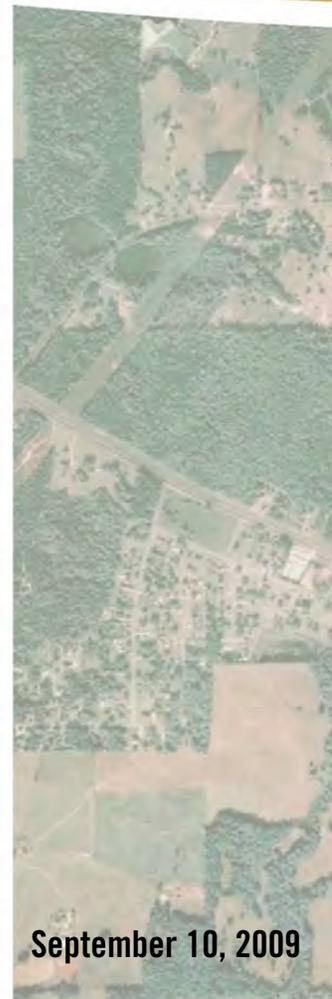
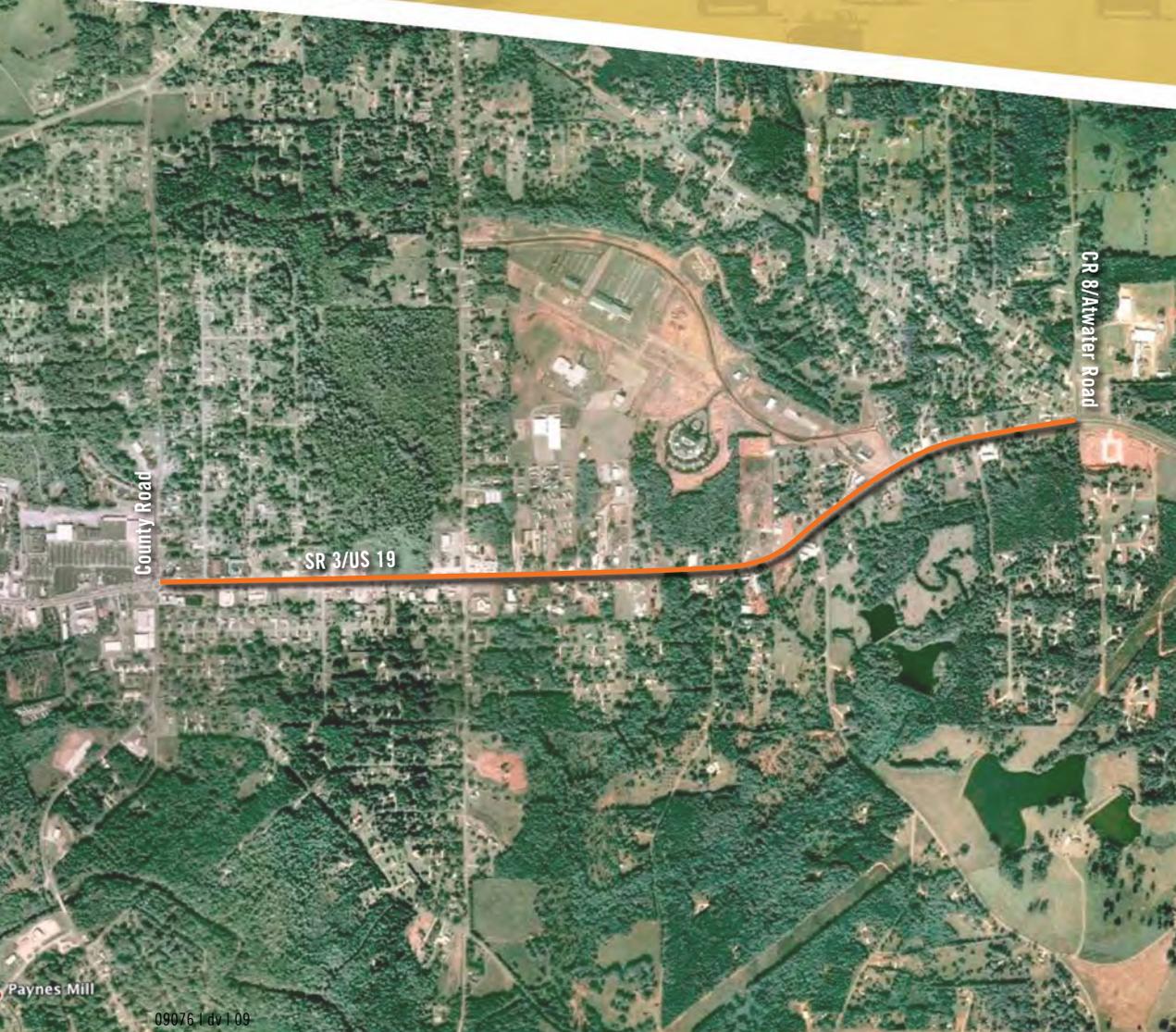


Value Engineering Study Report

Georgia Department of Transportation

NHS00-0000-00(297) – P.I. No. 0000297

Widening/Reconstruction of SR 3/US 19 from County Road
to CR 8/Atwater Road in Thomaston, Upson County



Value Engineering Team



Design Team





September 10, 2009

Ms. Lisa Myers
Design Review Engineer Manager/VE Coordinator
Georgia Department of Transportation-Engineering Services
One Georgia Center
600 W. Peachtree Street NW
Atlanta, GA 30308

RE: Submittal of the final Value Engineering Report
NHS00-0000-00(297) – P.I. No. 0000297
Widening/Reconstruction of SR 3/US 19 From County Road to CR 8/Atwater
Road in Thomaston
Upson County

Dear Ms. Myers:

Please find enclosed two (2) hard copies and one (1) CD of our final Value Engineering Report for the widening/reconstruction of SR 3/US 19 from County Road to CR 8 - Atwater Road in Upson County.

Using the Value Engineering “Job Plan” – Investigation, Analysis (*Function*), Speculation, Evaluation & Development, the VE Team identified:

- Project goal to be “Improve Safety”
- Five (5) Alternatives and one (1) Design Suggestion to improve the project Safety and Value of the project

We trust that you will find this report to be in proper order. It should be noted that the results of this workshop are volatile in that they can be overcome by the events that accompany the expeditious continuance of the design process. Accordingly, we encourage an equally expeditious implementation meeting to design the disposition of the contents of this report.

On behalf of our VE Team, we thank you very much for this opportunity to work with you and the hard working staff of the Georgia Department of Transportation.

Yours truly,

PBS&J

Les M. Thomas, P.E., CVS-Life
VE Team Leader

Randy S. Thomas, CVS
Assistant Team Leader

Value Engineering Study Report

Project No. NHS00-0000-00(297)

P.I. No. 0000297

**Widening/Reconstruction of
SR 3/US 19 from County Road to CR 8/Atwater Road**

Upson County

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- Agenda
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- Fast Diagram
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EXECUTIVE SUMMARY

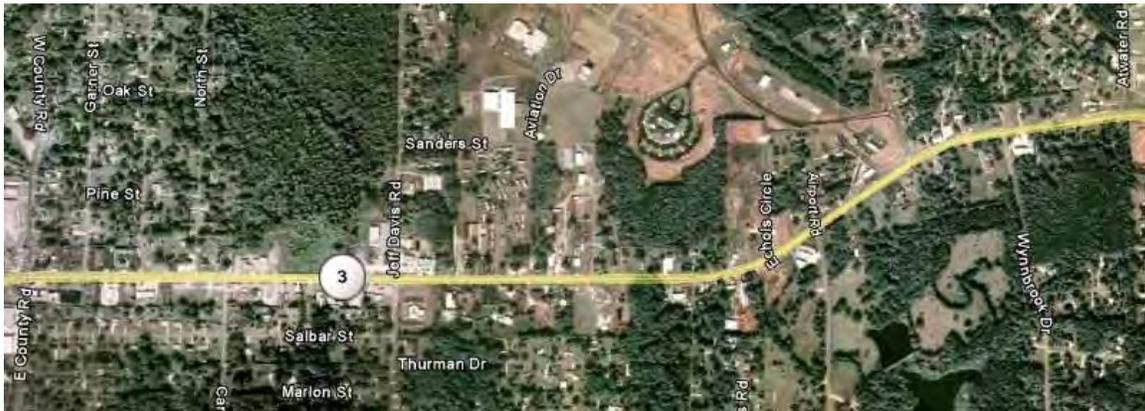
INTRODUCTION

The subject of the Value Engineering study is project NHS00-0000-00(297) – P.I. No. 0000297, widening and reconstruction of SR 3/US 19 from County Road to CR 8/Atwater Road in Upson County.

The design for the project has been prepared by Parsons. At the time of the workshop, the plans had advanced to the preliminary design level.

PROJECT DESCRIPTION

The length of the project is 2.0 miles. Currently, SR 3/ US 19 has two lanes in each direction and a two-way left turn lane on the south third of the project. There is one signalized intersection at Jeff Davis Rd./Harp Rd. The posted speed limit is 45 mph. This highway is classified as an urban minor arterial roadway. The percentage of trucks is estimated at 8%. Crash and injury rates have exceeded the statewide average.



The proposed project is to widen and reconstruct the corridor by creating an urban four-lane divided highway with 12' lanes and a raised median of variable width.. The intersection at Delray Road will be realigned opposite Jimmerson Rd. with a new traffic signal.

The estimated construction cost for the project is \$7,373,443. In addition, Right-of-Way costs are anticipated to be \$12,771,300 with reimbursable utilities cost estimated to be \$1,625,066. The projected total cost for the project is \$21,769,809.

PROJECT CONCERNS AND OBJECTIVES

- The accident rate in this section is above the state average
- Improve operational conditions
- To not impact possible historic property
- Improve intersections by controlling left turn movement
- Prevent adverse impacts to the environment
- Reduce construction impacts by staging construction

VALUE ENGINEERING PROCESS

The Value Engineering team followed the seven step Value Engineering Job Plan as promulgated by SAVE International.

Using the first two steps of the Value Engineering Job Plan - Investigation & Analysis (*Function Analysis*); the VE Team identified the goal of this project to be “improve safety”.

The result was the identification of 26 possible alternatives and one (1) design suggestion; five (5) alternatives and one (1) design suggestion are recommended herein for implementation – see **Study Results**

The following **Summary of Alternatives and Design Suggestions** coupled with the documentation of the developed alternatives should provide the reader with the information required to fully evaluate the merits of each of the alternatives.

STUDY RESULTS

INTRODUCTION

This section includes the study results presented in the form of fully developed value engineering alternatives that include descriptions of the original design, description of the alternative design configurations, comments on the technical justifications, opportunities and risks associated with the alternatives, sketches, calculations and technical justification for these alternatives. For the most part, these fully developed alternatives represent an array of choices that clearly could have an impact on the eventual cost and performance of the finished project.

This introductory sheet is followed by a **Summary of Alternatives**. It should be noted that the alternatives that are included, which have cost estimates attached are not necessarily representative of the final cost outcome for each alternative. Some of these alternatives have components that are mutually exclusive so they may not be added together.

The users of this report are asked to consider these alternatives and design suggestions as a smorgasbord of choices for selection and use as the project moves forward. The enclosed **Summary of Alternatives** may also be used as a “score sheet” within the bounds of an implementation meeting.

COST CALCULATIONS

The cost calculations are intended only as a guide to the approximate results that might be expected from implementation of the alternatives. They should be helpful in making clear choices as to the pursuit of individual alternatives.

The composite mark-up of 10% for the construction cost comparisons was derived from the cost estimate for the project. This estimate can be found in the section of this report entitled **Project Description**.

Value Analysis Design Alternative



PROJECT: **Georgia Department of Transportation
NHS00-0000-00(297) – P.I. No. 0000297
Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD-4

DESCRIPTION: **Build an 11' lane (inside)**

SHEET NO.: **1 of 4**

Original Design:

The original design proposes four 12' travel lanes for the entire length of the project.

Alternative:

The alternative would propose constructing two 11' inside travel lanes and two 12' outside travel lanes.

Opportunities:

- Reduced paving costs
- Reduced R.O.W. costs

Risks:

- Moderate impact to the designer

Technical Discussion:

As discussed on pages 472-473 of AASHTO's Policy on Geometric Design of Highways and Streets, the use 11' lanes are normally adequate and can have some advantages. By maintaining a 12' lane on the outside, the corridor can still accommodate truck traffic and right turning vehicles. Truck traffic volumes are relatively typical at 8 % and 6% (24 hr).

