ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. #0003625
STP00-0003-00(625)
GDOT District 2 - Tennille
Bleckley County
Widening & reconstruction of SR 87/Cochran Bypass & construction of an overpass bridge at the Norfolk Southern Railroad crossing

OFFICE Design Policy & Support

DATE February 7, 2011

FROM for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT **APPROVED REVISED CONCEPT REPORT**

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

Attachment

DISTRIBUTION:

Genetha Rice-Singleton, Program Control Administrator
Ron Wishon, State Project Review Engineer
Glenn Bowman, State Environmental Administrator
Ken Thompson, Statewide Location Bureau Chief
Kathy Zahul, State Traffic Engineer
Cindy VanDyke, State Transportation Planning Administrator
Ben Rabun, State Bridge Engineer
Bobby Hilliard, State Program Delivery Engineer
Georgene Geary, State Materials & Research Engineer
Angela Robinson, Financial Management Administrator
Jeff Baker, State Utilities Engineer
Jack Cooper Jr., District Utilities Engineer
George Brewer, District Preconstruction Engineer
Jimmy Smith, District Engineer
Sean Bush, Project Manager
BOARD MEMBER - 8th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
REVISED PROJECT CONCEPT REPORT

Project Number: *STP00-0003-00(625)*
County: *Bleckley*
P.I. Number: *0003625*
Federal Route Number: *23*
State Route Number: *87*

The project scope is now being revised to reconfigure the 10' rural shoulders from 6.5' paved to 10' rural shoulders with 4' paved. The on-site detour will be removed at the railroad location and an off-site detour will be used to maintain traffic around Norfolk Southern Railroad while a bridge separation is constructed.

Submitted for approval:

DATE 08-31-10 _____
District Design Squad Leader

DATE 8/31/10 _____
District Preconstruction Engineer

DATE 9/1/10 _____
District Engineer

Recommendation for approval:

DATE 10-8-10 Glenn Bowman (MHB) *on file
State Environmental Administrator

DATE 1-12-11 Bert Rabun (MHB) *on file
State Bridge Design Engineer

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

* DATE 10/18/10 _____
State Transportation Planning Administrator

* The project description in the STIP as appropriate will be modified to reflect the revised concept report upon approval.

END PROJ
MP 8.5

BEG PROJ
MP 4.1

COCHRAN
POP. 4390
ELEV. 340

Antioch Church
Royal
Bethany Church
Bleckley Co. Middle School
BLECKLEY COUNTY LAND FILL
Jones Cemetery
NeSmith Pond
New Ebenezer Church
Union Hill Church
Emanuel Church
Bleckley County Headstart
(SEE CITY MAP FOR COMPLETE FEDERAL-AID SYSTEMS)
JAMES MARION "JIMMY" DYKES BRIDGE
Lake Linda
John Floyd Cemetery
Hart Cemetery
Frazier
G.M.D. 387
G.M.D. 1503
NAT. GAS PIPE LINE
TO CHESTER

PROJECT: PI 0003625
BLECKLEY COUNTY

SCALE IN MILES
0

Need and Purpose:

Project History and Planning Background:

State Route 87/US 23/Cochran Bypass is classified as a rural minor arterial from SR 87/US 23 Business to SR 87/US 23 Business. State Route 87/US 23 also known as the Cochran Bypass was constructed in the 1980's to divert truck and other traffic from the downtown Cochran area. Improvements to the existing facility were first recommended to GDOT Project Nominating Review Committee (PNRC) in 2001 by District 2. The PNRC approved the request to add the project to the Department's Long Range Work Program.

The project currently proposes to provide a grade separation at the Norfolk Southern Railroad. The project limits will connect a newly constructed five lane section on the south side and an existing four lane section to the north. State Route 87/US 23/Cochran Bypass is a school bus route. Project STP00-0003-00(625) will increase the capacity of Level-of-Service (LOS) on SR 87/US 23/ Cochran Bypass thereby improving the Level of Service to an 'A' in 2033.

Logical Termini:

The northern terminus of this project would tie into the existing 4-lane section of SR 87/US 23/Cochran Bypass. The southern terminus of this project would connect to an existing 5-lane section of SR 87/US 23/Cochran Bypass. The 2-lane section in between would be modified to allow traffic to flow more smoothly and lessen the possibility of impeded traffic flow, thereby improving driving conditions.

Traffic Analysis:

The 2013 Average Daily Traffic (ADT) on SR 87/US 23/Cochran Bypass is 8,350 vehicles per day.
The 2033 Average Daily Traffic (ADT) is projected to be 11,050 vehicles per day.
The Level of Service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream. There are six LOS designations, signified by the letters 'A' through 'F'. LOS A represents the best operation conditions and LOS F represents the worst. LOS C is considered acceptable and marks the beginning of a range of traffic flow in which level of driving comfort declines noticeably on the roadway. LOS E represents at or near capacity for traffic flow. LOS F represents heavily congested flow with traffic demands exceeding capacity. For planning purposes, GDOT strives for a LOS 'C'.
Accident History:

- *In 2006 there have been a total of 17 accidents with an accident rate of 186. A total of 8 injuries with an injury rate of 88. There have been no fatalities. The accident rate statewide is 197.*

- *In 2007 there have been a total of 17 accidents with an accident rate of 189. A total of 13 injuries with an injury rate of 144. There have been no fatalities. The accident rate statewide is 194.*
- *In 2008 there have been a total of 19 accidents with an accident rate of 71. A total of 15 injuries with an injury rate of 56. There has been 1 fatality with a fatality rate of 3.71. The accident rate statewide is 186.*

In summary there have been a total of 53 accidents in the past three years with 1 fatality. This is slightly below the state wide average for all years for this classification of roadway.
The existing Level of Service on S.R. 87 is a "C". The "No-Build" scenario indicates that by the year 2013 the Level of Service will be a "D". The build scenario for S.R. 87 in the year 2013 is a Level of Service of "A".
The "No-Build" scenario indicates that by the year 2033 the Level of Service will be an "F". The build scenario for S.R. 87 in the year 2033 is a Level of Service of "A".

Project Setting:
This project is within the limits of an existing roadway's footprint. Land use in the area is comprised of a mixture of residential, commercial and educational developments, with areas of forest lands scattered throughout.

Community Concerns:
There are no known Environmental Justice concerns. A PIOH was held on June 25, 2009 and seven people attended. None were against the project and three supported it.

Transportation Planning Coordination:
None

Summary:
Additional travel lanes are needed along this section of SR 87 to provide adequate capacity for future traffic demands. This project proposes to widen this section of SR 87 to four lanes, two lanes in each direction. This would add sufficient capacity to accommodate traffic projections through the year 2033.

Project Location: T*he project is located on the Cochran Bypass (SR 87). It begins at MP 4.30 just south of the intersection of SR 87 Business and ends at MP 8.30 just north of the intersection with SR 87 Business. The total project length is 4.00 miles.*

Description of the approved concept: *This project consists of the widening and reconstruction of the Cochran Bypass (SR 87) from MP 4.30 just south of the intersection of SR 87 Business to MP 8.30 just north of the intersection with SR 87 Business. The total project length is 4.00 miles. The project connects an existing five lane section south of Cochran to an existing four lane section north of Cochran. SR 126 will be relocated with this project as shown on the attached Project Location Sketch. All construction will be done under traffic except for an on-site detour at the Norfolk Southern Railroad crossing in order to construct the proposed overpass bridge. A temporary railroad crossing will also have to be constructed at this location in order to facilitate traffic during construction.*

PDP Classification: ☐ Major Minor ☒

Federal Oversight: Full Oversight ☐ Exempt ☒ State Funded ☐ Other ☐

Functional Classification: *Rural Minor Arterial*

Traffic (AADT) as shown in the approved concept:

Base Year: *10500 (2012)* **Design Year:** *16250 (2032)*

Updated traffic data (AADT):

Base Year: *8350 (2013)* **Design Year:** *11050 (2033)*

Approved/Programmed Schedule:

PE: *2004* **R/W:** *2011* **Construction:** *Long Range*

VE Study Required: ☒Yes No ☐

VE Study Approved: ☒Yes No ☐

Benefit/Cost Ratio: *2.16*

Is the project located in an Ozone Non-Attainment area? ☐ Yes No ☒

Is the project in a PM 2.5 Non-Attainment area? ☐ Yes No ☒

Approved Features:	**Proposed Features**:
• *Proposed typical section(s): 2-12' lanes in each direction separated by a 14' flush median with 10' rural shoulders with 6.5' paved*	• *Proposed typical section(s): 2-12' lanes in each direction separated by a 14' flush median with 10' rural shoulders (4' paved) throughout the project except in the area of the railroad bridge where the median and shoulders are reduced to 4' and 8' respectively.*
• *Proposed Design Speed Mainline: 45mph/55mph*	• *Proposed Design Speed Mainline: 55 mph*
• *Project Limits: Begins at M.P. 4.30 and ends at M.P. 8.30 total with a total length of 4.00 miles*	• *Project Limits: Begins at M.P. 4.1 and ends at M.P. 8.5 with a total length of 4.4 miles*
• *Project Scope: On-site detour to construct bridge over Norfolk Southern Railroad*	• *Project Scope: Off-site Detour to facilitate the construction of the bridge over Norfolk Southern Railroad*
Reason for Change: -*Typical Section and Detour* revised due to the Implementation of the approved Value Engineering Study Alternatives (Copy Attached). -*Design Speed* revised to 55 mph throughout because, after review of the survey data, it was discovered that all existing roadway characteristics meet 55 mph. -*Project Limits* revised to achieve proper tie-in to the existing road/lane configuration.	

Potential Environmental Impacts of Proposed Revision:
No anticipated additional environmental effects because right of way and easements were reduced.

Have Proposed Revisions Been Reviewed by Environmental Staff? ☒ **Yes** **No** ☐

Environmental Responsibilities (Studies/Documents/Permits):
☐ *Consultant* ☒ *GDOT* ☐ *Local Government*

Updated Cost Estimate	
Base Construction Cost	*$10,544,345.33*
Engineering and Inspection	$527,217.27
Fuel & Asphalt Adjustment	$2,736,909.19
Total Construction Cost	$13,808,471.79
Right-Of-Way	$1,155,400.00
Utilities (Reimbursable)	$0.00
Utilities Contingencies	$0.00
Environmental Mitigation	$103,736.00

Recommendation: *This office recommends that this revision to the Project Concept Report be approved for implementation.*

Attachments:

Location Map
Cost Estimate
Typical Section
Traffic Diagrams
Accident Summaries
LOS
Approved VE Study
B/C Ratio Spreadsheet
Approved Design Variance

Concur: _____
Director of Engineering

Approve: _____ Date: 1/31/14
Chief Engineer

Print Form

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE PROJECT No. STP00-0003-00(625) , Bleckley County

OFFICE Tennille Design

SR 87 / Cochran Bypass from US 32 Business to existing four lane section

DATE 07-21-2010

P.I. No. 0003625

FROM Alan Smith, District Design Engineer

TO Ronald E. Wishon, Project Review Engineer

SUBJECT REVISIONS TO PROGRAMMED COSTS

MNGT LET DATE 07-15-2012

PROJECT MANAGER Sean Bush

MNGT R/W DATE 07-16-2010

PROGRAMMED COST (TPro W/OUT INFLATION)		**LAST ESTIMATE UPDATE**	
CONSTRUCTION	$ 20,225,262.00	DATE	11-20-2009
RIGHT OF WAY	$ 1,225,437.00	DATE	06-15-2009
UTILITIES	$ 0.00	DATE	

REVISED COST ESTIMATES

CONSTRUCTION*	$ 13,808,471.79
RIGHT OF WAY	$ 1,155,400.00
UTILITIES	$ 0.00

* Costs contain 5 % Engineering and Inspection

REASON FOR COST INCREASE

Cost adjustments for concept revisions due to implementation of the approved VE Study recommendations. (With 14' Flush Median)

