

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE MSL-0004-00(688) Paulding County **OFFICE** Preconstruction
P. I. No. 0004688
East Hiram Parkway **DATE** January 10, 2005

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

TO *See* SEE DISTRIBUTION

SUBJECT PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

MBP/cj

Attachment

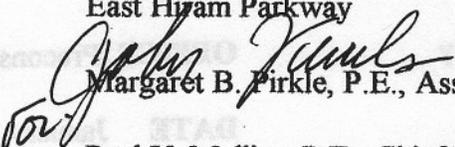
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**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE MSL-0004-00(688) Paulding County **OFFICE** Preconstruction
P.I. No. 0004688
East Hiram Parkway **DATE** January 4, 2005

FROM  Margaret B. Firkle, P.E., Assistant Director of Preconstruction

TO Paul V. Mullins, P.E., Chief Engineer

SUBJECT PROJECT CONCEPT REPORT

This project is the East Hiram Parkway, beginning at the intersection of CR 92 and West Hiram Parkway (currently under construction) and extend northerly to US 278 at Cleburne Parkway/Poplar Springs Road for a total of 2.70 miles. The need exists to provide local and through traffic with an improved travel way in the City of Hiram reducing traffic on US 278/SR 6 and SR 92. State Route 92 and US 278 are currently operating at an unacceptable level of service and will continue to worsen as Paulding County continues to develop. Without the proposed new location parkway, area roadways likely will continue to experience accident rates in excess of the statewide average. The proposed improvement will reduce traffic on US 278/SR 6 and SR 92 and in turn provide local and through traffic with a facility that will adequately serve current and future travel demand. Traffic is projected to be 23,000 VPD on the East Hiram Parkway and 21,000 VPD on the West Hiram Parkway in 2030. The future level of service (LOS) (2030) on the East Hiram Parkway is projected to be LOS "A" and "B" and on the West Hiram Parkway, LOS "E."

The construction proposes four, 12' lanes with 10' rural shoulders, 20' raised median from SR 92 to Rosedale Lane and four, 12' lanes with 16' urban (curb and gutter) shoulders, 20' raised median from Rosedale Lane to US 278/SR 6. Partial limited access is proposed from SR 92 to Rosedale Lane and controlled access by permit is proposed from Rosedale Lane to US 278/SR 6. Major structures on the proposed project include constructing a bridge over Gray's Mill Creek and Norfolk Southern Railroad. A culvert will be constructed for the crossing of the GDOT Edna to Rockmart Rail Line (Silver Comet Trail).

The East Hiram Parkway will function as a major route collecting and distributing trips within the Hiram area. The northern terminus of this project will tie into the four lane section of US 278 and the southern terminus will intersect with the two lane section of SR 92 and will tie into a two lane section of the West Hiram Parkway. The completion of this roadway will provide a continuous section from East Paulding County and Cobb County to south Paulding and Douglas County/Douglasville.

Paul V. Mullins

Page 2

MSL-0004-00(688) Paulding

January 4, 2005

Environmental concerns include requiring a COE 404 Permit; an Environmental Assessment will be prepared; a public hearing open house is required; time saving procedures are not appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$15,142,000	\$15,142,000	RRB	2007
Right-of-Way & Utilities*	Local	Local		

*Paulding County signed PMA on 11-11-03 for PE, right-of-way, utilities and construction.

I recommend this project concept be approved.

MBP:JDQ/cj

Attachment

CONCUR



Thomas L. Turner, P.E., Director of Preconstruction

APPROVE



Paul V. Mullins, P.E., Chief Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

DEC - 7 2004

FILE: MSL-0004-00(688) Paulding
P.I. No. 0004688
East Hiram Parkway

OFFICE: Engineering Services

DATE: December 6, 2004

FROM: David Mulling, Project Review Engineer *REW*

TO: Meg Pirkle, Assistant Director of Preconstruction

SUBJECT: CONCEPT REPORT

We have reviewed the Concept Report submitted November 19, 2004 by the letter from Gerald Ross dated November 18, 2004, and have no comments.

The costs for this project are:

Construction	\$12,486,055
Inflation	\$1,279,819
E&C	\$1,376,587
Reimbursable Utilities	\$100,000
Right of Way	\$3,501,798

REW

c: Gerald Ross, Attn.: Stanley Hill

SCORING RESULTS AS PER MOG 2440-2

Project Number: MSL-0004-00(688)		County: Paulding		PI No.: 0004688	
Report Date: November 18, 2004		Concept By: DOT Office: Road Design			
<input checked="" type="checkbox"/> Concept Stage		Consultant: Day Wilburn Associates, Inc.			
Project Type: Choose One From Each Column		<input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor	<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input type="checkbox"/> Bridge Replacement <input type="checkbox"/> Building <input type="checkbox"/> Interchange Reconstruction <input type="checkbox"/> Intersection Improvement <input type="checkbox"/> Interstate <input checked="" type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous	
FOCUS AREAS	SCORE	RESULTS			
Presentation	100				
Judgement	100				
Environmental	100				
Right of Way	100				
Utility	100				
Constructability	100				
Schedule	100				

September 9, 2004

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF DISTRICT ROAD AND AIRPORT DESIGN

PROJECT CONCEPT REPORT

MSL-0004-00(688)

Paulding County

P.I. NO. 0004688

East Hiram Parkway

FEDERAL ROUTE NO: N/A

STATE ROUTE NO: N/A

Recommendation for approval:

DATE 9-9-04

Stanley Hill
Project Manager

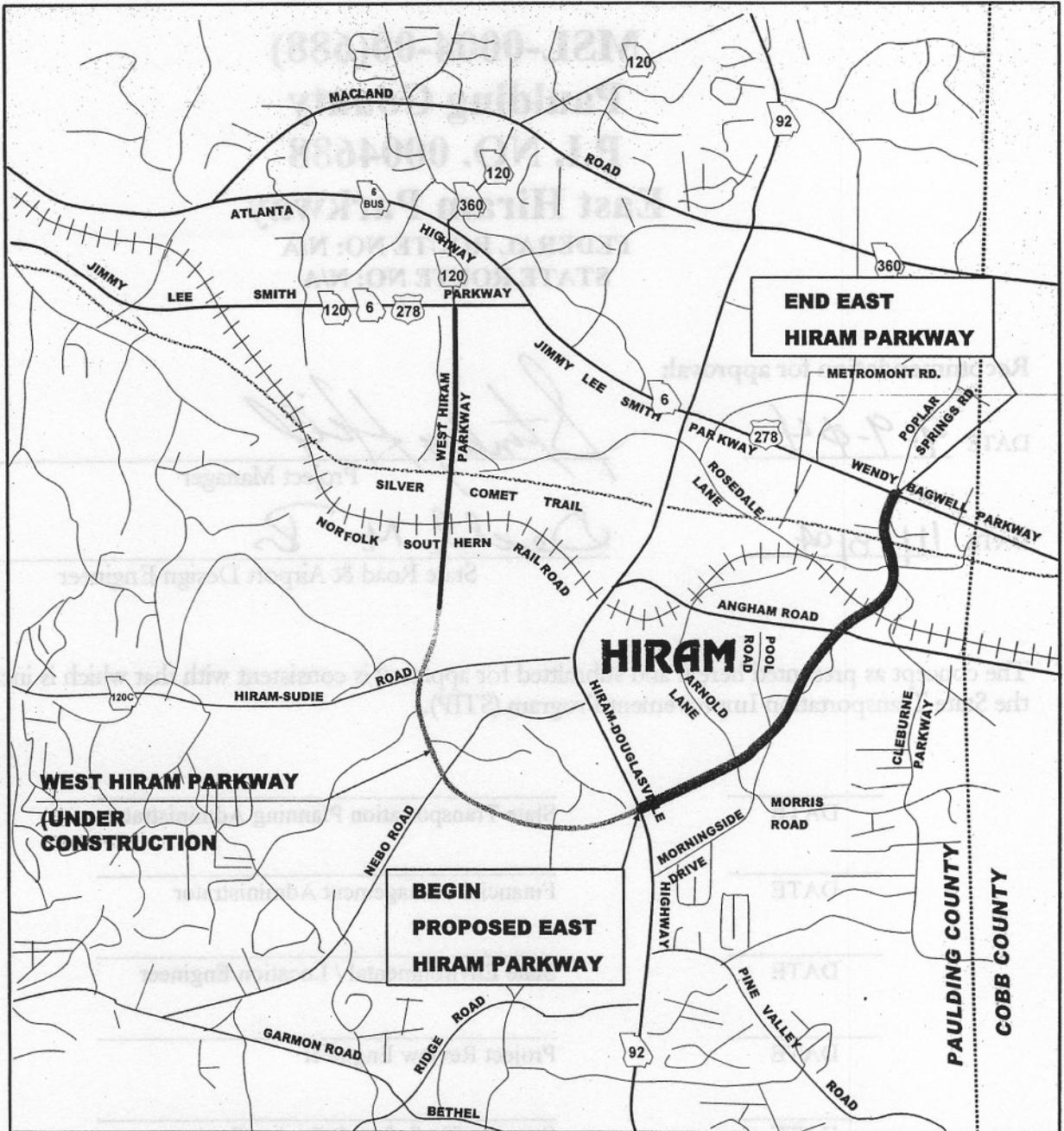
DATE 11/18/04

Deed M B
State Road & Airport Design Engineer

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

<u>DATE</u>	<u>State Transportation Planning Administrator</u>
<u>DATE</u>	<u>Financial Management Administrator</u>
<u>DATE</u>	<u>State Environmental / Location Engineer</u>
<u>DATE</u>	<u>Project Review Engineer</u>
<u>DATE</u>	<u>State Traffic Safety & Design Engineer</u>
<u>DATE</u>	<u>State Bridge & Structural Engineer</u>
<u>DATE</u>	<u>District Engineer</u>

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF DISTRICT ROAD AND AIRPORT DESIGN
Project Location Map
PROJECT CONCEPT REPORT



Project MSL-0004-00(688) Paulding County is the East Hiram Parkway, which will begin on new location at the intersection of SR 92 and the under construction West Hiram Parkway and extend northeasterly to US 278 at Cleburne Parkway/Poplar Springs Road, near the Cobb County Line.

Project Number: MSL-0004-00(688) P.I. Number: 0004688

May 28, 2004

PROJECT NEED & PURPOSE

② The need exists to provide local and through traffic with an improved travel way in the City of Hiram reducing traffic on US 278/SR 6 and SR 92. SR 92 and US 278 are currently operating at an unacceptable level of service and will continue to worsen as Paulding County continues to develop. Without the proposed new location parkway, area roadways likely would continue to experience accident rates in excess of the statewide average. The purpose of the proposed improvement is to reduce traffic on US 278/SR 6 and SR 92 and in turn provide local and through traffic with a facility that would adequately serve current and future travel demand and provide the public with a safer driving environment. The proposed East Hiram Parkway would accomplish this by providing travel from east Paulding County and Cobb County to south Paulding and Douglas County/Douglasville to circumvent the congested sections of SR 92 in Hiram. Constructing the parkway would provide a safer environment for vehicles to operate, facilitate the movement of freight more efficiently, and improve traffic safety and operations in Hiram.

Also see complete Need & Purpose Attachment

NON-ATTAINMENT AREA

The Proposed project is located in a non-attainment area.

PROJECT LOCATION & DESCRIPTION

PROJECT LENGTH: 2.68 Miles

DESCRIPTION: MSL-0004-00(688) Paulding County is the East Hiram Parkway, which would begin on new location at the intersection of SR 92 and the proposed West Hiram Parkway and extend eastward approximately 2.7 miles to the intersection of US 278 and Cleburne Parkway / Popular Springs Road in Hiram. The proposed project would tie into the West Hiram Parkway (under construction) terminus at SR 92 (near the Catfish Den Restaurant) and extend eastward over Gray's Mill Creek, crossing Arnold Lane, Poole Road, Angham Road, Rosedale Lane, Lula Circle, and Clebourne Parkway.

This project is proposed as a 4-lane divided facility. Limited access is proposed from SR 92 to Rosedale Lane and controlled access by permit is proposed from Rosedale Lane to US 278 / SR 6. Access from the proposed project would be provided at SR 92, Arnold Lane, Poole Road, Angham Road, Rosedale Lane / Cleburne Parkway, and US 278 / SR 6. Major structures on the proposed project include constructing a bridge over Gray's Mill Creek, and Norfolk Southern Railroad. A bridge or culvert will be studied for the crossing of the GDOT Edna to Rockmart Rail Line (Silver Comet Trail).

TRAFFIC

CURRENT

AADT /YEAR = N/A New Location

PROJECTED

AADT /YEAR = 23,000 (2030)

PDP CLASSIFICATION

Major

FUNCTIONAL CLASSIFICATION

Urban Minor Arterial

FOS

EXEMPT

SF

U.S. ROUTE NUMBER/STATE ROUTE NUMBER

N/A - New Location Roadway

EXISTING ROADWAY

N/A - New Location Roadway from SR 92 to GDOT Edna to Rockmart Rail Line (Silver Comet Trail)

Existing Cleburne Parkway utilized from GDOT Edna to Rockmart Rail Line (Silver Comet Trail) to US 278

Existing Cleburne Parkway: 2 -12' lanes with variable width grass shoulders

PROPOSED ROADWAY

TYPICAL SECTION:

4-12' lanes with 10' rural shoulders, 20' raised median from SR 92 to Rosedale Lane

4 -12' lanes with 16' urban (curb/gutter) shoulders, 20' raised median from Rosedale Lane to US 278 / SR 6

DESIGN SPEED	MAX DEGREE OF CURVE		MAX GRADE	
45 mph	Allowable	8°15'00"	Allowable-Mainline	6 %
	Proposed	6°00'00"	Proposed-Mainline	6 %
			Allowable-Side Road	6 %
			Proposed-Side Road	6 %
			Proposed-Driveway	25 %

PROPOSED MAJOR STRUCTURES

FEATURE INTERSECTED / TYPE	LENGTH	WIDTH	PRIORITY RATING	SUFF. RATING
Bridge over Gray's Mill Creek	800'	84'	N/A	N/A
Bridge over Norfolk Southern Railroad	210'	84'	N/A	N/A
Box Culvert (GDOT Edna to Rockmart Rail Line/Silver Comet Trail)		10'x10'	N/A	N/A
Box Culvert		10'x12'	N/A	N/A
Box Culvert		10'x12'	N/A	N/A
Box Culvert		7'x7'	N/A	N/A

INTERSECTIONS

Major: SR 92 and US 278/SR 6

Minor: Arnold Lane, Pool Road, Lula Circle, Angham Road, and Rosedale Lane

TRAFFIC CONTROL

March 19, 2004

UTILITY INVOLVEMENTS**POWER:** Georgia Power, Greystone EMC**COMMUNICATION:** Bell South, MCI**CABLE TV:** Charter, Comcast**GAS:** Atlanta Gas Light**WATER & SEWER:** Paulding County Water & Sewer, City of Hiram Water**PETROLEUM:** N/A**RAILROADS:** Norfolk Southern, GDOT Edna to Rockmart Rail Line (Silver Comet Trail)**PROJECT RESPONSIBILITIES****DESIGN:** Paulding County**RIGHT OF WAY ACQUISITION:** Paulding County**RELOCATION OF UTILITIES:** Paulding County (Reimbursable)**LETTING TO CONTRACT:** Paulding County**SUPERVISION OF CONSTRUCTION:** Paulding County**PROVIDING MATERIAL PITS:** Contractor**PROVIDING DETOURS:** Contractor**COORDINATION AND SCHEDULING****INITIAL CONCEPT TEAM MEETING:** 7-23-03 (Minutes Attached)**CONCEPT TEAM MEETING DATE:** 11-20-03 (Minutes Attached)**CONFORMS TO TIP/STIP:** YES**MEETS LOGICAL TERMINI REQUIREMENTS:** YES**P.A.R. MEETING:** To be determined**RESOURCE AGENCIES:** FEMA coordination will be required.**LOCATION INSPECTION DATE:** Pending

May 28, 2004

COORDINATION AND SCHEDULING

PERMITS REQUIRED (4f, COE, 404, etc.): Nationwide 404 anticipated. Wetland impacts at Gray's Mill Creek may lead to an individual permit.

