

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 245190-, Newton County **OFFICE** Preconstruction
STP-957(9)
SR 212 Widening and Reconstruction **DATE** May 17, 2006

FROM *C. John Kunkel*
Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

TO *MBP* SEE DISTRIBUTION

SUBJECT APPROVED REVISED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

MBP/cj

Attachment

DISTRIBUTION:

Brian Summers
Harvey Keepler
Ken Thompson
Jamie Simpson
Michael Henry
Keith Golden
Joe Palladi (file copy)
Babs Abubakari
Mike Thomas
BOARD MEMBER

420

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

DATE 5-9-2006

FROM Alan Smith, District Design Engineer
TO Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**SUBJECT STP-957(9) Newton County
P.I. No. 245190
State Route 212 Widening**

Revised Project Concept Report

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

The above mentioned project consists of Widening and Reconstruction of State Route 212 from just south of Bethany Road (MP 2.90) to just north of Oak Hill Road (MP 0.98).

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

DATE 5/10/06



State Transportation Planning Administrator

Distribution:

Brian Summers
Harvey Keepler
Keith Golden
Joe Palladi
Jamie Simpson

REVISED PROJECT CONCEPT REPORT

Need and Purpose: *See attached sheets.*

Project Location: *The project is located on SR 212 southeast of Porterdale in Newton County. The project begins at MP 3.23 and extends to MP 1.12. The total length of the project is 2.11 miles.*

Description of the approved concept:

This project consist of the widening and reconstruction of State Route 212 from just south of Bethany Road (MP 3.23) to just north of Oak Hill Road (MP 1.12). The proposed typical section will consist of 1-12' lane in each direction separated by a 14' flush median with rural shoulders. Traffic will be maintained on the existing roadway during construction.

PDP Classification: Major Minor

Federal Oversight: Full Oversight Exempt State Funded Other

Functional Classification: *Rural Minor Arterial*

U.S. Route Number(s): *None* **State Route Number(s):** *212*

Traffic (AADT) as shown in the approved concept:

Current Year: *10,300(2006)*

Design Year: *15,400(2026)*

Proposed features to be revised:

Project Length

Describe the revised feature(s) to be approved:

The project length is now revised from 2.11 miles to 2.80 miles with the new limits extending from just south of Bethany Road (MP 2.90) to just north of Oak Hill Road (MP 0.98).

Updated traffic data (AADT):

Current Year: *13,000(2008)*

Design Year: *23,000(2028)*

Programmed Schedule:

P.E. *Authorized*

R/W: *2007*

Construction: *2008*

Revised Cost Estimates:

1. Construction costs including inflation and E&C: *\$3,409,000*

2. Right of Way Cost:

\$1,151,000

3. Utility Costs:

\$265,600

Is the project in a Non-Attainment area?

Yes

No

Recommendation:

The District recommends that this proposed revision to the concept be approved for implementation.

Attachments:

Sketch Map

Cost Estimate

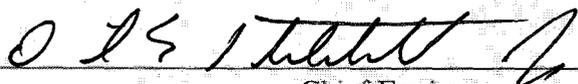
Need and Purpose Statement

Concur:



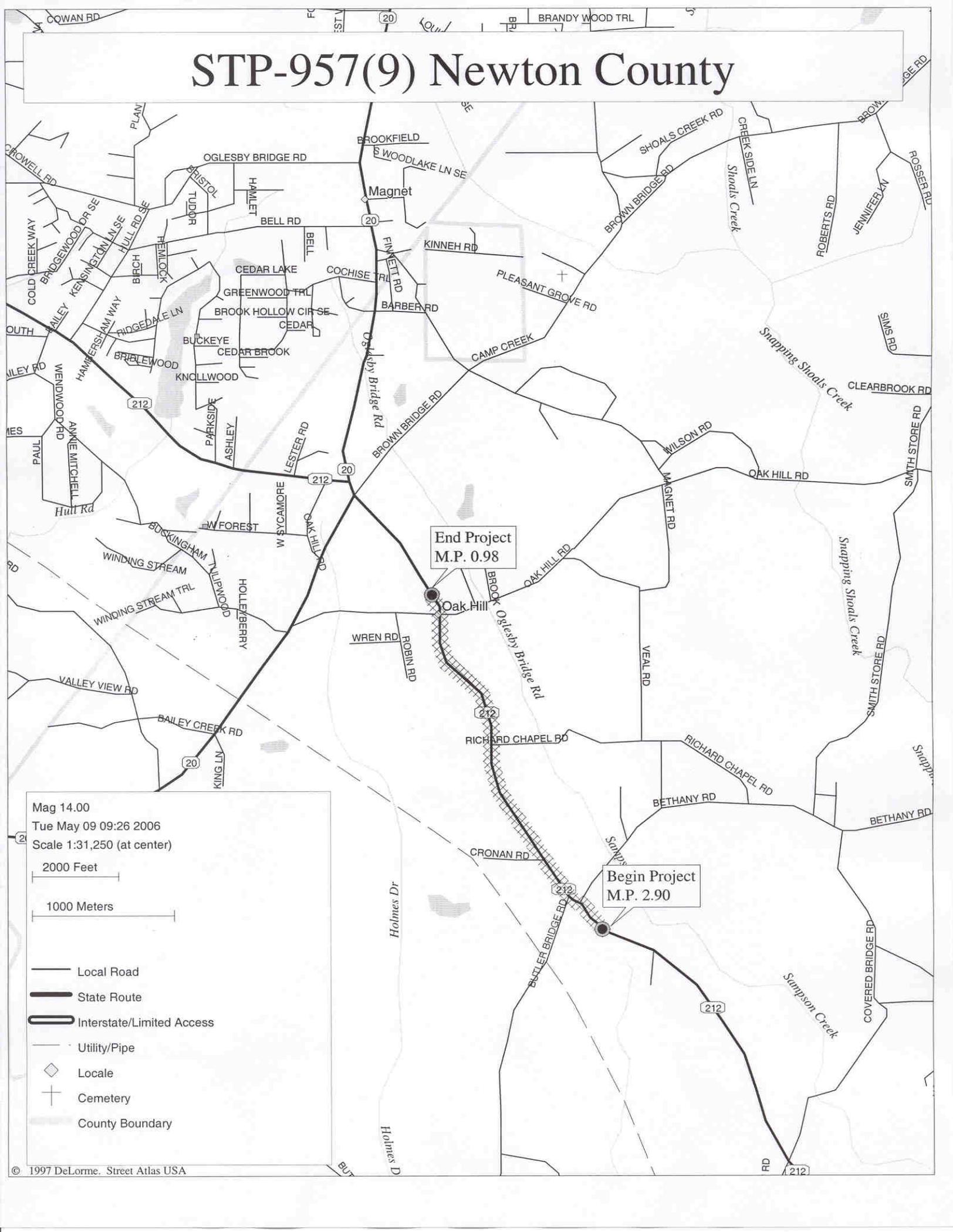
Director of Preconstruction

Approved:



Chief Engineer

STP-957(9) Newton County

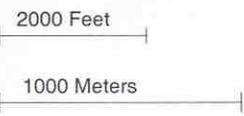


End Project
M.P. 0.98

Oak Hill

Begin Project
M.P. 2.90

Mag 14.00
Tue May 09 09:26 2006
Scale 1:31,250 (at center)



- Local Road
- State Route
- Interstate/Limited Access
- Utility/Pipe
- Locale
- Cemetery
- County Boundary

Estimate Report for file "245190 STP-957(9)"

