

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

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

FILE P.I. # 121690-
STP00-1336-00(011)

Forsyth County
GDOT District 1 - Gainesville
SR 9 from North of SR 141 to
North of SR 20

OFFICE Design Policy & Support

DATE March 21, 2013

FROM  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:

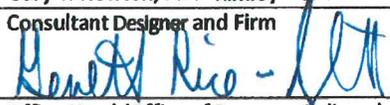
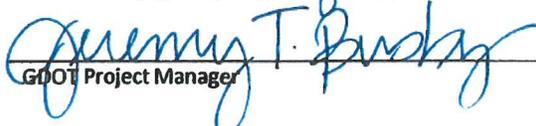
Bobby Hilliard, Program Control Administrator
Genetha Rice-Singleton, State Program Delivery Engineer
Glenn Bowman, State Environmental Administrator
Cindy VanDyke, State Transportation Planning Administrator
Kathy Zahul, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Mike Bolden, State Utilities Engineer
Ken Thompson, Statewide Location Bureau Chief
Tamaya Huff, State Pedestrian and Bicycle Coordinator
Bayne Smith, District Engineer
Brent Cook, District Preconstruction Engineer
Neil Kantner, District Utilities Engineer
Jeremy Busby, Project Manager
BOARD MEMBER - 7th Congressional District
FHWA – attn: Rodney Barry, Georgia Division Administrator

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

Project Type: <u>Widening</u>	P.I. Number: <u>121690-</u>
GDOT District: <u>1</u>	County: <u>Forsyth</u>
Federal Route Number: <u>N/A</u>	State Route Number: <u>9</u>
Project Number: <u>STP00-1336-00(011)</u>	

Revised concept for widening and Reconstruction of SR 9 from SR 141 to SR 20 in Forsyth County to incorporate VE recommendations of a 16-ft median and 16-ft outside urban shoulder including 8-foot multi-use path. The minimum right of way width will be reduced from 150-feet to 96-feet.

Submitted for approval:

 _____ Gary T. Newton, P.E. Kimley-Horn and Associates, Inc. Consultant Designer and Firm	<u>1/23/13</u> DATE
 _____ Donald Rice - <i>lt</i> Office Head (Office of Program Delivery)	<u>1/28/13</u> DATE
 _____ Jeremy T. Burdick GDOT Project Manager	<u>1/23/2013</u> <i>AVS</i> DATE

Recommendation for approval:

*  _____ Glenn Bowman <i>pm</i> State Environmental Administrator (recommendation required)	<u>2/4/13</u> DATE
---	-----------------------

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

 _____ Cynthia L. Nardone State Transportation Planning Administrator (recommendation required)	<u>2-4-13</u> DATE
---	-----------------------

* Recommendation on file - *pm*

PLANNING, APPROVED CONCEPT, & BACKGROUND DATA

Project Justification Statement: See attached.

Description of the approved concept:

In the original concept report approved November 14, 1990, Project STP-1336(11), formerly Project FR-114-1(74), consisted of a 2.4 mile widening of S.R. 9 from S.R.141 to Atlanta Road Relocation. The proposed design included two (2) 12-foot lanes in each direction with a 20-foot raised median and 10-foot outside rural shoulders with 4-foot paved. The horizontal and vertical alignments would be corrected to meet a 55 MPH design speed with a require right-of-way of 150-foot minimum. In the Revised Concept Report approved August 10, 1992 the project was extended approximately 2,100 feet north to S.R. 20. The extension would have a 20-foot raised median and the shoulders would be a 10 foot wide urban type.

In the Location & Design Report approved October 21, 1997, the concept update section included reference to an approval from the Traffic Operations Office dated September 17, 1991, reducing the speed limit from 55 mph to 45 mph and therefore allowing the use of curb and gutter for the entire length of the project.

PDP Classification: Major Minor

Federal Oversight: Full Oversight Exempt State Funded Other

Projected Traffic as shown in the approved Concept Report: ADT

Open Year (1996): 13,800

Design Year (2016): 22,600

Updated Traffic: AADT

Open Year (2020): 17,250

Design Year (2040): 23,250

Functional Classification (Mainline): Urban Minor Arterial Street

VE Study anticipated: No Yes Completed – Date: 7/30/2007
VE Implementation letter attached.

PROPOSED REVISIONS

Approved Features:	Proposed Features:
<ul style="list-style-type: none"> • 20-ft raised median • 10-ft outside urban shoulder • 150-ft minimum right-of-way 	<ul style="list-style-type: none"> • 16-ft raised median (*Design Variance approved 8/17/2012) • 16-ft outside urban shoulder containing curb and gutter and 8-ft multi-use path on each side. • Right-of-Way requirements will be reduced to a 96-foot minimum to minimize or possibly eliminate impacts to adjacent property, historic resources, and/or endangered species.
Reason(s) for change: Implementation of Value Engineering Study Alternatives approved July 30, 2007	

ENVIRONMENTAL

Air Quality:

- Is the project located in a PM 2.5 Non-attainment area? No Yes
 Is the project located in an Ozone Non-attainment area? No Yes
 Is a Carbon Monoxide hotspot analysis required? No Yes

This project is located in the Metro-Atlanta non-attainment area for PM2.5 and Ozone. The project is listed in the approved FY 2012-2017 Transportation Improvement Program (TIP). The reference number in the TIP is FT-001D.

A CO analysis, PM2.5 LOD and Air Report will be performed. A Noise analysis with modeling and potential barrier analysis will be performed.

Potential environmental impacts of proposed revision: Environmental impacts will be reduced due to the reduced project footprint. The revision will not impact the environmental/project schedule.