Revised: September 27, 2010

CONTINGENCY SUMMARY

Construction Cost Estimate:	$ 10,544,345.33	(Base Estimate)
Engineering and Inspection:	$ 527,217.27	(Base Estimate x 5 %)
Total Fuel Adjustment	$ 1,329,216.09	(From attached worksheet)
Total Liquid AC Adjustment	$ 1,407,693.10	(From attached worksheet)
Construction Total:	**$** 13,808,471.79	

REIMBURSABLE UTILITY COST

Utility Owner	Reimbursable Cost

Attachments

c: Genetha Rice-Singleton, State Program Control Administrator

STATE HIGHWAY AGENCY

DATE : 09/29/2010

JOB DETAIL ESTIMATE

JOB NUMBER : 0003625_SCB SPEC YEAR: 01
DESCRIPTION: SR 87 / COCHRAN BYPASS FROM US 23 BUSINESS TO EXISTING 4 LANE SECTION

ITEMS FOR JOB 0003625_SCB

LINE	ITEM	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0005	150-1000	LS	TRAFFIC CONTROL - STP00-0003-00(625)	1.000	250000.00	250000.00
0010	153-1300	EA	FIELD ENGINEERS OFFICE TP 3	1.000	73569.00	73569.00
0015	201-1500	LS	CLEARING & GRUBBING - STP00-0003-00(625)	1.000	108450.00	108450.00
0020	205-0001	CY	UNCLASS EXCAV	77115.000	6.00	462690.00
0025	206-0002	CY	BORROW EXCAV, INCL MATL	370314.000	7.00	2592198.00
0030	207-0203	CY	FOUND BKFILL MATL, TP II	99.000	38.94	3855.06
0035	310-1101	TN	GR AGGR BASE CRS, INCL MATL	78732.000	14.85	1169170.20
0040	318-3000	TN	AGGR SURF CRS	2050.000	16.81	34460.50
0045	402-1812	TN	RECYL AC LEVELING,INC BM&HL	3535.000	61.71	218144.85
0050	402-3103	TN	REC AC 9.5 MM SP,TPII,GP2, INCL BM & HL	15161.000	61.54	933007.94
0055	402-3121	TN	RECYL AC 25MM SP,GP1/2,BM&HL	14452.000	55.11	796449.72
0060	402-3190	TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	14862.000	58.52	869724.24
0065	413-1000	GL	BITUM TACK COAT	12488.000	1.90	23727.20
0070	433-1000	SY	REINF CONC APPROACH SLAB	470.000	136.28	64051.60
0075	436-1000	LF	ASPH CONC CURB - 6 IN	4514.000	8.06	36382.84
0080	441-0016	SY	DRIVEWAY CONCRETE, 6 IN TK	182.000	33.15	6033.30
0085	444-1000	LF	SAWED JTS IN EXIST PVMTS - PCC	12.000	6.70	80.40
0090	446-1100	LF	PVMT REF FAB STRIPS, TP2,18 INCH WIDTH	41958.000	2.60	109090.80
0095	456-2012	GLM	INTENT. RUMB. STRIPS - GRND-IN-PL (CONT)	10.000	772.83	7728.30
0100	500-3101	CY	CLASS A CONCRETE	214.000	362.89	77658.46
0105	500-3200	CY	CL B CONC	253.000	334.75	84691.75
0110	500-3800	CY	CL A CONC, INCL REINF STEEL	30.000	488.60	14658.00
0115	511-1000	LB	BAR REINF STEEL	27373.000	0.59	16150.07
0120	550-1180	LF	STM DR PIPE 18",H 1-10	1088.000	28.13	30605.44
0125	550-1240	LF	STM DR PIPE 24",H 1-10	192.000	34.74	6670.08
0130	550-1300	LF	STM DR PIPE 30",H 1-10	100.000	42.28	4228.00
0135	550-1360	LF	STM DR PIPE 36",H 1-10	1664.000	47.75	79456.00
0140	550-1420	LF	STM DR PIPE 42",H 1-10	80.000	70.68	5654.40
0145	550-2180	LF	SIDE DR PIPE 18",H 1-10	2454.000	21.18	51975.72
0150	550-2240	LF	SIDE DR PIPE 24",H 1-10	372.000	26.40	9820.80
0155	550-3618	EA	SAFETY END SECTION 18",SD,6:1	102.000	487.57	49732.14
0160	550-3624	EA	SAFETY END SECTION 24",SD,6:1	18.000	724.80	13046.40
0165	550-4218	EA	FLARED END SECT 18 IN, ST DR	6.000	441.19	2647.14
0170	550-4236	EA	FLARED END SECT 36 IN, ST DR	26.000	892.32	23200.32
0175	550-4242	EA	FLARED END SECT 42 IN, ST DR	4.000	1239.57	4958.28
0180	573-2006	LF	UNDDR PIPE INCL DRAIN AGGR 6"	7250.000	13.49	97802.50
0185	603-6006	SY	SAND-CEMENT BAG RIP RAP, 6 IN	59.000	73.38	4329.42
0190	610-9099	LS	REM WINGWALLS/PARAPETS, STA - 323+48	1.000	1000.00	1000.00
0195	634-1200	EA	RIGHT OF WAY MARKERS	188.000	91.14	17134.32
0200	641-1100	LF	GUARDRAIL, TP T	83.000	45.28	3758.24
0205	641-1200	LF	GUARDRAIL, TP W	4430.000	14.87	65874.10
0210	641-5000	EA	GUARDRAIL ANCHORAGE, TP 1	2.000	648.00	1296.02
0215	641-5012	EA	GUARDRAIL ANCHORAGE, TP 12	2.000	2366.63	4733.26
0220	668-5000	EA	JUNCTION BOX	1.000	1590.36	1590.36
0225	668-8011	SF	SAFETY GRATE, TP 1	162.000	40.00	6480.00
0230	668-8012	SF	SAFETY GRATE, TP 2	30.000	44.08	1322.40
0235	163-0232	AC	TEMPORARY GRASSING	54.000	242.14	13075.56
0240	163-0240	TN	MULCH	972.000	144.73	140677.56
0245	163-0300	EA	CONSTRUCTION EXIT	6.000	928.14	5568.84
0250	163-0520	LF	CONSTR AND REMOVE TEMP PIPE SLOPE DRAIN	1635.000	13.24	21647.40
0255	163-0528	LF	CONSTR AND REM FAB CK DAM -TP C SLT FN	13500.000	2.66	35910.00
0260	163-0529	LF	CNST/REM TEMP SED BAR OR BLD STRW CK DM	10600.000	3.39	35934.00
0265	165-0030	LF	MAINT OF TEMP SILT FENCE, TP C	9400.000	0.58	5452.00
0270	165-0041	LF	MAINT OF CHECK DAMS - ALL TYPES	6750.000	1.47	9922.50
0275	165-0101	EA	MAINT OF CONST EXIT	6.000	402.58	2415.48
0280	167-1000	EA	WATER QUALITY MONITORING AND SAMPLING	2.000	391.76	783.52
0285	167-1500	MO	WATER QUALITY INSPECTIONS	24.000	511.99	12287.76
0290	171-0030	LF	TEMPORARY SILT FENCE, TYPE C	18800.000	2.71	50948.00
0295	603-2181	SY	STN DUMPED RIP RAP, TP 3, 18"	650.000	33.68	21892.00
0300	603-7000	SY	PLASTIC FILTER FABRIC	650.000	3.51	2281.50
0305	700-6910	AC	PERMANENT GRASSING	27.000	673.07	18172.89
0310	700-7000	TN	AGRICULTURAL LIME	162.000	49.01	7939.62
0315	700-7010	GL	LIQUID LIME	135.000	15.35	2072.25

0320	700-8000	TN	FERTILIZER MIXED GRADE	98.000	381.68	37404.64
0325	700-8100	LB	FERTILIZER NITROGEN CONTENT	5400.000	2.20	11880.00
0330	710-9000	SY	PERM SOIL REINFORCING MAT	2820.000	3.33	9390.60
0335	716-2000	SY	EROSION CONTROL MATS, SLOPES	60600.000	0.93	56358.00
0340	543-9000	LS	BRIDGE COMPLETE - (195FTX68FTX$90)	1.000	1193400.00	1193400.00
0345	636-1020	SF	HWY SGN,TP1MAT,REFL SH TP3	659.000	13.85	9127.15
0350	636-1029	SF	HWY SGN,TP2 MATL,REFL SH TP 3	27.000	19.66	530.82
0355	636-1033	SF	HWY SIGNS, TP1MAT,REFL SH TP 9	626.000	17.87	11186.62
0360	636-1041	SF	HWY SIGNS,TP 2MAT,REFL SH TP 9	50.000	33.02	1651.00
0365	636-2070	LF	GALV STEEL POSTS, TP 7	1349.000	6.44	8687.56
0370	636-2080	LF	GALV STEEL POSTS, TP 8	582.000	8.45	4917.90
0375	636-2090	LF	GALV STEEL POSTS, TP 9	212.000	7.48	1585.76
0380	639-4004	EA	STRAIN POLE, TP IV	8.000	5270.41	42163.28
0385	647-1000	LS	TRAF SIGNAL INSTALLATION NO - 2 - BYPASS AT SR 26	1.000	125000.00	125000.00
0390	647-1000	LS	TRAF SIGNAL INSTALLATION NO - 1 - BYPASS AT SR 126	1.000	125000.00	125000.00
0395	652-0110	EA	PAVEMENT MARKING, ARROW, TP 1	1.000	41.41	41.41
0400	652-0120	EA	PAVEMENT MARKING, ARROW, TP 2	117.000	31.85	3726.45
0405	652-5301	LF	SOLID TRAF STRIPE, 6 IN, WHITE	49600.000	0.13	6448.00
0410	652-5451	LF	SOLID TRAF STRIPE, 5 IN, WHITE	49600.000	0.13	6448.00
0415	652-6301	GLF	SKIP TRAF STRIPE, 6 IN, WHITE	3010.000	0.09	270.90
0420	652-6501	GLF	SKIP TRAF STRIPE, 5 IN, WHITE	3010.000	0.07	210.70
0425	653-1501	LF	THERMO SOLID TRAF ST 5 IN, WHI	3400.000	0.33	1122.00
0430	653-1502	LF	THERMO SOLID TRAF ST, 5 IN YEL	54000.000	0.33	17820.00
0435	653-1704	LF	THERM SOLID TRAF STRIPE,24",WH	450.000	3.63	1633.50
0440	653-3501	GLF	THERMO SKIP TRAF ST, 5 IN, WHI	49230.000	0.23	11322.90
0445	653-3502	GLF	THERMO SKIP TRAF ST, 5 IN, YEL	45200.000	0.44	19888.00
0450	653-6004	SY	THERM TRAF STRIPING, WHITE	1059.000	2.51	2658.09
0455	653-6006	SY	THERM TRAF STRIPING, YELLOW	700.000	2.55	1785.00
0460	654-1001	EA	RAISED PVMT MARKERS TP 1	310.000	2.96	917.60
0465	654-1010	EA	RAISED PVMT MARKERS TP 10	20.000	33.07	661.40
0470	657-1054	LF	PRF PL SD PVMT MKG,5",WH,TP PB	370.000	4.15	1535.50
0475	657-3054	GLF	PRF PL SK PVMT MKG,5",WH,TP PB	370.000	2.11	780.70
0480	657-6054	LF	PRF PL SD PVMT MKG,5",YW,TP PB	370.000	3.85	1424.50
0485	657-8054	GLF	PRF PL SK PVMT MKG,5",YE,TP PB	370.000	2.97	1098.90

ITEM TOTAL	10544241.49
INFLATED ITEM TOTAL	10544241.49
TOTALS FOR JOB 0003625_SCB	
ESTIMATED COST:	10544241.49
CONTINGENCY PERCENT (0.0):	0.00
ESTIMATED TOTAL:	10544241.49

