACTS/PROJECTS CONTAINING THE 413 SPECIFICATION, SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

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

ENTER APL 580 ENTER APM 1305

125.00%	INCREASE ADJUSTMENT

L.I.N.	TYPE	TACK (GALLONS)	TACK (TONS)	REMARKS
		145	0.6228	

TMT = 0.6228

PRICE ADJUSTMENT($)	$433.46

400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX

ENTER APL 580 ENTER APM 1305

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

125.00%	INCREASE ADJUSTMENT

L.I.N. / Spec Number	MIX TYPE	HMA	JMF AC%	AC	REMARKS
402-3130	12.5 mm SP	80	5.00	4.00	
402-3190	19 mm SP	110	5.00	5.50	
402-3121	25 mm SP	155	5.00	7.75	
402-1812	12.5 mm SP	60	5.00	3.00	
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			TMT =	20.25	

PRICE ADJUSTMENT($)	$14,094.00

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 580 ENTER APM 1305

125.00%	INCREASE ADJUSTMENT

Use this side for Asphalt Emulsion Only		
L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
TMT =		
REMARKS:		

Use this side for Asphalt Cement Only		
L.I.N.	TYPE	TACK (GALLONS)
TMT =		
REMARKS:		

MONTHLY PRICE ADJUSTMENT($)	

ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT (*ENGLISH 125% MAX)*

DIESEL PRICE ADJUSTMENT($)	$5,433.14
UNLEADED PRICE ADJUSTMENT($)	$1,294.78
ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)	$433.46
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX	$14,094.00
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)	

REMARKS:	

TOTAL ADJUSTMENTS	$21,255.39

DWM 10/08

Preliminary Right of Way Cost Estimate

Phil Copeland
Right of Way Administrator
By: LaShone Alexander

Date: April 18, 2011
Project: CSSFT-0008-00(253) Walker County
Existing/Required R/W: Varies/Varies
Project Termini : SR 1/ US 27 @ CR/585/Kay Conley Road
Project Description: SR 1/ US 27 @ CR/585/Kay Conley Road

P.I. Number: 0008253
No. Parcels: 7

Land:	Com RW: 0.347 acres @ $ 100,000/acre	$	34,700.00
Improvements :	Landscaping, misc. site improvements	$	12,000.00
Relocation:	Commercial (0) Residential (0)	$	.00
Damage :	Proximity (0) Uneconomic Remnant (1)	$	.00
	Net Cost	$	46,700.00

Net Cost		$	46,700.00
Scheduling Contingency	55 %		25,685.00
Adm/Court Cost	60 %		43,431.00
		$	115,816.00

Total Cost $115,900.00

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

631260DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: CSSFT-0008-00(253), Gilmer Co.
P.I. No. 0008253
SR 1/US 27 @ Kay Conley Rd.

OFFICE: Cartersville

DATE: June 3, 2011

FROM: Kerry D. Bonner, District Utilities Engineer

TO: Derrick Cameron, Project Manager
ATTN: Shonnell Gibbs

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
Atlanta Gas Light Company	$ 171,000.00	
Chickamauga Telephone	$ 465,394.00	
Comcast	$ 25,000.00	
North Georgia EMC**	$ 50,000.00	$ 183,750.00
Walker County Water & Sewer*	$ 400,000.00	
Windstream	$ 9,780.00	
City of LaFayette – Sewer*	$ 135,000.00	
Totals	$1,256,174.00	$ 183,750.00

Total cost for the above project is $ 1,439,924.00.

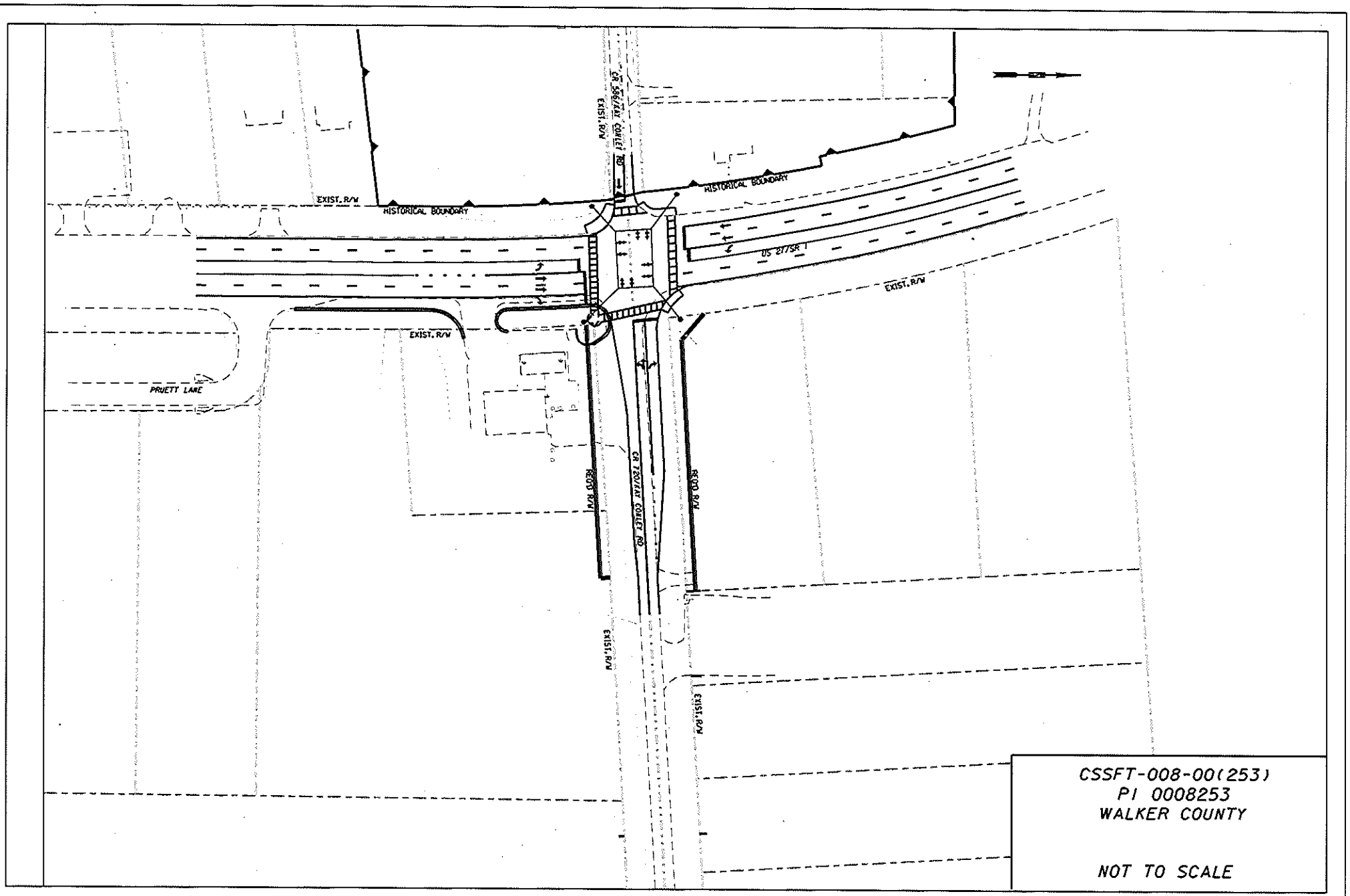
*The reimbursable amount could increase to $ 718,750.00 if Walker County Water & Sewer and the City of LaFayette were to apply for utility assistance for the relocation of their facilities.