Have proposed revisions been reviewed by environmental staff? No Yes

Environmental responsibilities (Studies/Documents/Permits): Kimley-Horn and Associates, Inc.

PROJECT COST & ADDITIONAL INFORMATION

Updated Cost Estimate		Date of Estimate
Base Construction Cost:	\$11,552,376.29	1/14/2013
Engineering and Inspection:	\$462,095.05	1/14/2013
Liquid AC Adjustment:	\$1,106,773.84	1/14/2013
<u>Total Construction Cost:</u>	\$13,121,245.18	

Right-of-Way:	\$13,975,000	9/13/2012
Utilities (reimbursable costs):	\$1,451,445	8/23/2012
Environmental Mitigation:	\$102,000	2/14/2013
TOTAL PROJECT COST:	\$28,649,690.18	

Recommendation: Recommend that the proposed revision to the concept be approved for implementation.

Attachments:

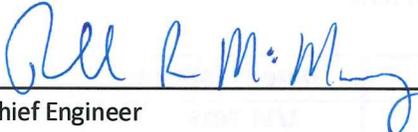
1. Project Justification Statement
2. Sketch map
3. Typical Section
4. Cost Estimate(s)
5. Conforming plan's network schematics showing thru lanes
6. VE implementation letter
7. Design Variance approval

APPROVALS

Concur: N/A
Director of Engineering

Approve: 
for Division Administrator, FHWA

3/12/13
Date

Approve: 
Chief Engineer

3/12/13
Date

Project Justification Statement
STP00-1336-00(011), PI 121690
SR 9 FROM N OF SR 141 TO N OF SR 20

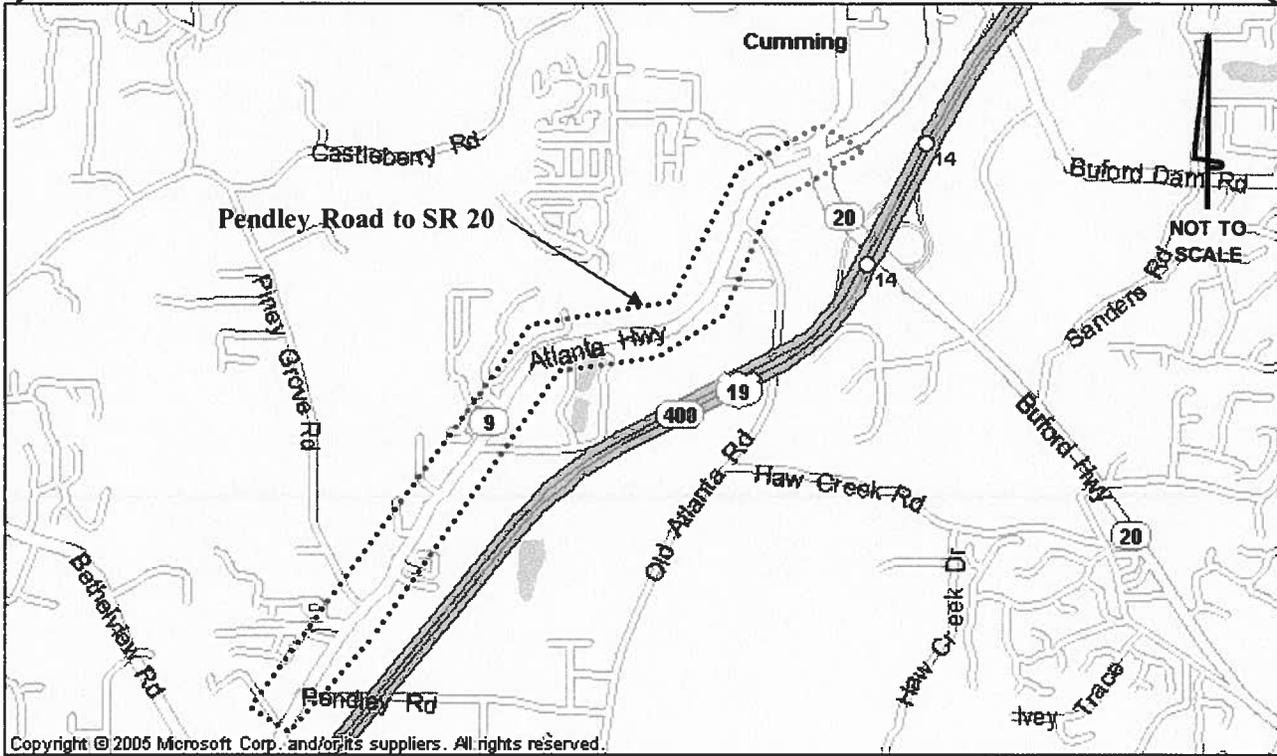
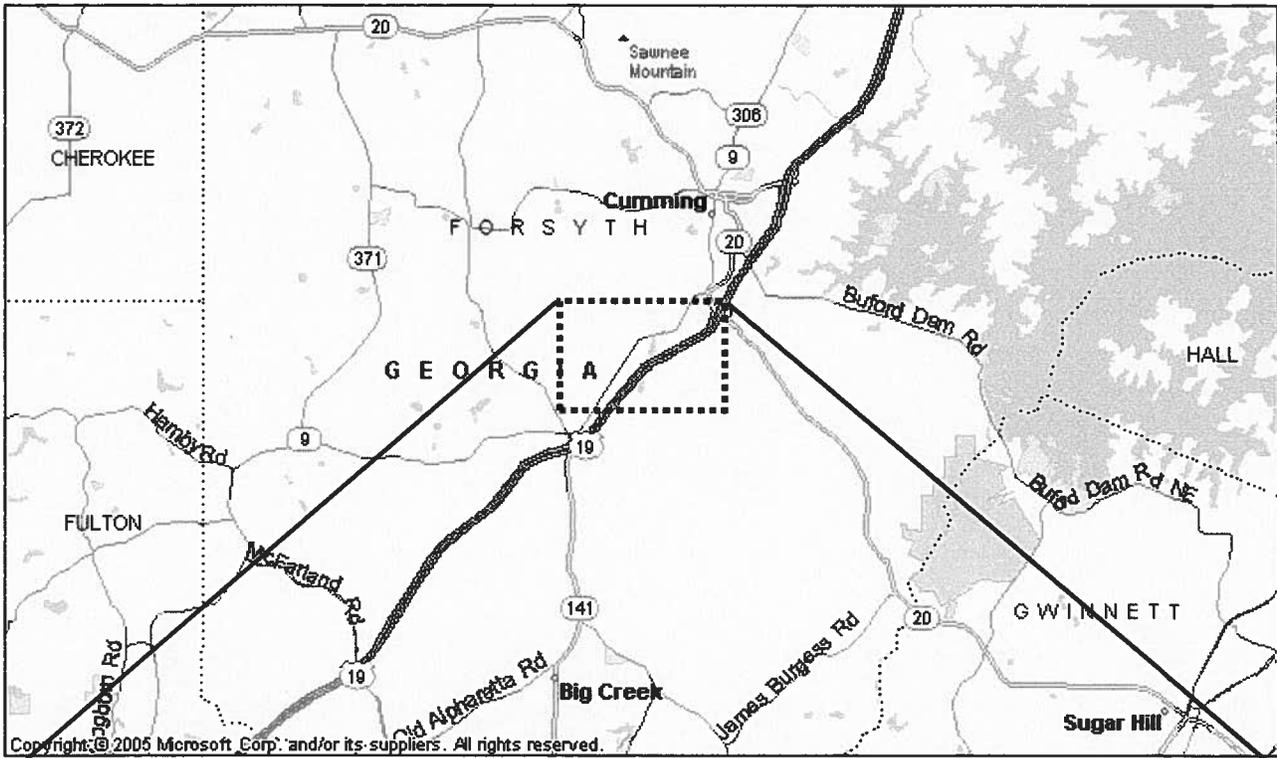
SR 9 is a two lane corridor from SR 141 to SR 20 in Forsyth County. Based on 2011 Average Annual Daily Traffic (AADT) the current level of service (LOS) of SR 9 from SR 141 to SR 20 is "E" with an AADT of 16,400.