Date 7/29/2010

P.I. Number 3625 County Bleckley

Project Number STP00-0003-00(625)

Special Provision, Section 109-Measurement and Payment

FUEL PRICE ADJUSTMENT *(ENGLISH 125% MAX)*

ENTER FPL DIESEL	2.89
ENTER FPM DIESEL	6.503

ENTER FPL UNLEADED	2.602
ENTER FPM UNLEADED	5.8545

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

INCREASE ADJUSTMENT	INCREASE ADJUSTMENT
125.00%	125.00%

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 **(CUBIC YARD)**	77115.000	0.29	22363.35	0.15	11567.25	
Excavations paid as specified by Sections 206 **(CUBIC YARD)**	370314.000	0.29	107391.06	0.15	55547.10	
GAB paid as specified by the ton under Section 310 **(TON)**	78732.000	0.29	22832.28	0.24	18895.68	
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)**	48010.000	2.90	139229.00	0.71	34087.10	
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=	**291815.69**	**SUM QF UNLEADED=**	**120097.13**

DIESEL PRICE ADJUSTMENT($)	**$969,849.45**
UNLEADED PRICE ADJUSTMENT($)	**$359,366.64**

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 478 **ENTER APM** 1075.5

125.00%	INCREASE ADJUSTMENT

L.I.N.	TYPE	TACK (GALLONS)	TACK (TONS)	REMARKS
413-1000	PG 58-22	12488	53.6372	

TMT = 53.6372

PRICE ADJUSTMENT($)	$30,766.30

400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX

ENTER APL 478 **ENTER APM** 1075.5

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
402-1812	4.75 mm	3535	5.00	176.75	
402-3103	9.5 mm SP TP2	15161	5.00	758.05	
402-3190	19 mm SP	14862	5.00	743.10	
402-3121	25 mm SP	14452	5.00	722.60	
	4.75 mm		5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			TMT =	2400.50	

PRICE ADJUSTMENT($)	$1,376,926.80

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 478 ENTER APM 1075.5

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($)	$969,849.45
UNLEADED PRICE ADJUSTMENT($)	$359,366.64
ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)	$30,766.30
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX	$1,376,926.80
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)	

REMARKS:

TOTAL ADJUSTMENTS	$2,736,909.19

DWM 10/08

Preliminary Right of Way Cost Estimate

Phil Copeland
Right of Way Administrator
By: LaShone Alexander

Date: July 16, 2010
Project: STP-00000-(625)Bleckley UPDATED **P.I. Number:** 0003625
Existing/Required R/W: 130ft/170ft **No. Parcels:** 81
Project Termini : Cochran Bypass (SR87) from just south of SR 87 Business to just north of SR 87 Business
Project Description: Widening & Reconstruction of Cochran Bypass

Land:

Residential/Commercial/Agricultural RW	
711,857.52 sf @ $.35/sf	$ 249,150.00
Permanent Easement	
119,223.72 sf @ $.35/sf @ 50%	$ 41,728.30
	$ 290,878.30

Improvements : signs, fencing, site improvements
misc. 50,000.00

Relocation: None

Damage : Proximity (5)
Cost to Cure (0)

	$ 125,000.00
Net Cost	$ 465,878.30

Net Cost		$ 465,878
Scheduling Contingency	55 %	256,233
Adm/Court Cost	60%	433,266
		$ 1,155,378

Total Cost $1,155,400

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

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE STP00-0003-00(625) – Bleckley County
P.I. No. 0003625

OFFICE Tennille - Utilities

DATE May 13, 2010

FROM Jack D. Cooper, Jr.
District Utilities Engineer

TO George Brewer, District Preconstruction Engineer
ATTN Renee Decker

SUBJECT PRELIMINARY UTILITY COST (ESTIMATE)

As requested by your office, 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
Georgia Power Company (D)	$84,000.00	
Ocmulgee EMC	$94,500.00	
City of Cochran (W/S/G)	$147,610.00*	
AT&T	$72,800.00	
ComSouth Communications	$15,000.00	
Jointly Owned Natural Gas	$409,750.00	
Norfolk Southern Railroad	N/A	
Total	$823,660.00	

Total non-reimbursable cost for the above project is $823,660.00

*The reimbursable amount could increase to $147,610.00 if the City of Cochran requests utility assistance for the relocation of their facilities.

If you have any questions, please contact Renae Lawrence at 478-552-4606.

JDC/RL

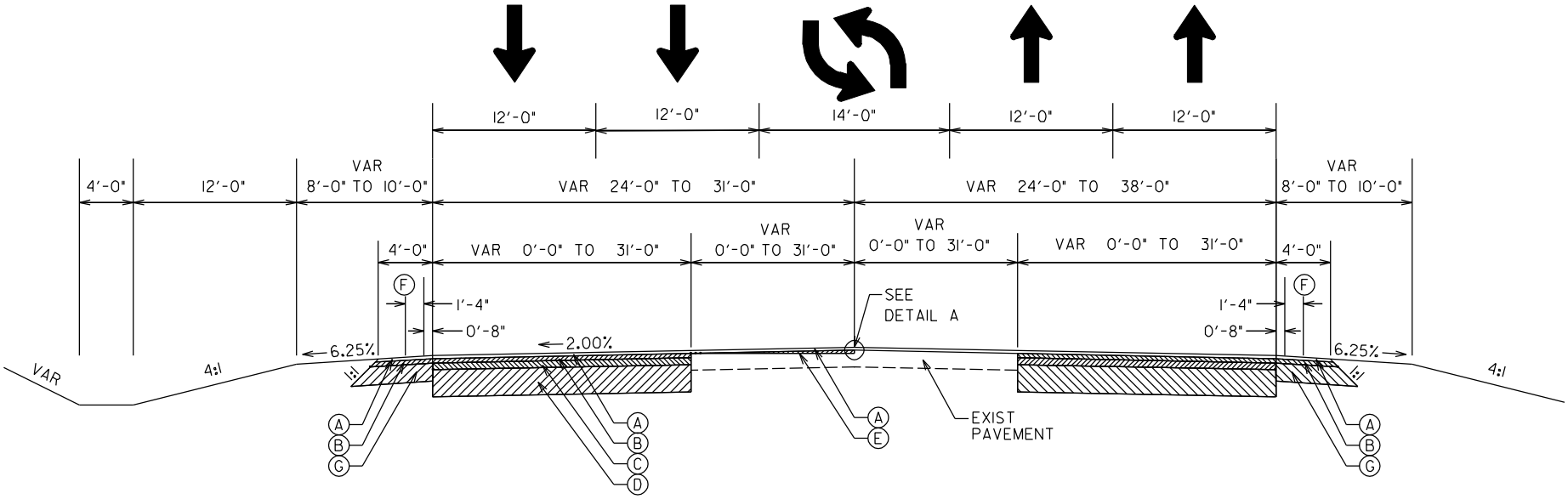
cc: Jeff Baker, State Utilities Engineer;
Jamie Simpson, Office of Financial Management;
Daniel Smith, Area Engineer

Stream #	Sum of Factors	LF of Stream in Reach Impacted	Credits Req
1	3.3	46	151.8
2	3.8	46	174.8
5	3.8	46	174.8
6	3.1	46	142.6
7	3.8	46	174.8
8	3.1	46	142.6
9	3.8	46	174.8
10	3.1	46	142.6
11	3.0	46	138
Total Mitigation Credits Required (For Stream Impacts)			**1416.8**
	Total Credits	***Cost per Credit***	***Total Cost of Stream Mitigation***
	1416.8	$70.00	***$99,176.00***
Wetland/Pond #	**Sum of Factors**	**Acrage of Wetland Impacted**	**Credits Req**
Wetland # 3	7.6	0.05	0.38
Pond # 4	7.6	0.01	0.076
Total Mitigation Credits Required (For Wetland Impacts)			**0.456**
	Total Credits	***Cost per Credit***	***Total Cost of Wetland Mitigation***
	0.456	$10,000.00	***$4,560.00***
TOTAL MITIGATION COST - W/FLUSH MEDIAN			***$103,736.00***

DATE/TIME$$$	TIME$$$	PRF	DGN	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GA.	STP00-0003-00 (625)		

TYPICAL SECTION

SR 87 / COCHRAN BYPASS



MILEPOST 4.1 TO 8.5

SLOPE	CONTROLS #	
SLOPE	CUT	FILL
4:1	0-6'	0-10'
2:1	OVER 6'	OVER 10'

GUARDRAIL REQUIRED ON FILL SECTIONS WITH SLOPE STEEPER THAN 4:1

Ⓐ 135 LBS/SQ YD REC ASPH CONC 9.5 MM SUPERPAVE, TP 2, BLEND 2 INCL BITUM MATL & H LIME
Ⓑ 220 LBS/SQ YD REC ASPH CONC 19MM SUPERPAVE GP 1 OR 2, INCL BITUM MATL & H LIME
Ⓒ 330 LBS/SQ YD REC ASPH CONC 25MM SUPERPAVE GP 1 OR 2, INCL BITUM MATL & H LIME
Ⓓ 12" GRADED AGGREGATE BASE COARSE
Ⓔ RECYCLED ASPH CONC LEVELING, AS REQ'D
Ⓕ 16" INDENTATION RUMBLE STRIPS (GROUND-IN-PLACE) - SKIP
Ⓖ 8" GRADED AGGREGATE BASE COARSE

GEORGIA
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

REVISION DATES		

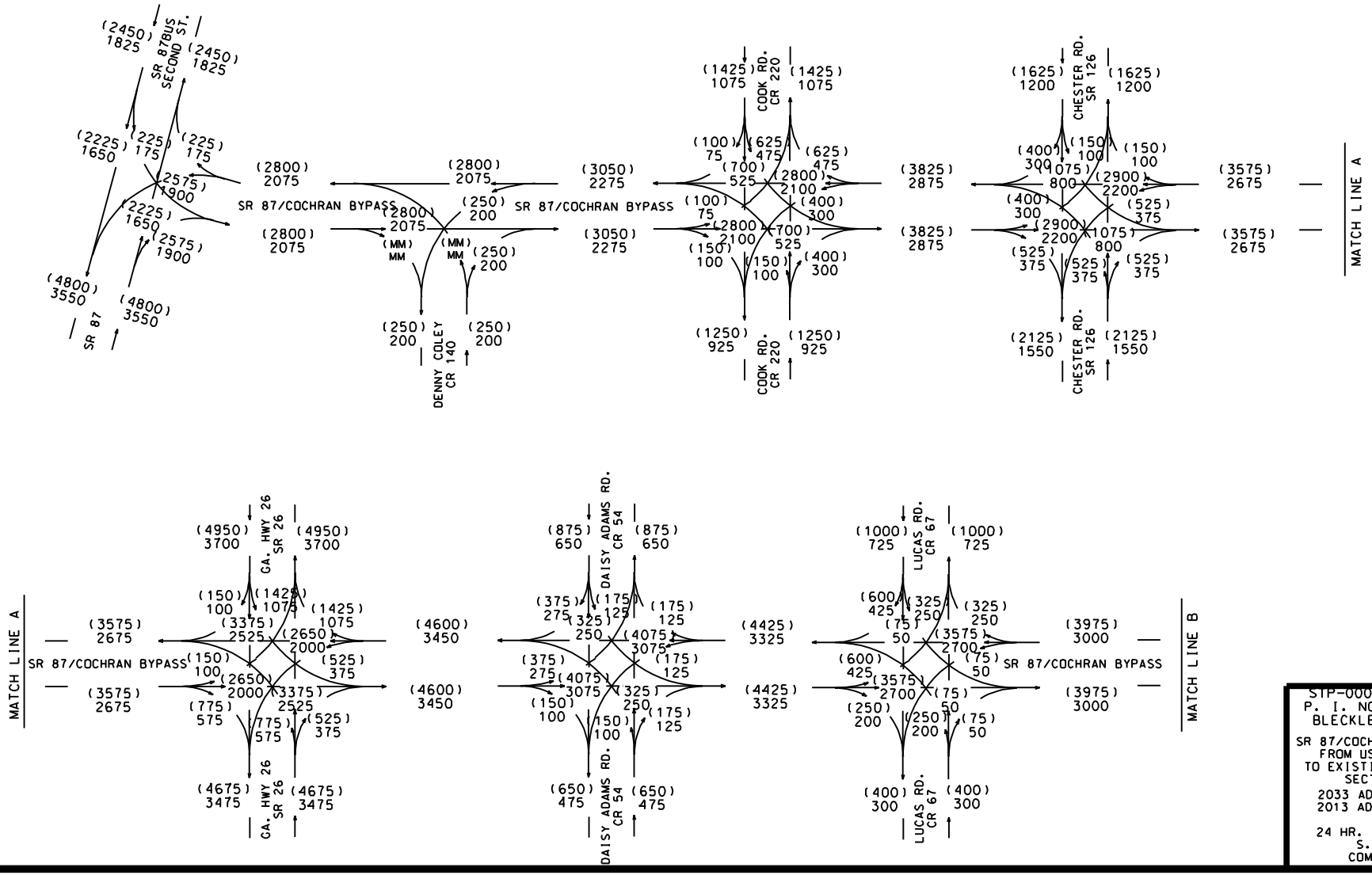
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: DISTRICT 2-TENNILLE
TYPICAL SECTIONS
STP00-0003-00 (625)
BLECKLEY COUNTY