**This reimbursable cost assumes the installation of 3 joint use poles by North Georgia EMC at this location.

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

KDB/jd

C: Jeff Baker, P. E., State Utilities Engineer;
File/Estimating Book



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USER:sgibbs

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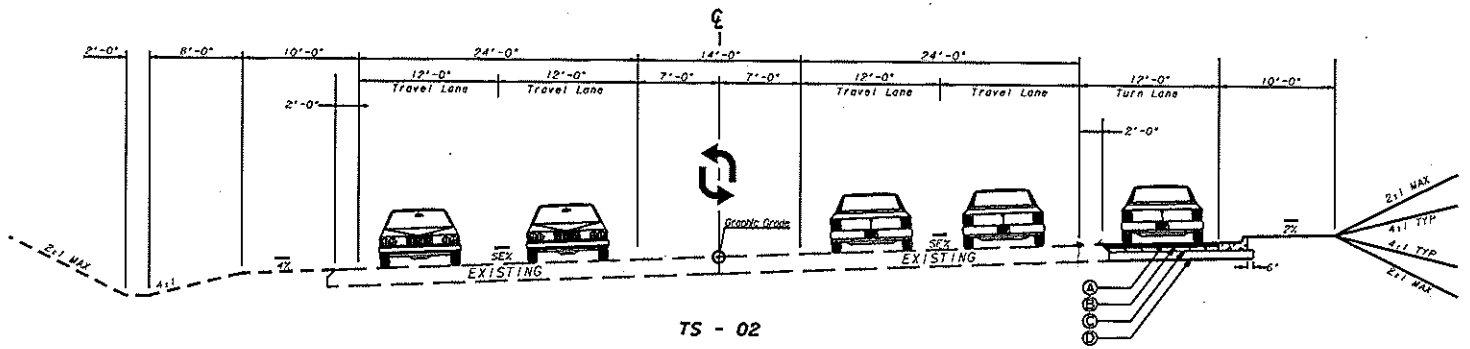
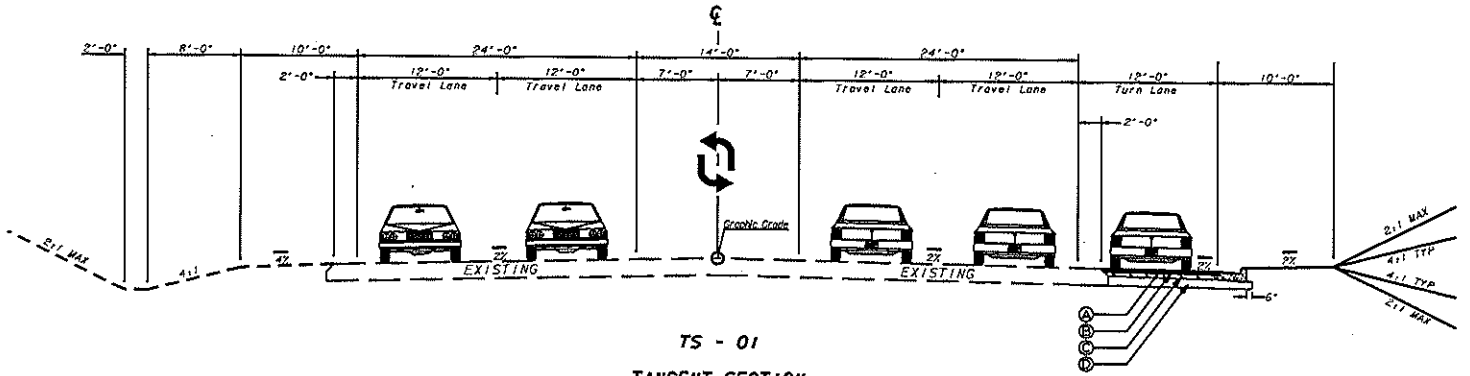
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	CSSTT-0008-00(253)		



TS - 02

SUPERELEVATED SECTION
WHERE APPLIES



TS - 01

TANGENT SECTION
APPLIES TO
US 27 \ SR 1

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

*REQUIRES GUARDRAIL

(A) - ASPH CONC 12.5 MM SUPERPAVE
(B) - ASPH CONC 19 MM SUPERPAVE
(C) - ASPH CONC 25 MM SUPERPAVE
(D) - GRADED AGGR BASE COURSE
(E) - ASPH CONC LEVELING