The future (2040) traffic for this section of the SR 9 corridor is anticipated to have an unacceptable LOS, from SR 141 to SR 20. On the southern end of the project, south of Pendley Road, the no build scenario design traffic (2040) for SR 9 is 25,150 with LOS "F". Between Pendley Road and SR 20 the corridor has an LOS of "E with design traffic of 21,900. The Statewide Transportation Plan defines acceptable LOS as "A" to "C", with sometimes "D" being used in large urban areas based on the circumstances. LOS E and F are considered unacceptable.

SR 9 is classified as an urban minor arterial from SR 141 to SR 20 in Forsyth County. The crash rates for this section of SR 9 were above the statewide average for an urban minor arterial in the years 2007 and 2008, but below the statewide average for the year 2009. The crash rates for this portion of SR 9 in the years 2007-2009 were 821, 674, and 391 crashes per 100 million vehicle miles traveled (MVMT), whereas the statewide averages were 513, 469, and 463 crashes per 100 MVMT.

The appropriate project limits are Pendley Road to the south and SR 20 to the north. The SR 141/SR 9 intersection project 0007999 (Let to Construction in July 2012) widens the section of SR 9 between SR 141 and Pendley Road to four lanes. South of SR 141, Project 0008357 will widen SR 9 to four lanes. Therefore, the four-lane section of SR 9 at Pendley Road provides a suitable southern terminus. The northern project limit is SR 20 where traffic that desires to continue north to downtown Cumming or beyond can remain on SR 9 through the SR 20 intersection or turn left onto Veterans Memorial Boulevard. Veterans Memorial/Dahlonga Street is designated as SR 9 in downtown Cumming. Veterans Memorial is a five-lane road with excess capacity to accommodate through traffic from SR 9. The 2011 traffic volume on Veterans Memorial is 13,610, and the projected 2040 ADT is 28,000. The current LOS is an "A" and the projected 2040 LOS is a "B".