DRAWING No. 5-001

SHEET 1 OF 5

BLECKLEY COUNTY

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION



STP-0003-00(625)
P. I. NO. 0003625
BLECKLEY COUNTY

SR 87/COCHRAN BYPASS
FROM US 23 BUS
TO EXISTING 4 LANE
SECTION.

2033 ADT = (000)
2013 ADT = 000

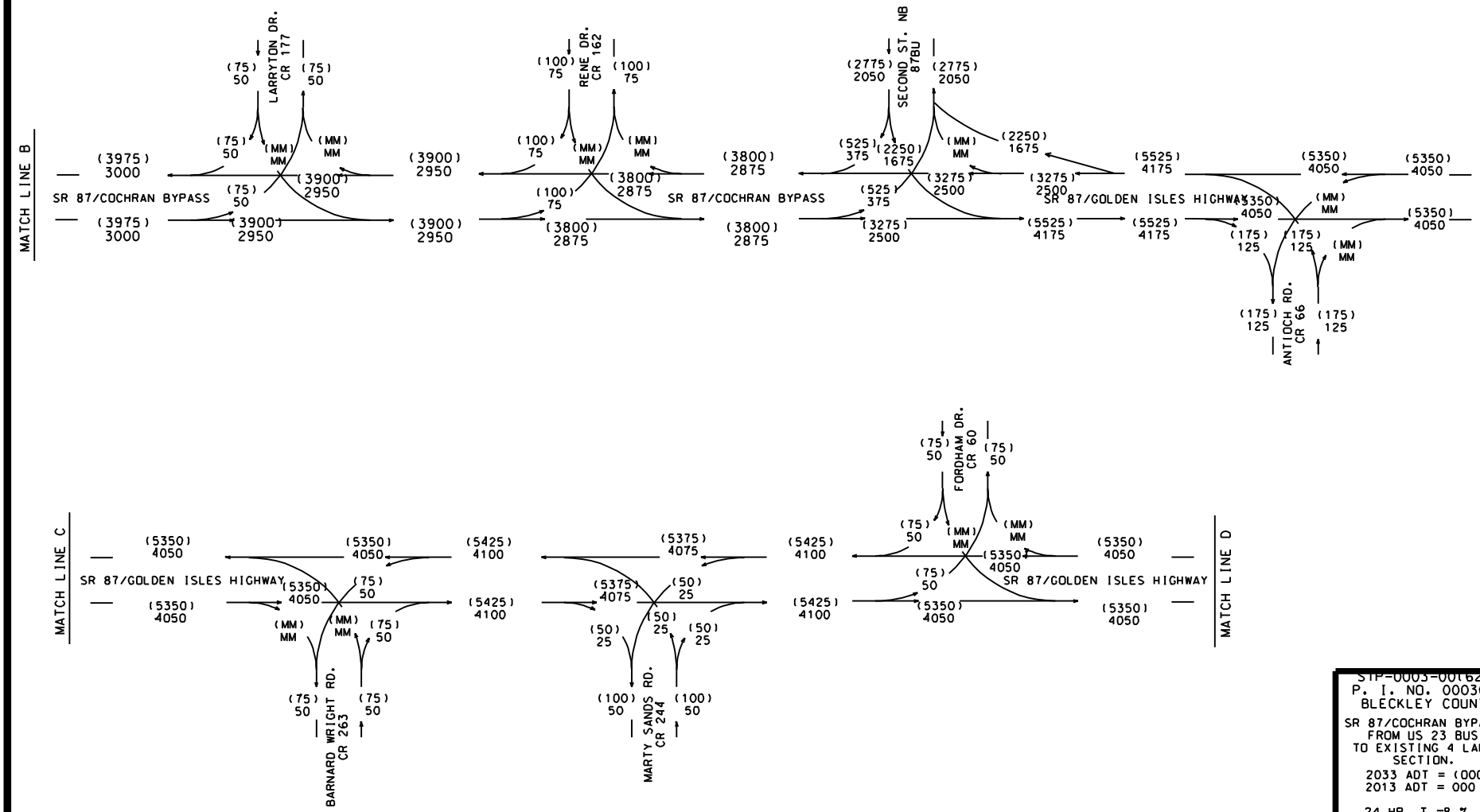
24 HR. T =8 %
S.U. =5 %
COMB. =3 %

RFN
04/09

SHEET 2 OF 5

BLECKLEY COUNTY

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION



STP-0003-00(625)
P. I. NO. 0003625
BLECKLEY COUNTY

SR 87/COCHRAN BYPASS
FROM US 23 BUS
TO EXISTING 4 LANE
SECTION.