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 404,922	\$ 0	\$ 404,922
ALTERNATIVE	\$ 0	\$ 0	\$ 0
SAVINGS	\$ 404,922	\$ 0	\$ 404,922

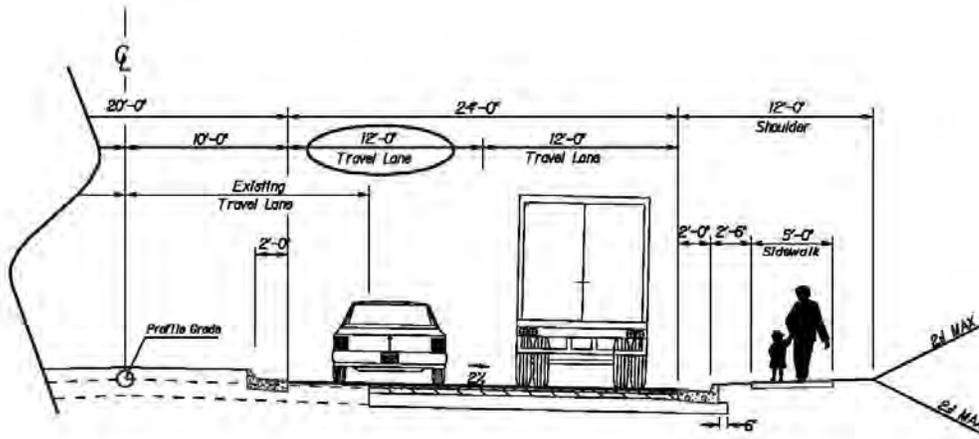
Illustration

PROJECT: Georgia Department of Transportation
NHS00-0000-00(297) – P.I. No. 0000297
Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County

ALTERNATIVE NO.:
RD-4

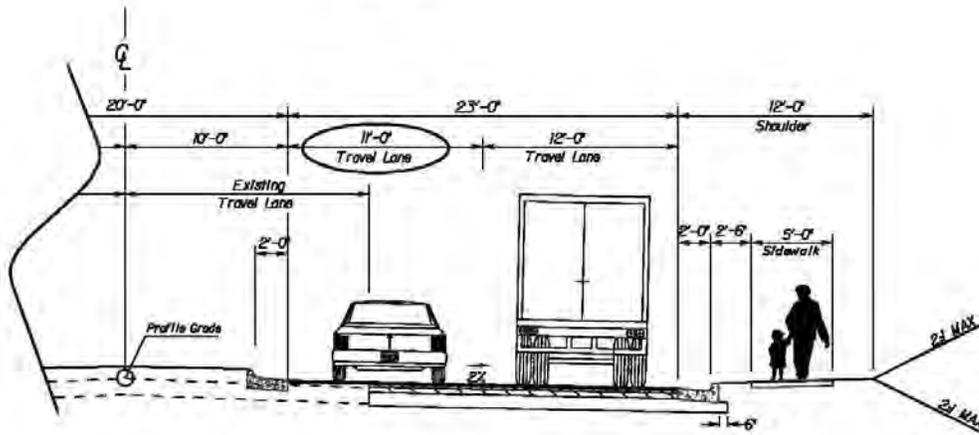
DESCRIPTION: **Build an 11' lane (inside)**

SHEET NO.: 2 of 4



ORIGINAL DESIGN

N.T.S.



Calculations



PROJECT: **Georgia Department of Transportation
NHS00-0000-00(297) – P.I. No. 0000297
Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

DESCRIPTION: **Build an 11' lane (inside)**

ALTERNATIVE NO.:
RD-4

SHEET NO.: **3** of **4**

Reduced paving width: Station ~26+60 to Station ~202+70=> 17,610 LF
(17,610 LF x 2' wide) = 35,220 SF/ (9 SF/SY) => 3,913 SY

Right of Way-

Assume 40% commercial, 60% residential- (.40 x \$200,000) + (.60 x \$35,000) => \$101,000/AC Average

35,220 SF / 43,560 SF/AC => 0.81 Acres

0.81 AC x \$101,000=> \$81,810

Right of way:	Net cost	=	\$81,810
	Scheduling @ 55%	=	\$44,995
	Court cost @ 60%	=	\$49,085
	Market Appreciation @ 40%	=	<u>\$32,725</u>
	Total	=	\$208,615

Paving-

Superpave 12.5mm = [(3,913 SY) x 165#/SY-IN / (2000#/Ton)] => 323 TN

Superpave 19.0mm = [(3,913 SY) x 220#/SY-IN / (2000#/Ton)] => 431 TN

Superpave 25.0mm = [(3,913 SY) x 440#/SY-IN / (2000#/Ton)] => 861 TN

12" GAB = (35,220 SF) x (1 ft depth) x(135#/cf) / (2000#/Ton)= 2378 TN

Value Analysis Design Suggestion



PROJECT: **Georgia Department of Transportation
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Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD-7

DESCRIPTION: **Provide a 2 foot offset to the 4 foot raised median**

SHEET NO.: **1 of 1**

Original Design:

The original design calls for no offset between the raised median and the travel lanes.

Alternative:

The alternative would provide a two foot offset between the raised median and the travel lanes.

Opportunities:

- Consistent typical section
- Improved safety

Risks:

- Potential increase in ROW cost
- Potential increase in paving cost

Technical Discussion:

Eliminating the offset to a paved median or island greatly increases the likelihood of a vehicle striking the curb and losing control. This is particularly true when the adjacent sections provide the required offsets. In addition this is in an area that has been transitioned to provide a narrow median. Although elimination of the offset may be permissible, because the purpose of the project is to correct an existing safety issue it may not be prudent.

Value Analysis Design Alternative



PROJECT: **Georgia Department of Transportation
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Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD-10

DESCRIPTION: **Eliminate sidewalk on east side between Jimmerson and
Wynbrook**

SHEET NO.: **1** of **4**

Original Design:

The original design calls for sidewalks to be constructed on both sides of the improved roadway, with the exception of a small portion of the roadway at the north end of the project.

Alternative:

The alternative would eliminate the sidewalks on the east side of the alignment between Jimmerson and Wynbrook.

Opportunities:

- Initial cost savings
- Some minimal reduction in the time of construction

Risks:

- There may some additional maintenance cost associated with addressing erosion in areas that are grassed, where sidewalks would have been built
- Some re-design involved

Technical Discussion:

There is a fair portion of the alignment that could be considered as low density in terms of development. Further, much of this part of the alignment will continue to be restricted in density growth due to historic structures and zoning matters. There could be some real merit in delaying construction of sidewalks since it can be expected that much the sidewalk will see very little use in the years to come. This alternative represents a less aggressive reduction in sidewalks (as compared to RD-22) and takes advantage of the fact the area in question is least likely to need sidewalks. In addition, the planned sidewalk in this area, in effect, would drop pedestrians off in a semi-dead end location.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 375,091	\$ 0	\$ 375,091
ALTERNATIVE	\$ 367,626	\$ 0	\$ 367,626
SAVINGS	\$ 7,465	\$ 0	\$ 7,465

Illustration



PROJECT: **Georgia Department of Transportation
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Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD-10

DESCRIPTION: **Eliminate sidewalk on east side Between Jimmerson and
Wynbrook**

SHEET NO.: **2** of **4**



Calculations



PROJECT: **Georgia Department of Transportation
NHS00-0000-00(297) – P.I. No. 0000297
Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD-10

DESCRIPTION: **Eliminate sidewalk on east side between Jimmerson and
Wynbrook**

SHEET NO.: **3** of **4**

Calculate the quantity of sidewalk that is to be taken out of the scope of construction:

The sidewalk that is to be taken out would be on the east side of U.S. 19 (the mainline) from north of Jimmerson to the north end of the project. This amounts to approximately 400 LF of 5' wide sidewalk. It should be noted that this run is approximately 450 LF but the team has deducted from the sidewalk run the driveways.

$400 \text{ LF} \times 5 \text{ Feet in Width} = 2,000 \text{ SF} = 222 \text{ SY of Sidewalk}$

Removal of the 222 SY of sidewalk will require that the resulting graded area be permanently grassed. $222 \text{ SY} = 2,000 \text{ SF}$ or about 0.05 Acres of permanent grassing.

Value Analysis Design Alternative



PROJECT: **Georgia Department of Transportation
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Widening/Reconstruction of SR 3/US 19 from
County Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD- 20

DESCRIPTION: **Signalize the existing Delray intersection at
present location**

SHEET NO.: **1 of 5**

Original Design:

The original design calls for the relocation of Delray Road to align it at the intersection of SR-3/US 19 and Jimmerson Road. The intersection will be signalized.

Alternative:

The alternative design suggests that Delray Road not be relocated, and that a signal be provided at this present intersection with SR-3/US 19.

Opportunities:

- Improve SR-3/US 19 safety
- Significantly reduce construction cost
- Significantly reduce right-of-way acquisition
- Minimize construction caused traffic delays

Risks:

- May reduce east-west access
- May increase design effort

Technical Discussion:

The current design relocates the existing Delray intersection to the Jimmerson intersection “to increase the distance between crossing intersections with SR 3/US 19 (concept report page 7). The current distance between the two intersections is 969’ +/- . It appears reasonable that the existing spacing of 969 feet between the intersections, after the SR-3/US 19 has been properly constructed as a four lane divided highway with a 20’ raised grassed median with the appropriate protected left turn space provided, that the existing intersections would not adversely affect, but rather improve the facility operation and public safety.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 4,126,966	\$ 0	\$ 4,126,966
ALTERNATIVE	\$ 66,471	\$ 0	\$ 66,471
SAVINGS	\$ 4,060,495	\$ 0	\$ 4,060,495

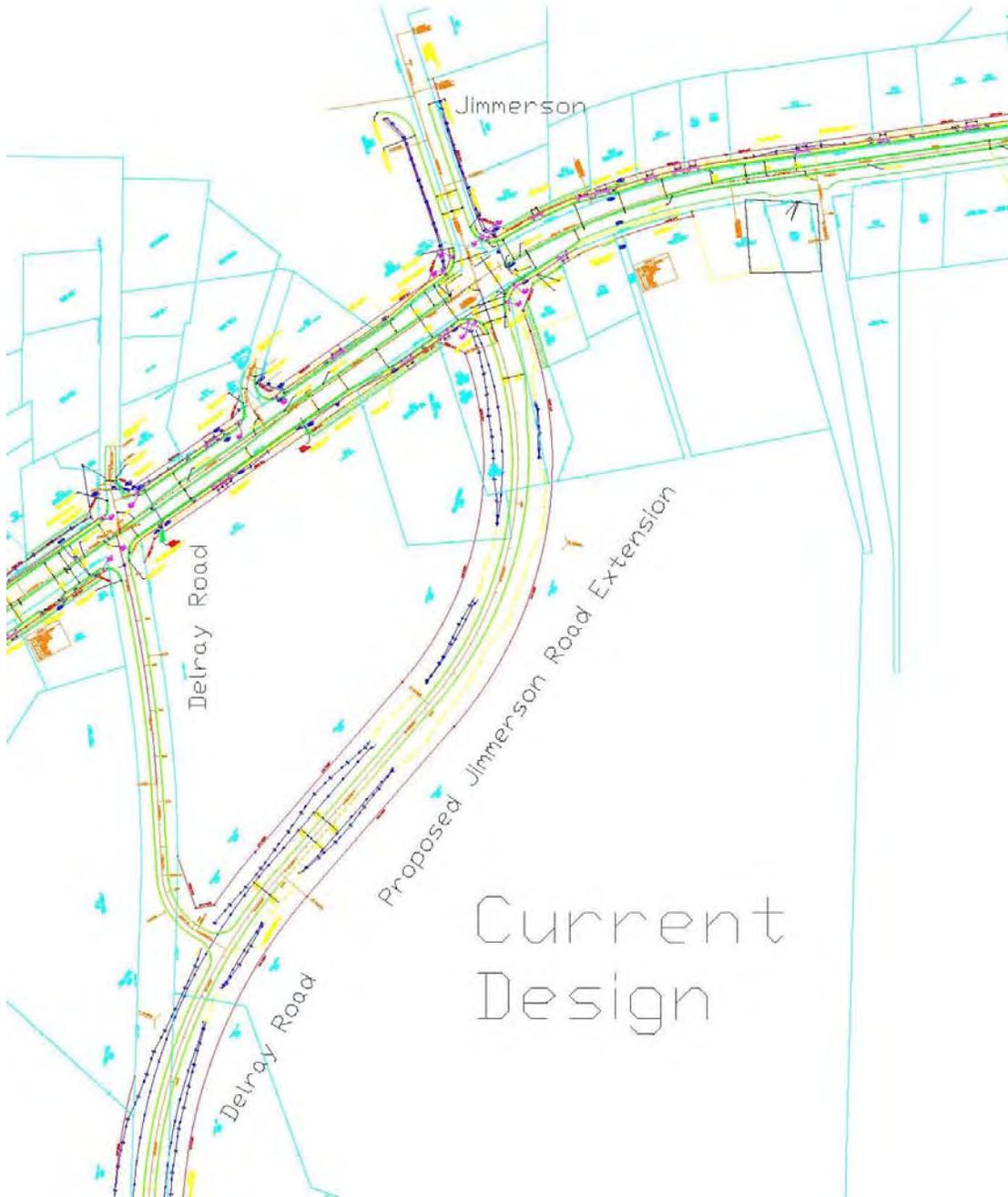
Illustration



PROJECT: **Georgia Department of Transportation
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Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD- 20

DESCRIPTION: **Signalize existing Delray intersection at present location** SHEET NO.: **2 of 5**



Illustration



PROJECT: **Georgia Department of Transportation
NHS00-0000-00(297) – P.I. No. 0000297
Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD- 20

DESCRIPTION: **Signalize existing Delray intersection at present location** SHEET NO.: **3 of 5**



Calculations



**PROJECT: Georgia Department of Transportation
 NHS00-0000-00(297) – P.I. No. 0000297
 Widening/Reconstruction of SR 3/US 19 from County
 Road to CR 8/Atwater Road in Thomaston
 Upson County**