PUBLIC INVOLVEMENT: Public Information Meeting 9-18-03 (Summary Attached)

TIME SAVING PROCEDURES APPROPRIATE: NO

OTHER PROJECT IN THE AREA:

The last phase of the West Hiram Parkway (PI# S000163) is identified in Georgia DOT's Construction Work Program (CWP) for construction in Fiscal Year (FY) 2003. The West Hiram Parkway is being completed in three phases. The first phase was constructed from US 278/SR 6 to just south of the Norfolk Southern Railroad, the second phase was constructed from just south of the railroad to Hiram-Sudie Road, and the third phase will terminate at SR 92 adjacent to the proposed East Hiram Parkway. The first and second phases of the West Hiram Parkway are open to traffic. The third phase was bid for construction in August 2003. The CWP also identifies a project (PI# 621720) to widen SR 92 from Nebo Road to SR 120 to 4-lanes with a 20-foot raised median with construction in FY 2009.

LOCAL GOVERNMENT COMMENTS: Local Project

RAILROADS:**Norfolk Southern**

The East Hiram Parkway will cross Norfolk Southern Railroad as it approaches its northern terminus at a new location. This Concept proposes to bridge Norfolk Southern Railroad at this new crossing. This bridge over the Norfolk Southern line should allow room for a future additional track. Norfolk Southern design standards should be followed and extensive railroad coordination will be required, including site visits and survey work.

GDOT Edna to Rockmart Rail Line (Silver Comet Trail)

The East Hiram Parkway will cross the GDOT Edna to Rockmart Rail Line (Silver Comet Trail) near its northern terminus. This right of way was purchased as a rail corridor. The current recreational use is a temporary situation as the trail is leased to Department of Natural Resources and operated by several entities. The GDOT Intermodal Office is interested in preserving the corridor for future rail use. The following options have been proposed:

- East Hiram bridge over the GDOT Rail Line – This is the preferred method by the Intermodal Office. The bridge would have to accommodate future rail traffic. The section is similar to general railroad requirements for two tracks and an access road.
- GDOT Rail Line (Silver Comet Trail) under East Hiram in a Culvert Structure - This option is not favored by the Intermodal Office because the Parkway would be in the envelope of future rail uses. This option would require an agreement between the County and GDOT. The County would have to agree to bridge the GDOT Rail Line if future rail conversion occurred. The Parkway would also have to be engineered to allow rights of way, etc... for a future bridge.
- GDOT Rail Line (Silver Comet Trail) Bridge over East Hiram - This option is not favored by the Intermodal Office because the Parkway would again be in the envelope of future rail uses.

March 19, 2004

COORDINATION AND SCHEDULING

- **GDOT Rail Line (Silver Comet Trail) Bridge over East Hiram** - This option is not favored by the Intermodal Office because the Parkway would again be in the envelope of future rail uses. This would require an agreement between the County and GDOT. The County would have to agree to bridge the trail and remove the trail bridge, if future rail conversion occurred. In addition, it was thought that operators of the trail preferred going under roadways rather than over. The parkway would also have to be engineered to allow rights of way, etc... for a future bridge.

The preferred alternative shown in this Concept Report is to place the Silver Comet Trail in a culvert structure under East Hiram Parkway. The culvert option was estimated at 1.3 million dollar savings in right of way and a 1.9 million dollar savings in construction (Total 3.2 million) versus the bridge over option. The preferred alternative will require a written agreement between Paulding County and GDOT. The County would have to agree to provide funds for the design and construction of a two-track grade separation at a later date, when determined necessary by GDOT. This agreement must be developed before a concept, other than a two-track grade separation, is advanced to design to avoid delays in the design and construction process. GDOT also requires approval of crossing design plans and right of way plans.

SCHEDULING CONSIDERATIONS

TIME TO COMPLETE ENVIRONMENTAL:	18 MONTHS
TIME TO COMPLETE PRELIMINARY RD/RW PLANS:	12 MONTHS
TIME TO COMPLETE 404 PERMIT:	18 MONTHS
TIME TO COMPLETE FINAL CONSTRUCTION PLANS:	6 MONTHS
TIME TO BUY RIGHTS-OF-WAY:	24 MONTHS

ALTERNATIVES CONSIDERED

- **No Build**
- **Alternative 1** – Build 4-lane parkway from the intersection of SR 92 and the West Hiram Parkway northeasterly through open farm land to the intersection of Cleburne Parkway and US 278. This option was discarded due to potentially eligible historic farmland impacts.
- **Alternative 2** - Build 4-lane parkway from the intersection of SR 92 and the West Hiram Parkway northeasterly to the intersection of Metromont Road and US 278, including bridges over Gray's Mill Creek, Norfolk Southern Railroad, and the GDOT Edna to Rockmart Rail Line (Silver Comet Trail). This option was discarded due to commercial property impacts, residential property impacts, and financial constraints.

ALTERNATIVES CONSIDERED

- Alternative 2A - Build 4-lane parkway from the intersection of SR 92 and the West Hiram Parkway northeasterly to the intersection of Metromont Road and US 278, including bridges over Gray's Mill Creek and Norfolk Southern Railroad. This option proposes placing the GDOT Edna to Rockmart Rail Line (Silver Comet Trail) in a culvert under the Parkway. This option was discarded due to commercial property impacts, residential property impacts, and financial constraints.
- Alternative 3 - Build 4-lane parkway from the intersection of SR 92 and the West Hiram Parkway northeasterly to the intersection of Cleburne Parkway and US 278, including bridges over Gray's Mill Creek, Norfolk Southern Railroad, and GDOT Edna to Rockmart Rail Line (Silver Comet Trail). This option was discarded due to commercial property impacts, residential property impacts, historic property visual impacts, and financial constraints.
- Alternative 3A - Build 4-lane parkway from the intersection of SR 92 and the West Hiram Parkway northeasterly to the intersection of Cleburne Parkway and US 278, including bridges over Gray's Mill Creek and Norfolk Southern Railroad. This option proposes placing the GDOT Edna to Rockmart Rail Line (Silver Comet Trail) in a culvert under the parkway. **This option is the preferred alternative** due to the least amount of commercial property impacts, least amount of residential property impacts, least historic property visual impacts, and most economical option.
- Alternative 4 - Build 4-lane parkway from the intersection of SR 92 and the West Hiram Parkway northeasterly through open farm lane to the intersection of US 278 very near the Cobb County line. This option was discarded due to potentially eligible historic farmland impacts and impacts to a new subdivision near the northern terminus.

ATTACHMENTS:

- Cost Estimate
- Typical Sections
- Need & Purpose
- Initial Concept Team Meeting minutes
- Environmental Screening
- Public Comment Summary
- Concept Team Meeting Minutes
- Alternative Evaluation Matrix and Cost Estimate Spreadsheet
- East Hiram Parkway Corridor Analysis

PRELIMINARY COST ESTIMATE

PREPARED BY: Steve Tiedemann

PROJECT LENGTH: 2.68 Miles

ESTIMATED LETTING DATE: 2003-07

 PROGRAMMING PROCESS CONCEPT DEVELOPMENT DURING PROJECT DEV.

PROJECT COST	
A. RIGHT-TO-WAY:	
1. PROPERTY (LAND & EASEMENT @ \$2.30/sf commercial and \$0.57/sf residential, plus structure costs)	\$ 2,890,428.00
2. DISPLACEMENTS: RES: 4, BUS: 1, M.H.: 0	\$ 611,370.00
3. OTHER COST (ADM./COST, INFLATION)	\$ 0.00
SUBTOTAL:A	\$ 3,501,798.00
B. REIMBURSABLE UTILITIES:	
1. MCI at GDOT GDOT Edna to Rockmart Rail Line/Silver Comet Trail	\$ 100,000.00
	\$ 0.00
	\$ 0.00
SUBTOTAL:B	\$ 100,000.00
C. CONSTRUCTION:	
1. MAJOR STRUCTURES	
a. OVERPASSES (Bridge 1 = 800 ft x 84 ft, Bridge 2 = 210 ft x 84 ft, cost @ \$65/sq ft)	\$ 5,514,600.00
b. OTHER (Culvert #4 – GDOT Edna to Rockmart Rail Line – Silver Comet Trail)	\$ 160,000.00
SUBTOTAL:C-1	\$ 5,674,600.00
2. GRADING AND DRAINAGE:	
a. EARTHWORK (195,000 cy @ \$6.00/cy)	\$ 1,170,000.00
b. DRAINAGE:	
1) 18" Storm Drain (500 ft @ \$30.00/ft)	\$ 15,000.00
2) 24" Storm Drain (300 ft @ \$35.00/ft)	\$ 10,500.00

PROJECT COST	
3) Curb and Gutter (28,100 ft @ \$10.00/ft)	\$ 281,000.00
4) Catch Basins (25 @ \$1,600.00)	\$ 40,000.00
5) Drop Inlets (2 @ \$1,500.00)	\$ 3,000.00
6) Flared End Sections (10 @ \$400.00)	\$ 4,000.00
7) 2-10'x12' Box Culverts	\$ 315,142.00
8) 1- 7'x7' Box Culvert	\$ 63,622.00
SUBTOTAL:C-2	\$ 1,902,264
3. BASE AND PAVING:	
a. AGGREGATE BASE (59,500 Ton @ \$15.00/ Ton)	\$ 892,500.00
b. ASPHALT PAVING:	
Surface (6,500 Ton @ \$43.50/ Ton)	\$ 282,750.00
Binder (10,500 Ton @ \$40.00/ Ton)	\$ 420,000.00
Base (16,500 Ton @ \$36.00/ Ton)	\$ 594,000.00
SUBTOTAL: C-3.b	\$ 1,296,750
c. CONCRETE MEDIAN (1,000 sy @ \$30.00/sy)	\$ 30,000.00
d. APPROACH SLABS (2,350 sy @ \$225.00/sy)	\$ 528,750.00
d. OTHER (Bituminous Tack: 15,000 Gal @ \$1.00/ Gal)	\$ 15,000.00
SUBTOTAL:C-3	\$ 2,763,000.00
4. LUMP ITEMS:	
a. CLEARING AND GRUBBING	\$ 500,000.00
b. LANDSCAPING	\$ 0.00
c. TRAFFIC CONTROL	\$ 100,000.00
SUBTOTAL:C-4	\$ 600,000.00

Project Number: MSL-0004-00(688) P.I. Number: 0004688

March 19, 2004

PROJECT COST	
4A. EROSION CONTROL	
a. PERMANENT	\$ 377,576.00
b. TEMPORARY	\$ 447,965.00
SUBTOTAL: C-4A	\$ 825,541.00
5. MISCELLANEOUS:	
a. LIGHTING ()	\$ 0.00
b. SIGNING (750 ft ² signing material @ \$12.00/ ft ²)	\$ 9,000.00
c. MARKING (60,000 ft @ \$0.25/ft and 30,000 ft @ \$0.15/ft)	\$ 19,500.00
d. SIGNALS (3 @ \$50,000.00 ea)	\$ 150,000.00
e. NEW SIGNALS (3 @ \$70,000.00 ea)	\$ 210,000.00
f. ADJUST SIGNALS (2 @ \$25,000.00 ea)	\$ 50,000.00
g. OVERHEAD SIGNING (6 sets of 2 strain poles @ \$20,000.00 ea)	\$ 120,000.00
h. GUARDRAIL - (5,000 ft @ \$25.00/ ft and 330 ft @ \$35.00/ ft)	\$ 136,550.00
i. ANCHORS- (Type 12:16 @ \$1,250.00 and Type 1:16 @ \$350.00)	\$ 25,600.00
j. SIDEWALK (0 yd ² @ \$20.00/ yd ²)	\$ 0.00
SUBTOTAL:C-5	\$ 720,650.00
6. SPECIAL FEATURES: NONE	
SUBTOTAL:C-6	\$ 0.00

ESTIMATE SUMMARY	
A. RIGHT-OF-WAY ()	\$ 3,501,798.00
B. REIMBURSABLE UTILITIES	\$ 100,000.00
C. CONSTRUCTION	
1. MAJOR STRUCTURES	\$ 5,674,600.00
2. GRADING AND DRAINAGE	\$ 1,902,264.00
3. BASE AND PAVING	\$ 2,763,000.00
4. LUMP ITEMS	\$ 600,000.00
4A. EROSION CONTROL	\$ 825,541.00
5. MISCELLANEOUS	\$ 720,650.00
6. SPECIAL FEATURES	\$ 0.00
SUBTOTAL CONSTRUCTION COST	\$ 12,486,055.00
E. & C. (10%)	\$ 1,248,605.00
INFLATION (5% PER YEAR)	\$ 1,407,803.00
NUMBER OF YEARS	2
TOTAL CONSTRUCTION COST	\$ 15,142,463.00
GRAND TOTAL PROJECT COST	\$ 18,744,261.00

This project is 100 percent (\$18,744,261.00) in congressional district 7.

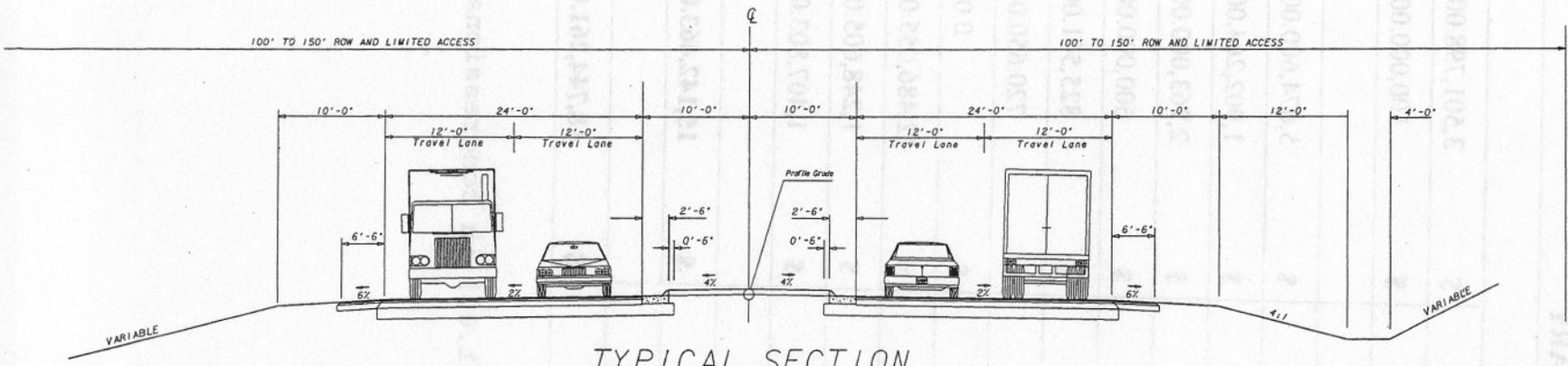
CL 2024
6884000 : Stationing
4005 : 01 : 00 : 00

Project Number: MSL-0004-00 (688)

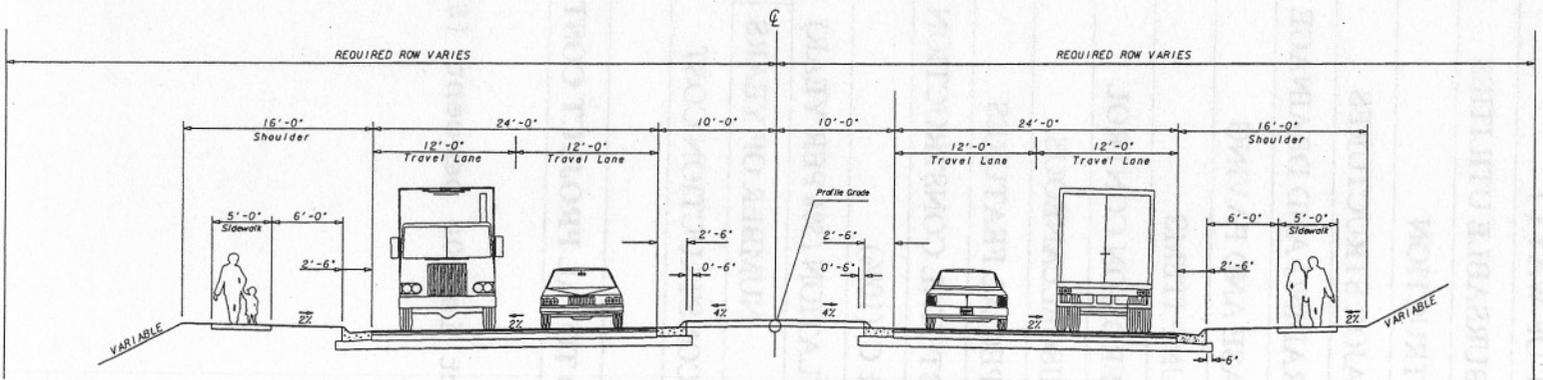
P. I. Number: 0004688

May 28, 2004

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TYPICAL SECTION
EAST HIRAM PARKWAY
SR 92 TO ROSEDALE LANE
NOT TO SCALE



TYPICAL SECTION
EAST HIRAM PARKWAY
ROSEDALE LANE TO US 278 / SR 6
NOT TO SCALE

Project Number: MSL-0004-00(688) P.I. Number: 0004688

May 28, 2004

Need and Purpose
Project MSL-0004-00(688)

PI# 0004688

ARC ID # PA 016

Paulding County

East Hiram Parkway from SR 92 to US 278

Background

The Atlanta Regional Commission (ARC) adopted the 2025 Transportation Plan for the 13-county Atlanta Metropolitan area in March 2000. The Plan addresses travel needs through the year 2025. The Regional Transportation Plan (RTP) is the direct result of a comprehensive, cooperative, and continuous planning process conducted by ARC, local governments and the Georgia Department of Transportation in cooperation with the Federal Highway and Federal Transit Administrations. The RTP recommends this proposed new location roadway on the east side of Hiram from SR 92 to US 278.