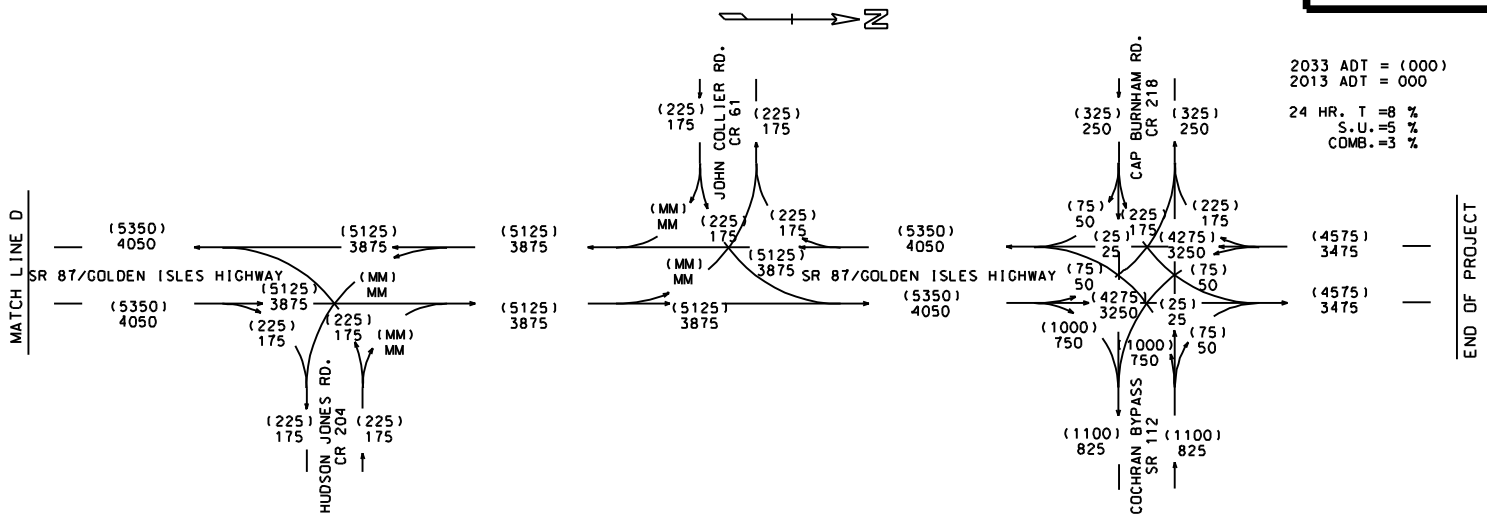
2033 ADT = (000)
2013 ADT = 000

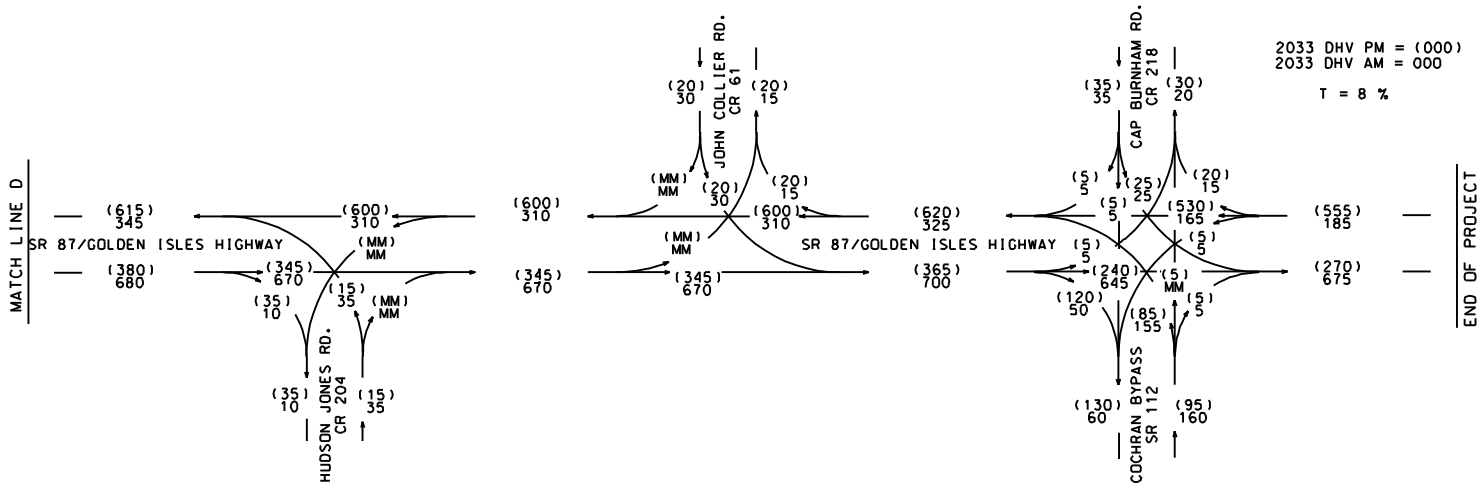
24 HR. T =8 %
S.U. =5 %
COMB. =3 %

RFN
04/09

BLECKLEY COUNTY

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION





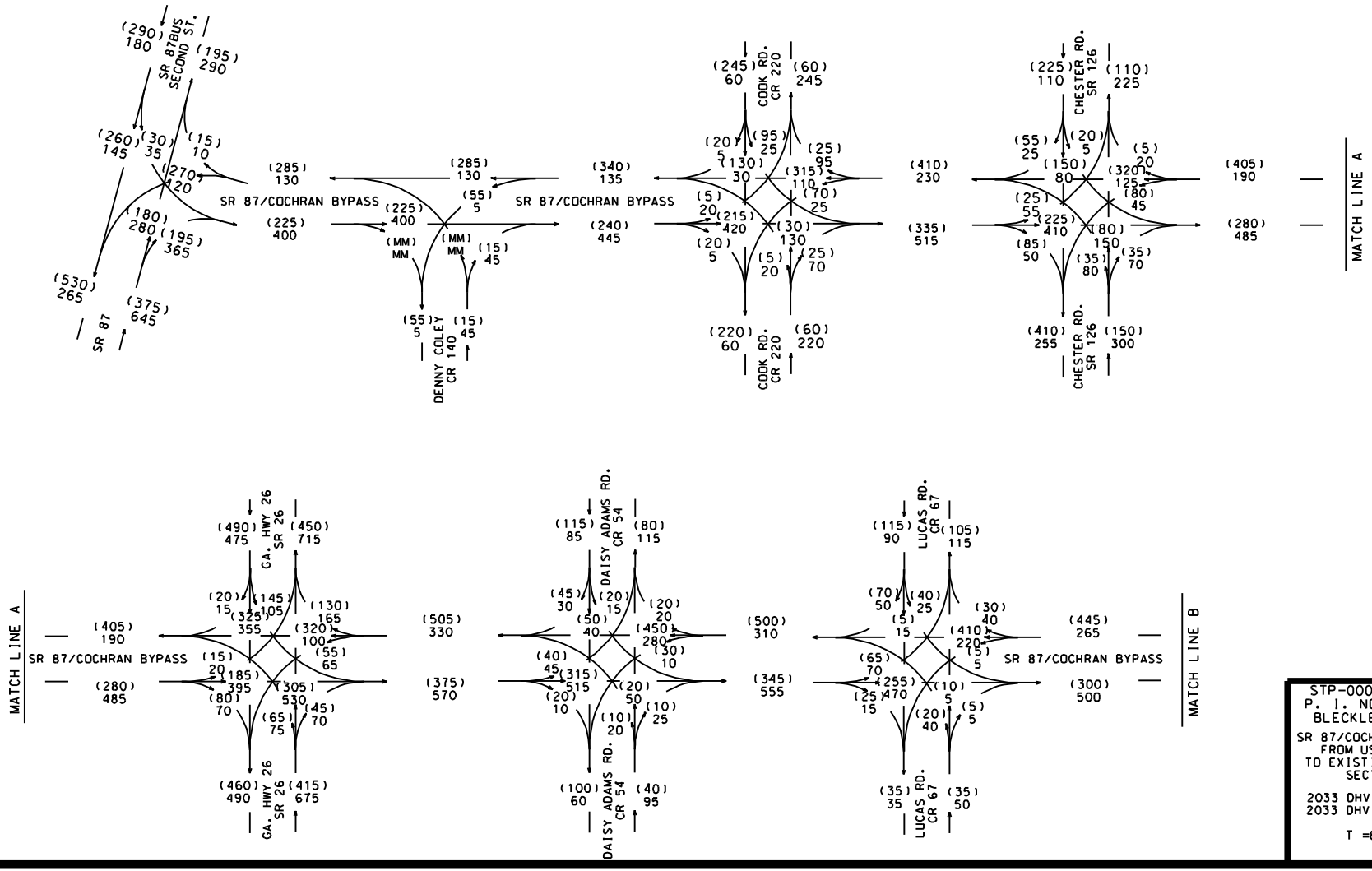
STP-0003-00(625)
P. I. NO. 0003625
BLECKLEY COUNTY

SR 87/COCHRAN BYPASS
FROM US 23 BUS
TO EXISTING 4 LANE
SECTION.

RFN
04/09

BLECKLEY COUNTY

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION



STP-0003-00(625)
P. I. NO. 0003625
BLECKLEY COUNTY

SR 87/COCHRAN BYPASS
FROM US 23 BUS
TO EXISTING 4 LANE
SECTION.

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

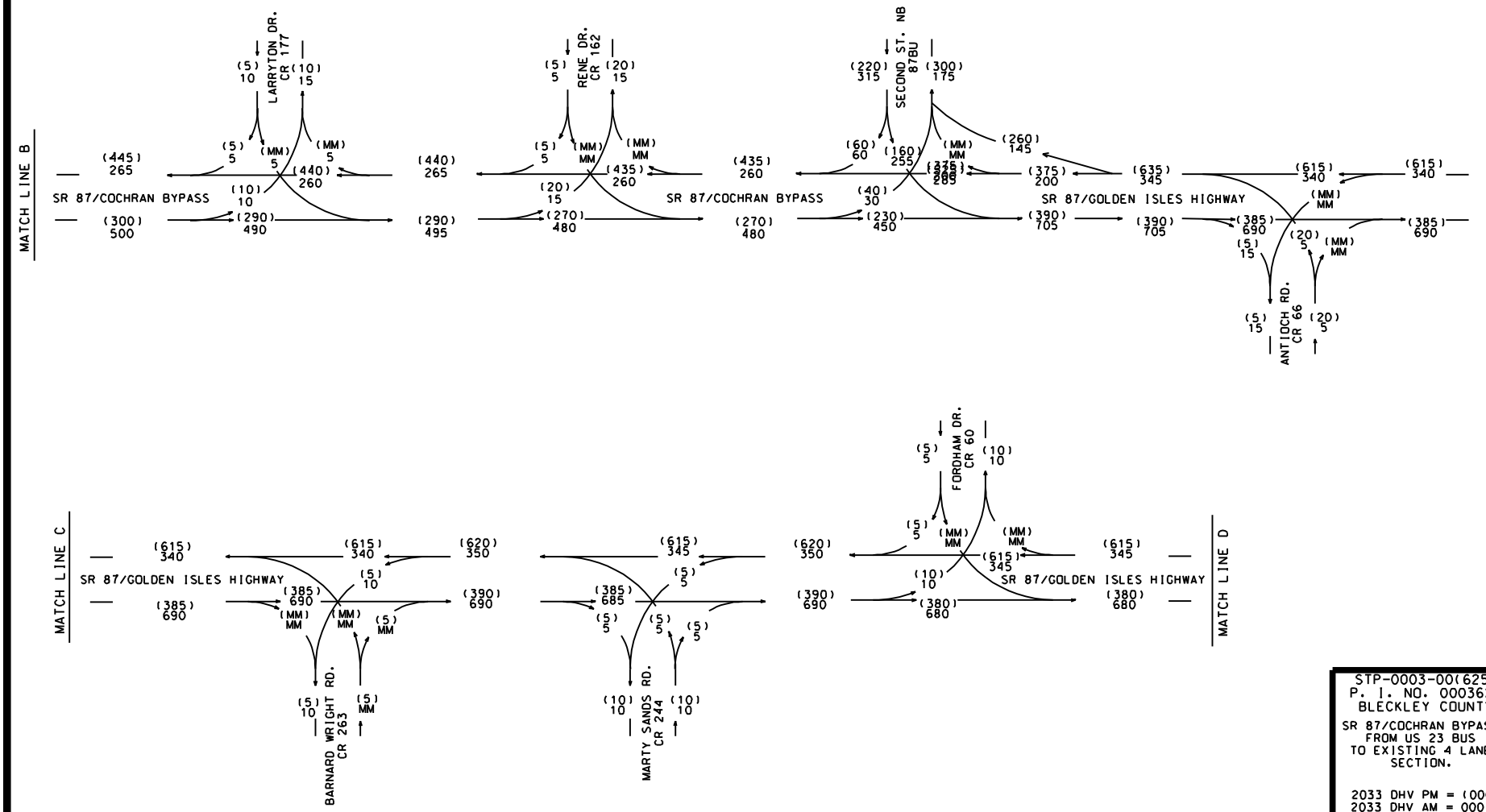
T =8 %

RFN
04/09

SHEET 5 OF 5

BLECKLEY COUNTY

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION



STP-0003-00(625)
P. I. NO. 0003625
BLECKLEY COUNTY

SR 87/COCHRAN BYPASS
FROM US 23 BUS
TO EXISTING 4 LANE
SECTION.

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

T =8 %

RFN
04/09

ACCIDENT RATE CALCULATION for year(s) 2006,2007,2008

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2006	Bleckley	1	008700	4.00	4.28	6,170	0.28	1,728
2006	Bleckley	1	008700	4.28	5.11	3,450	0.83	2,864
2006	Bleckley	1	008700	5.11	6.1	4,220	0.99	4,178
2006	Bleckley	1	008700	6.1	6.64	4,320	0.54	2,333
2006	Bleckley	1	008700	6.64	6.96	5,950	0.32	1,904
2006	Bleckley	1	008700	6.96	8.67	5,550	1.71	9,491
2006	Bleckley	1	008700	8.67	9.00	7,570	0.33	2,498
2006	Bleckley	State Route	002600	0	0	0	0.00	0

Total Vehicle Miles: 24,994	Total Accidents: 17	Accident Rate: 186
Average ADT: 4,999	Total Injuries: 8	Injury Rate: 88
Length in Miles: 5.00	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2007	Bleckley	1	008700	4.00	4.28	5,500	0.28	1,540
2007	Bleckley	1	008700	4.28	5.11	3,640	0.83	3,021
2007	Bleckley	1	008700	5.11	6.1	3,950	0.99	3,910
2007	Bleckley	1	008700	6.1	6.64	4,590	0.54	2,479
2007	Bleckley	1	008700	6.64	6.96	5,900	0.32	1,888
2007	Bleckley	1	008700	6.96	8.67	5,500	1.71	9,405
2007	Bleckley	1	008700	8.67	9.00	7,310	0.33	2,412
2007	Bleckley	State Route	002600	0	0	0	0.00	0

Total Vehicle Miles: 24,656	Total Accidents: 17	Accident Rate: 189
Average ADT: 4,931	Total Injuries: 13	Injury Rate: 144
Length in Miles: 5.00	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2008	Bleckley	1	008700	4.00	4.28	5,500	0.28	1,540
2008	Bleckley	1	008700	4.28	5.11	3,640	0.83	3,021
2008	Bleckley	1	008700	5.11	6.1	3,950	0.99	3,910
2008	Bleckley	1	008700	6.1	6.64	4,590	0.54	2,479
2008	Bleckley	1	008700	6.64	6.96	5,900	0.32	1,888
2008	Bleckley	1	008700	6.96	8.67	5,500	1.71	9,405
2008	Bleckley	1	008700	8.67	9.00	7,310	0.33	2,412
2008	Bleckley	State Route	002600	0	0	0	0.00	0

Total Vehicle Miles: 24,656	Total Accidents: 19	Accident Rate: 211
Average ADT: 4,931	Total Injuries: 15	Injury Rate: 167
Length in Miles: 5.00	Total Fatalities: 1	Fatality Rate: 11.11

NOTE: Rates are per 100 Million Vehicle Miles

Analysis Report 1

Total Accidents: 53 **Total Vehicles: 106** **Total Injuries: 36** **Total Fatalities: 1**