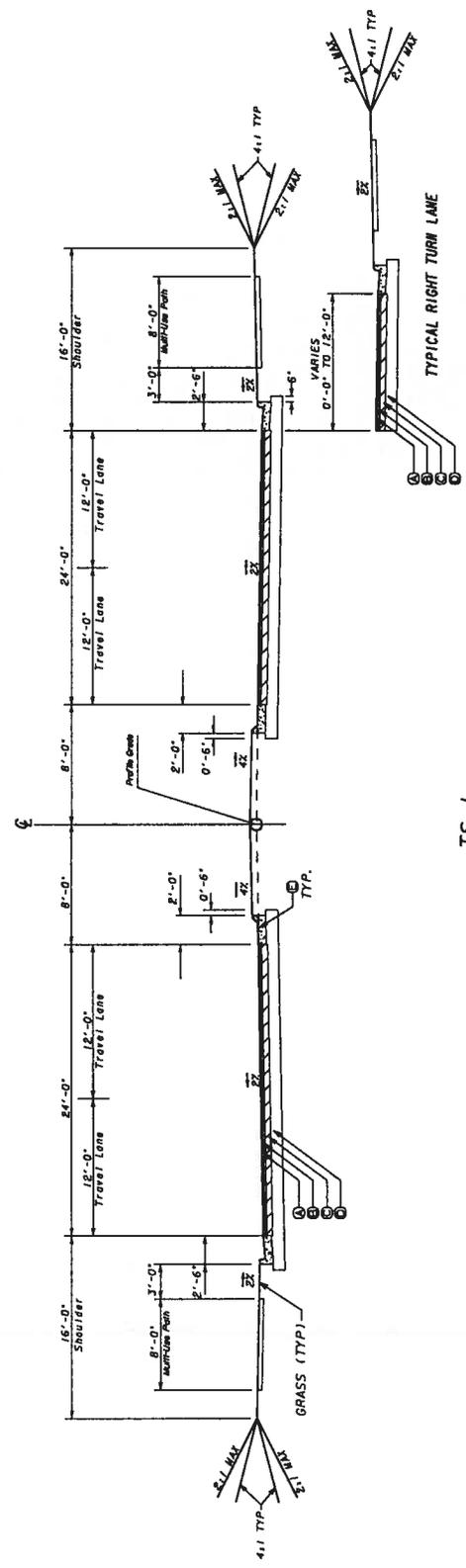
The goal of this project is to alleviate present and future congestion along SR 9 between Pendley Road and SR 20. The logical termini for the project will be determined by the Office of Environmental Services in coordination with the Federal Highway Administration (FHWA).



 Kimley-Horn
and Associates, Inc.

SR 9
Forsyth County
P.I. No.: 121690-

**Sketch
Map**



TS-1
S.R. 9
TANGENT SECTION

- REQUIRED PAVEMENT**
- ① RECYCLED ASPHALTIC CONCRETE 12.5 mm SUPERPAVE MODIFIED. (LB/SY)
 - ② RECYCLED ASPHALTIC CONCRETE 19 mm SUPERPAVE. (LB/SY)
 - ③ RECYCLED ASPHALTIC CONCRETE 25 mm SUPERPAVE. (LB/SY)
 - ④ GRADED AGGREGATE BASE.
 - ⑤ TYPE 7 CURB & GUTTER
 - ⑥ TYPE 2 CURB & GUTTER

SLOPE CONTROLS		
SLOPE	CUT	FILL
4:1	0:5	0:1
3:1	0:5	0:1
EQUIPMENT IS REQUIRED ON ALL 2:1 SLOPES		

STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION		OFFICE:	
Kimley-Horn and Associates, Inc. Engineering, Planning, and Environmental Consultants Suite 600, 3150 Holcomb Bridge Road Norcross, Georgia 30071		REVISION DATES	
		TYPICAL SECTIONS	
DRAWING NO.		5-01	

0155	603-7000	SY	PLASTIC FILTER FABRIC	300.000	4.24	1273.83
0160	668-1100	EA	CATCH BASIN, GP 1	112.000	2152.69	241102.28
0165	668-2100	EA	DROP INLET, GP 1	10.000	1384.19	13841.97
0170	636-1033	SF	HWY SIGNS, TPLMAT,REFL SH TP 9	1750.000	17.44	30533.16
0175	636-2070	LF	GALV STEEL POSTS, TP 7	2500.000	6.37	15941.58
0180	639-4002	EA	STRAIN POLE, TP II	16.000	5517.77	88284.47
0185	647-1000	LS	TRAF SIGNAL INSTALLATION NO - ALL	1.000	300000.00	300000.00
0190	653-0120	EA	THERM PVMT MARK, ARROW, TP 2	80.000	66.77	5341.78
0195	653-0170	EA	THERM PVMT MARK, ARROW, TP 7	25.000	71.13	1778.43
0200	653-1501	LF	THERMO SOLID TRAF ST 5 IN, WHI	35000.000	0.36	12934.60
0205	653-3501	GLF	THERMO SKIP TRAF ST, 5 IN, WHI	30000.000	0.23	7053.60
0210	653-6004	SY	THERM TRAF STRIPING, WHITE	4200.000	2.87	12063.79
0215	700-6910	AC	PERMANENT GRASSING	20.000	662.15	13243.10
0220	700-7000	TN	AGRICULTURAL LIME	20.000	19.93	398.75
0225	700-8000	TN	FERTILIZER MIXED GRADE	14.000	405.18	5672.56
0230	700-8100	LB	FERTILIZER NITROGEN CONTENT	10000.000	1.72	1729.78
0235	710-9000	SY	PERM SOIL REINFORCING MAT	10000.000	3.55	35573.20
0240	163-0232	AC	TEMPORARY GRASSING	10.000	18.58	185.87
0245	163-0240	TN	MULCH	90.000	211.76	19058.98
0250	163-0300	EA	CONSTRUCTION EXIT	50.000	1020.88	51044.20
0255	163-0503	EA	CONSTR AND REMOVE SILT CONTROL GATE,TP	20.000	463.07	9261.48
3						
0260	163-0550	EA	CONS & REM INLET SEDIMENT TRAP	122.000	149.38	18224.54
0265	165-0010	LF	MAINT OF TEMP SILT FENCE, TP A	28500.000	0.79	22643.82
0270	165-0030	LF	MAINT OF TEMP SILT FENCE, TP C	14250.000	0.64	9200.94
0275	165-0087	EA	MAINT OF SILT CONTROL GATE, TP 3	20.000	86.22	1724.52
0280	165-0101	EA	MAINT OF CONST EXIT	50.000	461.97	23098.78
0285	165-0105	EA	MAINT OF INLET SEDIMENT TRAP	122.000	48.68	5939.81
0290	167-1000	EA	WATER QUALITY MONITORING AND SAMPLING	2.000	276.51	553.03
0295	167-1500	MO	WATER QUALITY INSPECTIONS	36.000	630.85	22710.91
0300	171-0010	LF	TEMPORARY SILT FENCE, TYPE A	28500.000	1.20	34225.37
0305	171-0030	LF	TEMPORARY SILT FENCE, TYPE C	14250.000	2.59	36962.93