Design

The purpose of project MSL-0004-00(688) is to construct the East Hiram Parkway, which would begin on new location at the intersection of SR 92 and the proposed West Hiram Parkway and extend to US 278 between the Paulding County Line and Metromont Road in Hiram. The proposed project would tie into the West Hiram Parkway terminus at SR 92 (near the Catfish Den Restaurant) and extend eastward over Gray's Mill Creek, crossing Arnold Lane, Poole Road, Lula Circle, Angham Road, Rosedale Lane, and Clebourne Parkway.

This project is planned as a 4-lane divided limited access facility. Access from the proposed project would be provided at SR 92, Arnold Lane, Poole Road, Angham Road, Cleburne Parkway, and US 278. Major structures on the proposed project include constructing a bridge over Gray's Mill Creek, and Norfolk Southern Railroad. A bridge or culvert will be studied for the crossing of the GDOT Edna to Rockmart Rail Line (Silver Comet Trail).

There are two projects in the area that must be coordinated with the proposed East Hiram Parkway. The last phase of the West Hiram Parkway (PI# S000163) is identified in Georgia DOT's Construction Work Program (CWP) for construction in Fiscal Year (FY) 2003. The West Hiram Parkway is being completed in three phases. The first phase was constructed from US 278/SR 6 to just south of the Norfolk Southern Railroad, the second phase was constructed from just south of the railroad to Hiram-Sudie Road, and the third phase will terminate at SR 92 adjacent to the proposed East Hiram Parkway. The first and second phases of the West Hiram Parkway are open to traffic. The third phase was bid for construction in August 2003. The CWP also identifies a project (PI# 621720) to widen SR 92 from Nebo Road to SR 120 to 4-lanes with a 20-foot raised median with construction in FY 2009. The proposed East Hiram Parkway intersects SR 92 south of the limits of the SR 92 widening project and would have no impact on this project.

Travel Demand and Operational Characteristics

The existing 2002 traffic volumes on SR 92 south of US 278 range from 21,600 vehicles per day (vpd) to 25,000 vpd south of US 278/SR 6 and 19,500 vpd north of US 278. The current level of service (2002) during the peak hour on SR 92 is LOS E and F. The projected 2030 traffic volumes along SR 92 is expected

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to range from 19,000 vpd south of US 278/SR 6 to 39,000 vpd north of US 278/SR 6 with the construction of the proposed East Hiram Parkway. Under build conditions, the future level of service (2030) during the peak hour on SR 92 is projected to be LOS A and B south of SR 92. The proposed East Hiram Parkway would reduce traffic on SR 92 south of US 278/SR 6 by as much as 36 percent. The traffic volumes on SR 92 north of US 278/SR 6 in 2030 are projected to increase by 100 percent. However, with the identified widening project on SR 92 from Nebo Road to SR 120 (PI# 621720), this section of SR 92 north of US 278 will operate at a LOS C and D in 2030.

The existing 2002 traffic volumes on US 278 west of SR 92 is 38,700 vpd and east of SR 92 is 32,100 vpd. The current level of service (2002) during the peak hour on US 278 is LOS D. Under build conditions, projected 2030 traffic along US 278/SR 6 is expected to range from 64,000 vpd west of SR 92 to 62,000 vpd east of SR 92. Traffic volumes on US 278/SR 6 are projected to grow at a lower rate with the construction of the proposed West and East Hiram Parkway. However, it is projected that US 278/SR 6 will experience a 65 and 93 percent increase in traffic, west and east of SR 92, over a 27 year period. With no improvements, US 278/SR 6 will operate at an unacceptable LOS F in year 2030 and under build conditions US 278/SR 6 is projected to operate a LOS C and F east of SR 92 and LOS E and F west of SR 92.

Constructing the East Hiram Parkway would reduce traffic volumes on SR 92 and US 278. This project would improve capacity to an acceptable level and, in turn, would improve traffic operations by reducing vehicle delays and improving safety.

State Route 92 is a major connector between Douglasville and Cartersville, via US 41. Existing land use along this stretch of SR 92 is residential, agricultural and light commercial. State Route 92 is a two-lane facility and does not provide optimal passing opportunities, which causes vehicles to platoon. Presently, there are limited passing opportunities due to vertical and horizontal clearance, resulting in limited sight distance. The intersection of SR 92 and US 278 is extremely congested due to the large traffic volumes on both roadways. US 278/SR 6 is a major east-west connector between Atlanta and Alabama. The future land use along the proposed East Hiram Parkway is commercial adjacent to SR 92, residential between SR 92 and Angham Road, and a mix between Industrial and Commercial uses between Angham Road and US 278/SR 6.

Under build conditions, ^A Traffic is projected to be 23,000 vpd on the East Hiram Parkway and 21,000 vpd on the West Hiram Parkway in 2030. The future level of service (2030) on the East Hiram Parkway is projected to be LOS A and B and on the West Hiram Parkway LOS E.

State Route 92 and US 278/SR 6 are designated a STAA truck route and US 278/SR 6 is part of the National Highway System (NHS). The proposed East Hiram Parkway is not on a designated bicycle route.

Safety

The following table compares the sections of SR 92 and US 278 accident rate to the statewide average for a similarly classified facility. For analysis purposes, each roadway section is divided into traffic count stations reflecting functional classifications. The 1995, 1996 and 1997 accident rates along SR 92 in Paulding County were above the statewide average for a road of this type (Rural Minor Arterial). During the same period, the accident rates for US 278 exceeded the statewide average for a road of this type (Rural Principal Arterial) in year 1995 and 1996.

SR 92, Paulding County – Rural Minor Arterial, TC 172, 174, and 176

	1995	1996	1997	2001
Total Accidents	53	54	73	33
Accidents Per 100 MVMT	297	299	381	135
Statewide Accidents Per 100 MVMT	200	224	210	190

US 278, Paulding County – Rural Principal Arterial, TC 125 and 127

	1995	1996	1997	2001
Total Accidents	56	46	41	49
Accidents Per 100 MVMT	226	162	133	117
Statewide Accidents Per 100 MVMT	140	144	166	158

The above accident analysis indicates SR 92 and US 278, on average, experiences accidents at a rate exceeding the statewide average for similarly classified facilities. Terrain and development may likely be contributors to the route's accident ratio. Both facilities are characterized by rolling terrain. Over a 4-year period (1995-1997, 2001), there were a total of 52 reported crashes at the intersection of US 278/SR6 and SR 92. The predominant type of crash at this intersection during this time period were classified "rear end" (54 percent) and "angle intersect" (42 percent). The proposed East Hiram Parkway would divert traffic from the US 278/SR 6 and SR 92 intersection and in turn may improve safety at this intersection.

Community Issues

Paulding County is part of the Atlanta metropolitan area and the residential areas are growing rapidly. The 2000 population for Paulding County was 81,678 and from 1990 to 2000 the county experienced a 96 percent increase in population. In 2000, 90 percent of Paulding County residents reported themselves as white, 7 percent reported being African-American and 2 percent Hispanic. The non-white population is dispersed throughout the county with the exception of one predominantly non-white residential area located along US 278 in the eastern portion of the county and one predominately non-white area in the northwest section of the county. Based on the 2000 Census data, it is anticipated that there would be no Environmental Justice (EJ) impacts associated with this proposed project.

3 Logical Termini

The East Hiram Parkway would function as a major route collecting and distributing trips within the Hiram area. The northern terminus of this project would tie into the 4-lane section of US 278 and the southern terminus would intersect with the 2-lane section of SR 92 and would tie into a 2-lane section of the West Hiram Parkway (PI # S000163). The completion of this roadway would provide a continuous section from east Paulding County and Cobb County to south Paulding and Douglas County/Douglasville. Future traffic projections suggest that the East Hiram Parkway does have independent utility because protected traffic on the East Hiram Parkway is greater than the projected traffic on the West Hiram Bypass. Consequently, a large majority of the traffic is projected to access SR 92 and US 278/SR 6 via the West or East Hiram Parkway.

Need and Purpose

The need exists to provide local and through traffic with an improved travel way in the City of Hiram

reducing traffic on US 278/SR 6 and SR 92. SR 92 and US 278 are currently operating at an unacceptable level of service and will continue to worsen as Paulding County continues to develop. Without the proposed new location parkway, area roadways likely would continue to experience accident rates in excess of the statewide average. The purpose of the proposed improvement is to reduce traffic on US 278/SR 6 and SR 92 and in turn provide local and through traffic with a facility that would adequately serve current and future travel demand and provide the public with a safer driving environment. The proposed East Hiram Parkway would accomplish this by providing travel from east Paulding County and Cobb County to south Paulding and Douglas County/Douglasville to circumvent the congested sections of SR 92 in Hiram. Constructing the parkway would provide a safer environment for vehicles to operate, facilitate the movement of freight more efficiently, and improve traffic safety and operations in Hiram.

Year	1995	1996	1997	2001
Total Accidents	26	16	41	49
Accidents Per 100 MVT	226	152	132	117
Statewide Accidents Per 100 MVT	140	144	166	138

The above accident analysis indicates SR 92 and US 278, on average, experience accidents at a rate exceeding the statewide average for similarly classified facilities. Terrain and development may likely be contributors to the route's accident rate. Both facilities are characterized by rolling terrain. Over a 4-year period (1995-1997, 2001), there were a total of 22 reported crashes at the intersection of US 278/SR 6 and SR 92. The predominant type of crash at this intersection during this time period were classified "rear end" (24 percent) and "angle intersect" (42 percent). The proposed East Hiram Parkway would divert traffic from the US 278/SR 6 and SR 92 intersection and in turn may improve safety at this intersection.

Community Issues

Paulding County is part of the Atlanta metropolitan area and the residential areas are growing rapidly. The 2000 population for Paulding County was 81,678 and from 1990 to 2000 the county experienced a 96 percent increase in population. In 2000, 90 percent of Paulding County residents reported themselves as white, 7 percent reported being African-American and 2 percent Hispanic. The non-white population is dispersed throughout the county with the exception of one predominantly non-white residential area located along US 278 in the eastern portion of the county and one predominantly non-white area in the northwest section of the county. Based on the 2000 Census data, it is anticipated that there would be no Environmental Justice (EJ) impacts associated with this proposed project.

Logical Termini

The East Hiram Parkway would function as a major route collecting and distributing trips within the Hiram area. The northern terminus of this project would tie into the 4-lane section of US 278 and the southern terminus would intersect with the 2-lane section of SR 92 and would tie into a 2-lane section of the West Hiram Parkway (PI # 2000163). The completion of this roadway would provide a continuous section from east Paulding County and Cobb County to south Paulding and Douglas County/Douglasville. Future traffic projections suggest that the East Hiram Parkway does have independent utility because projected traffic on the East Hiram Parkway is greater than the projected traffic on the West Hiram Bypass. Consequently, a large majority of the traffic is projected to access SR 92 and US 278/SR 6 via the West or East Hiram Parkway.

Need and Purpose

The need exists to provide local and through traffic with an improved travel way in the City of Hiram.

May 28, 2004

**INITIAL CONCEPT TEAM MEETING MINUTES
MSL-0004-00(688) PI#0004688**

SUBJECT: MSL-0004-00(688) Paulding County
PI No. 0004688
East Hiram Parkway
Initial Concept Meeting
DWA # 03017-00

MEETING DATE: July 23, 2003

TODAY'S DATE: July 28, 2003

PREPARED BY: Mike Shoup, Day Wilburn Associates, Inc.

ATTENDEES: Blake Swafford, Director, Paulding County Department of Transportation
Don Clerici, Assistant Director, Paulding County Dept. of Transportation
Chuck Rann, Project Manager, Paulding County Public Works
Bruce Coyle, County Engineer, Paulding County Public Works
Ken Howard, Area Engineer, Georgia Department of Transportation
Rick Day, Day Wilburn and Associates
Jeff VanDyke, Day Wilburn and Associates
Mike Shoup, Day Wilburn and Associates
Steve Tiedemann, J.B. Trimble
Sam Powell, J.B. Trimble
Andy Pitman, Edwards-Pittman Environmental
David Adair, Edwards-Pittman Environmental
Scott Overbey, Norfolk Southern Corporation
Carlton Rakestaw, Carlton Rakestraw Associates

LOCATION: Paulding County Department of Transportation Office in Dallas, Georgia

DISCUSSION ITEMS:

Introduction

Jeff VanDyke led the introduction of attendees. The purpose of the initial concept meeting was discussed. Jeff VanDyke is the point of contact for this project.

Project Overview

- Meeting Attendees were given an aerial photograph of the project corridor with possible alignment alternatives. Jeff VanDyke cautioned all that the alignment alternatives are preliminary and for the Concept Phase of the Plan Development Process (PDP). They can be altered or changed during the process.
- Steve Tiedemann added that an additional alignment alternative into Cobb County will be studied. Steve also noted that the area around Alternative 3 is quickly developing.

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Project Schedule

The project schedule for the Concept Phase, leading to a December 2003 Concept Report deliverable, was discussed.

Project Issues

The following project issues were discussed:

- Existing Project Data – Michael Morris at Paulding County GIS is the contact for mapping and photography.
- Need and Purpose – Jeff VanDyke remarked that the Need and Purpose statement needs a few minor changes and conveyed the importance that all attendees read the Need and Purpose statement today and contact him with any questions or comments. Blake Swafford noted that the 2002 accident data is available for SR 92 and US 278.
- Planning Concept Modeling Data – Jeff VanDyke stated that we will use the same modeling data that was used for the GDOT Five County Study.
- Safety Concerns – Limited due to a new location
- Review Alternatives – Jeff VanDyke stated that after crossing Gray's Mill Creek, the alignment can have many different alternatives.
- Preliminary Traffic – Will be generated from GDOT Five County Study data
- Accident Data – Limited due to new location
- Staging and Traffic Control – Jeff VanDyke mentioned that staging details will be determined in the design phase of the project.
- Proposed Design Criteria – Jeff VanDyke described the proposed parkway to have 4 lanes with two median types (a 44' depressed grass median between SR 92 and Rosedale Lane and a 20' raised median from Rosedale Lane to SR 6/US 278). Steve Tiedemann stated that the proposed speed limit will be 45 mph. Steve Tiedemann also mentioned that he would like early notification of whether or not sleeves for possible future utilities were desired for the bridges.
- Access Control – The parkway is to be a limited access facility. Blake Swafford mentioned looking into requirements for setting median openings along the parkway.
- Public Concern – Blake Swafford stated that the public's general question on the project is the location of the alignment.
- Coordination with government agencies – The team has good relationships with other agencies. No problems are anticipated. The County is reviewing the LGPA.
- Design Database Requirements – Carlton Rakestraw is to provide Steve Tiedemann with tax maps and deeds. Michael Morris is the county contact for interactive tax maps on the web.
- Utilities – Steve Tiedemann inquired if water line along parkway is desired by the county. Chuck Rann stated that the water line is not a priority at this time. Scott Overbey stated that Norfolk Southern has fiber optic cable, and Carlton Rakestraw stated that MCI has fiber optic cable in the area of the site. There was some discussion of a possible Georgia Power line in the project area as well.
- Proximity of Railroads – Scott Overbey explained that he would prefer an overpass to span the Norfolk Southern line if room is allowed for a future additional track, and that the Norfolk Southern design standards are followed. Norfolk Southern would possibly contribute to a project that closes a railroad crossing. Scott also mentioned the importance of coordinating with Norfolk Southern for survey or site visits on Norfolk Southern property. DWA shall contact Norfolk Southern with bridge specifics as the design progresses.