GEORGIA
DEPARTMENT
OF
TRANSPORTATION

NOT TO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROADWAY DESIGN

TYPICAL SECTIONS

SR 1 / US 27

DRAWING No. 5-01

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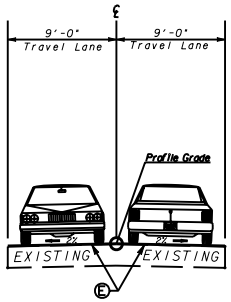
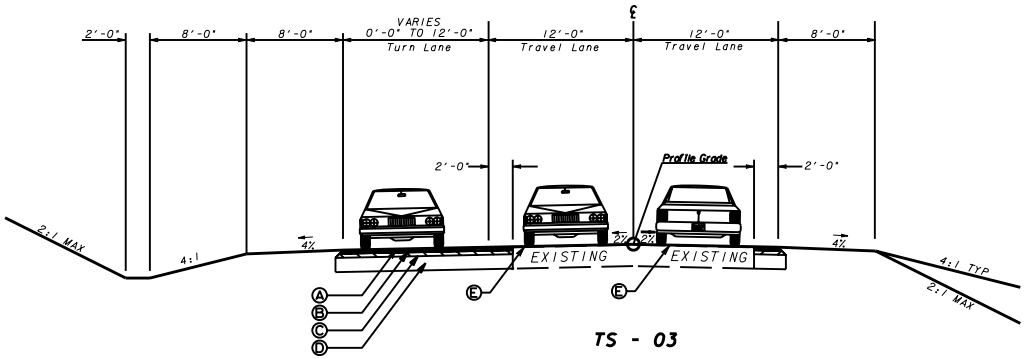


TS - 04

TANGENT SECTION
APPLIES TO
CR 586 / KAY CONLEY RD



TS - 03

TANGENT SECTION
APPLIES TO
CR 720 / KAY CONLEY RD

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

*REQUIRES GUARDRAIL

- (A) - ASPH CONC 12.5 MM SUPERPAVE
- (B) - ASPH CONC 19 MM SUPERPAVE
- (C) - ASPH CONC 25 MM SUPERPAVE
- (D) - GRADED AGGR BASE COURSE
- (E) - ASPH CONC LEVELING

GEORGIA
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

REVISION DATES

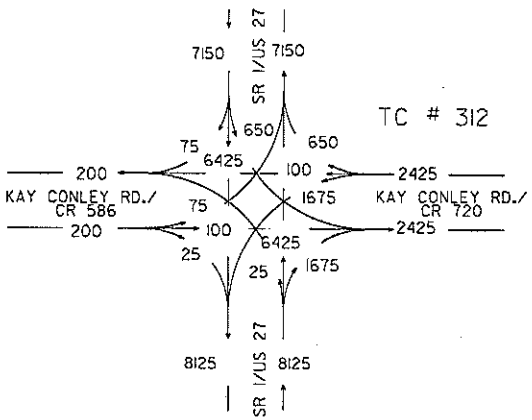
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROADWAY DESIGN
TYPICAL SECTIONS
CR 720/KAY CONLEY RD
DRAWING No. 5-02

SHEET 1 OF 1

WALKER COUNTY

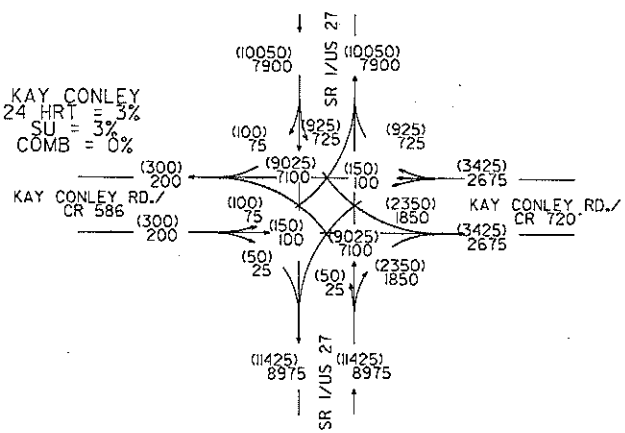
GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION

N



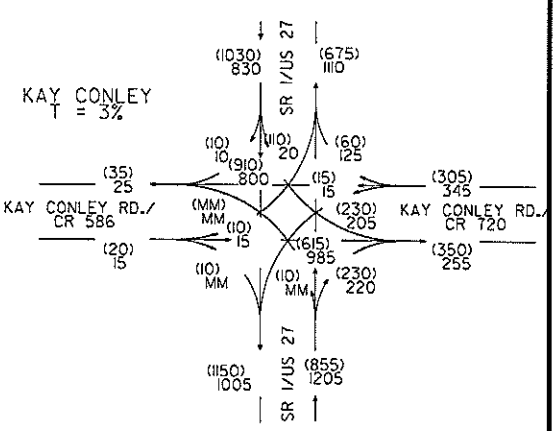
EXISTING 2008
TRAFFIC

SR 1/US 27
24 HRT = 4.5%
SU = 4%
COMB = 0.5%



2033 ADT = (000)
2013 ADT = 000

SR 1/US 27
T = 2.5%



2033 PM DHV = (000)
2033 AM DHV = 000

CSSRT-0008-00(253)
P.I. # 0008253
WALKER CO.
SR1/US 27 @ CR 586
KAY CONLEY RD

NSN
10/08

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Existing Conditions*
Agency/Co.	*Ga Dept. of Transportation*
Date Performed	*4-15-2011*
Analysis Time Period	*AM*

Site Information

Intersection	*SR 1/US 27 @ Kay Conley Road*
Jurisdiction	*Walker County*
Analysis Year	*2008*

Project Description *0008253*

East/West Street: *Kay Conley Rd* North/South Street: *SR 1*

Intersection Orientation: *North-South* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*5*	*705*	*160*	*15*	*570*	*10*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*783*	*177*	*16*	*633*	*11*
Percent Heavy Vehicles	*3*	--	--	*3*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*10*	*5*	*150*	*10*	*90*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*11*	*5*	*166*	*11*	*100*
Percent Heavy Vehicles	*3*	*3*	*3*	*3*	*3*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*5*	*16*		*277*			*21*	
C (m) (veh/h)	*930*	*706*		*290*			*261*	
v/c	*0.01*	*0.02*		*0.96*			*0.08*	
95% queue length	*0.02*	*0.07*		*9.41*			*0.26*	
Control Delay (s/veh)	*8.9*	*10.2*		*81.1*			*20.0*	
LOS	*A*	*B*		*F*			*C*	
Approach Delay (s/veh)	--	--	*81.1*			*20.0*		
Approach LOS	--	--	*F*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Existing Conditions*
Agency/Co.	*Ga Dept. of Transportation*
Date Performed	*4-15-2011*
Analysis Time Period	*PM*

Site Information

Intersection	*SR 1/US 27 @ Kay Conley Road*
Jurisdiction	*Walker County*
Analysis Year	*2008*