ITEM TOTAL						11552376.27
INFLATED ITEM TOTAL						11552376.29

TOTALS FOR JOB 121690						

ESTIMATED COST:						11552376.29
CONTINGENCY PERCENT (0.0):						0.00
ESTIMATED TOTAL:						11552376.29

PROJ. NO.: STP00-1336-00(011)
P.I. NO. 121690-
DATE: 1/14/2013

Base Construction Cost	\$	11,552,376.29
E & I	4% \$	462,095.05
Construction Contingency	\$	-
Subtotal Construction Cost	\$	<u>12,014,471.34</u>
Liquid AC Adjustment (50 % cap)	\$	<u>1,106,773.84</u>
Total Construction Cost	\$	<u>13,121,245.18</u>

R/W Acquisition (Est)	\$	13,975,000.00
Environmental Mitigation (Est)	\$	102,000.00
Utilities (Est)	\$	<u>1,451,445.00</u>

Total Project Cost \$ 28,649,690.18

PROJ. NO.
P.I. NO.
DATE

STP00-1336-00(011)
121690-
1/14/2013

CALL NO.

INDEX (TYPE)
REG. UNLEADED
DIESEL
LIQUID AC

DATE INDEX
Jan-13 \$ 3.278
\$ 3.938
\$ 567.00

Link to Fuel and AC Index:
<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

LIQUID AC ADJUSTMENTS

PA=(((APM-APL)/APL)*TMTxAPL

Asphalt

Price Adjustment (PA) 1092892.5 \$ 1,092,892.50
 Monthly Asphalt Cement Price month placed (APM) \$ 907.20
 Monthly Asphalt Cement Price month project let (APL) \$ 567.00
Total Monthly Tonnage of asphalt cement (TMT) 3212.5

ASPHALT

	Tons	%AC	AC ton
Leveling	400	5.0%	20
12.5 OGFC		5.0%	0
12.5 mm	9850	5.0%	492.5
9.5 mm SP		5.0%	0
25 mm SP	32500	5.0%	1625
19 mm SP	21500	5.0%	1075
	64250		3212.5

BITUMINOUS TACK COAT

Price Adjustment (PA) \$ 13,881.34
 Monthly Asphalt Cement Price month placed (APM) \$ 907.20
 Monthly Asphalt Cement Price month project let (APL) \$ 567.00
Total Monthly Tonnage of asphalt cement (TMT) 40,803,458.76

Bitum Tack

Gals	gals/ton	tons
9500	232.8234	40,803,458.8

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA) \$ 0
 Monthly Asphalt Cement Price month placed (APM) \$ 907.20
 Monthly Asphalt Cement Price month project let (APL) \$ 567.00
Total Monthly Tonnage of asphalt cement (TMT) 0

Bitum Tack

SY	Gals/SY	Gals	gals/ton	tons
	0.20	0	232.8234	0
Single Surf. Trmt.	0.44	0	232.8234	0
Double Surf. Trmt.	0.71	0	232.8234	0
Triple Surf. Trmt.		0		0

TOTAL LIQUID AC ADJUSTMENT

\$ 1,106,773.84

**GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY**

Date: 9/13/2012

Project: STP-1336(11)

Revised:

County: Forsyth

PI: 1221690

Description: 4 Lane with Median
Project Termini: 4 Lane with Median

Existing ROW: Varies

Parcels: 110

Required ROW: Varies

Land and Improvements _____ \$11,730,000.00

Proximity Damage	\$0.00
Consequential Damage	\$2,500,000.00
Cost to Cures	\$200,000.00
Trade Fixtures	\$0.00
Improvements	\$1,250,000.00

Valuation Services _____ \$275,000.00

Legal Services _____ \$711,750.00

Relocation _____ \$325,000.00

Demolition _____ \$0.00

Administrative _____ \$932,500.00

TOTAL ESTIMATED COSTS _____ \$13,974,250.00

TOTAL ESTIMATED COSTS (ROUNDED) _____ \$13,975,000.00

Preparation Credits	Hours	Signature

Prepared By:

Lashone Alexander CG#: 286999 9/13/2012

Approved By:

Lashone Alexander CG#: 286999 9/13/2012

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. 121690 **OFFICE** Environmental Services

DATE February 14, 2013

FROM Glenn Bowman, P.E., State Environmental Administrator

TO Jeremy T. Busby, P.E., Project Manager

SUBJECT Preliminary Mitigation Cost Estimate

As requested by your office, we are furnishing you with a revised preliminary cost estimate for the subject project. The project is located on SR 9 from SR 141 to SR 20 just south of Cumming, Georgia in Forsyth County. After reviewing the plans and based on the information provided, streams and wetlands will be permanently impacted by the proposed project. The preliminary estimated cost for mitigation is \$102,000.00.

DISCLAIMER: This information is based on the most recently approved ecology report's impacts, which was approved in January 2008. Only after an updated field reconnaissance and impact quantities, can a more detailed and accurate cost be estimated.