- Existing Structures – Due to new location, existing structures are not anticipated to be a problem for this project.
- Environmental Concerns – Andy Pitman and David Adair gave the group an overview of their findings to date of the environmental and historical impacts caused by each of the alignment alternatives. They believe Alternative 1 will be very hard to implement because of historical properties south of Angham Road. They also mentioned that they may add or delete historical sites from their analysis to date as they continue their research, but will have a better idea of the impacts by the next meeting. Bridging over Gray’s Mill Creek will help reduce wetland impacts. Andy Pitman stated that the man-made ponds in the project area should not present much of a problem as far as environmental impact.
- Coordination with GDOT and Other Projects – This project does not conflict with any other known projects at this time.

Next Meeting

The next meeting for the team will be the Public Information Meeting. A tentative date for this meeting is September 18, 2003 at the Hiram Community Center.

ACTION ITEMS:

DWA

- Correct roads and road names on Study Area Map according to group discussion. Submit new copy to Paulding County DOT
- Brief GDOT Intermodal Office about impacts to GDOT Edna to Rockmart Rail Line/Silver Comet Trail. Also discuss bridging vs. culvert with Intermodal Office
- Submit meeting minutes
- Obtain updated mapping and photography from Paulding County GIS

Paulding County DOT

- Provide DWA with 2002 accident data

These meeting minutes reflect the notes and memory of Mike Shoup. If any additions, deletions, or corrections are necessary, please contact Mike Shoup at 404-249-7550 or mshoup@daywilburn.com. If no responses are received within five days, these meeting minutes will be considered final.

Name of Resource	Date of Construction	Type and/or Use	Location	National Register Recommendation
PA-1	late-twentieth century house and c. 1900 for New South Cottage type house with later modern church complex	994 Pool Road	Not Eligible	

March 19, 2004



Memorandum

To: File

From: David J. Adair, Historian and Jeremy D. Hummel, Ecologist

Date: November 19, 2003

Subject: DWA0200, East Hiram Parkway, Paulding County
 GDOT Project MSL-0004-00(688); P.I. #0004688

In compliance with Section 106 of the National Historic Preservation Act of 1966 and amendments thereto, the area of potential effects for the East Hiram Parkway Project was surveyed for historic resources. The proposed project would begin on new location at SR 92 and West Hiram Parkway and extend to US 278 between County Line Road and Metromont Road in Hiram, Paulding County. The proposed project would tie into the West Hiram Parkway terminus at SR 92 near the Catfish Den Restaurant and extend eastward through Mill Creek crossing Arnold Lane, Poole Road, Angham Road, Cleburne Parkway and Rosedale Road. The proposed project is planned as a 4-lane divided limited-access facility. Access from the proposed facility would be provided at SR 92, Arnold Lane, Pool Road, Angham Road, Cleburne Parkway and US 278.

A total of eight (8) properties 50 years of age or older were identified within the proposed project's APE during the preliminary field survey. Each identified property was given a unique site identification number followed by the prefix PA, which represents Paulding County where the property is located. Three (3) of these eight properties appear to be clearly eligible for inclusion in the National Register of Historic Places based on the preliminary field survey. One of the eight properties has been identified as "Potentially Eligible" and will require further research to make a definitive National Register eligibility determination. The four remaining properties appear to be not eligible for inclusion in the National Register. The properties that appear to be National Register eligible are identified as Resources PA-2, PA-3 and PA-4.

The properties identified during the preliminary windshield survey and background research on the project corridor are as follows:

Name of Resource	Date of Construction	Type and/or Style	Location	National Register Recommendation
Resource PA-1	c. 1900 for house and late-twentieth century attached	New South Cottage type house with later modern church complex	994 Pool Road	Not Eligible

Name of Resource	Date of Construction	Type and/or Style	Location	National Register Recommendation
	church building			
Resource PA-2	c. 1901	3 historic houses and intact agricultural farm complex	400 and 516 Lula Circle and 1142 Cleburne Parkway	ELIGIBLE
Resource PA-3	Late-nineteenth to early-twentieth century	Norfolk-Southern Railroad	Curvilinear route on east-west alignment south of US 278 and Silver Comet Trail	ELIGIBLE
Resource PA-4	c. 1946	Hipped-Roofed Bungalow type	1565 Rosedale Drive	ELIGIBLE
Resource PA-5	c. 1906	Georgian Cottage type	Rosedale Drive	Not Eligible
Resource PA-6	c. 1886	Former Central-Hall w/additions and Farm Complex	1386 Rosedale Drive	Potentially Eligible
Resource PA-7	c. 1900	Saddlebag type	1653 Rosedale Drive	Not Eligible
Resource PA-8	c. 1886	Gabled-Ell Cottage type	188 Cleburne Parkway	Not Eligible

The project area was evaluated for potential ecological impacts on July 17, 2003 by biologists with Edwards-Pitman Environmental, Inc. The region incorporates a number of jurisdictional non-wetland waters of the U.S. including Mill Creek, Lick Log Creek, unnamed creek tributaries, and man-made pond basins. These bottomland riverine and lacustrine hydric systems represent a high probability of impacts to adjacent jurisdictional wetland habitat. It is anticipated that with the proposed bridging and coordinated efforts to minimize impacts at proposed stream crossings, the project could be authorized under a Nationwide Section 404 permit.

The U.S. Fish and Wildlife Service lists two federally protected species and one state protected species which have a distributional range including the project area. Comprehensive background research and field surveys will be necessary to determine the project effect upon the federally threatened bald eagle (*Haliaeetus leucocephalus*), Cherokee darter (*Etheostoma scotti*) and state threatened bay star-vine (*Schisandra glabra*).

March 19, 2004

Public Information Meeting Summary

Date: September 18, 2003

Time: 5 PM to 7 PM

Place: Hiram Community Center, Main Street, Hiram, Georgia

Number of Attendees: 114

Public Officials in Attendance: Jerry Shearin, Paulding County Commissioners Chairman
Hal Echols, Paulding County Commissioner Post III
Dewey Pendley, Mayor of Hiram
Pat Westbrook, Paulding County Administrator

Public Information Meeting Comments Summary

Support - The individual clearly stated that they support the project, even if they gave suggestions or has concerns with part of the project.

Non-Support - The individual clearly stated that they do not support the project at all.

Conditional Support - The individual may partially support the project, but will not pledge support for the project unless their suggestions are implemented.

Neutral - The individual did not state the status of their support and a position could not be determined from their comment.

Total Comments Received – 30

(Note Comment #2 and 22 are from the same person. #22 was not counted)

Support - 15 Comments or 50%

(Comments # 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 15, 18, 20, 21)

Non-Support – 5 Comments or 17%

(Comments # 1, 9, 23, 25, 28)

Conditional Support – 6 Comment or 20%

(Comment # 19, 24, 26, 27, 29, 30)

Neutral – 4 Comments or 13%

(Comments # 6, 12, 16, 17)

March 19, 2004

Public Information Meeting Comments Areas of Concern Summary

Alignment

- Two (2) people believe that Alternate 1 is the most practical choice. (9)
- Two (2) people give a proposed alignment that extends east into Cobb County and terminates at US 278. (24, 26)
- One (1) person believes Alternate 1 or 3 are the best choices of alignment. (5)
- One (1) person believes Alternate 2 or 3 is the best choice of alignment. (14)
- One (1) person thinks Alternate 2 is the best choice of alignments (12)
- One (1) person wants the alignment to come down Cleburne Parkway. (13)
- One (1) person believes the Parkway should go all the way around Hiram to accommodate future traffic. (15)
- One (1) person thinks the alignment should go through Bennett Road. (16)
- One (1) person thinks that the bypass would work better if the alignment connected to US 278 at a point further east. (27)

Property

- Six (6) people expressed concerned that their property will be affected or taken. (1, 19, 25, 27, 29, 30). It is noted that one of these comments (29) was from a family representing thirteen people and nine homes.
- Two (2) people believe the road should go through the historic property area because fewer houses will be affected. (23, 25)
- One (2) person is concerned that their business will be affected. (28, 31)

Traffic

- Six (6) people believe the project will help the current traffic on SR92 and/or the traffic in general. (4, 10, 11, 12, 15, 20)

Other Comments

- Two (2) people expressed concern that the parkway will add to existing drainage/flooding problems on their property, because of their proximity to the wetlands at the south end of the project. (6, 8)
- Two (2) people request a copy of the 11x17 aerial in the mail. (22, 27)
- One (1) person does not have enough information to formulate an opinion on the project. (17)
- One (1) person requests a copy of the GDOT ROW Acquisition Booklet. (27)
- One (1) person believes there needs to be an intersection at Morris Road and East Hiram Parkway. (14)
- One (1) person supports widening of SR 92. (28)
- One (1) person is concerned about the effects the project will have on wildlife. (27)

Project Number: MSL-0004-00(688) P.I. Number: 0004688

March 19, 2004

CONCEPT TEAM MEETING MINUTES
MSL-0004-00(688) PI#0004688

SUBJECT: MSL-0004-00(688) Paulding County
 PI No. 0004688
 East Hiram Parkway
 Concept Meeting
 DWA # 03017-00

MEETING DATE: November 20, 2003

TODAY'S DATE: November 24, 2003

PREPARED BY: Mike Shoup, Day Wilburn Associates, Inc.

ATTENDEES: Blake Swafford, Director, Paulding County Department of Transportation
 Don Clerici, Assistant Director, Paulding County Dept. of Transportation
 Erica Parish, Paulding County Department of Transportation
 Chuck Rann, Project Manager, Paulding County Public Works
 Chris Robinson, Paulding County Planning & Zoning
 Pat Westbrook, Paulding County Administration
 Bill Moskal, Georgia Department of Transportation - Road Design
 Stanley Hill, Georgia Department of Transportation - Road Design
 Beniquez A. Jones, Georgia Department of Transportation - Road Design
 Steve Carter, Georgia Dept of Transportation - Engineering Services
 Ron Wishon, Georgia Dept of Transportation - Engineering Services
 Sebastian O. Nesbitt, Georgia Dept of Transportation -Dist 6 Area 5 Const
 Jennifer Deems, Georgia Department of Transportation - Dist 6 Utilities
 Kerry Bonner, Georgia Department of Transportation - Dist 6 Utilities
 Tajsha LaShore, Georgia Department of Transportation - OEL
 Steve Yost, Georgia Dept of Transportation - Intermodal Rail Programs
 Jerry Milligan, Georgia Department of Transportation - Dist 6 Traffic Ops
 David Moore, Georgia Department of Transportation - Dist 6 Design
 Steve Sanders, Georgia Department of Transportation - Dist 6 ROW
 Rick Day, Day Wilburn and Associates
 Jeff VanDyke, Day Wilburn and Associates
 Mike Shoup, Day Wilburn and Associates
 Aric Mance, J.B. Trimble
 Andy Pitman, Edwards-Pitman Environmental
 Mike M^cGarr, Norfolk Southern Corporation
 George Churchill, Atlanta Gas Light
 Blake Pendley, Greystone Power

LOCATION: Paulding County Administration Building in Dallas, Georgia

March 19, 2004

DISCUSSION ITEMS:**Introduction/Meeting Purpose**

Jeff VanDyke and Blake Swafford led the meeting introduction. The purpose of the concept meeting was discussed, followed by an introduction of the attendees. Jeff noted that the GDOT Plan Development Process (PDP) was being followed for this project.

Project Overview

- Jeff VanDyke referred to aerial displays of the alternate alignments for East Hiram Parkway and gave a brief overview of the alternates. Jeff also discussed the selection of a more cost effective cross section, and noted that the East Hiram Parkway shall be limited access.
- Aric Mance discussed the design highlights of the preferred Alternate 3A, including bridgework, intersections, and the GDOT Edna to Rockmart Rail Line (Silver Comet Trail) culvert.
- It was decided that Day Wilburn will provide each GDOT office in attendance with a copy of the aerial illustrating the preferred alternate.
- Blake Swafford noted that West Hiram Parkway, currently under construction, is to open in the summer of 2005.

Funding Schedule

The funding schedule for the project was discussed.

Discussion Issues from the Plan Development Process (PDP)

The following project issues were discussed:

- Need and Purpose – Jeff VanDyke requested that all attendees read the Need and Purpose statement and contact Day Wilburn with any questions or comments. Bill Moskal noted that the SR 92 widening mentioned in the Need and Purpose is to be widened in 2009 instead of 2004. It was mentioned that there are some more projects in the vicinity of the East Hiram Parkway project. Day Wilburn is to review the GDOT Preconstruction Status Report for Paulding County. Steve Yost requested that in the concept report, the Silver Comet Trail be referred to as GDOT Edna to Rockmart rail line property.
- Location of Environmental Resources – Andy Pitman and Jeff VanDyke discussed environmental issues. Historical properties were a major issue and the preferred alternative avoided the potentially historic resources. Andy noted that the archaeological study could take place in the next phase along the preferred route. Jeff noted that hazardous waste and UST sites are going to be screened for by a subconsultant.
- Public Input – Jeff VanDyke reviewed the findings of the public comments summary attached to the draft concept report.
- Alternatives Considered – Jeff VanDyke reviewed the description of the alternates in the draft concept report. Steve Yost requested that the alternative description note railroad crossings and that the Norfolk Southern crossing was a grade separation.
- Design Guidelines – Jeff VanDyke stated that the AASHTO Green Book, Roadside Design Guide, GDOT Standards, GDOT Policies, and GDOT Specifications would be used for design.
- Horizontal and Vertical Alignments – The horizontal and vertical speed design for the project is 45 mph in accordance with the Green Book. Bill Moskal noted that GDOT may desire a 24' wide median. Bill also noted that 6 ½' paved shoulders should be used to accommodate bicycles and a rumble strip. Bill also felt the bridge medians should be kept at full width. DWA and JBT should

schedule a follow up meeting with Paul Liles of GDOT to discuss the bridge medians. Bill mentioned that SR 92 should possibly be widened as part of this project to meet the future GDOT project. Jeff noted that the East Hiram Parkway funding issues would be a problem for additional work on SR 92. A question was raised on whether decel lanes were going to be included at each intersection. Jeff VanDyke stated that this will be determined after the traffic study is completed. Ron Wishon noted that GDOT's policies required deceleration lanes at all side roads. DWA is to confirm that the maximum super-elevation rate of 4% is appropriate for the project.