Project Description *008253*

East/West Street: *Kay Conley Rd* | North/South Street: *SR 1*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*5*	*440*	*165*	*80*	*650*	*10*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*488*	*183*	*88*	*722*	*11*
Percent Heavy Vehicles	*3*	--	--	*3*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*10*	*5*	*165*	*10*	*45*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*11*	*5*	*183*	*11*	*50*
Percent Heavy Vehicles	*3*	*3*	*3*	*3*	*3*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*5*	*88*		*244*			*21*	
C (m) (veh/h)	*861*	*909*		*296*			*239*	
v/c	*0.01*	*0.10*		*0.82*			*0.09*	
95% queue length	*0.02*	*0.32*		*6.85*			*0.29*	
Control Delay (s/veh)	*9.2*	*9.4*		*55.6*			*21.5*	
LOS	*A*	*A*		*F*			*C*	
Approach Delay (s/veh)	--	--	*55.6*			*21.5*		
Approach LOS	--	--	*F*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Existing Conditions*
Agency/Co.	*GA Dept. of Transportation*
Date Performed	*4-15-2011*
Analysis Time Period	*AM*

Site Information

Intersection	*SR 1/US 27 @ Kay Conley Rd*
Jurisdiction	*Walker County*
Analysis Year	*2013*

Project Description *0008253*

East/West Street: *Kay Conley Rd* | North/South Street: *SR 1/US 27*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*5*	*775*	*175*	*10*	*630*	*10*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*861*	*194*	*11*	*700*	*11*
Percent Heavy Vehicles	*3*	--	--	*3*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*10*	*5*	*165*	*10*	*100*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*11*	*5*	*183*	*11*	*111*
Percent Heavy Vehicles	*3*	*3*	*3*	*3*	*3*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*5*	*11*		*305*			*21*	
C (m) (veh/h)	*878*	*650*		*261*			*237*	
v/c	*0.01*	*0.02*		*1.17*			*0.09*	
95% queue length	*0.02*	*0.05*		*13.79*			*0.29*	
Control Delay (s/veh)	*9.1*	*10.6*		*150.0*			*21.7*	
LOS	*A*	*B*		*F*			*C*	
Approach Delay (s/veh)	--	--	*150.0*			*21.7*		
Approach LOS	--	--	*F*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Existing Conditions*
Agency/Co.	*GA Dept. of Transportaion*
Date Performed	*4-15-2011*
Analysis Time Period	*PM*

Site Information

Intersection	*SR 1/US 27 @ Kay Conley Rd*
Jurisdiction	*Walker County*
Analysis Year	*2013*

Project Description *0008253*

East/West Street: *Kay Conley Rd* | North/South Street: *SR 1/US 27*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*5*	*485*	*185*		*715*	*10*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*538*	*205*	*11*	*794*	*11*
Percent Heavy Vehicles	*3*	--	--	*3*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*10*	*5*	*185*	*10*	*50*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*11*	*5*	*205*	*11*	*55*
Percent Heavy Vehicles	*3*	*3*	*3*	*3*	*3*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*5*	*11*		*271*			*21*	
C (m) (veh/h)	*809*	*854*		*320*			*273*	
v/c	*0.01*	*0.01*		*0.85*			*0.08*	
95% queue length	*0.02*	*0.04*		*7.47*			*0.25*	
Control Delay (s/veh)	*9.5*	*9.3*		*55.8*			*19.3*	
LOS	*A*	*A*		*F*			*C*	
Approach Delay (s/veh)	--	--	*55.8*			*19.3*		
Approach LOS	--	--	*F*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Existing Conditions*
Agency/Co.	*GA Dept. of Transportation*
Date Performed	*4-15-2011*
Analysis Time Period	*AM*

Site Information

Intersection	*SR 1/US 27 @ Kay Conley Rd*
Jurisdiction	*Walker County*
Analysis Year	*2033*

Project Description *0008253*

East/West Street: *Kay Conley Rd* | North/South Street: *SR 1/US 27*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*985*	*220*	*20*	*800*	*10*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*1094*	*244*	*22*	*888*	*11*
Percent Heavy Vehicles	*3*	--	--	*3*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*15*	*5*	*205*	*15*	*125*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*5*	*16*	*5*	*227*	*16*	*138*
Percent Heavy Vehicles	*3*	*3*	*3*	*3*	*3*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*5*	*22*		*381*			*26*	
C (m) (veh/h)	*745*	*506*		*182*			*152*	
v/c	*0.01*	*0.04*		*2.09*			*0.17*	
95% queue length	*0.02*	*0.14*		*29.69*			*0.60*	
Control Delay (s/veh)	*9.9*	*12.4*		*552.1*			*33.5*	
LOS	*A*	*B*		*F*			*D*	
Approach Delay (s/veh)	--	--	*552.1*			*33.5*		
Approach LOS	--	--	*F*			*D*		

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Generated: 6/14/2011 3:17 PM

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Existing Conditions*
Agency/Co.	*GA Dept. of Transportation*
Date Performed	*4-15-2011*
Analysis Time Period	*PM*

Site Information

Intersection	*SR 1/US 27 @ Kay Conley Rd*
Jurisdiction	*Walker County*
Analysis Year	*2033*

Project Description *0008253*

East/West Street: *Kay Conley Rd* | North/South Street: *SR 1/US 27*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*10*	*615*	*230*	*110*	*910*	*10*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*11*	*683*	*255*	*122*	*1011*	*11*
Percent Heavy Vehicles	*3*	--	--	*3*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*10*	*10*	*230*	*15*	*60*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*11*	*11*	*255*	*16*	*66*
Percent Heavy Vehicles	*3*	*3*	*3*	*3*	*3*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*11*	*122*		*337*			*22*	
C (m) (veh/h)	*669*	*720*		*182*			*177*	
v/c	*0.02*	*0.17*		*1.85*			*0.12*	
95% queue length	*0.05*	*0.61*		*24.53*			*0.42*	
Control Delay (s/veh)	*10.5*	*11.0*		*447.1*			*28.2*	
LOS	*B*	*B*		*F*			*D*	
Approach Delay (s/veh)	--	--	*447.1*			*28.2*		
Approach LOS	--	--	*F*			*D*		