**ALTERNATIVE NO.:
 RD- 20**

DESCRIPTION: Signalize existing Delray Intersection at present location SHEET NO.: 4 of 5

Material	Location	FROM	TO	Length	Width	SF	SY	#/sy	#/cf	Tons
12.5mm	Jimmerson Extension	8,544	10,800	2,256	28	63,168	7,019	165		579
19mm	Jimmerson Extension	8,544	10,800	2,256	28	63,168	7,019	220		772
25mm	Jimmerson Extension	8,544	10,800	2,256	28	63,168	7,019	330		1,158
12" GAB	Jimmerson Extension	8,544	10,800	2,256	28	63,168			135	4,264
Material	Location	FROM	TO	Length	Width	SF	SY	#/sy	#/cf	Tons
12.5mm	Delray existing	7,550	8,487	937	28	26,236	2,915	165		240
19mm	Delray existing	7,550	8,487	937	28	26,236	2,915	220		321
25mm	Delray existing	7,550	8,487	937	28	26,236	2,915	330		481
12" GAB	Delray existing	7,550	8,487	937	28	26,236			135	1,771



Cost Worksheet

PROJECT:	Georgia Department of Transportation NHS00-0000-00(297) - P.I. No. 0000297 Widening /Reconstruction of SR 3/US 19 from County Road to CR 8/Atwater Road in Thomaston	ALTERNATIVE NO.: RD- 20
DESCRIPTION:	Signalize existing Delray Intersection at present location	SHEET NO.: 5 of 5

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
Jimmerson/Delray							
12.5 mm Superpave	TN	579	\$ 75.00	\$ 43,428	0	\$ 75.00	\$ -
19.0 mm Superpave	TN	772	\$ 80.00	\$ 61,764	0	\$ 80.00	\$ -
25.0 mm Superpave	TN	1,158	\$ 70.00	\$ 81,066	0	\$ 70.00	\$ -
GAB	SY	4,264	\$ 17.04	\$ 72,656	0	\$ 17.04	\$ -
Delray existing				\$ -			\$ -
12.5 mm Superpave	TN	240	\$ 75.00	\$ 18,037	10%	\$ 75.00	\$ 1,804
19.0 mm Superpave	TN	321	\$ 80.00	\$ 25,653	10%	\$ 80.00	\$ 2,565
25.0 mm Superpave	TN	481	\$ 70.00	\$ 33,670	10%	\$ 70.00	\$ 3,367
GAB	SY	1,771	\$ 17.04	\$ 30,177	10%	\$ 17.04	\$ 3,018
				\$ -			\$ -
Right of Way				\$ -			\$ -
Land	Ac	7.10	\$ 169,829	\$ 1,205,786	0	\$ 169,829	\$ -
Improvements	Ea	1	\$ 240,775	\$ 240,775	0	\$ 240,775	\$ -
Relocation	Ea	1	\$ 25,000	\$ 25,000	0	\$ 25,000	\$ -
Damage	Ea	1	\$ 30,000	\$ 30,000	0	\$30,000.00	\$ -
Scheduling Contingency		55%	\$ 1,501,561	\$ 825,858	55%	\$ -	\$ -
Adm/Court Cost		60%	\$ 2,327,419	\$ 1,396,452	60%	\$ -	\$ -
Signalize Delray Intx	LS	0	\$ 54,642	\$ -	1	\$ 54,642	\$ 54,642
Sub-total				\$ 4,090,321			\$ 65,396
Cons't Mark-up 10.00%				\$ 36,645			\$ 1,075
TOTAL				\$ 4,126,966			\$ 66,471

Estimated Savings: \$4,060,495

Value Analysis Design Alternative



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Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD-22

DESCRIPTION: **Selectively reduce sidewalks**

SHEET NO.: **1 of 4**

Original Design:

The original design calls for sidewalks to be constructed on both sides of the improved roadway, with the exception of a small portion of the roadway at the north end of the project.

Alternative:

The alternative would provide sidewalks in the more developed areas within the project limits. The attached calculation sheet is used to identify the proposed runs of sidewalks that are to be built under the terms of this alternative.

Opportunities:

- Initial cost savings
- Some minimal reduction in the time of construction

Risks:

- There may some additional maintenance cost associated with addressing erosion in areas that are grassed, where sidewalks would have been built
- Some re-design involved
- There may be public opposition to this move

Technical Discussion:

There is a fair portion of the alignment that could be considered as low density in terms of development. Further, much of this part of the alignment will continue to be restricted in density growth due to historic structures and zoning matters. There could be some real merit in delaying construction of sidewalks since it can be expected that much the sidewalk will see very little use in the years to come.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 375,091	\$ 0	\$ 375,0917
ALTERNATIVE	\$ 296,610	\$ 0	\$ 296,6109
SAVINGS	\$ 78,481	\$ 0	\$ 78,481

Illustration



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Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD-22

DESCRIPTION: **Selectively reduce sidewalks**

SHEET NO.: **2 of 4**



Calculations



PROJECT: **Georgia Department of Transportation
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Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD-22

DESCRIPTION: **Selectively reduce sidewalks**

SHEET NO.: **3** of **4**

Calculate the quantity of sidewalk that is to be taken out of the scope of construction:

The sidewalk that is to be taken out would be on the west side of Route 19 (the mainline) from north of Aviation to the north end of the project. This amounts to approximately 4,200 LF of 5' wide sidewalk. It should be noted that this run is approximately 5,800 LF but the team has deducted from the sidewalk run the many driveways and cross streets.

$4,200 \text{ LF} \times 5 \text{ Feet in Width} = 21,000 \text{ SF} = 2,333 \text{ SY of Sidewalk}$

Removal of the 2,333 SY of sidewalk will require that the resulting graded area be permanently grassed. $2,333 \text{ SY} = 20,997 \text{ SF}$ or about 0.48 Acres of permanent grassing.

Value Analysis Design Alternative



PROJECT: Georgia Department of Transportation
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 Widening/Reconstruction of SR 3/US 19 from County
 Road to CR 8/Atwater Road in Thomaston
 Upson County

ALTERNATIVE NO.:
RD-25

DESCRIPTION: Build a 5-lane roadway section from South Echols Circle
 to Atwater Road

SHEET NO.: 1 of 4

Original Design:

The original design proposes a 4-lane divided roadway for the entire length of the project.

Alternative:

The alternative would propose constructing a 5-lane roadway on the northern end of the project from South Echols Circle (Station 165+19.28) to Atwater Road (Station 165+19.28). The alternative would propose the use of 4-12' travel lanes and a 14' flush two-way left turn lane.

Opportunities:

- Reduced paving costs
- Reduced R.O.W. costs
- Easier construction sequencing
- Reduced borrow

Risks:

- Reduced access control
- Moderate impact to the designer

Technical Discussion:

The primary purpose and need for the project is to improve safety. Accidents are mainly angle and rear end accidents associated with a high number of left turners in the heavily commercial areas. The northern end of the project is much less heavily developed and there is a significant drop in traffic volume north of the Jeff Davis road intersection. The project traffic projections for the northern section of the project are as follows: 2013 ADT 12,700vpd-16,100vpd and 2033 ADT 21,200vpd-25,900vpd. It should be noted the higher design year counts occurs between Jimmerson Road and Delray Road. The existing traffic counts would meet the traffic count criteria (<18,000vpd) for building a 5-lane outlined in Chapter 6 of the GDOT Policy Manual. The design year traffic counts slightly exceed the criteria (<24,000vpd), however these counts did not consider the relocation of Delray Road which should reduce the volume along the principle roadway. It should also be noted that the project connects to an existing 5-lane section to the north. The 5-lane section to the north is slightly less developed but has similar traffic volumes and it does not experience the higher accident frequency.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 360,538	\$ 0	\$ 360,538
ALTERNATIVE	\$ 0	\$ 0	\$ 0
SAVINGS	\$ 360,538	\$ 0	\$ 360,538

Illustration

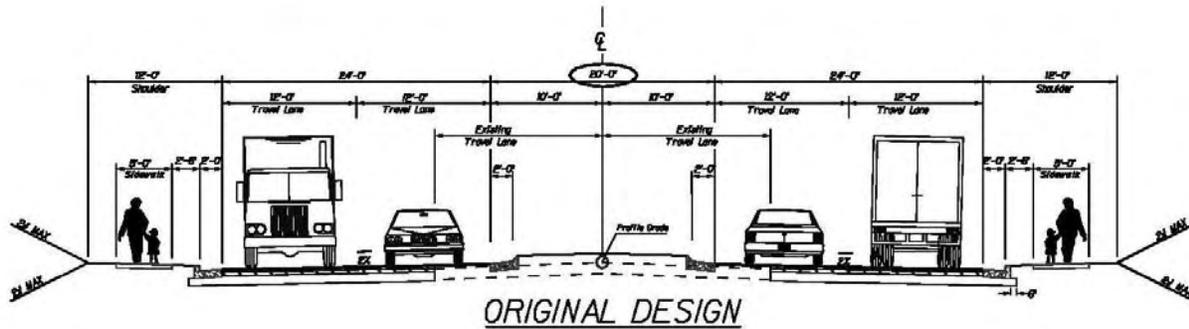


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Road to CR 8/Atwater Road in Thomaston
Upson County

ALTERNATIVE NO.:
RD-25

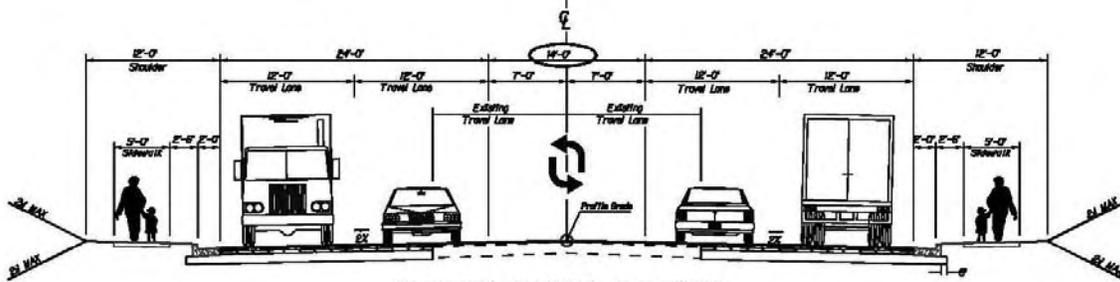
DESCRIPTION **Build a 5-lane roadway section from South Echols
Circle to Atwater Road**

SHEET NO.: 2 of 4



ORIGINAL DESIGN

N.T.S.



ALTERNATIVE DESIGN

N.T.S.

Calculations



PROJECT: **Georgia Department of Transportation
NHS00-0000-00(297) – P.I. No. 0000297
Widening/Reconstruction of SR 3/US 19 from County
Road to CR 8/Atwater Road in Thomaston
Upson County**

ALTERNATIVE NO.:
RD-25

DESCRIPTION: **Build a 5-lane roadway section from South Echols Circle
to Atwater Road**

SHEET NO.: **3** of **4**

Reduced paving width: Station ~165+20 to Station ~197+35 => 3,215 LF

(3215 LF x 6' wide) = 19,290SF/ (9 SF/SY) => 2,143 SY

Median Area: Station ~165+20 to Station ~197+35

$((172' + 718') \times 20') + ((400' + 400' + 400' + 400') \times 4') + ((180' + 180' + 180' + 180') \times (20' + 4') / 4) = 32,840 \text{ SF}$

32,840 SF/ (9 SF/SY) => 3,650 SY

Curb and gutter: $(172' + 718' + 400' + 400' + 400' + 400' + 180' + 180' + 180' + 180') \times (2) = 3,210 \text{ LF}$

Right of Way-

Assume 20% commercial, 80% residential- $(.20 \times \$200,000) + (.80 \times \$35,000) => \$68,000/\text{AC Average}$

19,290 / 43,560 SF/AC => 0.44 Acres

0.44 AC x \$68,000 => \$29,920

Right of way:	Net cost	=	\$29,920
	Scheduling @ 55%	=	\$16,455
	Court cost @ 60%	=	\$17,950
	Market Appreciation @ 40%	=	<u>\$11,970</u>
	Total	=	\$76,295

Paving-

Wearing layer reduced by "reduced paving width" only.

Superpave 12.5mm = $[(2,143 \text{ SY}) \times 165\#/\text{SY-IN} / (2000\#/\text{Ton})] => 177 \text{ TN}$

Base layers reduced by "median area and reduced paving width".