Accident Analysis Report 1

AccidentId	Date	Time	County	Rt TP	Rt No	Mile	IntRt TP	InterRt	Ramp	Inj	Fatal	Collision	Loc Impact	Harmful Event	Light	Surf	D1	D2	VM1	VM2
61210045	04/01/2006	05:40:PM	Bleckley	State	002600	6.90	1	008700		0	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	S	W	05	05
64590019	11/24/2006	12:24:PM	Bleckley	State	002600	6.90	1	008700		2	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	W	N	05	05
64010669	10/13/2006	03:23:PM	Bleckley	State	002600	6.90	1	008700		0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	W	W	05	04
62590504	07/07/2006	01:23:PM	Bleckley	State	008700	4.20				0	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	E	S	01	05
61370753	04/20/2006	06:56:PM	Bleckley	State	008700	4.30	1	0087BU		0	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	W	05	05
62440758	07/01/2006	11:43:AM	Bleckley	State	008700	4.60				0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	N	05	01
63480170	08/24/2006	03:20:PM	Bleckley	State	008700	5.50				0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Wet	N	N	05	02
62060836	06/06/2006	07:00:AM	Bleckley	State	008700	6.10	1	012600		1	0	6-Not A Collision	2-On Shoulder	22-Highway Traffic	1-Daylight	Dry	N		01	
64590353	11/26/2006	10:00:PM	Bleckley	State	008700	6.10	1	012600		0	0	6-Not A Collision	1-On Roadway	09-Animal	5-Dark-Not Lighte	Dry	N		01	
64240422	10/23/2006	06:45:AM	Bleckley	State	008700	6.10	1	012600		0	0	1-Angle	1-On Roadway	11-Motor Vehicle in	3-Dawn	Dry	W	N	05	05
63060089	08/05/2006	05:10:PM	Bleckley	State	008700	6.97	2	005400		2	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	W	S	05	05
60050374	01/10/2006	03:27:PM	Bleckley	State	008700	7.53	2	006700		0	0	4-Sideswipe - Sam	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	N	01	01
61630029	04/30/2006	06:33:AM	Bleckley	State	008700	7.87				1	0	6-Not A Collision	3-Off Roadway	27-Culvert	5-Dark-Not Lighte	Dry	W		10	
63680284	09/18/2006	02:52:PM	Bleckley	State	008700	8.17				0	0	6-Not A Collision	1-On Roadway	01-Overturn	1-Daylight	Dry	N		01	
64950571	12/07/2006	02:08:PM	Bleckley	State	008700	8.27	1	0087BU		0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	E	N	01	05
62340277	06/11/2006	01:04:PM	Bleckley	State	008700	8.46				2	0	6-Not A Collision	3-Off Roadway	25-Utility Pole	1-Daylight	Dry	S		01	
63700223	09/22/2006	12:48:PM	Bleckley	State	008700	8.67	2	006600		0	0	4-Sideswipe - Sam	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	N	06	05
74940229	11/09/2007	08:30:AM	Bleckley	State	002600	6.90	1	008700		0	0	2-Head On	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	S	W	02	05
73920064	09/13/2007	05:42:PM	Bleckley	State	002600	6.90	1	008700		1	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Wet	N	S	01	05
75700661	12/20/2007	11:28:PM	Bleckley	State	008700	4.30	1	0087BU		0	0	6-Not A Collision	3-Off Roadway	29-Ditch	4-Dark-Lighted	Wet	W		05	
71550518	04/20/2007	04:06:PM	Bleckley	State	008700	4.30	1	0087BU		1	0	2-Head On	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	S	01	05
71610039	04/20/2007	08:17:AM	Bleckley	State	008700	4.30	1	0087BU		0	0	5-Sideswipe - Opp	1-On Roadway	12-Motor Vehicle in	1-Daylight	Dry	S	N	01	04
74940226	11/03/2007	12:37:PM	Bleckley	State	008700	4.30	1	0087BU		3	0	1-Angle	2-On Shoulder	11-Motor Vehicle in	1-Daylight	Dry	N	N	01	05
75850289	11/29/2007	06:50:AM	Bleckley	State	008700	4.30	1	0087BU		0	0	1-Angle	1-On Roadway	11-Motor Vehicle in	3-Dawn	Dry	S	N	01	05
71270512	04/09/2007	04:46:PM	Bleckley	State	008700	4.30	1	0087BU		2	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	E	S	01	05
75850291	12/17/2007	03:25:AM	Bleckley	State	008700	4.60				1	0	6-Not A Collision	2-On Shoulder	28-Curb	4-Dark-Lighted	Dry	S		05	
75810453	12/31/2007	11:40:AM	Bleckley	State	008700	4.83				0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	S	S	05	04
75850290	12/24/2007	02:56:PM	Bleckley	State	008700	4.91				1	0	5-Sideswipe - Opp	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	S	N	05	05
72010477	05/11/2007	09:43:PM	Bleckley	State	008700	5.11	2	022000		0	0	5-Sideswipe -	1-On Roadway	11-Motor Vehicle in	5-Dark-Not	Dry	S	N	01	05

Accident Analysis Report 1

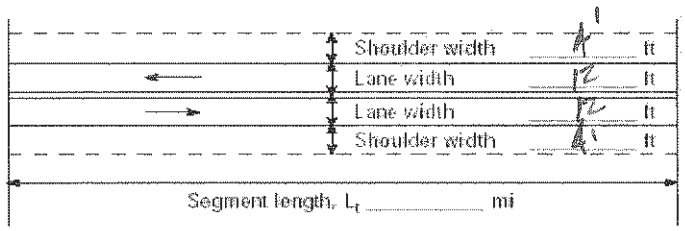
AccidentId	Date	Time	County	Rt TP	Rt No	Mile	IntRt TP	InterRt	Ramp	Inj	Fatal	Collision	Loc Impact	Harmful Event	Light	Surf	D1	D2	VM1	VM2
												Opp			Lighte					
71610036	04/17/2007	09:06:PM	Bleckley	State	008700	5.11	2	022000		1	0	1-Angle	1-On Roadway	11-Motor Vehicle in	5-Dark-Not Lighte	Dry	E	S	05	05
71550513	04/17/2007	11:29:AM	Bleckley	State	008700	5.11	2	022000		0	0	6-Not A Collision	1-On Roadway	22-Highway Traffic	1-Daylight	Dry	E		02	
70960216	03/16/2007	11:59:PM	Bleckley	State	008700	6.10	1	012600		2	0	1-Angle	1-On Roadway	11-Motor Vehicle in	5-Dark-Not Lighte	Dry	S	E	05	05
72660007	04/30/2007	08:15:AM	Bleckley	State	008700	7.78				0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	N	05	04
73140004	07/12/2007	03:30:PM	Bleckley	State	008700	8.27	1	011200		1	0	1-Angle	3-Off Roadway	11-Motor Vehicle in	1-Daylight	Dry	E	N	05	05
80620002	02/21/2008	09:02:AM	Bleckley	State	002600	6.90	1	008700		0	0	4-Sideswipe - Sam	1-On Roadway	11-Motor Vehicle in	1-Daylight	Wet	W	W	07	04
84700326	11/17/2008	08:35:PM	Bleckley	State	002600	6.90	1	008700		0	0	1-Angle	1-On Roadway	11-Motor Vehicle in	4-Dark-Lighted	Dry	N	S	01	05
85520505	12/19/2008	08:40:PM	Bleckley	State	002600	6.90	1	008700		1	0	1-Angle	1-On Roadway	11-Motor Vehicle in	4-Dark-Lighted	Dry	E	N	05	05
84020327	09/30/2008	03:44:PM	Bleckley	State	002600	6.90	1	008700		0	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	E	N	01	05
81680251	05/05/2008	01:39:PM	Bleckley	State	002600	6.90	1	008700		2	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	E	W	01	05
84390127	10/31/2008	06:36:AM	Bleckley	State	008700	4.30	1	0087BU		0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	5-Dark-Not Lighte	Dry	N	N	05	04
80360116	01/31/2008	08:30:AM	Bleckley	State	008700	4.30	1	0087BU		0	0	6-Not A Collision	3-Off Roadway	28-Curb	1-Daylight	Dry	S	S	01	05
80360114	01/25/2008	01:16:PM	Bleckley	State	008700	4.50				1	0	1-Angle	3-Off Roadway	10-Parked Motor Veh	1-Daylight	Dry	S	N	05	08
84510107	11/03/2008	07:54:AM	Bleckley	State	008700	5.11	2	022000		0	0	5-Sideswipe - Opp	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	W	01	05
82610191	06/30/2008	03:00:PM	Bleckley	State	008700	5.14				0	0	6-Not A Collision	1-On Roadway	13-Other Object (No	1-Daylight	Dry	W		05	
81820389	05/08/2008	05:03:PM	Bleckley	State	008700	6.10	1	012600		1	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	E	E	05	04
82210517	06/01/2008	04:08:PM	Bleckley	State	008700	6.10	1	012600		0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	W	W	05	04
81820391	05/08/2008	07:50:AM	Bleckley	State	008700	6.44				2	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	S	S	05	04
84070077	10/03/2008	10:57:AM	Bleckley	State	008700	6.97	2	005400		1	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	S	01	05
81820390	05/07/2008	08:00:AM	Bleckley	State	008700	6.98				0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	S	S	05	04
82030365	05/21/2008	03:15:PM	Bleckley	State	008700	7.53	2	006700		0	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	N	05	04
85470047	12/13/2008	11:56:PM	Bleckley	State	008700	7.54				6	1	3-Rear End	1-On Roadway	11-Motor Vehicle in	5-Dark-Not Lighte	Dry	S	S	05	05
81660113	05/04/2008	02:59:PM	Bleckley	State	008700	8.27	1	011200		0	0	1-Angle	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	E	S	05	05
84390125	10/29/2008	12:33:PM	Bleckley	State	008700	8.70				1	0	3-Rear End	1-On Roadway	11-Motor Vehicle in	1-Daylight	Dry	N	N	05	04

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst		Highway	
Agency or Company		From/To	
Date Performed	5/14/2010	Jurisdiction	
Analysis Time Period	AM	Analysis Year	No Build/20yr Vols

Project Description: STP00-003-00(625)

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Two-way hourly volume	950 veh/h
Directional split	50 / 50
Peak-hour factor, PHF	0.88
No-passing zone	10
% Trucks and Buses , P_T	8 %
% Recreational vehicles, P_R	4%
Access points/ mi	8

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	0.99
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	1.1
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	0.958
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	1138
v_p * highest directional split proportion[2] (pc/h)	569

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	mi/h	Base free-flow speed, $BFFS_{FM}$	55.0 mi/h
Observed volume, V_f	veh/h	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	1.3 mi/h
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	mi/h	Adj. for access points, f_A (Exhibit 20-6)	2.0 mi/h
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	51.7 mi/h

Adj. for no-passing zones, f_{np} (mi/h) (Exhibit 20-11)	0.4
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v_p-f_{np}	42.4

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	0.94
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	0.962
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	1194
v_p * highest directional split proportion[2] (pc/h)	597
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	65.0
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	2.7
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	67.7

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	D
Volume to capacity ratio, v/c=V_p/ 3,200	0.36
Peak 15-min veh-miles of travel, VMT_{15} (veh- mi)= 0.25L_t(V/PHF)	1188

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*4180*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*28.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

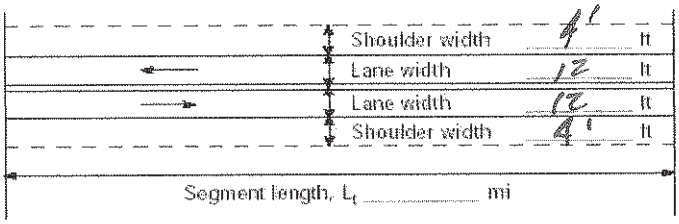
Copyright © 2005 University of Florida, All Rights Reserved *HCS+*™ Version 5.21 Generated: 5/14/2010 11:48 AM

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst		Highway	
Agency or Company		From/To	
Date Performed	5/14/2010	Jurisdiction	
Analysis Time Period	AM	Analysis Year	No Build/20yr Vols

Project Description: STP00-003-00(625)

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Two-way hourly volume	950 veh/h
Directional split	50 / 50
Peak-hour factor, PHF	0.88
No-passing zone	10
% Trucks and Buses , P_T	8 %
% Recreational vehicles, P_R	4%
Access points/ *mi*	8

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	0.99
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	1.1
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.958
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	1138
v_p * highest directional split proportion[2] (pc/h)	569

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	60.0 *mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	1.3 *mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	2.0 *mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	56.7 *mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	0.4
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	47.4

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	0.94
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.962
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	1194
v_p * highest directional split proportion[2] (pc/h)	597
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	65.0
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	2.7
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	67.7

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	D
Volume to capacity ratio, v/c=V_p/ 3,200	0.36
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	1188

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*4180*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*25.1*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