Section ROADWAY					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	Lump Sum	60000.00	TRAFFIC CONTROL	60000.00
210-0100	1	Lump Sum	250000.00	GRADING COMPLETE	250000.00
310-1201	41570	TN	14.00	GR AGGR SUBBASE CRS, INCL MATL	581980.00
318-3000	1000	TN	13.00	AGGR SURF CRS	13000.00
402-1812	2000	TN	34.00	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	68000.00
402-3112	6885	TN	44.46	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	306107.10
402-3121	21355	TN	35.03	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	748065.65
402-3130	5160	TN	36.23	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM	186946.80
413-1000	5000	GL	1.00	BITUM TACK COAT	5000.00
441-0016	50	SY	25.00	DRIVEWAY CONCRETE, 6 IN TK	1250.00
441-0018	50	SY	30.00	DRIVEWAY CONCRETE, 8 IN TK	1500.00
441-4030	300	SY	30.00	CONC VALLEY GUTTER, 8 IN	9000.00
446-1100	6500	LF	2.62	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	17030.00
500-3200	50	CY	360.00	CLASS B CONCRETE	18000.00
500-3800	3	CY	520.00	CLASS A CONCRETE, INCL REINF STEEL	1560.00
550-1180	200	LF	25.00	STORM DRAIN PIPE, 18 IN, H 1-10	5000.00
550-2180	840	LF	24.00	SIDE DRAIN PIPE, 18 IN, H 1-10	20160.00
550-2240	66	LF	28.93	SIDE DRAIN PIPE, 24 IN, H 1-10	1909.38
550-3324	2	EA	914.17	SAFETY END SECTION 24 IN, STORM DRAIN, 4:1 SLOPE	1828.34
550-3518	38	EA	550.00	SAFETY END SECTION, 18" 6:1 SLOPE	20900.00
550-4218	2	EA	342.00	FLARED END SECTION 18 IN, STORM DRAIN	684.00
573-2006	500	LF	10.00	UNDDR PIPE INCL DRAINAGE AGGR, 6 IN	5000.00
634-1200	75	EA	65.00	RIGHT OF WAY MARKERS	4875.00
668-1100	4	EA	1500.00	CATCH BASIN, GP 1	6000.00
668-2100	3	EA	1400.00	DROP INLET, GP 1	4200.00
Section Sub Total:					\$2,337,996.27

Section EROSION CONTROL					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0240	540	TN	212.17	MULCH	114571.80
700-6910	60	AC	736.02	PERMANENT GRASSING	44161.20
700-7000	120	TN	53.88	AGRICULTURAL LIME	6465.60
700-7010	150	GL	17.58	LIQUID LIME	2637.00
700-8000	54	TN	236.35	FERTILIZER MIXED GRADE	12762.90
700-8100	3000	LB	1.38	FERTILIZER NITROGEN CONTENT	4140.00
Section Sub Total:					\$184,738.50

Section TEMPORARY EROSION CONTROL					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	180	AC	450.77	TEMPORARY GRASSING	81138.60
163-0240	540	TN	212.17	MULCH	114571.80
163-0300	6	EA	1032.94	CONSTRUCTION EXIT	6197.64
165-0010	1400	LF	1.02	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	1428.00
165-0030	3652	LF	1.20	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	4382.40
165-0101	6	EA	339.66	MAINTENANCE OF CONSTRUCTION EXIT	2037.96
167-1000	2	EA	2903.25	WATER QUALITY MONITORING AND SAMPLING	5806.50
167-1500	18	MO	744.65	WATER QUALITY INSPECTIONS	13403.70
171-0010	2800	LF	1.88	TEMPORARY SILT FENCE, TYPE A	5264.00
171-0030	7305	LF	3.23	TEMPORARY SILT FENCE, TYPE C	23595.15
700-8000	36	TN	236.35	FERTILIZER MIXED GRADE	8508.60
Section Sub Total:					\$266,334.35

Section TRAFFIC SIGNS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	6	SF	13.31	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	79.86
636-1031	30	SF	16.72	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING TP 6	501.60
636-2070	30	LF	6.46	GALV STEEL POSTS, TP 7	193.80
636-2080	12	LF	8.58	GALV STEEL POSTS, TP 8	102.96
636-3010	12	EA	288.98	GROUND-MOUNTED BREAKAWAY SIGN SUPPORT	3467.76
639-4004	8	EA	3000.00	STRAIN POLE, TP IV	24000.00
647-1000	1	Lump Sum	50000.00	TRAFFIC SIGNAL INSTALLATION NO.1	50000.00
647-1000	1	Lump Sum	50000.00	TRAFFIC SIGNAL INSTALLATION NO.2	50000.00
653-0120	107	EA	56.33	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	6027.31
653-1501	37000	LF	0.25	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	9250.00
653-1502	28500	LF	0.24	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	6840.00
653-3501	1000	GLF	0.14	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	140.00
653-3502	12000	GLF	0.15	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, YELLOW	1800.00
653-6004	800	SY	2.42	THERMOPLASTIC TRAF STRIPING, WHITE	1936.00
653-6006	3000	SY	2.56	THERMOPLASTIC TRAF STRIPING, YELLOW	7680.00
Section Sub Total:					\$162,019.29