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SHORT REPORT

General Information		Site Information	
Analyst	*Proposed Conditions*	Intersection	*SR 1/US 27 @ Kay Conley Road*
Agency or Co.	*Ga Dept. of Transportation*	Area Type	*All other areas*
Date Performed	*4-15-2011*	Jurisdiction	*Walker County*
Time Period	*AM*	Analysis Year	*2013*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	*0*	*1*	*0*	*0*	*1*	*1*	*1*	*2*	*1*	*1*	*2*	*0*
Lane Group		*LTR*			*LT*	*R*	*L*	*T*	*R*	*L*	*TR*	
Volume (vph)	*5*	*10*	*5*	*165*	*10*	*100*	*5*	*775*	*175*	*20*	*630*	*10*
% Heavy Vehicles	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Pretimed/Actuated (P/A)	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*
Startup Lost Time		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type		*3*			*3*	*3*	*3*	*3*	*3*	*3*	*3*	
Unit Extension		*3.0*			*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	
Ped/Bike/RTOR Volume	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*12.0*			*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour		*0*			*0*	*0*	*0*	*0*	*0*	*0*	*0*	
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *13.1*	G = *0.0*	G = *0.0*	G = *0.0*	G = *34.9*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *0*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *60.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*23*			*194*	*111*	*6*	*861*	*194*	*22*	*711*	
Lane Group Capacity		*352*			*291*	*342*	*403*	*2043*	*912*	*329*	*2038*	
v/c Ratio		*0.07*			*0.67*	*0.32*	*0.01*	*0.42*	*0.21*	*0.07*	*0.35*	
Green Ratio		*0.22*			*0.22*	*0.22*	*0.58*	*0.58*	*0.58*	*0.58*	*0.58*	
Uniform Delay d_1		*18.6*			*21.5*	*19.7*	*5.3*	*7.0*	*6.0*	*5.5*	*6.6*	
Delay Factor k		*0.11*			*0.24*	*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	
Incremental Delay d_2		*0.1*			*5.7*	*0.6*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	
PF Factor		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Control Delay		*18.7*			*27.2*	*20.3*	*5.3*	*7.1*	*6.1*	*5.5*	*6.7*	
Lane Group LOS		*B*			*C*	*C*	*A*	*A*	*A*	*A*	*A*	
Approach Delay		*18.7*			*24.7*			*6.9*			*6.7*	
Approach LOS		*B*			*C*			*A*			*A*	
Intersection Delay		*9.5*			Intersection LOS						*A*	

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SHORT REPORT

General Information		Site Information	
Analyst	*Proposed Conditions*	Intersection	*SR 1/US 27 @ Kay Conley Road*
Agency or Co.	*GA Dept. of Transportation*	Area Type	*All other areas*
Date Performed	*4-15-2011*	Jurisdiction	*Walker County*
Time Period	*PM*	Analysis Year	*2013*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	1	1	1	2	1	1	2	0
Lane Group		LTR			LT	R	L	T	R	L	TR	
Volume (vph)	5	10	5	185	10	50	5	485	185	90	715	10
% Heavy Vehicles	3	3	3	3	3	3	3	3	3	3	3	3
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time		2.0			2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0			2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Arrival Type		3			3	3	3	3	3	3	3	
Unit Extension		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width		12.0			12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0			0	0	0	0	0	0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 13.7	G = 0.0	G = 0.0	G = 0.0	G = 34.3	G = 0.0	G = 0.0	G = 0.0
	Y = 6	Y = 0	Y = 0	Y = 0	Y = 6	Y = 0	Y = 0	Y = 0
Duration of Analysis (hrs) = 0.25						Cycle Length C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		23			217	56	6	539	206	100	805	
Lane Group Capacity		368			303	358	347	2008	896	476	2004	
v/c Ratio		0.06			0.72	0.16	0.02	0.27	0.23	0.21	0.40	
Green Ratio		0.23			0.23	0.23	0.57	0.57	0.57	0.57	0.57	
Uniform Delay d_1		18.1			21.4	18.5	5.6	6.5	6.3	6.3	7.1	
Delay Factor k		0.11			0.28	0.11	0.11	0.11	0.11	0.11	0.11	
Incremental Delay d_2		0.1			7.9	0.2	0.0	0.1	0.1	0.2	0.1	
PF Factor		1.000			1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Control Delay		18.2			29.2	18.7	5.6	6.6	6.5	6.5	7.3	
Lane Group LOS		B			C	B	A	A	A	A	A	
Approach Delay	18.2			27.1			6.5			7.2		
Approach LOS	B			C			A			A		
Intersection Delay	9.8			Intersection LOS						A		

SHORT REPORT

General Information		Site Information	
Analyst	*Proposed Conditions*	Intersection	*SR 1 @ Kay Conley Road*
Agency or Co.	*GA Dept. of Transportation*	Area Type	*All other areas*
Date Performed	*4-15-2011*	Jurisdiction	*Walker County*
Time Period	*AM*	Analysis Year	*2033*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	1	1	1	2	1	1	2	0
Lane Group		LTR			LT	R	L	T	R	L	TR	
Volume (vph)	5	15	5	205	15	125	5	985	220	20	800	10
% Heavy Vehicles	3	3	3	3	3	3	3	3	3	3	3	3
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0			2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0			2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Arrival Type		3			3	3	3	3	3	3	3	
Unit Extension		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width		12.0			12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0			0	0	0	0	0	0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 14.0	G = 0.0	G = 0.0	G = 0.0	G = 34.0	G = 0.0	G = 0.0	G = 0.0
	Y = 6	Y = 0	Y = 0	Y = 0	Y = 6	Y = 0	Y = 0	Y = 0
Duration of Analysis (hrs) = 0.25						Cycle Length C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		29			245	139	6	1094	244	22	900	
Lane Group Capacity		385			310	366	300	1990	889	224	1987	
v/c Ratio		0.08			0.79	0.38	0.02	0.55	0.27	0.10	0.45	
Green Ratio		0.23			0.23	0.23	0.57	0.57	0.57	0.57	0.57	
Uniform Delay d_1		17.9			21.6	19.3	5.7	8.2	6.7	6.0	7.6	
Delay Factor k		0.50			0.50	0.50	0.50	0.50	0.50	0.50	0.50	
Incremental Delay d_2		0.4			18.3	3.0	0.1	1.1	0.8	0.9	0.7	
PF Factor		1.000			1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Control Delay		18.3			39.9	22.3	5.8	9.3	7.4	6.8	8.3	
Lane Group LOS		B			D	C	A	A	A	A	A	
Approach Delay		18.3			33.6			8.9			8.3	
Approach LOS		B			C			A			A	
Intersection Delay		12.3			Intersection LOS						B	