Superpave 19.0mm = $[(2,143 \text{ SY} + 3,650 \text{ SY}) \times 220\#/\text{SY-IN} / (2000\#/\text{Ton})] => 638 \text{ TN}$

Superpave 25.0mm = $[(2,143 \text{ SY} + 3,650 \text{ SY}) \times 440\#/\text{SY-IN} / (2000\#/\text{Ton})] => 1275 \text{ TN}$

12" GAB = $((19,290\text{SF} + 32,840 \text{ SF}) \times (1 \text{ ft depth}) \times (135\#/\text{cf})) / (2000\#/\text{Ton}) = 3519 \text{ TN}$

Earthwork- Fill for the Median-

$((172' + 718') \times 20') + ((180' + 180' + 180' + 180') \times (20' + 4') / 4) = 26,440 \text{ SF}$

$(26,440 \text{ SF} \times 2 \text{ FT deep}) / 27 \text{ CF/CY} => 1959 \text{ CY}$

Cost Worksheet



PROJECT:	Georgia Department of Transportation NHS00-0000-00(297) -P.I. No.0000297 Widening/Reconstruction of SR 3/us 19 from	ALTERNATIVE NO.:
		RD-25
DESCRIPTION:	Build a 5-lane roadway section from South Echols Circle to Atwater Road	SHEET NO.: 4 of 4

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
Right of Way	LS	1	\$ 106,590.00	76,295	0	\$ 106,590.00	\$ -
12.5 mm Superpave	TN	177	\$ 75.00	\$ 13,275	0	\$ 75.00	\$ -
19.0 mm Superpave	TN	638	\$ 80.00	\$ 51,040	0	\$ 80.00	\$ -
25.0 mm Superpave	TN	1,275	\$ 70.00	\$ 89,250	0	\$ 70.00	\$ -
GAB	TN	3,519	\$ 17.04	\$ 59,964	0	\$ 17.04	\$ -
Curb & Gutter-Type 7	LF	3,210	\$ 10.00	\$ 32,100	0	\$ 10.00	\$ -
Borrow Excavation	CY	1,959	\$ 2.98	\$ 5,838	0	\$ 2.98	\$ -
Sub-total				\$ 327,762			\$ -
Mark-up at 10.00%				\$ 32,776			\$ -
TOTAL				\$ 360,538			\$ -

Estimated Savings:	\$360,538
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PROJECT DESCRIPTION

INTRODUCTION

The subject of the Value Engineering study is project NHS00-0000-00(297) – P.I. No. 0000297, widening and reconstruction of SR 3/US 19 from County Road to CR 8/Atwater Road in Upson County.

The design for the project has been prepared by Parsons. At the time of the workshop, the plans had advanced to the preliminary design level.

PROJECT DESCRIPTION

The length of the project is 2.0 miles. Currently, SR 3/ US 19 has two lanes in each direction and a two-way left turn lane on the south third of the project. There is one signalized intersection at Jeff Davis Rd./Harp Rd. The posted speed limit is 45 mph. This highway is classified as an urban minor arterial roadway. The percentage of trucks is estimated at 8%. Crash and injury rates have exceeded the statewide average.

The proposed project is to widen and reconstruct the corridor by creating an urban four-lane divided highway with 12' lanes and a raised median of variable width. The intersection at Delray Road will be realigned opposite Jimmerson Rd. with a new traffic signal.

The estimated construction cost for the project is \$7,373,443. In addition, Right-of-Way costs are anticipated to be \$12,771,300 with reimbursable utilities cost estimated to be \$1,625,066. The projected total cost for the project is \$21,769,809.

REPRESENTATIVE DOCUMENTS

- Georgia Department of Transportation
 - Construction Cost Estimates
 - Preliminary Right-of-Way Cost Estimate
 - Concept Reports
 - Project Location Maps
 - Typical Road Section

The VE Team utilized the GDOT supplied project materials noted above plus the preliminary plans provided by Parsons.

Estimate Report for file "NHS-0000-00(297) VE STUDY_2009-08-07"

Section ROADWAY ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	300000.00	TRAFFIC CONTROL - NHS-0000-00(297)	300000.00
201-1500	1	LS	150000.00	CLEARING & GRUBBING - NHS-0000-00(297)	150000.00
205-0001	29400	CY	2.47	UNCLASS EXCAV	72618.00
206-0002	36100	CY	2.98	BORROW EXCAV, INCL MATL	107578.00
207-0203	100	CY	44.73	FOUND BKFFILL MATL, TP II	4473.00
310-1101	38700	TN	17.04	GR AGGR BASE CRS, INCL MATL	659448.00
318-3000	500	TN	21.39	AGGR SURF CRS	10695.00
402-1812	5700	TN	75.00	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	427500.00
402-3121	15400	TN	70.00	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	1078000.00
402-3130	8400	TN	75.00	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	630000.00
402-3190	6900	TN	80.00	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	552000.00
413-1000	5400	GL	2.00	BITUM TACK COAT	10800.00
441-0014	180	SY	37.24	DRIVEWAY CONCRETE, 4 IN TK	6703.20
441-0016	320	SY	42.35	DRIVEWAY CONCRETE, 6 IN TK	13552.00
441-0104	11100	SY	30.72	CONC SIDEWALK, 4 IN	340992.00
441-0754	3500	SY	54.56	CONCRETE MEDIAN, 7 1/2 IN	190960.00
441-4020	310	SY	43.97	CONC VALLEY GUTTER, 6 IN	13630.70
441-4030	820	SY	43.89	CONC VALLEY GUTTER, 8 IN	35989.80
441-6022	19900	LF	12.46	CONC CURB & GUTTER, 6 IN X 30 IN, TP 2	247954.00
441-6720	7190	LF	10.00	CONC CURB & GUTTER, 6 IN X 30 IN, TP 7	71900.00
446-1100	21600	LF	4.57	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	98712.00
500-9999	300	CY	192.85	CLASS B CONC, BASE OR PVMT WIDENING	57855.00
634-1200	150	EA	93.93	RIGHT OF WAY MARKERS	14089.50
643-8200	500	LF	2.21	BARRIER FENCE (ORANGE), 4 FT	1105.00
Section Sub Total:					\$5,096,555.20

Section DRAINAGE ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3101	200	CY	238.02	CLASS A CONCRETE	47604.00
500-3200	11	CY	411.00	CLASS B CONCRETE	4521.00
500-3800	26	CY	653.93	CLASS A CONCRETE, INCL REINF STEEL	17002.18
511-1000	1700	LB	0.89	BAR REINF STEEL	1513.00
550-1180	7400	LF	36.27	STORM DRAIN PIPE, 18 IN, H 1-10	268398.00
550-1240	700	LF	41.79	STORM DRAIN PIPE, 24 IN, H 1-10	29253.00
550-1300	1300	LF	53.29	STORM DRAIN PIPE, 30 IN, H 1-10	69277.00
550-1360	390	LF	62.22	STORM DRAIN PIPE, 36 IN, H 1-10	24265.80
550-2180	430	LF	33.24	SIDE DRAIN PIPE, 18 IN, H 1-10	14293.20
550-4118	22	EA	379.53	FLARED END SECTION 18 IN, SIDE DRAIN	8349.66
550-4218	30	EA	551.07	FLARED END SECTION 18 IN, STORM DRAIN	16532.10
550-4230	7	EA	761.29	FLARED END SECTION 30 IN, STORM DRAIN	5329.03
550-4236	4	EA	1055.83	FLARED END SECTION 36 IN, STORM DRAIN	4223.32
600-0001	130	CY	148.26	FLOWABLE FILL	19273.80
668-1100	73	EA	2429.74	CATCH BASIN, GP 1	177371.02
668-2100	35	EA	2360.78	DROP INLET, GP 1	82627.30
668-4400	7	EA	2821.76	STORM SEWER MANHOLE, TP 2	19752.32
Section Sub Total:					\$809,585.73

Section PERMANENT EROSION CONTROL ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
603-2024	1750	SY	45.91	STN DUMPED RIP RAP, TP 1, 24 IN	80342.50
603-2181	1010	SY	34.43	STN DUMPED RIP RAP, TP 3, 18 IN	34774.30
603-7000	2760	SY	3.80	PLASTIC FILTER FABRIC	10488.00
700-6910	30	AC	674.07	PERMANENT GRASSING	20222.10
700-7000	58	TN	60.51	AGRICULTURAL LIME	3509.58
700-7010	73	GL	20.53	LIQUID LIME	1498.69

700-8000	22	TN	409.57	FERTILIZER MIXED GRADE	9010.54
700-8100	1700	LB	2.30	FERTILIZER NITROGEN CONTENT	3910.00
710-9000	8300	SY	1.99	PERMANENT SOIL REINFORCING MAT	16517.00
715-2200	2800	SY	1.47	BITUMINOUS TREATED ROVING, WATERWAYS	4116.00
716-2000	1000	SY	0.95	EROSION CONTROL MATS, SLOPES	950.00
Section Sub Total:					\$185,338.71

Section TEMPORARY EROSION CONTROL ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	15	AC	283.37	TEMPORARY GRASSING	4250.55
163-0240	420	TN	129.90	MULCH	54558.00
163-0300	37	EA	1148.70	CONSTRUCTION EXIT	42501.90
163-0503	22	EA	442.20	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	9728.40
163-0523	130	EA	143.27	CONSTRUCT AND REMOVE TEMPORARY DITCH CHECKS - TYPE C SILT FENCE	18625.10
163-0524	160	EA	151.60	CONSTRUCT AND REMOVE TEMPORARY DITCH CHECKS - STONE PLAIN RIP RAP/SAND BAGS	24256.00
163-0530	6000	LF	2.42	CONSTRUCT AND REMOVE BALED STRAW EROSION CHECK	14520.00
163-0550	160	EA	188.29	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	30126.40
165-0010	9100	LF	0.53	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	4823.00
165-0030	6000	LF	0.66	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	3960.00
165-0040	290	EA	56.18	MAINTENANCE OF EROSION CONTROL CHECKDAMS/DITCH CHECKS	16292.20
165-0050	3000	LF	2.45	MAINTENANCE OF SILT RETENTION BARRIER	7350.00
165-0070	3000	LF	2.83	MAINTENANCE OF BALED STRAW EROSION CHECK	8490.00
165-0101	37	EA	481.34	MAINTENANCE OF CONSTRUCTION EXIT	17809.58
165-0105	160	EA	78.69	MAINTENANCE OF INLET SEDIMENT TRAP	12590.40
167-1000	2	EA	460.30	WATER QUALITY MONITORING AND SAMPLING	920.60
167-1500	24	MO	685.80	WATER QUALITY INSPECTIONS	16459.20
170-2000	6000	LF	8.24	STAKED SILT RETENTION BARRIER	49440.00
171-0010	18200	LF	1.84	TEMPORARY SILT FENCE, TYPE A	33488.00
171-0030	12000	LF	2.95	TEMPORARY SILT FENCE, TYPE C	35400.00
Section Sub Total:					\$405,589.33

Section SIGNING AND MARKING ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	730	SF	16.67	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	12169.10
636-1033	130	SF	20.24	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	2631.20
636-2070	1000	LF	8.71	GALV STEEL POSTS, TP 7	8710.00
639-2001	120	LF	2.65	STEEL WIRE STRAND CABLE, 1/4 IN	318.00
639-4002	4	EA	5191.80	STRAIN POLE, TP II	20767.20
653-0120	100	EA	72.49	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	7249.00
653-1501	25400	LF	0.44	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	11176.00
653-1502	28000	LF	0.45	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	12600.00
653-1704	350	LF	3.47	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	1214.50
653-1804	4700	LF	1.68	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	7896.00
653-3501	1700	GLF	0.33	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	561.00
653-3502	13100	GLF	0.34	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, YELLOW	4454.00
653-6004	440	SY	2.71	THERMOPLASTIC TRAF STRIPING, WHITE	1192.40
653-6006	1900	SY	2.63	THERMOPLASTIC TRAF STRIPING, YELLOW	4997.00
654-1001	140	EA	3.04	RAISED PVMT MARKERS TP 1	425.60
654-1003	130	EA	3.20	RAISED PVMT MARKERS TP 3	416.00

Section Sub Total: \$96,777.00

Section SIGNAL ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
647-1000	1	LS	54642.03	TRAFFIC SIGNAL INSTALLATION NO - 2 (SR 3 - US 19 - JIMMERSON RD - RELOC DELRAY RD)	54642.03
647-1000	1	LS	54642.03	TRAFFIC SIGNAL INSTALLATION NO - 1 (SR 3/US 19 / JEFF DAVIS RD. / HARP RD.)	54642.03
Section Sub Total:					\$109,284.06

Total Estimated Cost: \$6,703,130.03

Subtotal Construction Cost	\$6,703,130.03
E&C Rate 10.0 %	\$670,313.00
Inflation Rate 0.0 % @ 0 Years	\$0.00
Total Construction Cost	\$7,373,443.03
Right Of Way	\$12,771,300.00
ReImb. Utilities	\$1,625,066.00
Grand Total Project Cost	\$21,769,809.03

Preliminary Right of Way Cost Estimate



Phil Copeland
 Right of Way Administrator
 By: LaShone Alexander

Date: July 21, 2009
Project: NHS-0000-00(297) Upson
Existing/Required R/W: Varies/Varies
Project Termini : SR 3/US 19 from County Road to CR 8/Atwater Road
Project Description: Intersection Improvement and Realignment of Delray Road

P.I. Number: 0000297
No. Parcels: 82

✓ Land:			
	Comm. R/W: 13.22 Ac @ \$200,000/acre		2,644,000.00
	Permanent Easement: 1.16Ac @ \$ 200,000/acre x 50%		116,000.00
	Res. R/W: 0.22 acres @ \$ 35,000.00/acre		7,700.00
	Agriculture. R/W: 0.79 Ac @ \$ 20,000.00/acre		<u>15,800.00</u>
			\$ 2,783,500.00
	16.39		
✓ Improvements :	8 Commercial Buildings, Curbing, Paving, Signs, Light Fixtures, Fencing, trade fixtures and site improvements & misc		\$ 1,926,200
✓ Relocation:	Residential (0) @ \$ 40,000/Parcel		
	Commercial (8) @ <u>25,000/Parcel</u>		\$ 200,000
✓ Damage :	Cost to Cure (8)	\$ 240,000	
			\$ <u>240,000</u>
		Net Cost	\$ 5,149,700
		Net Cost	\$ 5,149,700
		Scheduling Contingency 55 %	2,832,335
		Adm/Court Cost 60 %	<u>4,789,221</u>
			\$ 12,771,256
Total Cost			\$ 12,771,300