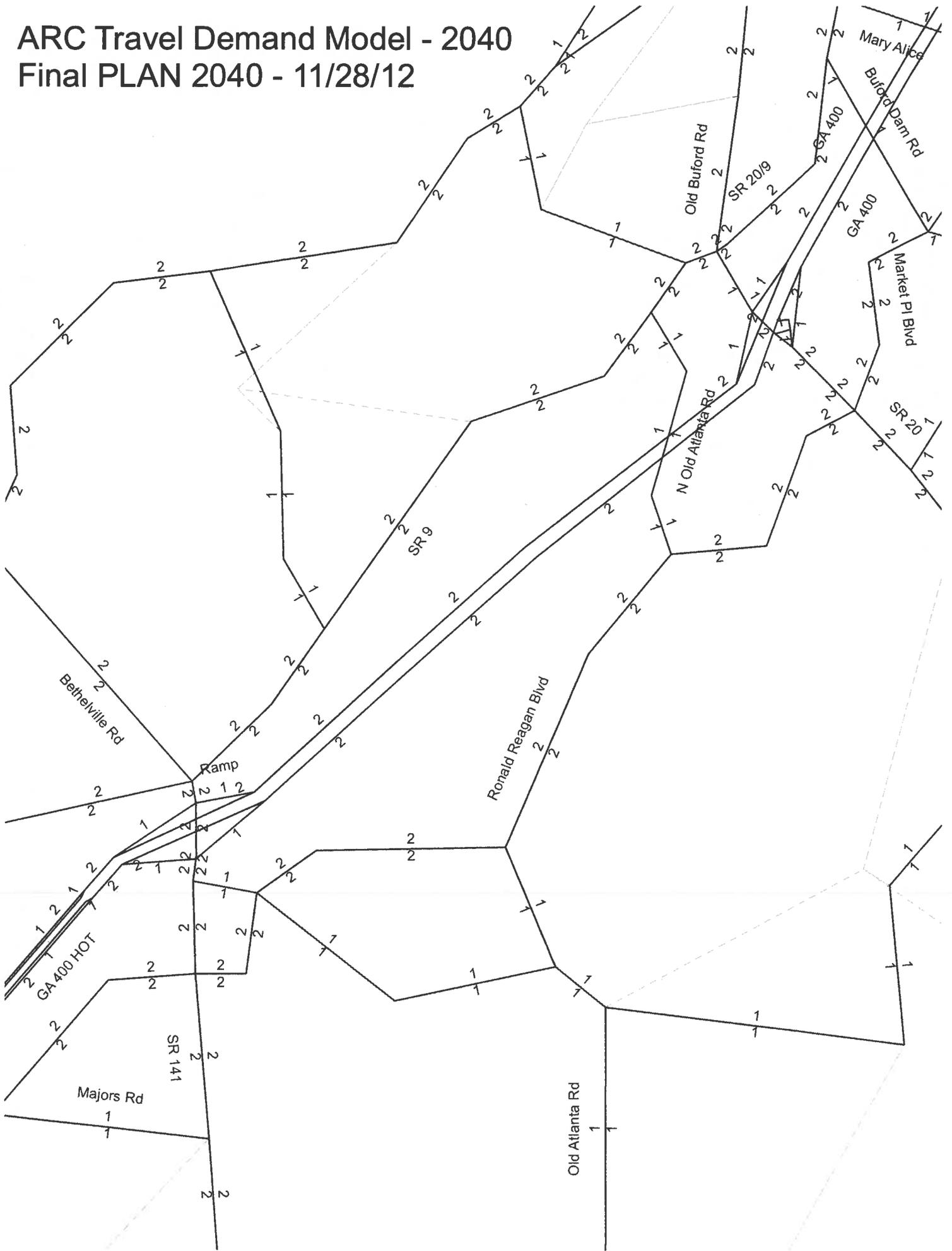
Thank you for your cooperation and expeditious handling of this matter. If you have any questions or need additional information, please contact Lisa Westberry (404) 631-1772 of our office.

GB/HDC/em

cc: General File

ARC Travel Demand Model - 2040

Final PLAN 2040 - 11/28/12



**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: STP-1336(11) Forsyth
P.I. No.: 121690
S.R. 9 Widening

OFFICE: Engineering Services

DATE: July 30, 2007

FROM: Brian K. Summers, PE, Project Review Engineer

TO: Babs Abubakari, P.E., State Consultant Design and Program Delivery Engineer

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. Incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
TYPICAL SECTIONS (S)				
S-1	Add two- 4 ft. bike lanes to the roadway	-\$5,842,230 (cost increase)	No	Since S-1 though S-7 and S-10 through S-12 are all variations of the same idea and are mutually exclusive, only one can be implemented. See Alternate S-12.
S-2	Provide for a 10 ft. multi-use trail on one shoulder in lieu of two 4 ft. bike lanes	\$2,109,630	No	Since S-1 though S-7 and S-10 through S-12 are all variations of the same idea and are mutually exclusive, only one can be implemented. See Alternate S-12.
S-3	Provide four - 11 ft. travel lanes with a 10 ft. multi-use trail in lieu of two 4 ft. bike lanes	\$5,102,550	No	Since S-1 though S-7 and S-10 through S-12 are all variations of the same idea and are mutually exclusive, only one can be implemented. See Alternate S-12.

STP-1336(11) Forsyth
P.I. No. 121690
Implementation of Value Engineering Study Alternatives
Page 2.