Total Estimated Cost: \$2,951,088.41

Subtotal Construction Cost \$2,951,088.41

E&C Rate 10.0 % \$295,108.84

Inflation Rate 5.0 % @ 1.0 Years \$162,309.86

Total Construction Cost \$3,408,507.11

Right Of Way \$1,151,000.00

ReImb. Utilities \$265,600.00

Grand Total Project Cost \$4,825,107.11

- NEED AND PURPOSE -

**PROJECT STP-957(9) Newton County
P. I. NO 245190**

SR 212 Intersection and Roadway Improvements Project

Background

Project STP-957(9), PI No. 245190 was addressed in the August 2002 Needs Assessment Report for Newton County, and is one of ten projects identified by citizens of Newton County as having high priority. First observed and documented in 1996, the resulting project concept and scope focuses on specific facility problems at the intersections with SR 212 at Butler Bridge Road/Bethany Road/CR 8 and the intersection of SR 212 at Oak Hill Road/CR 19. It also addresses roadway safety features on SR 212 beginning at MP 1.12 just north of Oak Hill Road/CR 19 and ending at MP 3.23 which is just south of Butler Bridge Road/Bethany Road/CR 8. The construction date in the CWP is scheduled for 2006.



Facility Overview and Operational Characteristics

SR 212 serves regional needs as a growing rural corridor beginning at the east end of the Metro-Atlanta area, traversing southeasterly through the county to the City of Monticello. It is not designated as a part of the National Highway System of Roads nor a state or county designated bicycle route, however it is a local school bus route, with a posted speed of 55 MPH throughout the corridor. Just north of the project's northern boundary, MP 1.12, SR 212 intersects with SR 20 which is another growing rural corridor which traverses southwesterly through Newton County. Just south of the project boundary SR 81 intersects with SR 212.

SR 212 is functionally classified as a Rural Minor Arterial. The truck traffic constitutes an estimated 10% of the total vehicles traveling the corridor, with most of the trucks traveling to more commercially developed areas north and south of the project boundaries. The facility

consists of two 12' lanes with variable width rural shoulders, over generally gently rolling terrain. The project boundaries are near the extreme eastern edge of Newton County. Recent development within the project boundaries includes Oak Hill Elementary School and a Newton County Fire Station. In the area of SR 212 and Oak Hill Road/CR 19, where there is sub-standard intersection alignment, there are several county historic resources.

Proposed Improvements

Project improvements including new turn lanes, additional turn lane storage at some locations, and corrections of other turn lane deficiencies at various points and throughout the entire length of the project will be addressed. At the intersection of SR 212 and Oak Hill Road/CR 19, the sub-standard intersection alignment resulting in poor sight distance in both directions will be addressed, the traffic signal will be upgraded, and dedicated left hand turn lanes will be constructed in all directions. At the SR 212 at Butler Bridge Road/Bethany Road/CR 8 intersection, SR 212 will be realigned slightly to the North to meet current design criteria, a stop and go traffic signal will be constructed, and turn lanes will be constructed on CR 8. The entire length of the roadway in the project area will be upgraded to include two (2) 12' lanes with 10' shoulder construction which includes 4' paved shoulders to provide additional safety for traffic traveling the corridor. Dedicated turn lanes will be constructed at the Newton County Firehouse and Oak Hill Elementary School. These improvements will enhance the safety and serviceability of the facility.

Operational Analysis Data

Traffic Count and Projections

TC Station 107 (Mile log 2.59 to 3.23)	2001	2006	2026
	AADT	AADT	AADT
	4500	5100	7500

TC Station 109 (Mile log 1.12 to 2.59)	2001	2006	2026
	AADT	AADT	AADT
	7300	8200	12,200

Level-of-Service

Level-of-Service is defined as a qualitative measure describing operational conditions within a traffic stream. There are six identified Levels-of-Service a roadway can operate under. A designated letter, A through F, identifies each of the six. Level-of-Service A representing the best operating conditions and Level-of-Service F the worst. For example, Level-of-Service A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. The general level of comfort and convenience provided to the motorist is excellent. Level-of-Service C marks the beginning of a range of flow in which the operation of the individual users becomes significantly affected by interactions with others in the traffic stream. The general level of comfort declines noticeably at this level. Level-of-Service E represents operating conditions at or near capacity. All speeds are reduced to a low, but relatively uniform value. Comfort and convenience levels are extremely poor. Level-of-Service F represents heavily congested flow with traffic demands exceeding capacity. Volumes are lower than capacity and speeds are below capacity speed.