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

Preliminary Utility Cost Estimate

Date: October 31, 2007
Project: NHS-0000-00 (297) Upson
P.I. Number: 0000297
Existing/Required R/W: Varies/Varies
Project Termini: SR 3/US 19 from County Road to CR 8/Atwater Road
Project Description: Intersection improvement and Realignment of Delray Road

INTRODUCTION

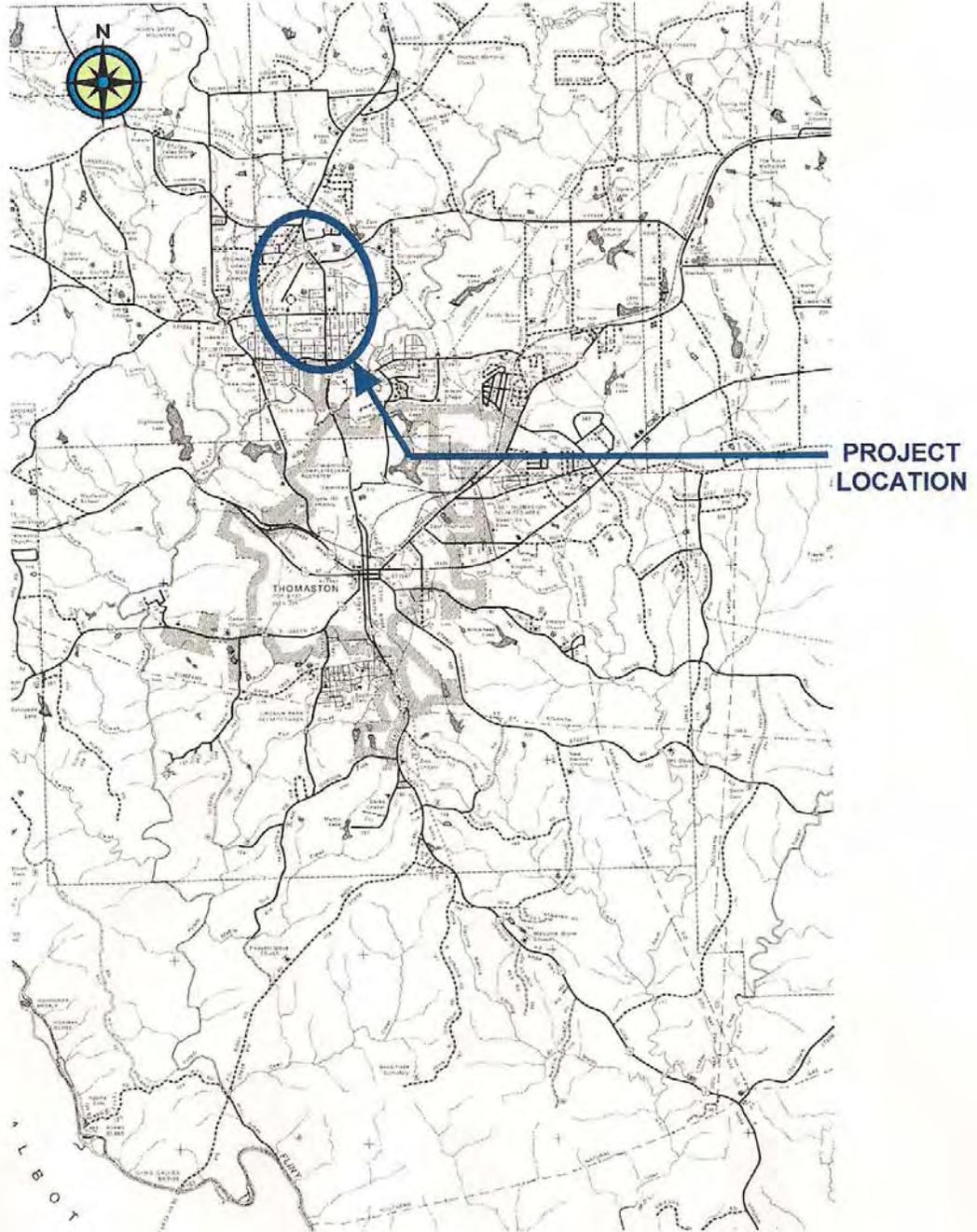
There are two pole lines that run the length of the project, one telephone duct bank, a gas main and a water main. Assuming these facilities were to be relocated the entire length of the project; the following cost estimate has been calculated.

ESTIMATE

Assumption 100 poles need to be relocated @ \$7,500 per pole	=	\$ 750,000.00
Assumption 2 miles of telephone duct bank relocation @ 150.00 p/LFT	=	\$ 1,500,000.00
Assumption 2 miles of Gas Main relocation @ \$75.00 p/LFT	=	\$ 792,000.00
Assumption 2 miles of Water Main relocation @ 90.00 pLFT	=	\$ 950,000.00
		<hr/>
Subtotal	=	\$ 3,992,000.00
Contingency (10%)	=	\$ 399,200.00
TOTAL	=	\$ 4,391,200.00

Total Cost = \$ 4,500,000.00

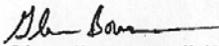
Project Location Map: Widening/Reconstruction of SR 3/US 19 from County Road to CR 8/Atwater Road in Thomaston



STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. No. 0000297 **OFFICE:** Environment/Location
DATE: April 24, 2008

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

TO: Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT: **PROJECT CONCEPT REPORT**
NHS-0000-00(297) / Upson County
Widening / Reconstruction of SR 3/US 19 from County Road to
County Road 8/Atwater Road in Thomaston

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

1. As stated in the report, there are multiple historic resources located within the area of potential effect and the attached alignment includes the use of easements within several boundaries.
2. Anticipate impacts to wetlands and stream as a result of the relocation of Delray road. These impacts will require mitigation.
3. We do not believe the Environmental document will be a Categorical Exclusion. An Environmental Assessment is more likely. Coordination with FHWA is vital. Also, the logical termini discussion does not justify the end points for the project as currently stated. Please address all points contained in FHWA Guidance Document dated November 5, 1993. Need VE study early in process and need Environmental study results for both ecology and cultural resources as soon as possible.

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

GB:lc

cc: Brian Summers
Jamie Simpson
Keith Golden
Angela Alexander
Thomas Howell
Paul Liles

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

Office of District 3 Design

PROJECT CONCEPT REPORT

Project Number: NHS-0000-00(297)

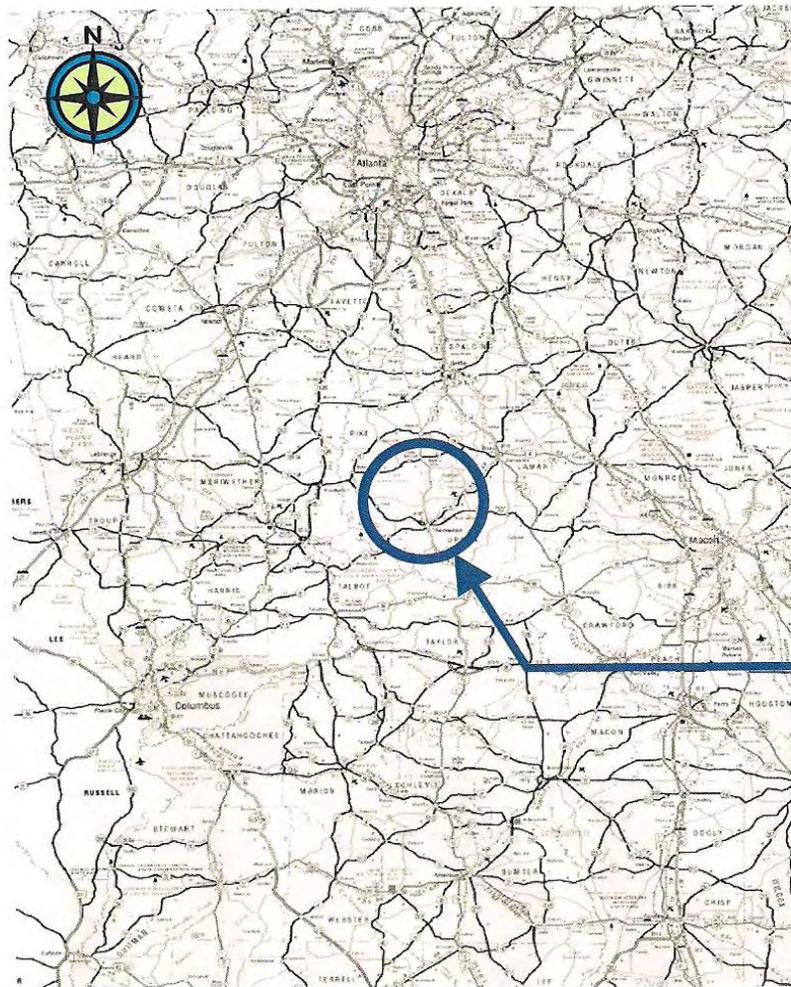
County: Upson

P. I. Number: 0000297

Federal Route Number: US 19

State Route Number: SR 3

***Regional Sketch: Widening/Reconstruction of SR 3/US 19 from County Road to
CR 8/Atwater Road in Thomaston***



**PROJECT
LOCATION**

Need and Purpose:

Background

This project was identified by the District 3 Office in Thomaston. The District Office submitted a project recommendation to the PNRC in January 1999, and in October 1999, the PNRC requested the project be added into the Department's Long Range Program. The proposed improvements entail the widening of the SR 3 / US 19 from North of County Road to North of Atwater Road. This section of Georgia State Highway SR 3 / US 19 runs north-south through the West Central Portion of Upson County and just North of the City of Thomaston. The scope of this project is primarily in an unincorporated urban area of Upson County known as Hannahs Mill, with the beginning at the northern most edge of the city limits of Thomaston. The Preliminary Engineering phase of this project PI# 0000297 is scheduled for 2008. The Right of Way phase is scheduled for 2009, and the construction phase is scheduled for 2012.

Upson County has increased by 1.84% between 2000 and 2004. Thomaston was selected for the 1986 edition of "The 100 Best Small Towns in America" and again in 1995. Thomaston has experienced similar slow growth rate and remained stable at just under 9,500.

Flint River Technical College is a major activity center and traffic generator for the area. It is one of the fastest-growing Technical colleges in Georgia which also serves other counties like Talbot and Taylor. A newly constructed GDOT campus is located north of the project, off Jimmerson Road.

Existing Route Conditions

The existing roadway has four lanes that vary in width between 11.5 and 12 feet. The posted speed limit is 45 mph along this route. The functional classification for SR 3 / US 19, within the limits of this project, is Urban Minor Arterial. The percentage of trucks on the SR 3/ US 19 corridor is estimated at eight (8%) percent.

Existing and Projected Traffic Conditions

Level-of-Service (LOS) is a measure used to describe operational conditions within a traffic stream. There are six identified LOS at which a roadway can operate. Letters "A" through "F" identify each of the six. LOS "A" represents free flow traffic where drivers are virtually unaffected by the presence of other vehicles; whereas LOS "F" represents operating conditions in which demand exceeds capacity.

Table 1 below shows the design year LOS along SR 3/US 19, as well as estimated opening day LOS for the year 2033. The "build" scenario assumes additional capacity is added to the corridor, while the "no-build" column shows LOS if no improvements are made.

Table 1: Traffic Conditions along SR 3 / US 19 from County Road to Atwater Road

Route	Location	2006		2033	
			NO - BUILD		NO - BUILD
		Design Traffic	LOS	Design Traffic	LOS
SR 3 / US 19	Garner Street to Atwater Road– SR 3/US 19	9,230	C	23,800	E

The current year (2006) traffic for the SR 3 / US 19 corridor between Garner Street and Atwater Road is 9,230 Vehicles per day with a LOS ‘C’. The 2033 opening day traffic indicates that without improvements this portion of US 3 / SR 19 is projected to experience a LOS ‘E’.

Logical Termini

For the SR 3 / US 19 corridor, the southern terminus is just north of County Road (CR 73) where it ties to existing GDOT Project NHS-006-4(31). The intersection of SR 3 / US 19 and County Road will be improved under BRN-006-4(32). This project NHS-0000-00(297) will continue the corridor improvements north.

The northern terminus of this project is approximately 300’ North of Atwater Road. On the north end, as part of this project, Delray Road will be realigned to align with Jimmerson Road and intersect with SR 3 / US 19. Jimmerson Road is the primary access route to the new GDOT campus.

The logical terminus for the southern end of the project is connecting with the proposed improvements of BRN-006-4(32). On the northern end of the project, north of Atwater Road, the logical terminus is where the proposed five lane section will match the existing five lane section. It is anticipated that a significant reduction in overall delay will occur between termini.