SHORT REPORT

General Information		Site Information	
Analyst	*Proposed Conditions*	Intersection	*SR 1/US 27 @ Kay Conley Road*
Agency or Co.	*GA Dept. of Transportation*	Area Type	*All other areas*
Date Performed	*4-15-2011*	Jurisdiction	*Walker County*
Time Period	*PM*	Analysis Year	*2033*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	*0*	*1*	*0*	*0*	*1*	*1*	*1*	*2*	*1*	*1*	*2*	*0*
Lane Group		*LTR*			*LT*	*R*	*L*	*T*	*R*	*L*	*TR*	
Volume (vph)	*5*	*10*	*10*	*230*	*15*	*60*	*10*	*615*	*230*	*110*	*910*	*10*
% Heavy Vehicles	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Pretimed/Actuated (P/A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Startup Lost Time		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Extension of Effective Green		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival Type		*3*			*3*	*3*	*3*	*3*	*3*	*3*	*3*	
Unit Extension		*3.0*			*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	
Ped/Bike/RTOR Volume	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width		*12.0*			*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour		*0*			*0*	*0*	*0*	*0*	*0*	*0*	*0*	
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *15.6*	G = *0.0*	G = *0.0*	G = *0.0*	G = *32.4*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *0*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *60.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*28*			*273*	*67*	*11*	*683*	*256*	*122*	*1022*	
Lane Group Capacity		*417*			*345*	*408*	*231*	*1896*	*847*	*381*	*1894*	
v/c Ratio		*0.07*			*0.79*	*0.16*	*0.05*	*0.36*	*0.30*	*0.32*	*0.54*	
Green Ratio		*0.26*			*0.26*	*0.26*	*0.54*	*0.54*	*0.54*	*0.54*	*0.54*	
Uniform Delay d_1		*16.7*			*20.7*	*17.2*	*6.5*	*7.9*	*7.6*	*7.7*	*9.0*	
Delay Factor k		*0.50*			*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	
Incremental Delay d_2		*0.3*			*16.8*	*0.9*	*0.4*	*0.5*	*0.9*	*2.2*	*1.1*	
PF Factor		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Control Delay		*17.0*			*37.5*	*18.0*	*6.9*	*8.4*	*8.5*	*9.9*	*10.1*	
Lane Group LOS		*B*			*D*	*B*	*A*	*A*	*A*	*A*	*B*	
Approach Delay		*17.0*			*33.6*			*8.4*			*10.0*	
Approach LOS		*B*			*C*			*A*			*B*	
Intersection Delay		*12.8*			Intersection LOS						*B*	

Roundabout Analysis Tool

v 1.3

Updated: 9/8/10

Welcome to GDOT's Roundabout Analysis Tool. This tool is designed for the user to determine the functionality of a proposed roundabout. The analysis is based on NCHRP Report 572 and the FHWA's Roundabout Design Guide (2000) standards. Please read the notes in the Instructions tab before using the spreadsheet.

Analyst:	
Agency/Company:	GDOT
Date:	4/15/2011
Project Name or PI#:	0008253
Year, Peak Perio :	2033 PM
County/District:	Walker County
Intersection:	State Route 1 and Kay Conley Road/CR 586

Insert Project Information Here in the BLUE SPACE. This information is linked to the Single Lane and Multi Lane Worksheets.

Roundabout Considerations Worksheet

Roundabouts may not operate well if there is too much traffic entering the intersection or if the percentage of traffic on the major road is too high. Candidate intersections shall be analyzed to determine whether a roundabout will perform acceptably. Shown below are thresholds to determine if a roundabout capacity analysis is required:

# of circulatory lanes	ADTs (current/ build year)	% traffic on Major Roa
Single Lane	less than 25,000	less than 90%
Multi-Lane	less than 45,000	less than 90%

Other things to consider when evaluating roundabouts as an alternative are Right of Way, sight distance, environmental impacts, and access to adjacent properties.

Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	21,475	85%
Minor Street	3,725	15%
Total volumes	25,200	

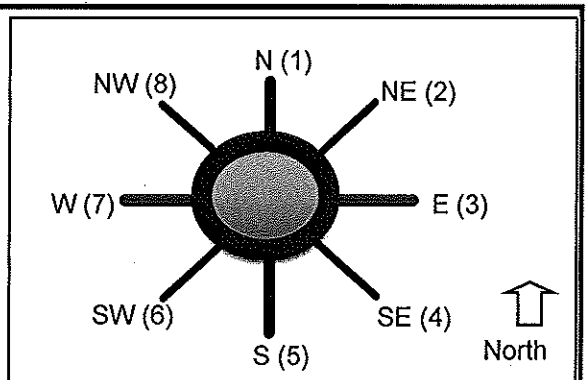
Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)? 0 mi 1463 '

3 Is the proposed intersection located within a coordinated signal network?

Go up to next section...

General & Site Information	
Analyst:	
Agency/Company:	GDOT
Date:	4/15/2011
Project Name or PI#:	0008253
Year, Peak Hour:	2033 PM
County/District:	Walker County
Intersection:	State Route 1 and Kay Conley Road/CR 586



Volumes		Entry Legs (FROM)							
		N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
	N (1), vph					60			
Exit	NE (2), vph								
Legs	E (3), vph		110						
(TO)	SE (4), vph								
	S (5), vph	455	455			230			
	SW (6), vph								
	W (7), vph	10				15			
	NW (8), vph								
	Entry Volume, vph	465	565	0	0	305	0	0	0
		S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
	N (1), vph	307	308			5			
	NE (2), vph								
	E (3), vph	230				10			
	SE (4), vph								
	S (5), vph					10			
	SW (6), vph								
	W (7), vph		10						
	NW (8), vph								
	Entry Volume, vph	537	318	0	0	25	0	0	0