Based on existing AADT traffic counts, the LOS on this facility in the project area is Level "C." The Level of Service remains at Level "C" by the construction year 2006. The Level of Service is estimated to be Level "D" in the year 2026 based on existing AADT figures and subsequent projections.

1996, 1997, & 1998
Accident Data and Statewide Comparisons

SR212 Accident Data – Beginning at MP 1.12 to MP 3.23

TYPE	Angle/ Intersect	Rear End	Side Swipe	Head on	Collisions not with a Vehicle	Total
1996	2	1	0	1	4	8
1997	5	2	0	1	10	18
1998	4	1	0	0	2	7
TOTAL	11	4	0	2	16	33

Number of Injuries: 26	Number of Fatalities: 0
------------------------	-------------------------

Comparisons with Statewide Averages for: Rural Minor Arterial Non-NHS
Comparisons with Statewide Averages for similar Facilities Years 1999, 2000, 2001 NOT Available.

	1996	1997	1998
SR 212 Accidents per 100 MVMT	96	191	30
Comparisons with Statewide Averages for similar Facilities 100 MVMT	144	166	172
% Higher/Less than Statewide Average for Rural Principal Arterial Non-NHS	33% Less	15% Higher	83% Less

1998, 2000, & 2001 Accident Data
(Accident data not available for 1999 or 2002)

SR212 Accident Data - Beginning at Mp 1.12 to MP 3.23

TYPE	Angle/ Intersect	Rear End	Side Swipe	Head on	Collisions not with a Vehicle	Total
1998	4	1	0	0	2	7
2000	4	1	1	0	9	15
2001	0	0	0	1	2	3
TOTAL	8	2	1	1	13	25

Number of Injuries: 17	Number of Fatalities: 1
------------------------	-------------------------

The statistics indicate that this facility does not operate at an unsafe level. However, the proposed improvements will bring this facility up to current AASHTO design standards and will provide for an enhanced level of comfort through recommended safety features.

Programmed Projects in the Area

Project	Description	Expected Beginning or Completion Date
PI 742980 Rockdale County	Bridge Replacement at SR 212 and Honey Creek	Approved for 2006
PI 730907 Rockdale County	Widening to 4 lanes SR 20 from SR 212 to Honey Creek Road	Approved for 2007

Community Characteristics

The census demographic characteristics along the SR212 project corridor in Newton County indicate a population of 4925 people of which 4088 are white, 681 African American, 9 American Indian, 39 Asian, 28 of two races or more, and 80 of Hispanic or Latino origin. Income by race is shown in the following table:

Project Area Economic Indicators	White	African American	American Indian	Asian	Two or More Races	Hispanic or Latino
Less than \$10,000	115	34	0	0	0	0
\$10,000 to \$24,999	366	99	0	0	0	16
\$25,000 to \$44,999	1106	251	0	27	28	25
\$45,000 to \$74,999	1549	169	9	0	0	30
	793	91	0	0	0	0
	127	26	0	12	0	0
	32	11	0	0	0	9

This statistical information indicates these factors would not influence the proposed project.

Newton County, as one of Georgia's fastest growing counties, is becoming increasingly more urbanized as is indicated in the 2000 Census survey. In comparison to 1990, 2000 documentation shows a 48% percent increase in area population, with an increase of 83% in the number of families with 2 or more vehicles available.

Statement of Need and Purpose

This facility does not operate at an unsafe level. The need for the proposed project improvements comes from a variety of substandard design issues which collectively affect the overall performance of the facility and intersections. Upgrades will address the sub-standard intersection alignment on SR 212 at Oak Hill Road/CR 19 to correct the poor sight distance. Construction of turn lanes at the two intersections and intersection signal improvements will promote better

traffic flow at the intersection of SR 212 at Butler Bridge Road/Bethany Road/CR 8 and at the intersection of SR 212 at Oak Hill Road/CR 19. Turn lane construction at the new fire station and new elementary school will provide additional safety measures for area residents and through traffic. The purpose of the proposed improvements is to provide better mobility through this section of SR 212 roadway and an overall safer driving environment for thru and local traffic. The proposed improvements and safety upgrades will bring this facility up to current AASHTO design standards and provide an enhanced driving experience. The above defined improvements are necessary and recommended, to improve the operating serviceability and provide a facility that will adequately and safely serve current and future travel demand on this portion of State Route 212.