ALT #	Description	Potential Savings/LCC	Implement	Comments
TYPICAL SECTIONS - continued				
S-4	Use 12 ft. lanes with 24 ft. median and 8 ft. multi-use path on both sides	\$1,477,130	No	Since S-1 through S-7 and S-10 through S-12 are all variations of the same idea and are mutually exclusive, only one can be implemented. See Alternate S-12.
S-5	Use 11 ft. lanes with a 20 ft. median and an 8 ft. multi-use path on both sides	\$7,745,900	No	Since S-1 through S-7 and S-10 through S-12 are all variations of the same idea and are mutually exclusive, only one can be implemented. See Alternate S-12.
S-6	Use 12 ft. lanes with a 20 ft. median and a 10 ft. multi-use path on one side	\$6,926,610	No	Since S-1 through S-7 and S-10 through S-12 are all variations of the same idea and are mutually exclusive, only one can be implemented. See Alternate S-12.
S-7	Use 11 ft. lanes with a 20 ft. median, 5 ft. sidewalks and a 10 ft. multi-use path on one side	\$10,078,500	No	Since S-1 through S-7 and S-10 through S-12 are all variations of the same idea and are mutually exclusive, only one can be implemented. See Alternate S-12.
S-8	Provide enough right-of-way for ultimate six-lane urban section	-\$19,306,000 (cost increase)	No	No project is currently programmed for the ultimate six-lane section.
S-9	Build section with 44 ft. median to provide enough right-of-way for ultimate six-lane urban section	-\$19,306,000 (cost increase)	No	No project is currently programmed for the ultimate six-lane section.

STP-1336(11) Forsyth
P.I. No. 121690
Implementation of Value Engineering Study Alternatives
Page 3.

ALT #	Description	Potential Savings/LCC	Implement	Comments
TYPICAL SECTIONS - continued				
S-11	Reduce the median width to 16 ft.	\$5,459,010	No	Since S-1 through S-7 and S-10 through S-12 are all variations of the same idea and are mutually exclusive, only one can be implemented. See Alternate S-12.
S-12	Build section with 12 ft. lanes, 16 ft. median, and 8 ft. multi-use paths on both sides	\$7,000,000	Yes	This should be done.
ALIGNMENT (A)				
A-2	Reduce the left-turn storage length on S.R. 9 going south at Pendly Road from 1000 ft. to 700 ft.	\$20,000	No	According to the Design Consultant, the 1000 feet is required for the turning volumes from S.R. 9 to Pendly Road.
A-4	Use 8" x 24" curb and gutter in lieu of 8" x 30" curb in the medians	\$188,400	Yes	Pending approval of a new standard for 8" x 24" curb and gutter.
TRAFFIC (T)				
T-1	To maximize traffic flow, synchronize the traffic lights between North Old Atlanta Road and Buford Highway	Design Suggestion	Yes	This should be done.
RIGHT OF WAY (RW)				
RW-1	To improve safety, combine the two subdivision access roads at Piney Grove Road and the east side of S.R. 9	Design Suggestion	No	This change would result in additional right of way impacts.

ALT #	Description	Potential Savings/LCC	Implement	Comments
RIGHT OF WAY (RW) - continued				
RW-2	To improve safety, combine Highland Gate Drive and Lexington Lane at Sta. 45+00	Design Suggestion	No	There are two separate property owners and this change would require additional right of way in order to make the realignment.
RW-3	To control access, eliminate the four driveway entrances for the single parcel community north of Redi Road	Design Suggestion	Yes	This should be done pending final right of way negotiations.
RW-4	Combine two driveway entrances at Sta. 35+00 and one driveway entrance opposite Holly Park Drive	Design Suggestion	Yes	The two outside driveways should be retained and the one in the middle at the Shirey Trust Parcel should be deleted.
RW-5	Identify possible locations for storm water detention ponds and new drainage facilities	Design Suggestion	No	Storm water detention is not normally included on GDOT projects.
CONSTRUCTION MANAGEMENT (CM)				
CM-1	Require Contractor to recycle existing pavement	Design Suggestion	No	The Specifications address this work.
CM-2	To minimize through traffic during construction on S.R. 9, detour traffic to GA 400 during construction	Design Suggestion	No	Due to the large amount of traffic on S.R. 9, this is not feasible.
CM-3	To minimize risk to the Contractor, identify and negotiate temporary easements for Contractor lay down/staging areas	Design Suggestion	No	The normal work areas are within right of way provided for the project.

STP-1336(11) Forsyth
P.I. No. 121690
Implementation of Value Engineering Study Alternatives
Page 5.

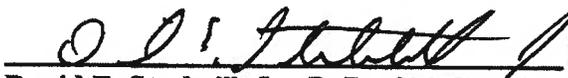
ALT #	Description	Potential Savings/LCC	Implement	Comments
CONSTRUCTION MANAGEMENT (CM) - continued				
CM-4	Split the project into two segments; build high priority segments now and defer the other for future funding allocations	\$31,113,172 defer to future	No	This does not meet the Need and Purpose of the project.
CM-5	To minimize through traffic on S.R. 9 during construction, use Pendley and North Old Atlanta Roads as detours	Design Suggestion	No	All detours, if needed, will be provided within the proposed right of way for this project.
CM-6	To accommodate phasing, increase the cost estimate line item for traffic control from \$150,000 to \$500,000	-\$350,000 (cost increase)	Yes	This should be done.
RISK REDUCTION (RR)				
RR-1	Clarify the amount of unsuitable soils on site through a soil boring program; establish a budget line item	Design Suggestion	Yes	This should be done.
RR-2	Project funds are limited. Consider phasing the project into multiple segments	Design Suggestion	Yes	This should be done.
RR-3	Further investigate construction impacts around the dam site	Design Suggestion	Yes	This should be done.
RR-4	Clarify that there are no other historic properties along the alignment	Design Suggestion	Yes	This should be done.

STP-1336(11) Forsyth
P.I. No. 121690
Implementation of Value Engineering Study Alternatives
Page 6.

ALT #	Description	Potential Savings/LCC	Implement	Comments
RISK REDUCTION (RR) - continued				
RR-5	Clarify the impact of retaining walls along the alignment	Design Suggestion	Yes	This should be done.
RR-6	Prepare phasing concepts to identify the amount of temporary pavement necessary	Design Suggestion	Yes	This should be done.
RR-7	Review vertical alignment and impact upon the net amount of Borrow necessary	Design Suggestion	Yes	This should be done.
RR-8	Perform earthwork analysis as soon as possible to clarify net import/export of soil	Design Suggestion	Yes	This should be done.