Critical Lane Volumes	N	NE	E	SE	S	SW	W	NW
N (1), vph	0	0	60	0	307	0	5	0
NE (2), vph	0	0	0	0	0	0	0	0
E (3), vph	110	0	0	0	230	0	10	0
SE (4), vph	0	0	0	0	0	0	0	0
S (5), vph	455	0	230	0	0	0	10	0
SW (6), vph	0	0	0	0	0	0	0	0
W (7), vph	0	0	15	0	0	0	0	0
NW (8), vph	0	0	0	0	0	0	0	0
Entry Volume, vph	565	0	305	0	537	0	25	0
No. of Conflict Flow Lanes to	2	2	2	2	2	2	2	2

Roundabout Analysis Tool
Multi-Lane

7/19/2011
Version 1.3

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	97%	100%	97%	100%	97%	100%	97%	100%
% S.U./ Bus	0%	0%	0%	0%	0%	0%	0%	0%
% Trucks/ Combin.	3%	0%	3%	0%	3%	0%	3%	0%
% Bicycles	0%	0%	0%	0%	0%	0%	0%	0%
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
F_{hv}	0.971	1.000	0.971	1.000	0.971	1.000	0.971	1.000

Entry/Conflicting Flows		N	NE	E	SE	S	SW	W	NW
Flow to	N (1), pcu/h	0	0	67	0	689	0	6	0
Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	123	0	0	0	258	0	11	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	1019	0	258	0	0	0	11	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	11	0	17	0	11	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Conflicting flow, pcu/h	285	0	705	0	140	0	1399	0

Results: Approach Measures of Effectiveness

NCHRP-572 Model	N	NE	E	SE	S	SW	W	NW
Crit. Entry Capacity pcu/h	925	NA	690	NA	1025	NA	424	NA
Crit. Lane Entry Flow pcu/h	633	0	341	0	601	0	28	0
V/C ratio	**0.68**		**0.50**		**0.59**		**0.07**	
Control Delay, sec/pcu	**11.9**		**10.2**		**8.4**		**9.1**	
LOS	B		B		A		A	
95th % Queue (ft)	**145**		**71**		**102**		**5**	

UK Model**	N	NE	E	SE	S	SW	W	NW
Crit. Entry Capacity pcu/h	2220	NA	1919	NA	2324	NA	1422	NA
Entry Flow pcu/h	1153	0	341	0	957	0	28	0
V/C ratio	**0.52**		**0.18**		**0.41**		**0.02**	
Control Delay, sec/pcu	**3.4**		**2.3**		**2.6**		**2.6**	
LOS	A		A		A		A	
95th % Queue (ft)	**82**		**17**		**53**		**2**	

Notes:

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Georgia Department of Transportation

District Six Traffic Operations

SR 1 @ Kay Conley Rd XRT/100% Vol

Study Name : **SR 1 @ Kay Conley**
Study Date : **03/17/06**
Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Northbound: **SR 1**
Number of Lanes: **2**
Approach Speed: **55**
Total Approach Volume: **3,532**

Southbound: **SR 1**
Number of Lanes: **2**
Approach Speed: **55**
Total Approach Volume: **3,176**

Minor Street Approaches

Eastbound: **Kay Conley**
Number of Lanes: **1**
Total Approach Volume: **88**

Westbound: **Kay Conley**
Number of Lanes: **1**
Total Approach Volume: **1,008**

Warrant Summary (Urban values apply.)

Warrant 1 - Eight Hour Vehicular Volumes ..... **Not Satisfied**

Warrant 1A - Minimum Vehicular Volume ..... **Not Satisfied**
Required volumes reached for 2 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic ..... **Not Satisfied**
Required volumes reached for 3 hours, 8 are needed

Warrant 1 A&B - Combination of Warrants ..... **Not Satisfied**
Required volumes reached for 2 hours, 8 are needed

Warrant 2 - Four Hour Volumes ..... **Satisfied**
Number of hours (7) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour ..... **Satisfied**

Warrant 3A - Peak Hour Volumes ..... **Satisfied**
Volumes exceed minimums for at least one hour.

Warrant 3B - Peak Hour Delay ..... **Satisfied**
Number of hours (20) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 4 - Pedestrian Volumes ..... **Not Evaluated**

Warrant 5 - School Crossing ..... **Not Evaluated**

Warrant 6 - Coordinated Signal System ..... **Not Evaluated**

Warrant 7 - Crash Experience ..... **Not Satisfied**
Number of accidents (8) meet minimum (5) but volumes do not.