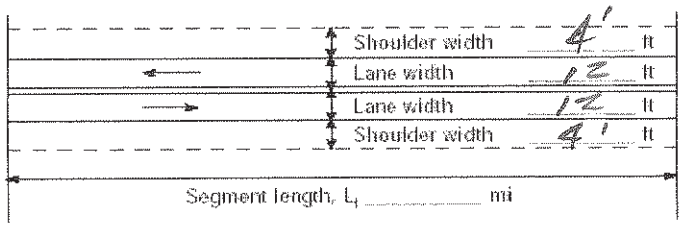
Copyright © 2005 University of Florida, All Rights Reserved *HCS+*™ Version 5.21 Generated: 5/14/2010 11:48 AM

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst		Highway	
Agency or Company		From/To	
Date Performed	5/14/2010	Jurisdiction	
Analysis Time Period	PM	Analysis Year	No Build/20yr Vols

Project Description: STP00-003-00(625)

Input Data



☑ Class I highway ☐ Class II highway

Terrain	☐ Level ☑ Rolling
Two-way hourly volume	913 veh/h
Directional split	50 / 50
Peak-hour factor, PHF	0.88
No-passing zone	10
% Trucks and Buses , P_T	8 %
% Recreational vehicles, P_R	4%
Access points/ mi	8

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	0.93
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	1.9
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	1.1
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.929
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	1200
v_p * highest directional split proportion[2] (pc/h)	600

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	mi/h	Base free-flow speed, $BFFS_{FM}$	60.0 mi/h
Observed volume, V_f	veh/h	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	1.3 mi/h
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	mi/h	Adj. for access points, f_A (Exhibit 20-6)	2.0 mi/h
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	56.7 mi/h

Adj. for no-passing zones, f_{np} (mi/h) (Exhibit 20-11)	0.4
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v_p-f_{np}	47.0

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	0.94
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.962
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	1148
v_p * highest directional split proportion[2] (pc/h)	574
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	63.5
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	2.9
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	66.5

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	D
Volume to capacity ratio, v/c=V_p/ 3,200	0.38
Peak 15-min veh-miles of travel, VMT_{15} (veh- mi)= 0.25L_t(V/PHF)	1141

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*4017*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*24.3*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

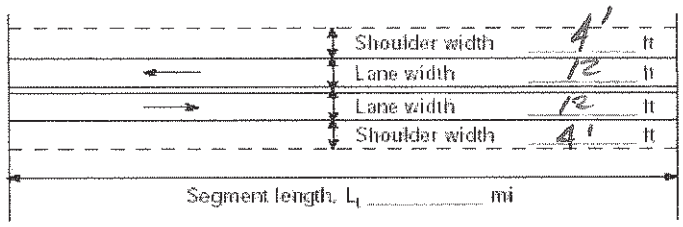
Copyright © 2005 University of Florida, All Rights Reserved *HCS+*™ Version 5.21 Generated: 5/14/2010 11:46 AM

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst		Highway	
Agency or Company		From/To	
Date Performed	5/14/2010	Jurisdiction	
Analysis Time Period	PM	Analysis Year	No Build/20yr Vols

Project Description: STP00-003-00(625)

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Two-way hourly volume	913 veh/h
Directional split	50 / 50
Peak-hour factor, PHF	0.88
No-passing zone	10
% Trucks and Buses , P_T	8 %
% Recreational vehicles, P_R	4%
Access points/ mi	8

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	0.93
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	1.9
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	1.1
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.929
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	1200
v_p * highest directional split proportion[2] (pc/h)	600

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	mi/h	Base free-flow speed, $BFFS_{FM}$	55.0 mi/h
Observed volume, V_f	veh/h	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	1.3 mi/h
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	mi/h	Adj. for access points, f_A (Exhibit 20-6)	2.0 mi/h
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	51.7 mi/h

Adj. for no-passing zones, f_{np} (mi/h) (Exhibit 20-11)	0.4
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v_p-f_{np}	42.0

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	0.94
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.962
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	1148
v_p * highest directional split proportion[2] (pc/h)	574
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	63.5
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	2.9
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	66.5

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	D
Volume to capacity ratio, v/c=V_p/ 3,200	0.38
Peak 15-min veh-miles of travel, VMT_{15} (veh- mi)= 0.25L_t(V/PHF)	1141

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*4017*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*27.2*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

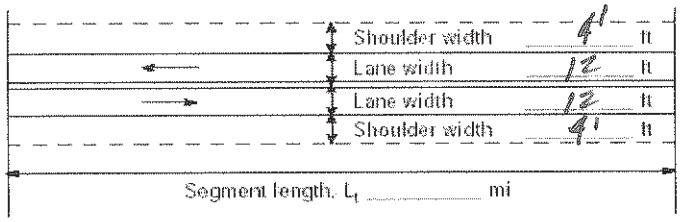
Copyright © 2005 University of Florida, All Rights Reserved *HCS+*™ Version 5.21 Generated: 5/14/2010 11:45 AM

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst		Highway	
Agency or Company		From/To	
Date Performed	5/14/2010	Jurisdiction	
Analysis Time Period	AM	Analysis Year	No Build/Design Yr Vols

Project Description:

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Two-way hourly volume	713 veh/h
Directional split	50 / 50
Peak-hour factor, PHF	0.88
No-passing zone	10
% Trucks and Buses , P_T	8 %
% Recreational vehicles, P_R	4%
Access points/ *mi*	8

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	0.93
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	1.9
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	1.1
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.929
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	937
v_p * highest directional split proportion[2] (pc/h)	469

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	55.0 *mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	1.3 *mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	2.0 *mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	51.7 *mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	0.6
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	43.8

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	0.94
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.962
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	896
v_p * highest directional split proportion[2] (pc/h)	448
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	54.5
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	4.1
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	58.6

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	D
Volume to capacity ratio, v/c=V_p/ 3,200	0.29
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	891

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*3137*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*20.3*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

Copyright © 2005 University of Florida, All Rights Reserved *HCS+*™ Version 5.21 Generated: 5/14/2010 11:31 AM

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst		Highway	
Agency or Company		From/To	
Date Performed	5/14/2010	Jurisdiction	
Analysis Time Period	AM	Analysis Year	No Build/Design Yr Vols

Project Description: STP00-003-00(625)

Input Data

Shoulder width 4' ft
Lane width 12 ft
Lane width 12 ft
Shoulder width 4' ft
Segment length, L_t _____ mi

Show North Arrow

☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Two-way hourly volume	713 veh/h
Directional split	50 / 50
Peak-hour factor, PHF	0.88
No-passing zone	10
% Trucks and Buses , P_T	8 %
% Recreational vehicles, P_R	4%
Access points/ mi	8

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	0.93
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	1.9
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	1.1
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.929
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	937
v_p * highest directional split proportion[2] (pc/h)	469

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	mi/h	Base free-flow speed, $BFFS_{FM}$	60.0 mi/h
Observed volume, V_f	veh/h	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	1.3 mi/h
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	mi/h	Adj. for access points, f_A (Exhibit 20-6)	2.0 mi/h
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	56.7 mi/h

Adj. for no-passing zones, f_{np} (mi/h) (Exhibit 20-11)	0.6
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v_p-f_{np}	48.8

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	0.94
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.962
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	896
v_p * highest directional split proportion[2] (pc/h)	448
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	54.5
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	4.1
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	58.6

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	C
Volume to capacity ratio, v/c=V_p/ 3,200	0.29
Peak 15-min veh-miles of travel, VMT_{15} (veh- mi)= 0.25L_t(V/PHF)	891

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*3137*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*18.2*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

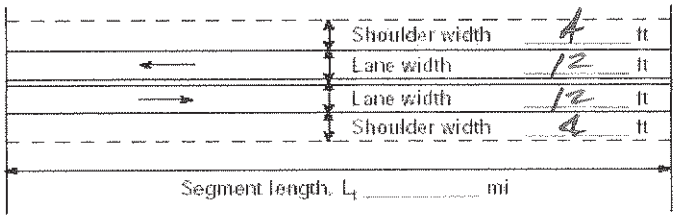
Copyright © 2005 University of Florida, All Rights Reserved *HCS+*™ Version 5.21 Generated: 5/14/2010 11:33 AM

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst		Highway	
Agency or Company		From/To	
Date Performed	5/14/2010	Jurisdiction	
Analysis Time Period	PM	Analysis Year	No Build/Design Yr Vols

Project Description: STP00-003-00(625)

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Two-way hourly volume	697 veh/h
Directional split	50 / 50
Peak-hour factor, PHF	0.88
No-passing zone	10
% Trucks and Buses , P_T	8 %
% Recreational vehicles, P_R	4%
Access points/ mi	8

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	0.93
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	1.9
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	1.1
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.929
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	916
v_p * highest directional split proportion[2] (pc/h)	458

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	mi/h	Base free-flow speed, $BFFS_{FM}$	55.0 mi/h
Observed volume, V_f	veh/h	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	1.3 mi/h
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	mi/h	Adj. for access points, f_A (Exhibit 20-6)	2.0 mi/h
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	51.7 mi/h

Adj. for no-passing zones, f_{np} (mi/h) (Exhibit 20-11)	0.6
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v_p-f_{np}	44.0

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	0.94
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.962
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	876
v_p * highest directional split proportion[2] (pc/h)	438
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	53.7
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	4.2
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	57.9

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	D
Volume to capacity ratio, v/c=V_p/ 3,200	0.29
Peak 15-min veh-miles of travel, VMT_{15} (veh- mi)= 0.25L_t(V/PHF)	871

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*3067*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*19.8*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

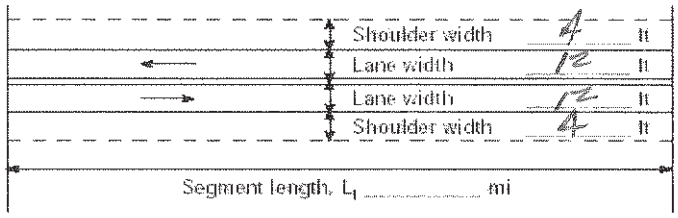
Copyright © 2005 University of Florida, All Rights Reserved *HCS+*™ Version 5.21 Generated: 5/14/2010 11:36 AM

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst		Highway	
Agency or Company		From/To	
Date Performed	5/14/2010	Jurisdiction	
Analysis Time Period	PM	Analysis Year	No Build/Design Yr Vols

Project Description: STP00-003-00(625)

Input Data



☒ Class I highway ☐ Class II highway

Terrain ☐ Level ☒ Rolling

Two-way hourly volume	697 veh/h
Directional split	50 / 50
Peak-hour factor, PHF	0.88
No-passing zone	10
% Trucks and Buses , P_T	8 %
% Recreational vehicles, P_R	4%
Access points/ *mi*	8

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	0.93
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	1.9
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	1.1
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.929
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	916
v_p * highest directional split proportion[2] (pc/h)	458

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	60.0 *mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	1.3 *mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	2.0 *mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	56.7 *mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	0.6
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	49.0

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	0.94
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.962
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	876
v_p * highest directional split proportion[2] (pc/h)	438
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	53.7
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	4.2
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	57.9

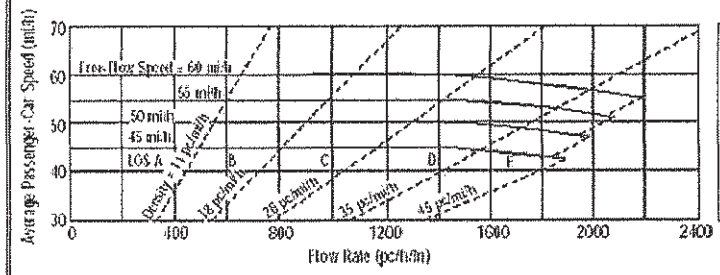
Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	C
Volume to capacity ratio, v/c=V_p/ 3,200	0.29
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	871