Project Linkage

This project links to proposed project PI#322920 as listed in **Table 2** (Next Page). PI# 322920 is located on SR 3/US 19, the major north-south arterial through Upson County. The southern terminus of PI# 322920 is approximately 1,000’ north of Potato Creek and continues north 300’ past East/West County Road (CR 73). PI# 322922 southern terminus begins approximately 1,000’ south of Potato Creek and the northern terminus links to PI# 322920. PI# 322922 includes adding a raised median and widening the existing bridge over Potato Creek. This project (PI# 0000297) continues and completes the improvements of adding a raised median on SR 3/US 19 to the existing 14’ flush median north of Atwater Road.

Table 2: Projects in the Vicinity

Project No.	Project Description	Project Schedule
PI No. 322922	SR 3/US 19 at Potato Creek in Thomaston	PE -Auth. ROW - 2007 CST - LR
PI No. 322920	SR 3/US 19 CR 73 -East/West County RD	PE -Auth. ROW - 2008 CST - LR

Environmental Justice

Of the 27,676 (2006) residents of Upson County, the ethnic groups consist of 70.1% White and 28.8% African American, 1.7% Hispanic, and 0.4% Asian. The minority population density along this project corridor was well under the state average. The median household income in Upson County was \$30,946 (2004), with per capita income reported to be \$17,053 (1999).

Land Use

The land use along this route consists of urban commercial developments, dense residential and religious meeting halls.

Bike and Pedestrian Facilities

Neither the SR 3 / US 19 corridor nor any connecting roads are on the State Wide Bicycle and Pedestrian Program.

Accident Data

Table 3 shows 2004, 2005, and 2006, the latest years that complete accident data is available for the SR 3 / US 19 (PI# 0000297) project corridor. A review of Table 3 shows that the accident and injury rates for PI# 0000297 on SR 3 / US 19 is higher than the statewide average for all three years. The fatality rate was higher than the statewide average in 2004.

As shown in **Table 4**, the prominent types of accidents along this route are “rear end” and “angle” collisions which indicative of congestion and / or significant turning movements along a roadway. Accidents were distributed evenly throughout the corridor.

Table 3: Accidents / Accident Rates for the SR 3 / US 19 from County Road to Atwater Road

SR 3 / US 19	2004		2005		2006	
	SR 3	State	SR 3	State	SR 3	State
Accidents	56	342,307	56	348,040	62	342,158
Accident Rate	887	305	859	307	920	301
Injury Accidents	25	89,817	37	139,262	41	139,262
Injury Rate	396	80	567	123	608	123
Fatal Accidents	1	1,641	0	1,744	0	1,744
Fatality Rate	15.83	1.46	0	1.54	0	1.54

Table 4: Accident Types along US 3 / SR 19 from County Road to Atwater Road during the years 2004, 2005 and 2006

Type of Accident	2004	2005	2006	Total	Percent
Rear End	21	16	20	57	33%
Angle	12	25	30	67	39%
Side Swipe	17	8	6	31	17%
Head On	0	2	1	3	2%
Not a Collision w/a Vehicle	6	5	5	16	9%
Sub-total	56	56	62	174	100%

Need and Purpose

A need exists to improve operational conditions on the SR 3/US 19 corridor between just north of County Road and 300' north of Atwater Road. The project will help to control left turn movements to and from SR 3/US 19 connecting streets. Realigning Delray Road is needed to increase the distance between crossing intersections with SR 3/US 19.

Description of the Proposed Project:

Project NHS-0000-00(297) is located in Thomaston, has an approximate length of 2.0 miles and includes one existing signalized intersections at Jeff Davis Rd./Harp Rd. The existing roadway is an urban section with two lanes in each direction and a two-way left turn on the south third of the project. The project will widen SR 3/US 19 by adding raised median of variable width. Turn lanes will be added at selected locations. All existing intersections will continue to tie in to SR 3/US 19 at their approximate existing locations, with the exception of Delray Rd. That intersection will be realigned opposite Jimmerson Rd. and a new traffic signal installed at that location. Delray realignment will have two 12-foot lanes with 2-foot paved shoulder and 6-foot unpaved shoulder.

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

PDP Classification: Major Minor

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

Functional Classification: Urban Minor Arterial

U. S. Route Number(s): 19

State Route Number(s): 3

Traffic (AADT):

Traffic(AADT) Two Way Traffic	SR 3/US 19
Current Year: (2013)	14,800
Design Year: (2033)	23,800
K =	6.15%
D =	58%
T =	8%
24 HR T =	6%

Existing Design Features:

- Typical Section: *Urban section with two 12-foot lanes in each direction and a 2-way left turn lane on the south third of the project.*
- Posted Speed Mainline: 45 mph
- Posted Speed Delray Rd and Atwater Rd: 45 mph
- Posted Speed Harp Rd: 40 mph
- Posted Speed Jeff Davis Rd and Aviation Dr: 35 mph
- Posted Speed Denham St, North St, Carey Dr, Sanders St, Franklindale Rd, Echols Circle, Corley Dr, and Wynbrook Dr: 30 mph
- Posted Speed Garner St and Jimmerson Rd: 25 mph
- Maximum Grade Mainline: 4.3 %
- Maximum Grade Side Streets: 9.8 %
- Minimum Radius Mainline: 1,235 feet
- Minimum Radius Delray Rd and Atwater Rd: 2,650 feet
- Minimum Radius Harp Rd: No Curve
- Minimum Radius Jeff Davis Rd and Aviation Dr: No Curve
- Minimum Radius Denham St, North St, Carey Dr, Sanders St, Franklindale Rd, Echols Circle, Corley Dr, and Wynbrook Dr: No Curve
- Total Width of Right of Way Mainline: 80 feet
- Total Width of Right of Way Delray Rd and Atwater Rd: 80 feet
- Total Width of Right of Way Side Streets: Varies from 30 to 66 feet
- Major Structures: N/A
- Major Interchanges or Intersections Along the Project: There is one signalized intersection at Jeff Davis/Harp Road and two unsignalized intersections at S.Delray Road/Echols Circle and Atwater Road.
- Existing Length of Roadway Segment and the Beginning Mile Logs for Each County Segment: SR 3/US 19: Begin mile post or Log at 17.67 and ending mile post or Log at 19.56 (Total 1.89 miles)

Proposed Design Features:

- Proposed Typical Section(s): *Urban section with two 12-foot lanes in each direction, raised median varies from 4 feet to 20 feet, and 5-foot sidewalks in each direction. Turn lanes are provided at selected intersections.*
- Proposed Design Speed Mainline: 45 mph
- Proposed Design Speed Relocated Delray Rd: 45 mph
- Proposed Design Speed Atwater Rd: 45 mph
- Proposed Design Speed Harp Rd: 40 mph
- Proposed Design Speed Jeff Davis Rd. and Aviation Dr.: 35 mph
- Proposed Design Speed Denham St, North St, Carey Dr., Sanders St., Franklindale Rd, Echols Circle, Corley Dr. and Wynbrook Dr: 30 mph
- Proposed Design Speed Garner St. and Jimmerson Rd.: 25 mph
- Proposed Maximum Grade Mainline: 4.30 % Maximum Grade Allowable: 6.0 %
- Proposed Maximum Grade Reloc. Delray Rd: 5.5% Maximum Grade Allowable: 6.0 %
- Proposed Maximum Grade Atwater Rd: 5.0 % Maximum Grade Allowable: 7.0 %
- Proposed Maximum Grade Side Street: 5.0 % Maximum Grade Allowable: 7.0 %
- Proposed Maximum Grade Driveway: 10 %
- Proposed Minimum Radius of Curve Mainline: 1,300 feet
- Proposed Minimum Radius of Curve Reloc. Delray Rd: 810 feet
- Proposed Minimum Radius of Curve Delray Rd and Atwater Rd: 2,770 feet
- Proposed Minimum Radius of Curve Harp Rd: No Curve
- Proposed Minimum Radius of Curve Jeff Davis Rd and Aviation Dr: No Curve
- Proposed Minimum Radius of Curve Denham St, North St, Carey Dr, Sanders St, Franklindale Rd, Echols Circle, Corley Dr, and Wynbrook Dr: 600 feet
- Proposed Minimum Radius of Curve Garner St and Jimmerson Rd: 5,000 feet
- Minimum Radius Allowable Mainline: 711 feet
- Minimum Radius Allowable Reloc. Delray Rd: 643 feet
- Minimum Radius Allowable Delray Rd and Atwater Rd: 643 feet
- Minimum Radius Allowable Harp Rd: 485 feet
- Minimum Radius Allowable Jeff Davis Rd and Aviation Dr: 340 feet
- Minimum Radius Allowable Denham St, North St, Carey Dr, Sanders St, Franklindale Rd, Echols Circle, Corley Dr, and Wynbrook Dr: 231 feet
- Minimum Radius Allowable Garner St and Jimmerson Rd: 144 feet
- Right of Way:
 - Width: SR3/US19, 100' to 120'
Delray Road Relocation, 150'
 - Easements: Temporary , Permanent , Utility , Other .
 - Type of access control: Full , Partial , By Permit , Other .
 - Number of parcels: 95 Number of displacements: 11
 - Businesses: 10
 - Residents: 0
 - Mobile Homes: 0
 - Other: 1
- Structures: N/A
- Major Intersections and Interchanges: One existing signalized intersection at Jeff Davis/Harp Rd and one proposed signalized intersection at the realigned Delray/Jimmerson Rd.

- Traffic Control during Construction: Traffic will be maintained on the existing roadway with stage construction.

- Design Exceptions to Controlling Criteria Anticipated:

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

- Design Variances: None

- Environmental Concerns:

- Historic resources throughout project.
- Property of Noel Salter and Myrna Barnett
- House on the property of James Grier
- House on the property of Danny McDonald
- Cemetery at Antioch United Methodist Church
- Property of Bert Salter
- Property of William Birdsong and Ellen Holloway
- House on the property of Bradley Piercy and Dalton Lonnie
- Property of Sandra Mock and Christine Chapman
- Property of Charles Short
- House of Kevin Barlow and Linda Barlow

- Level of Environmental Analysis:

- Are Time Savings Procedures appropriate? Yes , No ,
- Categorical Exclusion
- Environmental Assessment/Finding of No Significant Impact (FONSI)
- Environmental Impact Statement (EIS)

- Utility Involvements:

- **WindStream Communications**

Windstream has a manhole & conduit system located on the west side of US-19 starting at the intersection of County Rd. The conduit system runs north to Jeff Davis Rd where it ends and the cables go up a pole and go aerial. The aerial cables continue north on the west side of US-19 to just north of Sanders St. where they cross over US-19 and continue north on the east side of US-19(aerial) to just north of Echols Cir. The cables go underground (buried) for about 800' to just south of Wynnbrook Dr. At Wynnbrook Dr. the cables go aerial again and continue north on the east side of US-19 to Atwater Rd. at the end of the project limits.

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Project Number: NHS-0000-00(297)
P.I. Number: 0000297
County: Upson

Contact Information

Mr. Carl Gooch
Windstream Communication
750 N. Jefferson Street
Milledgeville, Georgia 31061
(478) 454-3301
carl.gooch@windstream.com

○ **Upson Co. Utilities**

Upson Co. Utilities has indicated they have no Sewer in the project limits. There is an 8" water main that comes off of a 10" water main on the east side of US-19 just south of the intersection of County Rd. & US-19. The 8" main continues north on the east side of US-19 to Jeff Davis Rd. where it crosses under US-19 to the west side and continues north to Sanders St. At Sanders St., it crosses under US-19 to the east side it then continues north to Atwater Rd. and continues north beyond the project limits.

Contact Information

Mr. Chet Ward
Upson County Water Department
P.O. Box 889
106 East Lee Street, Suite 120
Thomaston, Georgia 30286
(706) 647-3513
chetward@alltel.net

○ **Georgia Power**

Georgia Power has aerial distribution facilities through out the project.

Contact Information

Mr. Steve Holder, Engineering Supervisor
Georgia Power Company - Bin 39066
829 Jefferson Street
Atlanta, Georgia 30318
(404) 506-4411
smholder@southernco.com

○ **City of Thomaston**

The City has indicated they have no facilities in the project limits.

○ **Charter Communications**

Charter has indicated they have facilities within the project limits.

Contact Information

Mr. Clayton Jennings

Project Concept Report Page 12
Project Number: NHS-0000-00(297)
P.I. Number: 0000297
County: Upson

Charter Communications
127 Mattox Court
LaGrange, GA 30241
(770) 304-0046
cjennings@chartercom.com

- **Upson EMC**
Upson EMC has indicated they do have facilities within the project limits and we are awaiting their record information.

Contact Information

Mr. Johnny Brodnax, Manager
Upson EMC
P.O. Box 31
607 East Main Street
Thomaston, Georgia 30286
(706) 647-5475
johnbrodnax@upsonemc.com

- **Atlanta Gas Light (AGL)**
AGL has indicated they do have facilities within the project limits and we are awaiting their record information.