- Typical Sections – Bill Moskal noted that if curb and gutter is used on the project, there must be sidewalks. GDOT currently prefers a 16' shoulder with curb and gutter. This needs to be confirmed during the design phase as the need for curb and gutter section becomes apparent. The design phase also needs to confirm all ADA requirements are met when using sidewalk. It was noted that 6:1 slopes may need to be considered for use as a means to reduce the clear zone. The clear zone requirements should be reviewed and confirmed during the design phase.
- Access Control – Jeff VanDyke reiterated that the proposed facility will be limited access. After group discussion, it was noted that limited access might not be appropriate as the roadway approaches US 278.
- Practical Alternative Report (PAR) – Andy Pitman discussed that a PAR will probably be necessary for the project.
- Type of environmental document required and environmental permits/studies required – A FONSI document is anticipated. A nationwide permit will be sought, but an individual permit may be required due to the wetland impacts. Andy Pittman estimated a time of 18 months to complete the Environmental Assessment document.
- Status of Local Government Project Agreement (LGPA) – Blake Swafford stated that the LGPA has been executed by the County and should be on the way to GDOT soon.
- Right of Way Requirements – Jeff VanDyke led a review of the ROW cost estimate and relocations as shown in the draft concept report.
- Utilities – Blake Pendley stated that Greystone is the primary electrical provider in the area until the project nears US 278. Relocations will not be known are received. Kerry Bolilier from GDOT utilities stated that normal utility permits will be required if utility companies desire to tie-in to any existing utilities at SR 92 or US 278.
- Railroads – Jeff VanDyke stated that the active Norfolk Southern line will be bridged in accordance with Norfolk's guidelines. Jeff VanDyke started a discussion about bridging the GDOT Edna to Rockmart Rail Line (Silver Comet Trail). The cost of bridging the GDOT line was prohibitive due to funding restrictions and the preferred alternative is to place the Silver Comet Trail in a culvert. Steve Yost stated that DOT Intermodal Office prefers that the GDOT Edna to Rockmart Rail Line (Silver Comet Trail) be bridged by the East Hiram Parkway with a width that can accommodate two railroad lines and an access road. In addition, Steve commented that the 10'x10' proposed box culvert seems small. DWA is to look into the box culvert issue. It was agreed that the next step for Paulding County is to write a letter to the GDOT District Engineer and copy GDOT Intermodal to start the process for building in the Edna to Rockmart Rail Line clearance envelope. Steve also inquired whether Norfolk Southern Railroad will consider making the crossing at their rail line at-grade. Mike McGarr of Norfolk Southern Railroad said an at-grade crossing would probably not be an option.
- Existing Bridges – There are no existing bridges along the project, since it is new location.
- Proposed Bridges and other structures – The main bridges are the bridge over Gray's Mill Creek, bridge over Norfolk Southern Railroad, and culvert for the Silver Comet trail as discussed earlier.

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- Accident History – There is no existing accident data for the East Hiram Parkway, since it is a new facility. It was noted that the accident rates along SR 92 and US 278 are discussed in the Need and Purpose.
- Potential Soil Conditions – Aric Mance stated that the project will require a large amount of borrow material and the current profile does not have any large cuts. No unusual soil conditions are anticipated, but unsuitable material is to be expected around the Gray's Mill Creek. Blake Swafford stated that contractor will be providing the borrow material.
- Construction Limits – Jeff VanDyke repeated the ROW width to give everyone an idea of the construction limits.
- Maintenance of Traffic during construction – Since the project is new location, maintenance of traffic during construction should not be a major concern. Some local detouring may be expected due to side road construction.
- Existing Maintenance Issues – There are no maintenance issues along the project, since it is new location.
- Constructability – No constructability issues are anticipated. Ron Wishon inquired if there was a lake near the project beginning as illustrated on the aerial display. Jeff VanDyke stated that it isn't believed to be a lake, but it will be investigated as the design progresses.
- Construction Cost Estimates – Jeff VanDyke did an overview of the construction cost estimate. Blake Swafford stated that no additional funds are anticipated to be received from GDOT, although funds may be shifted between project phases.
- Coordination with government agencies such as GDOT, FHWA, FTA, and GRTA – Coordination with these agencies is expected throughout the project life.
- Coordination with other GDOT and local projects – This project does not conflict with any other known projects at this time. DWA was furnished with an updated GDOT project list for review.

Additional Discussions or Questions

The following topics were discussed:

- Ron Wishon noted that the Soil Survey will be due by the PFPR.
- Bill Moskal requested that the Lula Road intersection with Angham Road just east of the proposed East Hiram Parkway be reviewed, due to its proximity to East Hiram Parkway. This location could be an issue if the land was ever developed.

Comment Deadline

Jeff VanDyke requested that attendees make their comments on the draft concept report to DWA by early next week.

ACTION ITEMS:

DWA / JBT

- Provide each GDOT office in attendance with a copy of the aerial illustrating the preferred alternate.
- Review the GDOT Preconstruction Status Report for Paulding County
- Make requested modifications to the concept report.
- Meet with JBT and Paul Liles of GDOT to discuss bridge medians.
- Confirm clear zone requirements.

- Confirm shoulder dimensions behind curb and gutter considering sidewalk and ADA requirements.
- Confirm what maximum super-elevation rate is appropriate.
- Confirm the box culvert size for the GDOT Edna to Rockmart Rail Line (Silver Comet Trail).
- Review Lula Road / Angham Road intersection.
- Submit meeting minutes

These meeting minutes reflect the notes and memory of Mike Shoup. If any additions, deletions, or corrections are necessary, please contact Mike Shoup at 404-249-7550 or mshoup@daywilburn.com. If no responses are received within five days, these meeting minutes will be considered final.

ACTION ITEMS:

- Confirm clear zone requirements.
- Meet with JBT and Paul Lies of GDOT to discuss bridge medians.
- Make requested modifications to the concept report.
- Review the GDOT Reconstruction Status Report for Parkland County.
- Provide each GDOT office in attendance with a copy of the aerial illustrating the preferred alternative.

DWA \JBT

Comment Headline
 JBT requested that attendees make their comments on the draft concept report to DWA by early next week.

- Ron Wilson noted that the Soil Survey will be due by the PRR.
 - Bill Moskal requested that the Lula Road intersection with Angham Road just east of the proposed East Pham Parkway be reviewed, due to its proximity to East Pham Parkway. This location could be an issue if the land was ever developed.
- Additional Discussions or Questions
 The following topics were discussed:

- Known projects at this time. DWA was furnished with an updated GDOT project list for review.
- Coordination with other GDOT and local projects - This project does not conflict with any other with these agencies is expected throughout the project life.
- Coordination with government agencies such as GDOT, FHWA, FTA, and GRTA - Coordination funds may be shifted between project phases.
- Blake Swafford stated that no additional funds are anticipated to be received from GDOT, although Construction Cost Estimates - JBT and Vandyke did an overview of the construction cost estimates.
- Construction Cost Estimates - JBT and Vandyke did an overview of the construction cost estimates. JBT and Vandyke stated that it isn't believed to be a lake, but it will be investigated as the design progresses.
- Construction near the project beginning as illustrated on the aerial display. JBT and Vandyke stated that it isn't take near the project beginning as illustrated on the aerial display. Ron Wilson inquired if there was a location.
- Existing Maintenance Issues - There are no maintenance issues along the project, since it is new due to side road construction.

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East Hiram Parkway Alternative Evaluation Matrix

Evaluation Criteria	Alternate 2	Alternate 2A	Alternate 3	Alternate 3A
Begin/end locations	SR 92 to US 278 via Metromont Road	SR 92 to US 278 via Metromont Road	SR 92 to US 278 via Clebourne Parkway	SR 92 to US 278 via Clebourne Parkway
Design Characteristics	45 MPH speed design; 4 lane divided roadway; 1 bridge over Grays Mill Creek; 1 bridge over Norfolk Southern railroad and Silver Comet Trail	45 MPH speed design; 4 lane divided roadway; 1 bridge over Grays Mill Creek; 1 bridge over Norfolk Southern railroad; Silver Comet in culvert under EHP	45 MPH speed design; 4 lane divided roadway; 1 bridge over Grays Mill Creek; 1 bridge over Norfolk Southern railroad and 1 bridge over Silver Comet Trail	45 MPH speed design; 4 lane divided roadway; 1 bridge over Grays Mill Creek; 1 bridge over Norfolk Southern railroad; Silver Comet in culvert under EHP
Typical Section	2-12' lanes each direction; 20' raised median on roadway with 12' reduced width median on bridges; 10' rural shoulders	2-12' lanes each direction; 20' raised median on roadway with 12' reduced width median on bridges; 10' rural shoulders	2-12' lanes each direction; 20' raised median on roadway with 12' reduced width median on bridges; 10' rural shoulders	2-12' lanes each direction; 20' raised median on roadway with 12' reduced width median on bridges; 10' rural shoulders
Right of way width	Varies 200' - 300'	Varies 200' - 300'	Varies 200' - 300'	Varies 200' - 300'
Project length	2.65 miles	2.65 miles	2.68 miles	2.68 miles
Wetland Impacts	Yes; size unknown	Yes; size unknown	Yes; size unknown	Yes; size unknown
Historic properties impacted	None	None	None	None
Total number of parcels impacted	43	43	32	31
Number of residential parcels impacted	22	22	18	18
Number of commercial parcels impacted	21	21	14	13
Number of residential structures taken	7	7	6	6
Number of commercial structures taken	1	1	6	1
Number of residential total takes	4	4	4	4
Number of commercial total takes	0	0	2	1
Total right of way cost	\$3,896,303	\$3,896,303	\$4,810,133	\$3,501,798
Total construction cost	\$17,166,827	\$15,845,067	\$15,638,770	\$13,734,065
Total Project Cost	\$21,063,130	\$19,741,370	\$20,448,903	\$17,235,863
NOTE:				
1. Alternate 3A is the Preferred Alternate.				
2. Alternate 1 was eliminated due to impacts to potentially eligible historic properties.				
3. Alternate 4 was eliminated due to impacts to potentially eligible historic properties and impacts to new subdivision near northern terminus.				

Alternate 2 Right of Way Cost Estimate						
Parcel No.	Commercial or Residential	Right of Way Area (SF)	\$/SF	Right of Way Cost	Structure Cost	Total Cost
1	C	180,000	\$2.30	\$414,000.00	\$0	\$414,000.00
2	R	126,000	\$0.57	\$71,820.00	\$0	\$71,820.00
3	R	126,000	\$0.57	\$71,820.00	\$0	\$71,820.00
4	R	250,000	\$0.57	\$142,500.00	\$0	\$142,500.00
5	R	90,000	\$0.57	\$51,300.00	\$0	\$51,300.00
6	R	66,000	\$0.57	\$37,620.00	\$0	\$37,620.00
7	R	300	\$0.57	\$171.00	\$0	\$171.00
8	R-Total Take	297,500	\$0.57	\$169,575.00	\$56,000	\$225,575.00
9	C	3,150	\$2.30	\$7,245.00	\$0	\$7,245.00
10	C	29,900	\$2.30	\$68,770.00	\$0	\$68,770.00
11	R	165,700	\$0.57	\$94,449.00	\$0	\$94,449.00
12	R	210,000	\$0.57	\$119,700.00	\$0	\$119,700.00
13	R	4,200	\$0.57	\$2,394.00	\$0	\$2,394.00
14	R-Total Take	75,000	\$0.57	\$42,750.00	\$0	\$42,750.00
15-2	R	150,000	\$0.57	\$85,500.00	\$82,000	\$167,500.00
16	R	22,000	\$0.57	\$12,540.00	\$0	\$12,540.00
17	R	8,000	\$0.57	\$4,560.00	\$0	\$4,560.00
18	R	11,000	\$0.57	\$6,270.00	\$0	\$6,270.00
19	R	7,500	\$0.57	\$4,275.00	\$0	\$4,275.00
20	R	9,600	\$0.57	\$5,472.00	\$0	\$5,472.00
21	R	9,000	\$0.57	\$5,130.00	\$0	\$5,130.00
22	R	16,100	\$0.57	\$9,177.00	\$53,000	\$62,177.00
23	R-Total Take	189,000	\$0.57	\$107,730.00	\$129,000	\$236,730.00
24	R	51,100	\$0.57	\$29,127.00	\$0	\$29,127.00
25	C	46,400	\$2.30	\$106,720.00	\$44,000	\$150,720.00
26	C	28,000	\$2.30	\$64,400.00	\$0	\$64,400.00
27	C	73,060	\$2.30	\$168,038.00	\$0	\$168,038.00
28	C	49,400	\$2.30	\$113,620.00	\$0	\$113,620.00
29	C	151,800	\$2.30	\$349,140.00	\$21,000	\$370,140.00
30	C	1,050	\$2.30	\$2,415.00	\$0	\$2,415.00
31	C	48,000	\$2.30	\$110,400.00	\$0	\$110,400.00
32	C	44,400	\$2.30	\$102,120.00	\$50,000	\$152,120.00
33	C	20,000	\$2.30	\$46,000.00	\$0	\$46,000.00
34	C	9,000	\$2.30	\$20,700.00	\$0	\$20,700.00
35	C	22,200	\$2.30	\$51,060.00	\$0	\$51,060.00
36	C	12,000	\$2.30	\$27,600.00	\$0	\$27,600.00
37	C	12,000	\$2.30	\$27,600.00	\$0	\$27,600.00
38	C	6,600	\$2.30	\$15,180.00	\$0	\$15,180.00
39	C	27,000	\$2.30	\$62,100.00	\$0	\$62,100.00
40	C	24,000	\$2.30	\$55,200.00	\$0	\$55,200.00
41	C	133,200	\$2.30	\$306,360.00	\$0	\$306,360.00
42	C	56,000	\$2.30	\$128,800.00	\$0	\$128,800.00
59	R-Total Take	31,500	\$0.57	\$17,955.00	\$122,000	\$139,955.00
Total Right of Way Cost						\$3,896,303.00

Note: Residential structures are being acquired on commercial use property on parcels 25 and 29

Alternate 3 Right of Way Cost Estimate						
Parcel No.	Commercial or Residential	Right of Way Area (SF)	\$/SF	Right of Way Cost	Structure Cost	Total Cost
1	C	180,000	\$2.30	\$414,000.00	\$0	\$414,000.00
2	R	126,000	\$0.57	\$71,820.00	\$0	\$71,820.00
3	R	126,000	\$0.57	\$71,820.00	\$0	\$71,820.00
4	R	250,000	\$0.57	\$142,500.00	\$0	\$142,500.00
5	R	90,000	\$0.57	\$51,300.00	\$0	\$51,300.00
6	R	66,000	\$0.57	\$37,620.00	\$0	\$37,620.00
7	R	300	\$0.57	\$171.00	\$0	\$171.00
8	R-Total Take	297,500	\$0.57	\$169,575.00	\$56,000	\$225,575.00
9	C	3,150	\$2.30	\$7,245.00	\$0	\$7,245.00
10	C	29,900	\$2.30	\$68,770.00	\$0	\$68,770.00
11	R	165,700	\$0.57	\$94,449.00	\$0	\$94,449.00
12	R	210,000	\$0.57	\$119,700.00	\$0	\$119,700.00
13	R	4,200	\$0.57	\$2,394.00	\$0	\$2,394.00
14	R-Total Take	75,000	\$0.57	\$42,750.00	\$0	\$42,750.00
15-3	R	475,000	\$0.57	\$270,750.00	\$82,000	\$352,750.00
43	R-Total Take	3,500	\$0.57	\$1,995.00	\$0	\$1,995.00
45	R	92,000	\$0.57	\$52,440.00	\$106,000	\$158,440.00
46	R	7,200	\$0.57	\$4,104.00	\$53,000	\$57,104.00
47	R-Total Take	140,000	\$0.57	\$79,800.00	\$106,000	\$185,800.00
48	R	300,000	\$0.57	\$171,000.00	\$87,000	\$258,000.00
49	C	160,000	\$2.30	\$368,000.00	\$200,000	\$568,000.00
50	C-Total Take	67,500	\$2.30	\$155,250.00	\$0	\$155,250.00
51	C-Total Take	46,000	\$2.30	\$105,800.00	\$238,000	\$343,800.00
52	C	4,000	\$2.30	\$9,200.00	\$1,000,000	\$1,009,200.00
53	R	20,500	\$0.57	\$11,685.00	\$0	\$11,685.00
54	C	17,500	\$2.30	\$40,250.00	\$0	\$40,250.00
55	C	27,000	\$2.30	\$62,100.00	\$0	\$62,100.00
56	C	53,400	\$2.30	\$122,820.00	\$0	\$122,820.00
57	C	30,000	\$2.30	\$69,000.00	\$0	\$69,000.00
58	C	7,500	\$2.30	\$17,250.00	\$0	\$17,250.00
60	R	9,000	\$2.30	\$20,700.00	\$0	\$20,700.00
61	C	11,250	\$2.30	\$25,875.00	\$0	\$25,875.00
Total Right of Way Cost						\$4,810,133.00
Note: 1. Parcel 52 includes acquisition of 4 commercial structures that will be denied truck access with this alternative.						
2. Acquisition estimate for parcel 49 includes relocation of existing concrete plant that is not shown on aerial concept. Plant is to be relocated within the parcel.						