Warrant 8 - Roadway Network ..... **Not Evaluated**

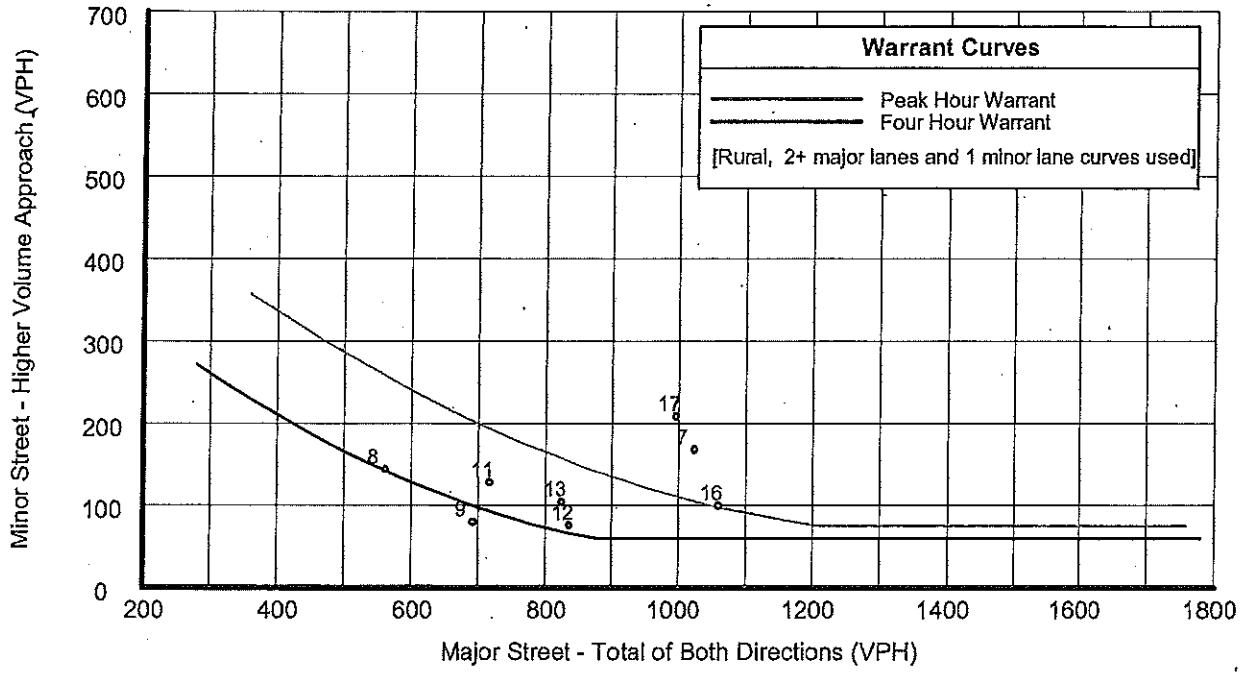
Georgia Department of Transportation

District Six Traffic Operations

SR 1 @ Kay Conley Rd XRT/100% Vol

Study Name : **SR 1 @ Kay Conley**
Study Date : **03/17/06**
Page No. : **2**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour	Major	Higher Minor		War-1A			War-1B			War-1A&B		
Begin	Total	Vol	Dir	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
01:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
02:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
03:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
04:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
05:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
06:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
07:00	1,024	168	WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
08:00	560	144	WB	600-No	150-No	---	900-No	75-Yes	Minor	720-No	120-Yes	Minor
09:00	692	80	WB	600-Yes	150-No	Major	900-No	75-Yes	Minor	720-No	120-No	---
10:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
11:00	716	128	WB	600-Yes	150-No	Major	900-No	75-Yes	Minor	720-No	120-Yes	Minor
12:00	836	76	WB	600-Yes	150-No	Major	900-No	75-Yes	Minor	720-Yes	120-No	Major
13:00	824	104	WB	600-Yes	150-No	Major	900-No	75-Yes	Minor	720-Yes	120-No	Major
14:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
15:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
16:00	1,060	100	WB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	720-Yes	120-No	Major
17:00	996	208	WB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	720-Yes	120-Yes	Both
18:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
19:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
20:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
21:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
22:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---
23:00	0	0	EB	600-No	150-No	---	900-No	75-No	---	720-No	120-No	---

MEETING MINUTES

PROJECT: CSSTP-0008-00(253), PI # 0008253 Walker County

MEETING DATE: March 30, 2010

PREPARED BY: Shonnell Gibbs

ATTENDEES: Shonnell Gibbs, GDOT Traffic Operations

Charity Belford, GDOT Traffic Operations

Rickey Mallett, GDOT District 6/Area 3

Mary Anne Sellers, GDOT District 6/Area 3

Royce Turner, GDOT District 6 Assistant Utilities Engineer

Bruce Savage, GDOT Right of Way

Dee Corson, GDOT Traffic Operations

Brandon Stephens, Atlanta Gas Light Company

Nikki Townsend, North Georgia EMC

Jay Renew, City of Lafayette

Dusty Townsend, Chickamauga Telephone

Discussion: Project Concept Team Meeting

A meeting was held on March 30, 2010 for the intersection improvement project in Walker County. This project is located at SR 1 and Kay Conley Road in the City of Rock Springs.

The meeting began by discussing the analysis used to create the draft concept report.

Utility companies present stated that they have facilities that will require relocation on SR 1 and Kay Conley Road.

GDOT District 6 traffic operations stated that signal warrant analysis needed to be re-analyzed. Signal warrant one used 70% volume and now needed to use 100% volume. District Traffic Operations stated that they would re-analyze and submit an updated signal warrant analysis.

GDOT District 6 stated their concern about providing advance warning for southbound traffic on SR 1. It was stated that advance warning would be needed due to limited sight distance from the horizontal curve and driver expectancy. The district recommended advance flashers in addition to signage.

GDOT District 6 utilities requested an electronic copy of the concept layout to get an updated utility cost estimate.

BENEFIT COST ANALYSIS WORKSHEET

SR 1/US 27 @ CR 586/Kay Conley Rd.
Walker County

ACCIDENT DATA

Description	Symbol	Value
Property Damage Accidents (no fatality or injury)	P	4.2
Fatalities	F	0
Injuries	I	3.8

FIXED VALUES

Description	Symbol	Value
Fatality Cost	Fc	$5,800,000
Injury Cost	Ic	$333,500
Property Damage Cost	Pc	$4,400
Maintenance/Operating Cost	Cm	$20,000

TABLE VALUES

Description	Symbol	Value	
Reduction Factor (fatalities and injuries) (Appendix E)	R	0.572875	
Reduction Factor (property damage) (Appendix E)	Rp	0.572875	
Capital Recovery Factor (Appendix E)	Ek	0.135	
Initial Improvement Cost (Itemized Cost Estimate)	Ci	$1,354,365.00	PE, CST, R/W, Utility

Q = Weighted cost of fatal and injury collisions

$$Q = \frac{(Fc \times F) + (Ic \times I)}{F + I}$$

Q = 333500

B = Benefit

B = Q (F + I) (R) + Pc (P) (Rp)

B = 736591.2175

C = Cost

C = Ek (Ci) + Cm

C = 202839.275

B/C = Benefit/Cost Ratio

B/C = 3.631403324

BENEFIT/COST RATIO: 3.63

BENEFIT COST ANALYSIS FACTOR DEFINITIONS

F: annual number of collisions involving fatatlities during study period

I: average annual number of collisions involving injured people for the period of the study

P: average annual number of collisions involoving only property damage for the period of the study

R: reduction of fatal and injury collisions by type (from Table A - Appendix E)

R_p: reduction of property damage only collisions by type (from Table A - Appendix E)

P_c: average cost, in thousands of $, per property damage only collision

Q: weighted cost, in thousands of $, of fatal and injury collisions

I_c: average cost per injury in thousands of $

F_c: average cost per fatality in thousands of $

E_k: capital recovery factor based on countermeasure life (from Table B - Appendix E)

C_i: estimated intial cost of the countermeasure (cost of the improvement including r/w) in thousands of $

C_m: estimated annual maintenance and operating cost of the countermeasure in thousands of $