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*3067*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*17.8*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

Copyright © 2005 University of Florida, All Rights Reserved *HCS+*™ Version 5.21 Generated: 5/14/2010 11:35 AM

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	
Date Performed	6/3/2009
Analysis Time Period	

Site Information

Highway/Direction to Travel	
From/To	
Jurisdiction	
Analysis Year	

Project Description

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	400	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	17
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	57.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	4.3
f_M (mi/h)	1.6
FFS (mi/h)	51.2

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	248
Speed, S (mi/h)	51.2
D (pc/mi/ln)	4.8
LOS	A

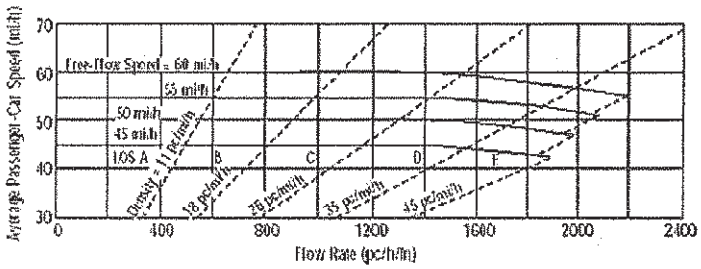
Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Copyright © 2005 University of Florida, All Rights Reserved HCS+™ Version 5.21 Generated: 6/3/2009 8:37 AM

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, H, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	
Date Performed	6/3/2009
Analysis Time Period	

Site Information

Highway/Direction to Travel	
From/To	
Jurisdiction	
Analysis Year	

Project Description

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	400	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	17
Median Type, M	Undivided
FFS (measured)	
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	4.3
f_M (mi/h)	1.6
FFS (mi/h)	54.2

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	248
Speed, S (mi/h)	54.2
D (pc/mi/ln)	4.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Copyright © 2005 University of Florida, All Rights Reserved HCS+™ Version 5.21 Generated: 6/3/2009 8:38 AM

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: STP00-0003-00(625) Bleckley
P.I. No.: 0003625
SR 87/Cochran Bypass

OFFICE: Engineering Services

DATE: February 9, 2010

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

TO: Renee Decker, District Design Squad Leader, Tennille

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held November 17 – 20, 2009. Responses were received on February 9, 2010. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
A-4	Shorten the length of the SR 126 alignment from 1000 ft to 560 ft	$146,025	Yes	This will be done. The intersection angle will be improved from 55° to 70°. The alignment will be shortened to 560 ft.
A-6	Eliminate the right turn lane at Sta. 240+00	$11,397	No	The existing right turn lane for the Ace Hardware store was installed under a GDOT driveway permit in 1995. According to the Driveway and Encroachment Control Manual, for projects with speed design > 55 mph and traffic greater than 6000 vpd, right turn lanes are required when right turning traffic exceeds 50 vpd.
A-8	Move detour to another existing roadway (CR 141/CR 140) instead of building a temporary on-site detour	Proposed = $451,563 Actual = $916,741	Yes, with modifications	The temporary detour will be eliminated and US 23/SR 87 Bus will be used for the detour instead of CR 141/CR 140 as proposed by the VE Team. The cost to use the existing SR ($31,388) will be less than constructing an onsite detour or improving the local roads to accommodate state route traffic. An intermediate completion date will be added to minimize the road closure.

A-10	Eliminate the two right turn lanes at CR 220/Cook Road	$45,602	No	For two lane roads with AADT >10,000, right turn lanes are required when there are 50 right turning vehicles per day. The future right turn movements for these two roads are 150 and 625. These counts greatly exceed the minimum.
P-3	Adjust the profile of the RR bridge embankment to reduce the amount of borrow material	$380,214	Yes	This will be done.
P-4	Use 1:1 stabilized slopes in lieu of 2:1 slopes for the embankment of the RR bridge	$419,429	No	Due to the implementation of P-3, this cannot be done. Please note that OMR has provided more accurate costs for materials and labor for this work. (See attached responses.) It is not likely that the proposed savings could be realized.
S-1	Use 4 ft wide paved shoulder instead of 6.5 ft paved shoulder	$434,574	Yes	The project is not on a bike route.
S-3	Make the inside lanes 11 ft wide instead of 12 ft wide	$695,738	No	SR 87 is classified as a Rural Minor Arterial. The traffic volumes are 10,500 ADT for 2012 and 16,250 ADT for 2032. The speed design is 45/55 mph. The truck volume is 8%. Given the functional class and volume configuration, AASHTO recommends 12 ft travel lanes.
S-4	Make outside lanes 11 ft wide instead of 12 ft wide	$695,738	No	SR 87 is classified as a Rural Minor Arterial. The traffic volumes are 10,500 ADT for 2012 and 16,250 ADT for 2032. The speed design is 45/55 mph. The truck volume is 8%. Given the functional class and volume configuration, AASHTO recommends 12 ft travel lanes.
S-5	Modify the parking lot pavement section to use asphaltic and GAB instead of all asphalt	Proposed = $30,419 Actual = $23,380	Yes, with modifications	This facility is a parking lot for cars; no buses will enter the parking area. OMR recommends using 8 inches of GAB instead of the 6 inches proposed by the VE Team. The minimum thickness used for state routes is 8 inches.
S-6	Reduce selected side road lane widths to 11 ft	$32,757	Yes	This will be done.
S-7	Use 4 ft wide median in the area of the RR bridge embankment in lieu of 14 ft median	$438,480	Yes	This will be done.

S-9	Modify the paved shoulder section to use GAB	Proposed = $364,941 Actual = $280,491	Yes, with modifications	OMR recommends using 8 inches of GAB instead of the 6 inches proposed by the VE Team. The minimum thickness used for state routes is 8 inches.
B-1	Use 8 ft shoulders on the bridge in lieu of 10 ft shoulders	$86,745	Yes	This will be done.
B-3	Use MSE wall abutments in lieu of end spans	$465,669	No	The use of MSE walls limits the ability for future modifications; therefore, the Bridge Office does not recommend using MSE walls. Additionally, the Bridge Office provided updated costs that would decrease the proposed savings to $341,751. The original layout did not provide for future track expansion. In order to provide for the track expansion, the bridge length must increase by 16 ½ ft.
B-8	Update the bridge cost for correct area and unit prices	Design Suggestion	Yes	This will be done.
M-1	Increase the unit cost for traffic signals from $47,000 to $90,000 at SR 26 and $150,000 for SR 126	Design Suggestion	Yes	This will be done.

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

Approved: _____ **Date:** 2/9/10
Gerald M. Ross, PE, Chief Engineer

REW/LLM
Attachments
c: Ben Buchan
Paul Liles/Bill Duvall/Bill Ingalsbe/Judy Meisner
George Brewer/Alan Smith/Renee Decker/Matthew Sammons/Foster Grimes
Jim Kitchings
Rusty Merritt/Daniel Smith
Nabil Raad
Lisa Myers
Matt Sanders

Benefit Cost Analysis Work Sheet
CONGESTION Projects

CSSTP00-0003-00 (625)

PI NUMBER 0003625

BLECKLEY COUNTY

ADDITONAL 2 LANES ON COCHRAN BY-PASS

Congestion Benefit = Tb + CMb + Fb

Person Time Savings Benefit (Tb)

*Db (hrs)	0.026
ADT	13,500.00
Tb ($s)	$12,065,625.00

Commercial or Truck Time Savings Benefit (CMb)

Db (hrs)	0.026
% Truck Traffic	0.08
ADT	13,500.00
CMb	$5,100,030.00

Fuel Savings Benefit (Fb)

ADT	13,500.00
Fb ($s)	$4,204,687.50

Total Congestion Benefit	**$21,370,342.50**
Total Project Cost	**$9,875,000.00**
B/C Ratio	**2.16**

*Reduction in Delay or Delay benefit (Db) can be defined as the difference between the peak hour travel time through the corridor without the proposed improvement and the peak hour travel time through the corridor with the proposed improvement.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

DATE July 28, 2010

FROM Alan Smith, District Design Engineer

TO Brent Story, Transportation Engineer Administrator

RECEIVED
JUL 30 2010
DESIGN POLICY & SUPPORT

SUBJECT Request for Design Variance
STP00-0003-00(625) Bleckley County, P.I. # 0003625

Approval of a Design Variance is requested for this project.

This project consists of 4.361 miles of widening on SR 87/Cochran By-Pass. The existing typical roadway section for SR 87 / Cochran By-Pass consists of one, 12-ft travel lane in each direction with rural shoulders situated within 100-ft of existing Right of Way. The horizontal and vertical alignments meet a 55mph speed design. The proposed typical section for this project consists of two, 12-ft travel lanes in each direction separated by a 14-ft wide flush median and rural shoulders on each side. The speed design and proposed posted speed for this project is 55mph. There is currently an at-grade railroad crossing that will be converted to a grade separation with this project.

Section 6.8.2 of the current GDOT Design Policy Manual states that a roadway classified as an Arterial Route with a speed greater than 45 mph requires a 24-ft raised median or a positive barrier system to be installed. This Design Variance is to request that the 14-ft wide flush median be allowed instead of the required 24-ft raised median. Traffic volumes meet the current GDOT policy for a 4-lane flush median section; however, the design speed is greater than 45 mph which causes this project to fall within the 24-ft raised median category.

Traffic volumes of this project for the build year, 2013, indicates that 8350 vehicles per day (vpd) will be utilizing this route and it is predicted that in the year 2033 that 11050 vehicles per day will utilize this route. The traffic is made up of 8% tractor-trailers and 92% lightweight vehicles. Accident history within the project limits revealed that there have been a total of 42 motor vehicle collisions between 2006 and 2008. The year 2009 was not used since the information was incomplete. Of these collisions, 20 were angle intersecting collisions, 14 were rear-end collisions, 6 were sideswipe collisions and 2 were head-on collisions. Accident rates were then calculated for the years 2006, 2007 and 2008. When comparing SR 87 / Cochran By-Pass to other arterial routes statewide, it is slightly below state average for all three referenced years. Given the relative low traffic volumes for this type of roadway and the small number of head-on collisions in the past three years, there does not appear to be a need for the additional four feet that a 24-ft median provides.

To construct SR 87 / Cochran By-Pass to a 4-lane section divided by a 24-ft raised median would increase the project footprint by 10-ft to 15-ft at the toe-of-slope. This increase generates more impacts to environmentally sensitive areas in the form of wetland and stream impacts and additional mitigation cost. It would also increase Right of Way impacts to local residents and businesses resulting in 4 relocations and encroachment into existing parking lots, commercial signs, etc. Also, the construction of the 24-ft raised median itself would increase

construction cost considerably. The total cost, including Construction, Mitigation and Right of Way, would increase by $2,780,532.00.

The cost needed to construct a 14-ft flush median versus a 24-ft raised median are as follows:

14-ft Flush Median	
Construction Cost	$14,230,132.00
Mitigation for Wetland/Stream Impact	$ 103,736.00
Right of Way Cost	$ 1,155,400.00
Total Cost	$15,489,268.00

24-ft Raised Median	
Construction Cost	$14,942,984.00
Mitigation for Wetland/Stream Impact	$ 126,816.00
Right of Way Cost	$ 3,200,000.00
Total Cost	$18,269,800.00

This office recommends that this design variance be approved for implementation. It also feels there is no evidence that head-on collisions are on the increase on SR 87 / Cochran By-Pass. The traffic volumes meet the criteria for a 4-lane with a 14-ft. flush median typical section and the additional environmental, right-of-way impacts and significant cost increase to install the 24-ft. raised median are not warranted.

Concur: _____ 7/30/2010
Director of Engineering — Date

Approved: _____ 8/2/10
Chief Engineer — Date

Attachments:

Location Map
Cost Estimate w/ 14' Flush Median
Cost Estimate w/ 24' Median
Accident Report
Typical Section
Traffic Diagrams