Alternate 3A Right of Way Cost Estimate						
Parcel No.	Commercial or Residential	Right of Way Area (SF)	\$/SF	Right of Way Cost	Structure Cost	Total Cost
1	C	180,000	\$2.30	\$414,000.00	\$0	\$414,000.00
2	R	126,000	\$0.57	\$71,820.00	\$0	\$71,820.00
3	R	126,000	\$0.57	\$71,820.00	\$0	\$71,820.00
4	R	250,000	\$0.57	\$142,500.00	\$0	\$142,500.00
5	R	90,000	\$0.57	\$51,300.00	\$0	\$51,300.00
6	R	66,000	\$0.57	\$37,620.00	\$0	\$37,620.00
7	R	300	\$0.57	\$171.00	\$0	\$171.00
8	R-Total Take	297,500	\$0.57	\$169,575.00	\$56,000	\$225,575.00
9	C	3,150	\$2.30	\$7,245.00	\$0	\$7,245.00
10	C	29,900	\$2.30	\$68,770.00	\$0	\$68,770.00
11	R	165,700	\$0.57	\$94,449.00	\$0	\$94,449.00
12	R	210,000	\$0.57	\$119,700.00	\$0	\$119,700.00
13	R	4,200	\$0.57	\$2,394.00	\$0	\$2,394.00
14	R-Total Take	75,000	\$0.57	\$42,750.00	\$0	\$42,750.00
15-3	R	475,000	\$0.57	\$270,750.00	\$82,000	\$352,750.00
43	R-Total Take	3,500	\$0.57	\$1,995.00	\$0	\$1,995.00
45	R	92,000	\$0.57	\$52,440.00	\$106,000	\$158,440.00
46	R	7,200	\$0.57	\$4,104.00	\$53,000	\$57,104.00
47	R-Total Take	140,000	\$0.57	\$79,800.00	\$106,000	\$185,800.00
48	R	300,000	\$0.57	\$171,000.00	\$87,000	\$258,000.00
49	C	160,000	\$2.30	\$368,000.00	\$200,000	\$568,000.00
50	C-Total Take	67,500	\$2.30	\$155,250.00	\$0	\$155,250.00
52	C	4,000	\$2.30	\$9,200.00	\$0	\$9,200.00
53	C	20,500	\$2.30	\$47,150.00	\$0	\$47,150.00
54	C	17,500	\$2.30	\$40,250.00	\$0	\$40,250.00
55	C	27,000	\$2.30	\$62,100.00	\$0	\$62,100.00
56	C	53,400	\$2.30	\$122,820.00	\$0	\$122,820.00
57	C	30,000	\$2.30	\$69,000.00	\$0	\$69,000.00
58	C	7,500	\$2.30	\$17,250.00	\$0	\$17,250.00
60	R	9,000	\$2.30	\$20,700.00	\$0	\$20,700.00
61	C	11,250	\$2.30	\$25,875.00	\$0	\$25,875.00
Total Right of Way Cost						\$3,501,798.00
Note: 1. Acquisition estimate for parcel 49 includes relocation of existing concrete plant that is not shown on aerial concept. Plant is to be relocated within the parcel.						

Alternate 2 Construction Cost Estimate

Pay Item	Quantity		Unit Cost	Total Cost
Paving Items				
12.5 mm Superpave	6,200	TN	\$ 43.50	\$ 269,700
19 mm Superpave	10,100	TN	\$ 40.00	\$ 404,000
25 mm Superpave	16,000	TN	\$ 36.00	\$ 576,000
Tack Coat	14,000	GL	\$ 1.00	\$ 14,000
Approach Slabs	2,450	SY	\$ 225.00	\$ 551,250
Agg Base Course	57,750	TN	\$ 15.00	\$ 866,250
Type 2 C&G	5,000	LF	\$ 10.00	\$ 50,000
Type 7 C&G	25,300	LF	\$ 10.00	\$ 253,000
Concrete Median	1,000	SY	\$ 30.00	\$ 30,000
Total				\$ 3,014,200
Earthwork				
Embankment	457,000	CY	\$ 6.00	\$ 2,742,000
Total				\$ 2,742,000
Major Structures				
Bridge #1	over Grays Mill Creek 67,200	SQ FT	\$ 65.00	\$ 4,368,000
Bridge #2	over Norfolk Southern 27,720	SQ FT	\$ 65.00	\$ 1,801,800
Bridge #3	over Silver Comet 18,840	SQ FT	\$ 65.00	\$ 1,224,600
Culvert #1	10'x12' 1	LS		\$ 157,571
Culvert #2	10'x12' 1	LS		\$ 157,571
Culvert #3	7'x7' 1	LS		\$ 63,622
Culvert #4	8'x8' 1	LS		\$ 83,692
Total				\$ 7,856,856
Lump Items				
Traffic Control	Lump	LS	\$ 100,000.00	\$ 100,000
Clearing & Grubbing	Lump	LS	\$ 500,000.00	\$ 500,000
Grassing	Lump	LS	\$ 75,000.00	\$ 75,000
Erosion Control	Lump	LS	\$ 750,000.00	\$ 750,000
Total				\$ 1,425,000
Drainage & Miscellaneous				
Drainage				
Catch Basins	25	EA	\$ 1,600.00	\$ 40,000
Drop Inlets	2	EA	\$ 1,500.00	\$ 3,000
18" Storm Drain	500	LF	\$ 30.00	\$ 15,000
24" Storm Drain	300	LF	\$ 35.00	\$ 10,500
Flared End Sections	10	EA	\$ 400.00	\$ 4,000
Total				\$ 72,500
Signing				
5" Yellow	30,000	LF	\$ 0.25	\$ 7,500
5" White	30,000	LF	\$ 0.25	\$ 7,500
5" Skip White	30,000	GLF	\$ 0.15	\$ 4,500
Highway Signs	750	SF	\$ 12.00	\$ 9,000
New Signals	3	EA	\$ 70,000.00	\$ 210,000
Adjust Signals	2	EA	\$ 25,000.00	\$ 50,000
Overhead signing (2 strain poles per set)	6	EA	\$ 20,000.00	\$ 120,000
Total				\$ 408,500
Guardrail				
Type T	330	LF	\$ 35.00	\$ 11,550
Type W	5,000	LF	\$ 10.00	\$ 50,000
Type 12 Anchors	16	EA	\$ 1,250.00	\$ 20,000
Type 1 Anchors	16	EA	\$ 350.00	\$ 5,600
Total				\$ 87,150
Project Subtotal				\$ 15,606,206
E&C (10%)				\$ 1,560,621
Project Total				\$ 17,166,827

Alternate 2A Construction Cost Estimate

Pay Item	Quantity	Unit Cost	Total Cost
Paving Items			
12.5 mm Superpave	6,200	TN \$ 43.50	\$ 269,700
19 mm Superpave	10,100	TN \$ 40.00	\$ 404,000
25 mm Superpave	16,000	TN \$ 36.00	\$ 576,000
Tack Coat	14,000	GL \$ 1.00	\$ 14,000
Approach Slabs	2,450	SY \$ 225.00	\$ 551,250
Agg Base Course	57,750	TN \$ 15.00	\$ 866,250
Type 2 C&G	5,000	LF \$ 10.00	\$ 50,000
Type 7 C&G	25,300	LF \$ 10.00	\$ 253,000
Concrete Median	1,000	SY \$ 30.00	\$ 30,000
Total			\$ 3,014,200
Earthwork			
Embankment	425,000	CY \$ 6.00	\$ 2,550,000
Total			\$ 2,550,000
Major Structures			
Bridge #1	over Grays Mill Creek	67,200 SQ FT	\$ 4,368,000
Bridge #2	over Norfolk Southern	27,720 SQ FT	\$ 1,801,800
Culvert #1	10'x12'	1 LS	\$ 157,571
Culvert #2	10'x12'	1 LS	\$ 157,571
Culvert #3	7'x7'	1 LS	\$ 63,622
Culvert #4	8'x8'	1 LS	\$ 83,692
Culvert #5	10'x10' (Silver Comet)	1 LS	\$ 140,000
Total			\$ 6,772,256
Lump Items			
Traffic Control	Lump	LS \$ 100,000.00	\$ 100,000
Clearing & Grubbing	Lump	LS \$ 500,000.00	\$ 500,000
Grassing	Lump	LS \$ 75,000.00	\$ 75,000
Erosion Control	Lump	LS \$ 750,000.00	\$ 750,000
Total			\$ 1,425,000
Drainage & Miscellaneous			
Drainage			
Catch Basins	25	EA \$ 1,600.00	\$ 40,000
Drop Inlets	2	EA \$ 1,500.00	\$ 3,000
18" Storm Drain	500	LF \$ 30.00	\$ 15,000
24" Storm Drain	300	LF \$ 35.00	\$ 10,500
Flared End Sections	10	EA \$ 400.00	\$ 4,000
Total			\$ 72,500
Signing			
5" Yellow	30,000	LF \$ 0.25	\$ 7,500
5" White	30,000	LF \$ 0.25	\$ 7,500
5" Skip White	30,000	GLF \$ 0.15	\$ 4,500
Highway Signs	750	SF \$ 12.00	\$ 9,000
New Signals	3	EA \$ 70,000.00	\$ 210,000
Adjust Signals	2	EA \$ 25,000.00	\$ 50,000
Overhead signing (2 strain poles per set)	6	EA \$ 20,000.00	\$ 120,000
Total			\$ 408,500
Guardrail			
Type T	330	LF \$ 35.00	\$ 11,550
Type W	5,000	LF \$ 25.00	\$ 125,000
Type 12 Anchors	16	EA \$ 1,250.00	\$ 20,000
Type 1 Anchors	16	EA \$ 350.00	\$ 5,600
Total			\$ 162,150
Project Subtotal			\$ 14,404,606
E&C (10%)			\$ 1,440,461
Project Total			\$ 15,845,067

East Hiram Parkway Alternative Evaluation Matrix

Evaluation Criteria	Alternate 2	Alternate 2A	Alternate 3	Alternate 3A
Begin/end locations	SR 92 to US 278 via Metromont Road	SR 92 to US 278 via Metromont Road	SR 92 to US 278 via Clebourne Parkway	SR 92 to US 278 via Clebourne Parkway
Design Characteristics	45 MPH speed design; 4 lane divided roadway; 1 bridge over Grays Mill Creek; 1 bridge over Norfolk Southern railroad and Silver Comet Trail	45 MPH speed design; 4 lane divided roadway; 1 bridge over Grays Mill Creek; 1 bridge over Norfolk Southern railroad; Silver Comet in culvert under EHP	45 MPH speed design; 4 lane divided roadway; 1 bridge over Grays Mill Creek; 1 bridge over Norfolk Southern railroad and 1 bridge over Silver Comet Trail	45 MPH speed design; 4 lane divided roadway; 1 bridge over Grays Mill Creek; 1 bridge over Norfolk Southern railroad; Silver Comet in culvert under EHP
Typical Section	2-12' lanes each direction; 20' raised median on roadway with 12' reduced width median on bridges; 10' rural shoulders	2-12' lanes each direction; 20' raised median on roadway with 12' reduced width median on bridges; 10' rural shoulders	2-12' lanes each direction; 20' raised median on roadway with 12' reduced width median on bridges; 10' rural shoulders	2-12' lanes each direction; 20' raised median on roadway with 12' reduced width median on bridges; 10' rural shoulders
Right of way width	Varies 200' - 300'	Varies 200' - 300'	Varies 200' - 300'	Varies 200' - 300'
Project length	2.65 miles	2.65 miles	2.68 miles	2.68 miles
Wetland Impacts	Yes; size unknown	Yes; size unknown	Yes; size unknown	Yes; size unknown
Historic properties impacted	None	None	None	None
Total number of parcels impacted	43	43	32	31
Number of residential parcels impacted	22	22	18	18
Number of commercial parcels impacted	21	21	14	13
Number of residential structures taken	7	7	6	6
Number of commercial structures taken	1	1	6	1
Number of residential total takes	4	4	4	4
Number of commercial total takes	0	0	2	1
Total right of way cost	\$3,896,303	\$3,896,303	\$4,810,133	\$3,501,798
Total construction cost	\$17,166,827	\$15,845,067	\$15,638,770	\$13,734,660
Total Project Cost	\$21,063,130	\$19,741,370	\$20,448,903	\$17,236,458
NOTE:				
1. Alternate 3A is the Preferred Alternate.				
2. Alternate 1 was eliminated due to impacts to potentially eligible historic properties.				
3. Alternate 4 was eliminated due to impacts to potentially eligible historic properties and impacts to new subdivision near northern terminus.				

Alternate 3 Construction Cost Estimate

Pay Item	Quantity	Unit	Unit Cost	Total Cost
Paving Items				
12.5 mm Superpave	6,500	TN	\$ 43.50	\$ 282,750
19 mm Superpave	10,500	TN	\$ 40.00	\$ 420,000
25 mm Superpave	16,500	TN	\$ 36.00	\$ 594,000
Tack Coat	15,000	GL	\$ 1.00	\$ 15,000
Approach Slabs	2,350	SY	\$ 225.00	\$ 528,750
Agg Base Course	59,500	TN	\$ 15.00	\$ 892,500
Type 2 C&G	3,200	LF	\$ 10.00	\$ 32,000
Type 7 C&G	24,900	LF	\$ 10.00	\$ 249,000
Concrete Median	1,000	SY	\$ 30.00	\$ 30,000
Total				\$ 3,044,000
Earthwork				
Embankment	218,000	CY	\$ 6.00	\$ 1,308,000
Total				\$ 1,308,000
Major Structures				
Bridge #1	over Grays Mill Creek	67,200	SQ FT	\$ 65.00
Bridge #2	over Norfolk Southern	17,640	SQ FT	\$ 65.00
Bridge #3	over Silver Comet	17,640	SQ FT	\$ 65.00
Culvert #1	10'x12'	1	LS	\$ 157,571
Culvert #2	10'x12'	1	LS	\$ 157,571
Culvert #3	7'x7'	1	LS	\$ 63,622
Retaining Wall	25' x 500'	12,500	SF	\$ 38.00
Coping		500	LF	\$ 125.00
Select Backfill		4,630	CY	\$ 15.00
Total				\$ 7,646,914
Lump Items				
Traffic Control	Lump	LS	\$ 100,000.00	\$ 100,000
Clearing & Grubbing	Lump	LS	\$ 500,000.00	\$ 500,000
Grassing	Lump	LS	\$ 75,000.00	\$ 75,000
Erosion Control	Lump	LS	\$ 750,000.00	\$ 750,000
Total				\$ 1,425,000
Drainage & Miscellaneous				
Drainage				
Catch Basins	25	EA	\$ 1,600.00	\$ 40,000
Drop Inlets	2	EA	\$ 1,500.00	\$ 3,000
18" Storm Drain	500	LF	\$ 30.00	\$ 15,000
24" Storm Drain	300	LF	\$ 35.00	\$ 10,500
Flared End Sections	10	EA	\$ 400.00	\$ 4,000
Total				\$ 72,500
Signing				
5" Yellow	30,000	LF	\$ 0.25	\$ 7,500
5" White	30,000	LF	\$ 0.25	\$ 7,500
5" Skip White	30,000	GLF	\$ 0.15	\$ 4,500
Highway Signs	750	SF	\$ 12.00	\$ 9,000
Signals	3	EA	\$ 50,000.00	\$ 150,000
New Signals	3	EA	\$ 70,000.00	\$ 210,000
Adjust Signals	2	EA	\$ 25,000.00	\$ 50,000
Overhead signing	(2 strain poles per set)	6	\$ 20,000.00	\$ 120,000
Total				\$ 558,500
Guardrail				
Type T	330	LF	\$ 35.00	\$ 11,550
Type W	5,000	LF	\$ 25.00	\$ 125,000
Type 12 Anchors	16	EA	\$ 1,250.00	\$ 20,000
Type 1 Anchors	16	EA	\$ 350.00	\$ 5,600
Total				\$ 162,150
Project Subtotal				\$ 14,217,064
E&C (10%)				\$ 1,421,706
Project Total				\$ 15,638,770