A meeting was held on July 27, 2007 and Bryon Letourneau with Kimley-Horn and Associates, Inc., Stanley Hill, and Vinesha Pegram of Consultant Design, and Brian Summers, Ron Wishon and Lisa Myers of Engineering Services were in attendance.

The results above reflect the consensus of those in attendance and those who provided input.

Approved:  Date: 9/2/07
David E. Studstill, Jr., P. E., Chief Engineer

BKS/REW

Attachments

- c: Gus Shanine, FHWA
- Todd Long
- Randall L. Hart
- Stanley Hill
- Vinesha Pegram

- Randall Davis
- Melanie Nable
- Nabil M. Raad
- Lisa Myers



Kimley-Horn
and Associates, Inc.

August 16, 2012

Brent Story, P.E.
Design Policy and Support Administrator
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308

☐
Suite 220
2 Sun Court
Norcross, Georgia
30092

Subject: Request for Design Variance
STP00-1336-00(011); Forsyth County
P.I. No.: 121690-
S.R. 9 Widening from S.R. 141 to S.R. 20

Approval of Design Variance is requested for this project.

The proposed project is located in the southern part of Forsyth County, north of the S.R. 141/S.R. 9 intersection, west of S.R. 400. This project begins approximately 1000 feet north of the S.R. 141/S.R. 9 intersection at approximately M.P. 7.14, and will end approximately 1500 feet north of the S.R. 9/S.R. 20 intersection at approximately M.P. 10.06, just south of the Cumming city limits. The length of the proposed project is approximately 2.92 miles. This project will have a 45 mph design speed and will widen the existing two-lane rural roadway to a four-lane divided roadway with four 12-foot lanes (two (2) in each direction) with a 16-foot raised median and 16-foot urban shoulders containing curb and gutter and 8-foot sidewalks.

The 16-foot median would require a design variance. Current Georgia Department of Transportation (GDOT) policy contained in the GDOT Design Policy Manual are either a 20-foot or 24-foot median. These guidelines are found in the GDOT Policy Manual Chapter 6, section 6.12.2. The variance would apply to the entire project length.

AADT: Base Year (2020): 17,583 Design Year (2040): 23,683

Accident data for SR 9 from SR 141 to SR 20 was obtained from the Georgia Department of Transportation for the years 2007, 2008, and 2009. Table 3 summarizes the number of accidents, injuries, and fatalities for this segment in each year, respectively. The rates determined for accidents, injuries, and fatalities were based on 100,000,000 vehicle miles

☐
TEL 770 825 0744
FAX 770 825 0074

traveled. This accident data was used to assess the safety of the following roadway segment:

- **SR 9 from SR 141 to SR 20, Urban Minor Arterial:** The three-year accident data for this segment indicates 371 total accidents with 114 total injuries and no fatalities. Additionally, both the average accident rate and the average injury rate for this segment of SR 9 were computed to be above the statewide average rates on comparable roads for each the three years. For the year 2007, the accident rate on SR 9 was over twice the statewide average. Further analysis of the accident data reveals that the majority of these accidents were rear end collisions. The second most frequent type of accident was angle collisions. During the three year period, accident data indicates that no fatalities occurred in along this segment of SR 9 although information was not available for 2007.

Table 3: Accident History (2007-2009)

Year	Number of Accidents	Number of Injuries	Number of Fatalities	Accident Rate ⁽¹⁾	Injury Rate ⁽¹⁾	Fatality Rate ⁽¹⁾	Statewide Average Accident Rate ⁽¹⁾	Statewide Average Injury Rate ⁽¹⁾	Statewide Average Fatality Rate ⁽¹⁾
SR 9 from SR 141 to SR 20: Urban Minor Arterial									
2007	171	48	(2)	1157	325	0	513	190	1.48
2008	129	45	0	895	312	0	469	176	1.47
2009	71	21	0	594	176	0	463	173	1.10

⁽¹⁾ Rates are per 100 million vehicles miles

⁽²⁾ Accurate fatality data was unavailable for the year 2007

The addition of the median along this roadway will have an impact on the accidents along the corridor as most of the accidents are rear end collisions. These types of accidents are usually caused when a driver stops in the through lane to turn left across oncoming traffic. With the addition of a median and sheltered left turn lanes at each median opening, the occurrence of rear end collisions is likely to decrease. The 16-foot rather than the 20-foot median will provide better sight lines to reduce the second most prevalent accident in the corridor, the angle collisions likely caused by drivers making lefts across travel lanes without adequate sight lines.

The current 20-foot guideline for median width cannot be met because there are extensive Right of Way costs incurred by proposing the 20-foot rather than 16-foot median.

The reduction to a 16-foot median will result in savings of \$7,000,000.000 dollars in Right of Way costs according to the approved Value Engineering Study (approved August 2, 2007) for this project.

There should be no appreciable mitigation necessary to lessen the impact of not meeting the 20-foot median width guideline.

Based on the warranting conditions presented (the existing and proposed geometry, roadway conditions, additional costs and accident analysis), I, Gary Newton, P.E. of Kimley-Horn and Associates, Inc., 770-825-0744, recommended that a Design Variance be approved for the controlling substandard design element.

Submitted By: Gary Newton 8/16/12
Engineer of Record Date

Recommended: Bill R. McMurry 9/23/12
Director of Engineering Date

Approved: Deanne Miller 9/24/12
Chief Engineer Date