Contact Information

Ms. Jodie Nettles
AGL Resources, Inc.
10 Peachtree Place
11th Floor – Location 1345
Atlanta, Georgia 30309
(404) 584-3897
jnettlles@aglresources.com

Project Responsibilities:

- Design: Parsons
- Right of Way Acquisition: Parsons
- Relocation of Utilities: GDOT or Locals
- Letting to contract: GDOT
- Supervision of construction: GDOT
- Providing material pits: Contractor

Coordination:

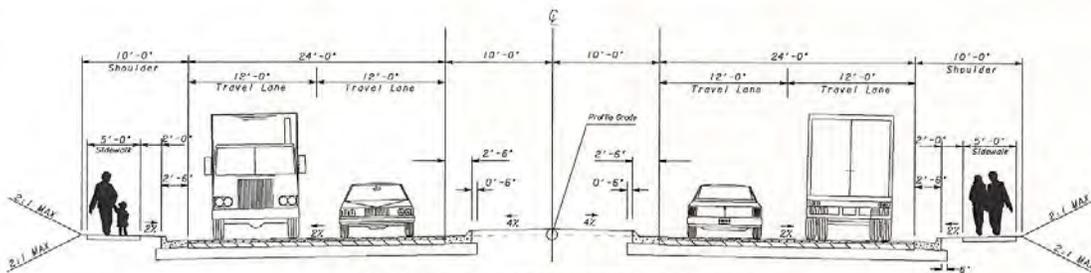
- Concept Meeting Date and Brief Summary. (November 01, 2007, See attached minutes)
- Other projects in the Area: PI 322922, Widens the bridge over Potato Creek. PI 322920, Widens SR3/US 19 from Potato Creek to County Road. PI 322920 project ending equals PI 0000297 Project beginning.
- Other Coordination to Date: None

Scheduling – Responsible Parties’ Estimate

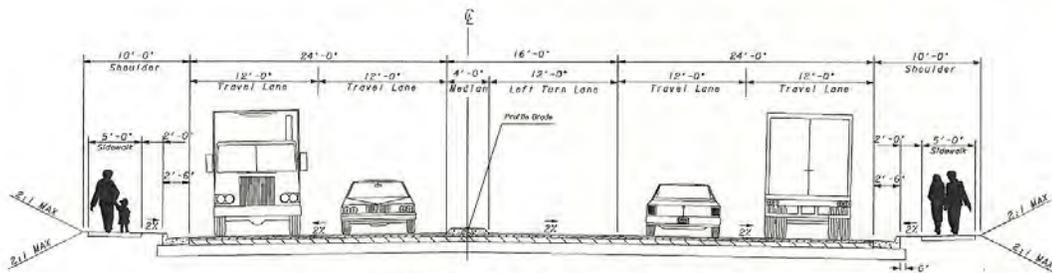
- Time to Complete the Environmental Process: 17.5 Months
- Time to Complete the Preliminary Construction Plans: 4.5 Months
- Time to Complete Right of Way Plans: 4.5 Months
- Time to Complete the Section 404 Permit: 3.0 Months
- Time to Complete Final Construction Plans: 7.0 Months
- Time to Complete the Purchase of Right of Way: 21.5 Months
- Time to Complete the Utilities Relocation: 8 Months

Alternates Considered:

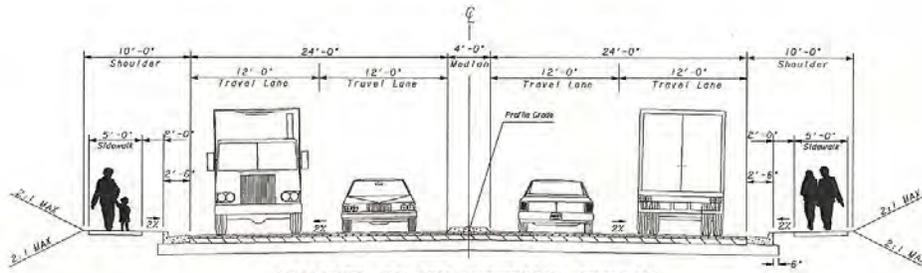
- **Alternate 1:** An urban section with four 12-foot lanes, a typical 20-foot raised median and 5-foot sidewalk was considered as an alternative. The proposed alignment generally follows the existing centerline with the shifting of the proposed alignment to the left of existing centerline at the middle of the project to avoid/minimize the impact to the cemetery. This alternative will require acquiring right-of-way to the historic property directly opposite the cemetery and slope easements to the other historic properties. This alternate has been selected as the preferred alternative because it meets the necessary access management requirements for effective traffic control.
- **Alternate 2:** No Build – This alternative was rejected because it does not meet the necessary access management requirements and there by it did not meet need and purpose for the project.



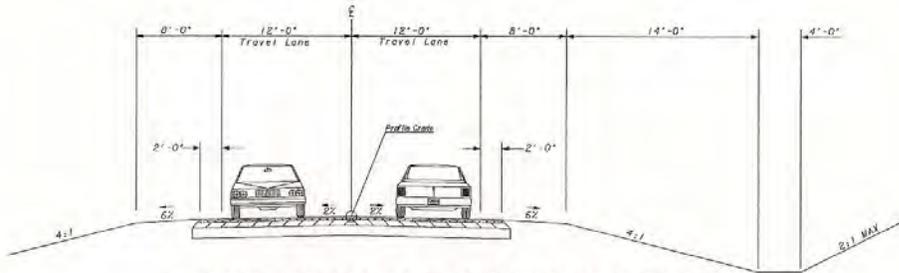
PROPOSED SR 305 19 TYPICAL SECTION
COUNTY ROAD TO JEFF DAVIS/HARP ROAD AND
FRANKLINDALE ROAD TO ATWATER ROAD



PROPOSED SR 305 19 TYPICAL SECTION
JEFF DAVIS/HARP ROAD TO AVIATION DRIVE



PROPOSED SR 305 19 TYPICAL SECTION
AVIATION DRIVE TO FRANKLINDALE ROAD



PROPOSED RELOC. DELRAY ROAD TYPICAL SECTION

WIDENING/RECONSTRUCTION OF SR 305 19 FROM
COUNTY ROAD TO CR 8/ATWATER ROAD IN THOMASTON
TYPICAL SECTIONS

Project No.: NHS-0000-00(297)
 P.I. No.: 0000297



VALUE ENGINEERING PROCESS

This report summarizes the analysis and conclusions by the PBS&J Value Engineering team as they performed a VE Study during the period of August 24 through August 27, 2009 in Atlanta, Georgia, for the Georgia Department of Transportation.

INTRODUCTION

The Value Engineering Study team and its leadership were provided by PBS&J. This VE Team consisted of the following:

Les M. Thomas, PE, CVS-Life	Team Leader
Luke Clarke, PE, AVS	Senior Highway Design Engineer
Charles McDuff, PE, CVS	Highway Construction Specialist
Randy S. Thomas, CVS	Assistant Team Leader

The Value Engineering Team followed the Seven Step Value Engineering job plan as promulgated by SAVE International. This Seven Step job plan includes the following:

- **Investigation/Information Phase** – during this phase of the VE Team’s work, the team received a briefing from the Georgia Department of Transportation (GDOT) staff and Parsons Engineering. This briefing included discussions of the design intent behind the project, the cost concerns, and the physical project limitations. In the working session that followed, the VE Team developed cost models from the cost data provided by the designers and familiarized themselves with the construction drawings and other data that was available to the team. Some of the representative project information (concept report, cost estimate, and special provisions) may be found in the tabbed section of this report entitled **Project Description**. Following this current narrative the reader will also find a cost model done in the Pareto fashion, i.e., identifying the highest costs down to the lowest costs for the larger construction cost elements. This cost model, developed by the VE Team, was used by the VE Team to help focus their week of work. The headings on the Pareto Chart also were used as headings for creative phase activities.
- **Analysis Phase** – during this phase the VE Team determined the “**Functions**” of the project. This was accomplished by reviewing the project from the simplest format in asking the questions of “What is the project supposed to do?”, and “How is it supposed to accomplish this purpose? In the Value Engineering vernacular, the answers to these questions are cast in the form of active verbs and measurable nouns. These verb/noun pairs form the basis of the function analysis which distinguishes a Value Engineering effort from a potentially damaging cost cutting exercise. A FAST diagram was prepared highlighting the projects required functions.

- The important functions of the project were identified as follows:
 - **Project Objective/Goals**
 - **Improve Safety**
 - **Improve operational conditions**
 - **Control left turn movements**
 - **Maintain historical properties**
 - **Project Basic Functions**
 - **Reduce accidents**
 - **Improve traffic access**
 - **Meet standards**
- **Speculation Phase** - The VE team performed a brainstorming session to identify ideas that might help meet the project objectives:
 - **Eliminate non-functional work**
 - **Improve intersections**
 - **Minimize environmental impacts**
 - **Maintain traffic access**

This brainstorming session initially identified numerous ideas that were then evaluated in the Judgment phase. The reader will find the creative worksheets enclosed. These same work sheets were also used to record the results of the Judgment/Evaluation Phase.

- **Evaluation Phase** – Once the VE Team identified the creative ideas, it was necessary to decide which alternatives should be carried forward. This is the work of the Evaluation or Judgment Phase. The VE Team reflected back on the project constraints and objectives shared with the team by the owner’s representatives, in the kick-off meeting on the first day of the workshop. From that guidance, the team selected ideas that they believed would improve the project by a vote process.

Following that selection process, the VE Team used the following values as measures of whether or not an alternative had enough merit to be carried forward in the VE process:

- Construction cost savings
- Improve value
- Maintainability
- Ability to implement the idea
- General acceptability of the alternatives

- Constructability
- Scheduling delays

Based on these criteria, the VE Team evaluated the alternatives and graded them from 5 (Excellent) down to 1 (Poor). Other notes about the alternatives are annotated at the bottom of the enclosed creative and evaluation sheets.

- **Development Phase** – During this phase, the VE Team developed each of the selected design alternatives whose rating was “4” or “5” because of time constraints. If time permitted, the team will develop additional recommendations. This effort included a detailed explanation of the idea with sketches as appropriate to clarify the idea from the original concept, advantages and disadvantages, a technical explanation and an estimation of the cost and resultant savings if implemented. (see the tabbed section – Study Results)
- **Recommendation Phase** – During this phase the VE Team reviews the alternative ideas to confirm which ones are appropriate for the project, have an opportunity for success and which will improve the value of the project if implemented.
- **Presentation Phase** – As noted earlier, the team made an informal “out-briefing” on the last day of the workshop, designed to inform the Owners and the Designers of the initial findings of the VE Study. This written report is intended to formalize those findings.

VALUE ENGINEERING STUDY AGENDA

for

Georgia Department of Transportation

Project No. NHS00-0000-00(297)

P.I. No. 0000297

**Widening/Reconstruction of SR 3/US 19 from County Road to CR 8/Atwater
in Thomaston
Upson County**

August 24-27, 2009

Pre-Workshop Activities

VE Team Leader organizes study, coordinates with the Owner and Designer the project objectives and materials necessary. The VE Team receives and reviews all project documents. The team develops a Pareto Chart and/or Cost Model for the project.

Day One

9:00-10:30 Design Team Presentation (Information Phase)

- Introduction of participants, owner, designer, and VE team members
- Presentation of the project by the design engineer including:
 - History and background
 - Design Criteria and Constraints
 - Special "U" turn requirements
 - Special needs (schools, businesses, etc.)
 - Sidewalks, bicycle lanes, and or multi-use trails
 - Historical Property protection
 - Current Construction Completion Schedule
 - Project Cost Estimate and Budget Constraints
- Owner Presentation – special requirements, definition of life cycle period and interest rate for life cycle costs
- Review VE Pareto Chart/Cost Model
- Discussion, questions and answers
- Overview of the VE Process and Agenda – Workshop goals & project goals

10:30-12:00 VE Team reviews project (Information Phase)

- Review design team's presentation
- Review agenda and goals of the study
- Visit project site if time permits

1:00-2:30 Function Analysis Phase

- Analyze Cost Model – Pareto
- Identify basic and secondary functions
- Complete Function Matrix/FAST Diagram

2:30-5:00 Creative Phase

- Brainstorming of alternative ideas

Day Two

8:00-10:00 Evaluation Phase

- Establish criteria for evaluation
- Rank ideas
- Identify “best” ideas for development
- Identify those ideas that will become Design Suggestions
- Develop a cost/worth analysis
- Identify a “champion” for each idea to be developed

10:00-5:00 Development Phase

- Develop alternative ideas design suggestions with assessment of original design and write up new alternatives including:
 - Opportunities & risks
 - Illustrations
 - Calculations
 - Cost worksheets
 - Life cycle cost analysis

Day Three

8:00-5:00 Development Phase

- Continue developing Alternative Ideas
- Continue developing Design Suggestions
- Prepare for presentation to Owners and Designers