Alternate 3A Construction Cost Estimate

Pay Item	Quantity		Unit Cost	Total Cost
Paving				
12.5 mm Superpave	6,500	TN	\$ 43.50	\$ 282,750
19 mm Superpave	10,500	TN	\$ 40.00	\$ 420,000
25 mm Superpave	16,500	TN	\$ 36.00	\$ 594,000
Tack Coat	15,000	GL	\$ 1.00	\$ 15,000
Approach Slabs	2,350	SY	\$ 225.00	\$ 528,750
Agg Base Course	59,500	TN	\$ 15.00	\$ 892,500
Type 2 C&G	3,200	LF	\$ 10.00	\$ 32,000
Type 7 C&G	24,900	LF	\$ 10.00	\$ 249,000
Concrete Median	1,000	SY	\$ 30.00	\$ 30,000
Total				\$ 3,044,000
Earthwork				
Embankment	195,000	CY	\$ 6.00	\$ 1,170,000
Total				\$ 1,170,000
Major Structures				
Bridge #1	67,200	SQ FT	\$ 65.00	\$ 4,368,000
Bridge #2	17,640	SQ FT	\$ 65.00	\$ 1,148,600
Culvert #1	1	10'x12' LS		\$ 157,571
Culvert #2	1	10'x12' LS		\$ 157,571
Culvert #3	1	7'x7' LS		\$ 63,622
Culvert #4	1	10'x10' (Silver Comet) LS		\$ 160,000
Total				\$ 6,053,364
Lump Items				
Traffic Control	Lump	LS	\$ 100,000.00	\$ 100,000
Clearing & Grubbing	Lump	LS	\$ 500,000.00	\$ 500,000
Total				\$ 600,000
Erosion Control (by staging)				
Permanent Erosion control				
Grassing	94	AC	\$ 800.00	\$ 75,200
Mulch	282	TN	\$ 220.00	\$ 62,040
Fertilizer	85	TN	\$ 240.00	\$ 20,400
Lime	188	TN	\$ 51.00	\$ 9,588
Liquid Lime	235	GAL	\$ 18.50	\$ 4,348
Riprap	3,000	SY	\$ 27.00	\$ 81,000
Concrete Ditch Paving	5,000	SY	\$ 25.00	\$ 125,000
Temporary Erosion control				
Temporary Grassing	47	AC	\$ 435.00	\$ 20,445
Mulch	141	TN	\$ 220.00	\$ 31,020
Silt Control Gates	10	EA	\$ 350.00	\$ 3,500
Erosion Control Check Dams/Ditch Checks	500	EA	\$ 250.00	\$ 125,000
Sediment Basins	22	EA	\$ 1,500.00	\$ 33,000
Silt Fence - Type A	45,000	LF	\$ 1.80	\$ 81,000
Silt Fence - Type C	45,000	LF	\$ 3.00	\$ 135,000
Baled Straw	10,000	LF	\$ 1.90	\$ 19,000
Total				\$ 825,541
Drainage & Miscellaneous				
Drainage				
Catch Basins	25	EA	\$ 1,600.00	\$ 40,000
Drop Inlets	2	EA	\$ 1,500.00	\$ 3,000
18" Storm Drain	500	LF	\$ 30.00	\$ 15,000
24" Storm Drain	300	LF	\$ 35.00	\$ 10,500
Flared End Sections	10	EA	\$ 400.00	\$ 4,000
Total				\$ 72,500
Signling				
5" Yellow	30,000	LF	\$ 0.25	\$ 7,500
5" White	30,000	LF	\$ 0.25	\$ 7,500
5" Skip White	30,000	GLF	\$ 0.15	\$ 4,500
Highway Signs	750	SF	\$ 12.00	\$ 9,000
Signals	3	EA	\$ 50,000.00	\$ 150,000
New Signals	3	EA	\$ 70,000.00	\$ 210,000
Adjust Signals	2	EA	\$ 25,000.00	\$ 50,000
Overhead signing (2 strain poles per set)	6	EA	\$ 20,000.00	\$ 120,000
Total				\$ 558,500
Guardrail				
Type T	330	LF	\$ 35.00	\$ 11,550
Type W	5,000	LF	\$ 25.00	\$ 125,000
Type 12 Anchors	16	EA	\$ 1,250.00	\$ 20,000
Type 1 Anchors	16	EA	\$ 350.00	\$ 5,600
Total				\$ 162,150
Project Total				\$ 12,486,055
E&C (10%)				\$ 1,248,605
Project Total				\$ 13,734,660

Bridge Cost Analysis

Bridge width = 84' Typical
 4 - 12' lanes; 12' raised median; 10' outside shoulders and 2' parapet (both sides)

Alternate 2

Bridge 1 - over Grays Mill Creek

Begin bridge sta 21+00

End bridge sta 29+00

Length =	800	LF		Cost=	Area x	\$/SF
Width =	84	LF		=	67200	65
Area=	67200	SF		=	\$4,368,000	

Bridge 2 - over Norfolk Southern Railroad and Rosedale Lane

Begin bridge sta 120+20

End bridge sta 123+50

Length =	330	LF		Cost=	Area x	\$/SF
Width =	84	LF		=	27720	65
Area=	27720	SF		=	\$1,801,800	

Bridge 3 - over Silver Comet

Begin bridge sta 126+40

End bridge sta 128+60

Length =	220	LF		Cost=	Area x	\$/SF
Width =	84	LF		=	18480	65
Area=	18480	SF		=	\$1,201,200	

Alternate 3

Bridge 1 - over Grays Mill Creek

Begin bridge sta 21+00

End bridge sta 29+00

Length =	800	LF	Cost=	Area x	\$/SF
Width =	84	LF	=	67200	65
Area=	67200	SF	=	\$4,368,000	

Bridge 2 - over Norfolk Southern Railroad

Begin bridge sta 114+50

End bridge sta 116+60

Length =	210	LF	Cost=	Area x	\$/SF
Width =	84	LF	=	27720	65
Area=	17640	SF	=	\$1,801,800	

Bridge 3 - over Silver Comet

Begin bridge sta 129+80

End bridge sta 131+90

Length =	210	LF	Cost=	Area x	\$/SF
Width =	84	LF	=	27720	65
Area=	17640	SF	=	\$1,801,800	

Prepared by:

DWA

Day Wilburn Associates, Inc.

1718 Peachtree Street NW, Suite 467

Atlanta, Georgia 30309

Phone: (404) 248-7550

Fax: (404) 248-7705

www.daywilburn.com

August 2004

Revised November 2, 2004

TECHNICAL MEMORANDUM

EAST HIRAM PARKWAY Corridor Analysis

MSL-0004-00(688) Paulding County P.I. NO. 0004688

Prepared for:
Paulding County
Department of Transportation



Prepared by:

DWA

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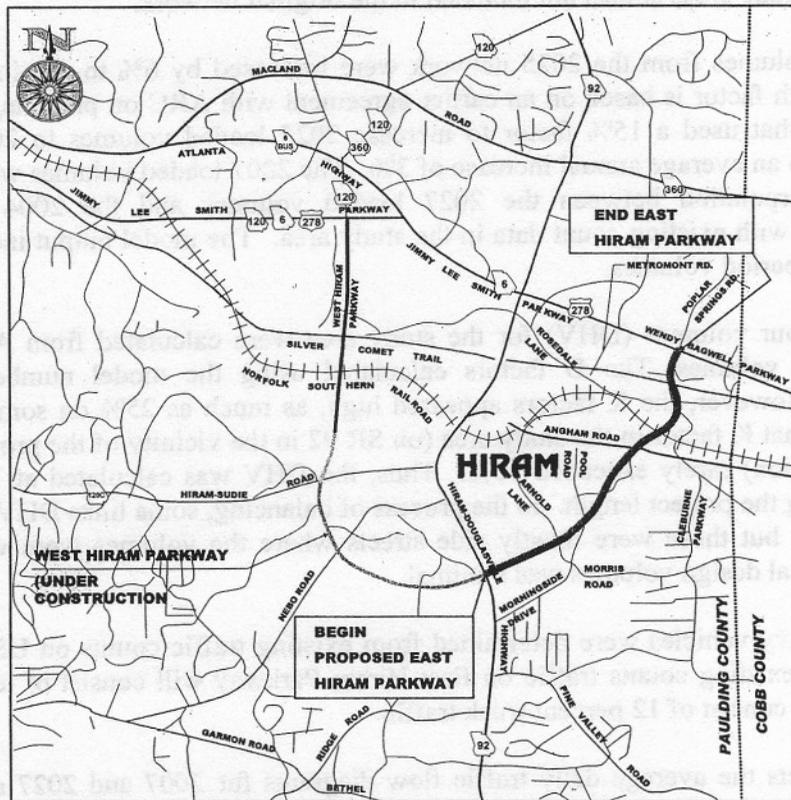
August 2004
Revised November 2, 2004



INTRODUCTION

Day Wilburn Associates, Inc. (DWA) has conducted an analysis of the future traffic conditions and transportation needs for the proposed East Hiram Parkway located in the City of Hiram, Paulding County, Georgia. The East Hiram Parkway is a proposed four-lane divided facility beginning on new location at the intersection of SR 92 and West Hiram Parkway and extending eastward approximately 2.7 miles to the intersection of US 278 at Poplar Springs Road. Figure 1 shows the proposed location of the East Hiram Parkway.

Figure 1
Location Map



The purpose of the proposed facility is to improve traffic conditions on US 278/SR 6 and SR 92; improve local and through traffic circulation by providing a facility that would adequately serve current and future travel demand, and provide the public with a safer driving environment.

This technical memorandum addresses the lane geometry requirements for the corridor based on design year (2027) forecasts for the proposed corridor. The Atlanta Regional Commission's



(ARC's) 2025 regional travel demand forecast model was used to develop 2007 and 2027 traffic projections along the corridor. These traffic projections were analyzed using the methodologies contained in the 2000 Highway Capacity Manual (HCM 2000). Based on the design year volumes and results of the capacity analysis recommendations the required lane geometry were developed. The following paragraphs summarize the results of the analysis.

TRAFFIC FORECASTS

Future year traffic for the East Hiram Parkway project was determined for the opening year 2007 and design year 2027, using the ARC travel demand model. The 2025 RTP Limited Update model, the current approved regional model, was the primary tool used. The 2025 model network contains both the West Hiram Parkway and the East Hiram Parkway. The network was updated to include cross streets not included in the original network.

The loaded volumes from the 2025 network were increased by 6% to obtain the 2027 values. The 6% growth factor is based on an earlier agreement with ARC on projects, in the vicinity of the corridor, that used a 15% factor to increase 2025 loaded volumes to 2030 values. This corresponds to an average annual increase of 3%. The 2007 loaded volumes were determined by a simple interpolation between the 2027 loaded volumes and the 2004 model volumes, supplemented with existing count data in the study area. The model output includes ADT, AM, and PM peak period volumes.

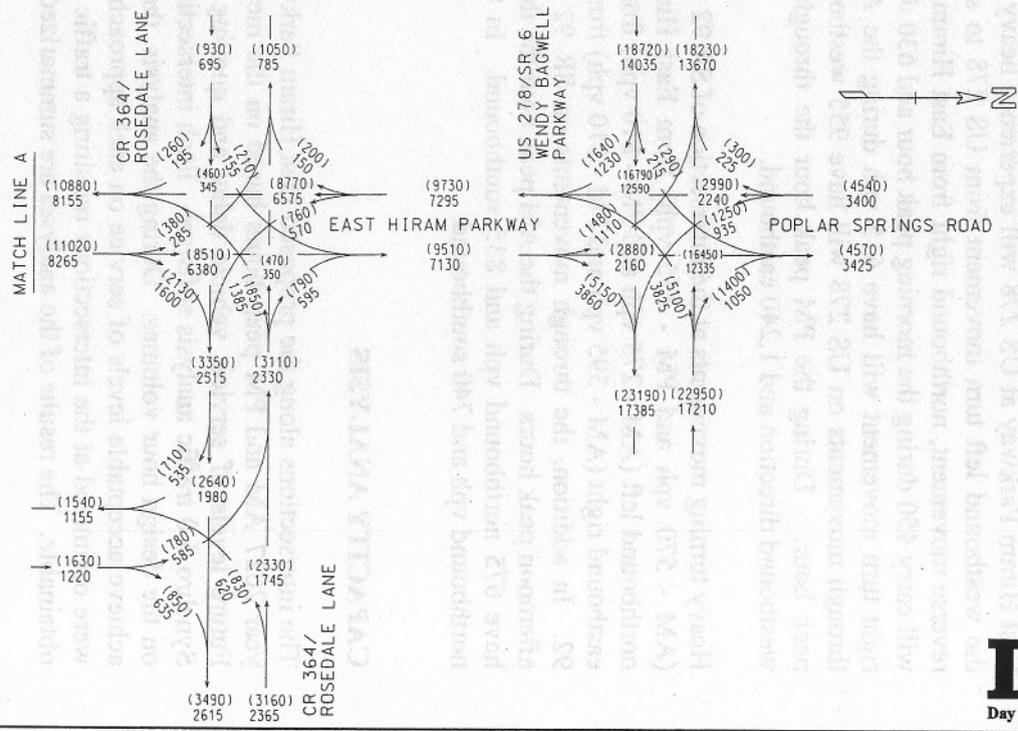
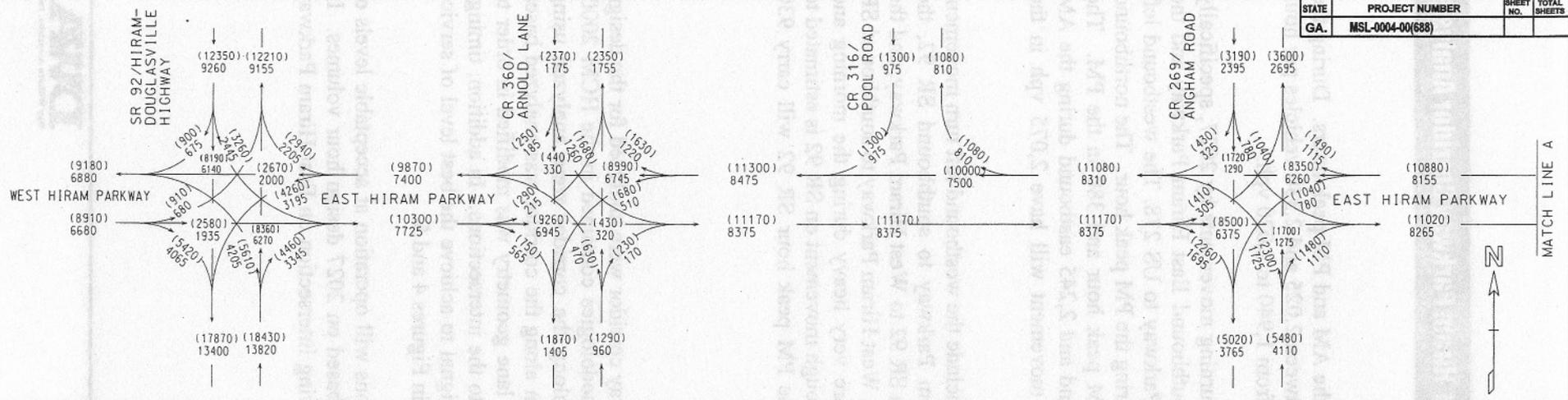
The design hour volumes (DHV) for the study area were calculated from AM and PM peak period model volumes. The D factors calculated using the model numbers were deemed reasonable. However, the K factors appeared high, as much as 25% on some links. Existing data showed that K factor in the study area (on SR 92 in the vicinity of the proposed East Hiram Parkway location) rarely exceeded 10%. Thus, the DHV was calculated at 10% of ADT and balanced along the project length. In the process of balancing, some links DHV were higher than 10% of ADT, but these were mostly side streets where the volumes were very low, and the impact on actual design volumes was minimal.

Percent of heavy vehicles were determined from existing traffic counts on US 278 and SR 92. Based on the existing counts traffic on East Hiram Parkway will consist of ten percent trucks. The DHV will consist of 12 percent truck traffic.

Figure 2 depicts the average daily traffic flow diagrams for 2007 and 2027 along East Hiram Parkway. As can be seen in Figure 2, East Hiram Parkway will have an ADT of 14,425 vehicles per day south of US 278 by 2007 (opening year) and over 19,000 vehicles per day by 2027 (design year). East of SR 92, East Hiram Parkway will carry over 15,000 vehicles per day in 2007 and 20,170 by 2027. West Hiram Parkway will carry 13,560 by 2007 and over 18,000 in 2027. SR 92 is estimated to have an ADT of 27,220 by 2007 and 36,300 in 2027. Traffic on US 278 will increase to an ADT of 34,595 in 2007 and to 46,140 by 2027.