Day Four

8:00-9:00 Prepare Presentation

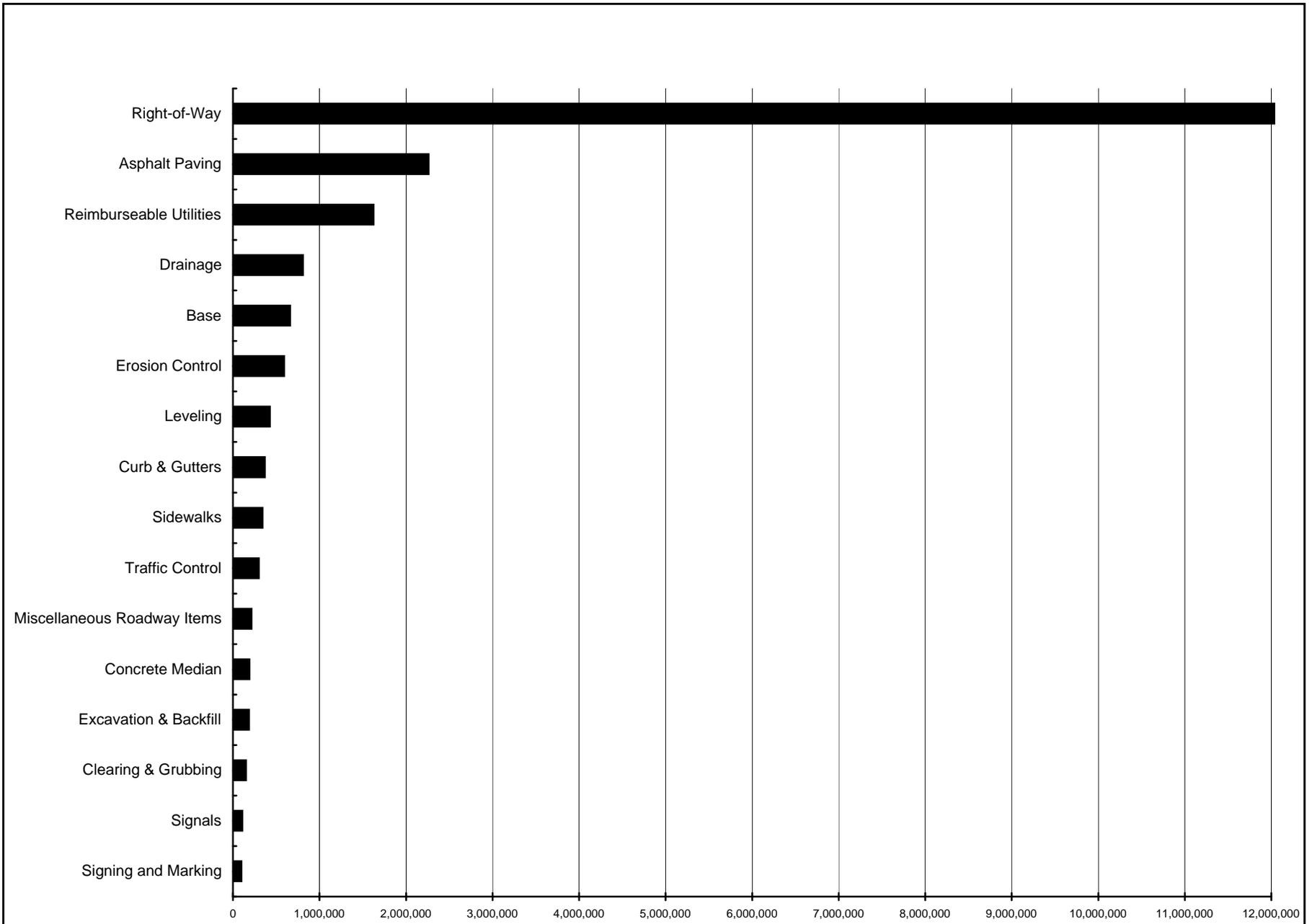
9:00-10:00 VE Team Presentation

PARETO CHART - COST HISTOGRAM



PROJECT: **Georgia Department of Transportation**
NHS00-0000-00(297) - P.I. No.0000297
Widening/Reconstruction of SR 3/US 19 from County Road to CR 8/Atwater Road in
Road in Thomaston
Upson County

PROJECT ELEMENT	COST	PERCENT	CUM. PERCENT
Right-of-Way	12,771,300	60.53%	60.53%
Asphalt Paving	2,260,000	10.71%	71.24%
Reimbursable Utilities	1,625,066	7.70%	78.94%
Drainage	809,586	3.84%	82.78%
Base	659,448	3.13%	85.90%
Erosion Control	590,928	2.80%	88.71%
Leveling	427,500	2.03%	90.73%
Curb & Gutters	369,475	1.75%	92.48%
Sidewalks	340,992	1.62%	94.10%
Traffic Control	300,000	1.42%	95.52%
Miscellaneous Roadway Items	213,512	1.01%	96.53%
Concrete Median	190,960	0.91%	97.44%
Excavation & Backfill	184,669	0.88%	98.31%
Clearing & Grubbing	150,000	0.71%	99.02%
Signals	109,284	0.52%	99.54%
Signing and Marking	96,777	0.46%	100.00%
Construction Cost including ROW & Utilites	\$ 21,099,497		
Construction Cost less ROW & Utilites	\$ 6,703,131		
E & C Rate @10%	\$ 670,313		
Total Construction Costs	\$ 7,373,444		
Right-of-Way	\$ 12,771,300		
Utilities Reimbursement	\$ 1,625,066		
TOTAL	\$ 21,769,810		



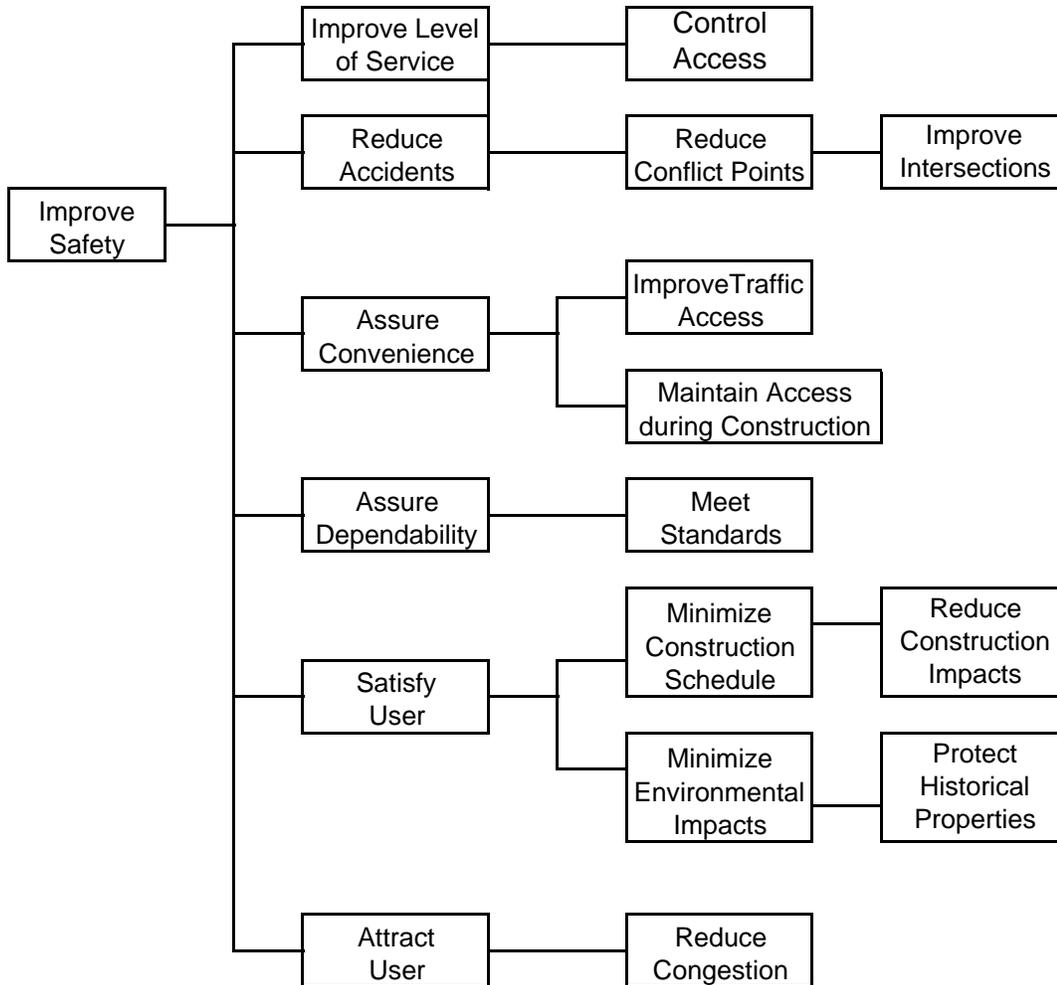
CUSTOMER FUNCTION/TASK DIAGRAM

Project No. NHS00-0000-00(297)

P.I. No. 0000297

Upson County

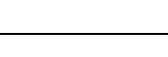
Widening/Relocation of SR 3/US 19
from County Road to CR 8/Atwater Road



DESIGNER PRESENTATION



MEETING PARTICIPANTS

Geogia Department of Transportation NHS00-0000-00(297) - P.I. No. 0000297		August 24, 2009		
Upson County				
NAME	ORGANIZATION & TITLE		E-MAIL	PHONE
Lisa Myers		GDOT - Engineering Services	lmyers@dot.ga.gov	404-631-1770
James K. Magnus		GDOT-Construction	jmagnus@dot.ga.gov	404-631-1971
Matt Sanders		GDOT-Engineering Services	msanders@dot.ga.gov	404-631-1752
Ron Wishon		GDOT-Engineering Services	rwishon@dot.ga.gov	404-631-1753
Ken Werho		GDOT-Traffic Operations	kwerho@dot.ga.gov	404-635-8144
Les Thomas, PE, CVS		PBS&J	lmthomas@pbsj.com	678-677-6420
Luke Clarke, PE, AVS		PBS&J	lwclarke@pbsj.com	205-746-4615
Charles McDuff, PE, CVS		PBS&J	crmcduff@pbsj.com	919-538-6820
Randy Thomas, CVS		PBS&J	rsthomas@pbsj.com	770-883-1545
Michael Presley		GDOT-District 3-Traffic Operations	mpresely@dot.ga.gov	706-646-6987
Jack Reed		GDOT-District 3-Design	jreed@dot.ga.gov	706-646-6991
Tikoshia Davis		Parsons	tikoshia.davis@parsons.com	678-969-2334
Shawn Reese		Parsons	shawn.reese@parsons.com	678-969-2457
Sajid Iqbal		Parsons	sajid.iqbal@parsons.com	678-969-2368
David Millen		GDOT-District 3- Preconstruction Engineer	dmillen@dot.ga.gov	706-646-6987
William Boyd		GDOT-District 3- Design	wboyd@dot.ga.gov	706-646-6664
Debra Pruitt		GDOT-District 3- Environmental	dpruittdot.ga.gov	706-646-6984

VE TEAM PRESENTATION



MEETING PARTICIPANTS

Geogia Department of Transportation		August 27, 2009	
Project NHS00-0000-00(297) - P.I. No. 0000297			
Upson County			
NAME	ORGANIZATION & TITLE	E-MAIL	PHONE
Lisa Myers	 GDOT - Engineering Services	lmyers@dot.ga.gov	404-631-1770
James K. Magnus	 GDOT-Construction	jmagnus@dot.ga.gov	404-631-1971
Matt Sanders	 GDOT-Engineering Services	msanders@dot.ga.gov	404-631-1752
Ron Wishon	 GDOT-Engineering Services	rwishon@dot.ga.gov	404-631-1753
Les Thomas, PE, CVS	 PBS&J	lmthomas@pbsj.com	678-677-6420
Luke Clarke, PE, AVS	 PBS&J	lwclarke@pbsj.com	205-746-4615
Charles McDuff, PE, CVS	 PBS&J	crmcduff@pbsj.com	919-538-6820
S. Sajid Iqbal, P.E.	 PARSONS	sajid.iqbal@parsons.com	678-969-2368
Shawn Reese	 PARSONS	shawn.reese@parsons.com	678-969-2457
Jack Reed	 GDOT-District 3 -Design		706-646-6991
William Boyd	 GDOT-District 3- Design		706-646-6664

CREATIVE IDEA LISTING



**PROJECT: Georgia Department of Transportation
 NHS00-0000-00(297) – P.I. No. 0000297
 Widening/Reconstruction of SR 3/US 19 from County Road
 to CR 8/Atwater Road in Thomaston
 Upson County**

SHEET NO.: 1 of 2

NO.	IDEA DESCRIPTION	RATING
ROADWAY (RD)		
RD-1	Build a 5 lane typical section	2
RD-2	Use a low maintenance island	2
RD-3	Cul-de-Sac Delray Road	2
RD-4	Use 11' lanes on the mainline	4
RD-5	Postpone construction; wait for the by-pass to built and reassess demand	2
RD-6	Selectively reduce median width	2
RD-7	Provide a 2' offset in narrow median section	DS
RD-8	Use a 20' median throughout the project	3
RD-9	Use a 4' median ; allow turns only at signals	2
RD-10	Eliminate sidewalk of east side between Jimmerson Road and Wynbrook Drive	5
RD-11	Reduce the length of Jimmerson Road connector	2
RD-12	Extend Delray Road to Jimmerson Road	2
RD-13	Use 11' lanes on all side roads	2
RD-14	Move alignment to minimize property impacts	2
RD-15	Build barrier walls to minimize Right-of-Way width	2
RD-16	Provide sidewalks on west side only	2
RD-17	Delete Delray Road relocation	1
RD-18	Selectively reduce curb and gutter	2
RD-19	Use Echols Circle South for Delay Road relocation	2
RD-20	Signalize existing Delray Road	5
RD-21	Eliminate all sidewalks	3

**Rating: 1→2 = Not to be Developed; 3 = Varying Degrees of Development Potential;
 4→5 = Most likely to be Developed; DS = Design Suggestion; ABD = Already Being Done; OB= Observation**