08/10/2004 08:58:09 PM d:\w\p\0004\00\688\00\0002.dwg 2:17pm 11/08/2007 11:08:51 User: hiram Parkway Design\Company Analyst\1207_jdl

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	MSL-0004-00(688)		



24 HR T = 10%
 S.U. = 6%
 COMB. = 4%

MSL-0004-00(688)
 PAULDING COUNTY
 P.I. 0004688

FIGURE 2

EAST HIRAM PARKWAY
 JULY 21, 2004
 (2027 ADT)
 2007 ADT



SCALE: N.T.S.



East Hiram Parkway Corridor Analysis

Design hour volumes (2027) are shown in Figure 3 for the AM and PM peak hours. During the AM peak hour traffic on East Hiram Parkway ranges between 2,025 and 2,330 vehicles per hour (vph). In the PM peak hour future (2027) traffic ranges from 1,940 to 2,020 vph.

East Hiram Parkway at US 278 will experience heavy turning movements by 2027, specifically the westbound left turn movement from US 278 to southbound East Hiram Parkway and the reverse movement, northbound right from East Hiram Parkway to US 278. The westbound left will carry 450 during the morning peak hour and 630 during the PM peak hour. The northbound right turn movement will have 615 vph during the AM peak hour and 380 in the PM. The through movements on US 278 will have 955 westbound and 2,245 eastbound during the AM peak hour. During the PM peak hour the through movement will have 2,075 vph in the westbound direction and 1,240 eastbound.

Heavy turning movements at the intersection of SR 92 include the westbound left turn movement (AM - 570 vph and PM - 355 vph) from East Hiram Parkway to southbound SR 92, the northbound left (AM - 275 vph and PM - 810 vph) from SR 92 to West Hiram Parkway, and the eastbound right (AM - 395 vph and PM - 810 vph) from West Hiram Parkway to southbound SR 92. In addition, the through movements on SR 92 are very heavy during the morning and afternoon peak hours. During the AM peak hour the through movement on SR 92 is estimated to have 675 northbound vph and 835 southbound. In the PM peak hour SR 92 will carry 930 northbound vph and 740 southbound.

CAPACITY ANALYSIS

The intersections along the proposed East Hiram Parkway corridor were analyzed for the design year 2027 AM and PM peak hours based on the methodologies contained in the HCM 2000. Future levels of service, vehicle delay and queuing along the corridor were analyzed using Synchro 5.0 traffic analysis software. Each intersection along the corridor was analyzed based on the design hour volumes. During the analysis, the lane geometry was modified in order to achieve acceptable levels of service on each approach to the intersections. In addition, timings were optimized at the intersections requiring a traffic signal to achieve the best level of service obtainable. The results of the analyses are summarized in Figures 4 and 5.

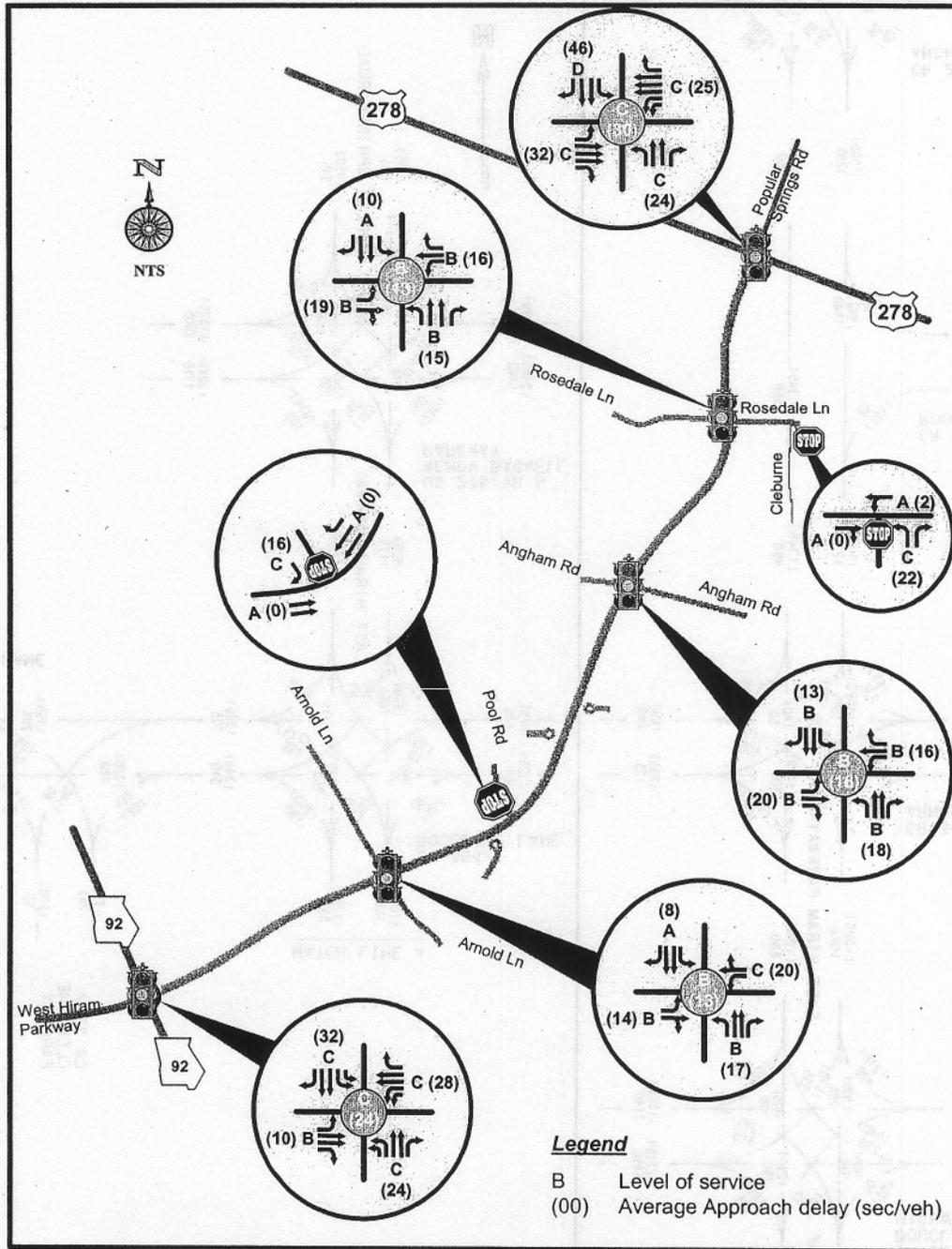
The results of the analysis indicate all of the intersections will operation at acceptable levels of service during the morning and afternoon peak hours based on 2027 design hour volumes. In order to achieve acceptable levels of service the following intersection on East Hiram Parkway will require a traffic signal by the year 2027.

- Rosedale Lane
- Angham Road
- Arnold Road
- SR 92



East Hiram Parkway Corridor Analysis

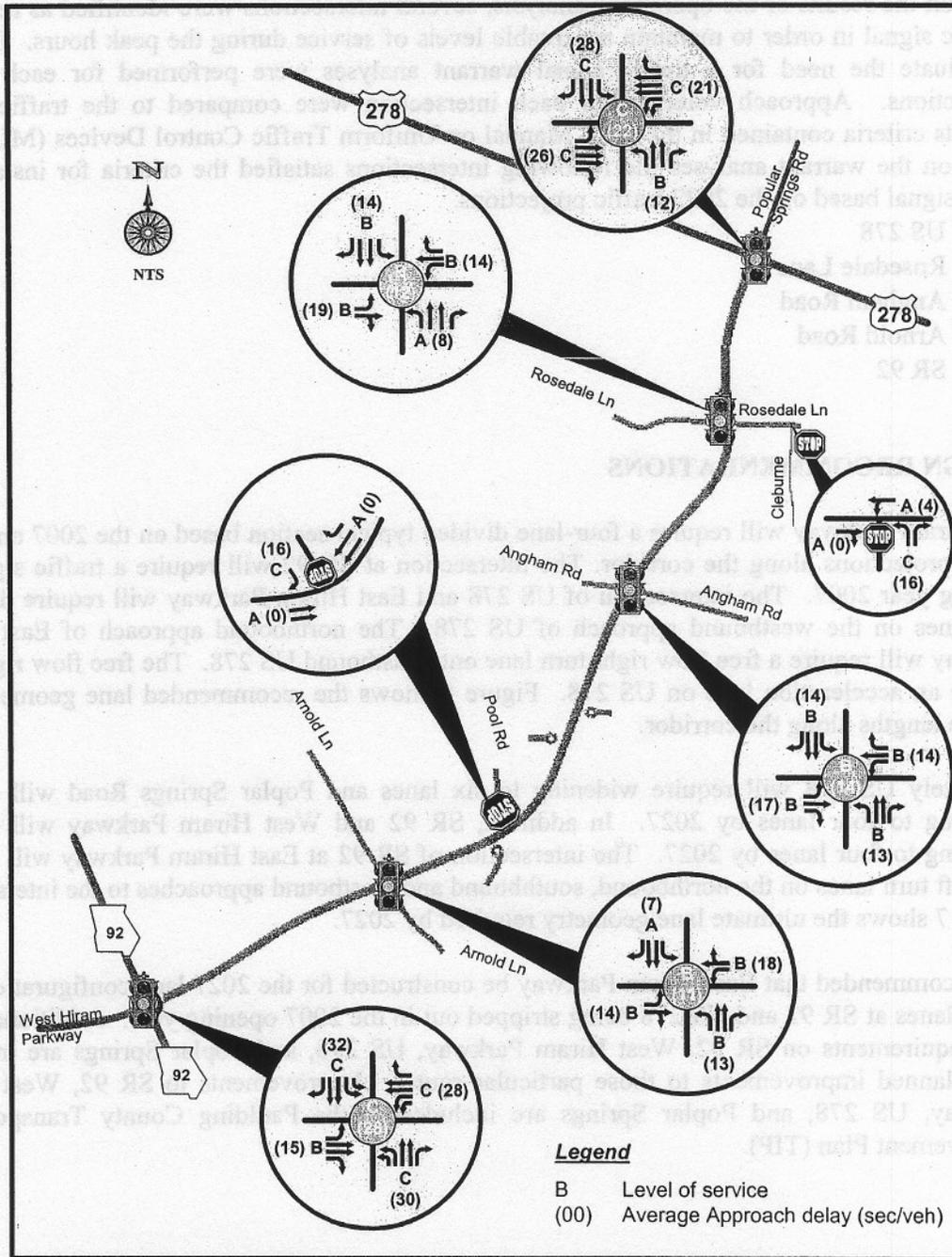
Figure 4
Intersection Capacity Analysis
2027 AM Peak Hour





East Hiram Parkway Corridor Analysis

Figure 5
Intersection Capacity Analysis
2027 PM Peak Hour





SIGNAL WARRANT ANALYSES

Based on the results of the operations analysis, several intersections were identified as requiring a traffic signal in order to maintain acceptable levels of service during the peak hours. In order to evaluate the need for a traffic signal warrant analyses were performed for each of the intersections. Approach volumes for each intersection were compared to the traffic signal warrants criteria contained in the 2003 Manual on Uniform Traffic Control Devices (MUTCD). Based on the warrant analyses the following intersections satisfied the criteria for installing a traffic signal based on the 2027 traffic projections.

- US 278
- Rosedale Lane
- Angham Road
- Arnold Road
- SR 92

DESIGN RECOMMENDATIONS

East Hiram Parkway will require a four-lane divided typical section based on the 2007 and 2027 traffic projections along the corridor. The intersection at SR 92 will require a traffic signal by opening year 2007. The intersection of US 278 and East Hiram Parkway will require dual left turn lanes on the westbound approach of US 278. The northbound approach of East Hiram Parkway will require a free flow right turn lane onto eastbound US 278. The free flow right will require an acceleration lane on US 278. Figure 6 shows the recommended lane geometry and storage lengths along the corridor.

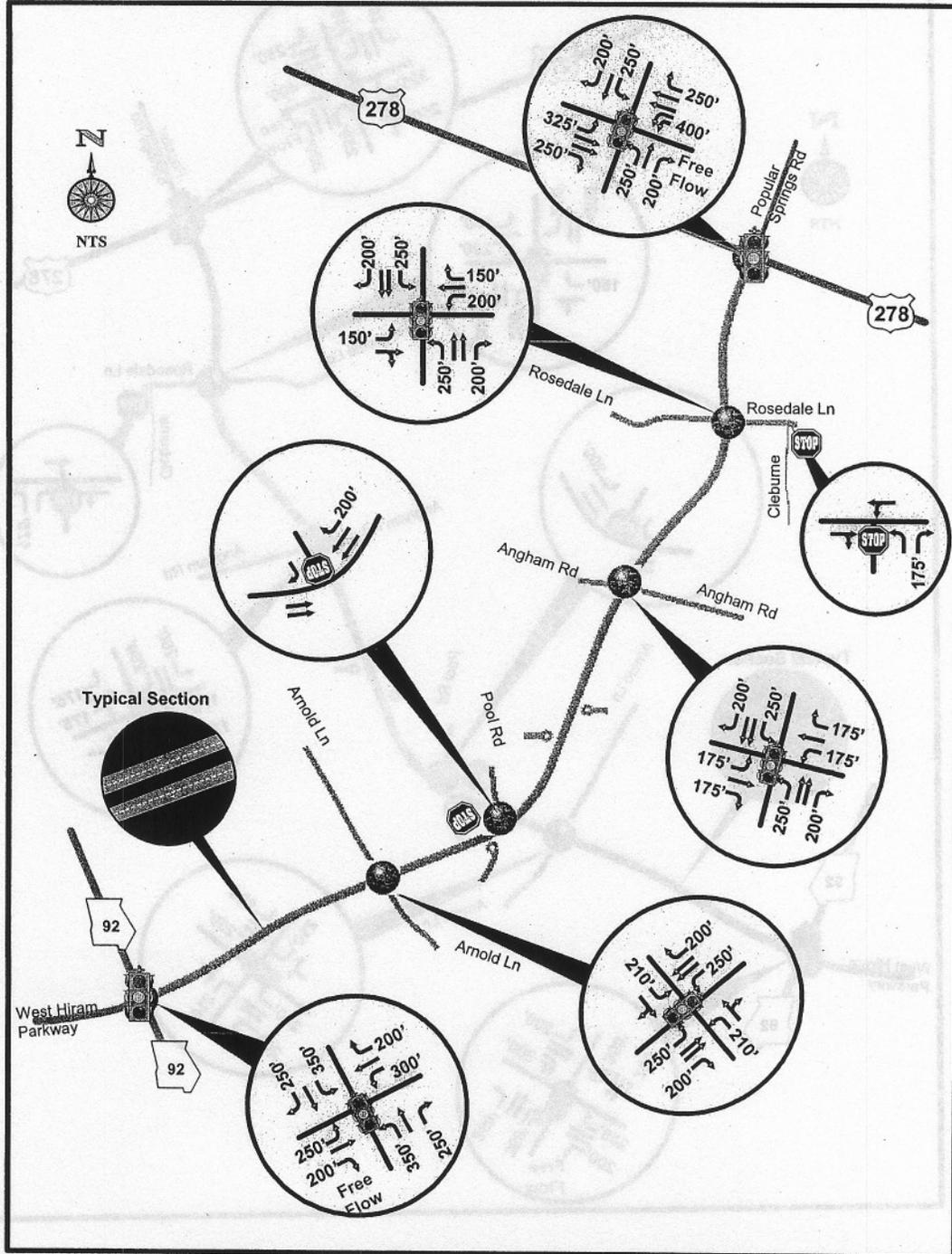
Ultimately US 278 will require widening to six lanes and Poplar Springs Road will require widening to four lanes by 2027. In addition, SR 92 and West Hiram Parkway will require widening to four lanes by 2027. The intersection of SR 92 at East Hiram Parkway will require dual left turn lanes on the northbound, southbound and westbound approaches to the intersection. Figure 7 shows the ultimate lane geometry required by 2027.

It is recommended that East Hiram Parkway be constructed for the 2027 lane configuration with future lanes at SR 92 and US 278 being stripped out in the 2007 opening year. Additional 2027 lane requirements on SR 92, West Hiram Parkway, US 278, and Poplar Springs are included with planned improvements to those particular routes. Improvements to SR 92, West Hiram Parkway, US 278, and Poplar Springs are included in the Paulding County Transportation Improvement Plan (TIP).



East Hiram Parkway Corridor Analysis

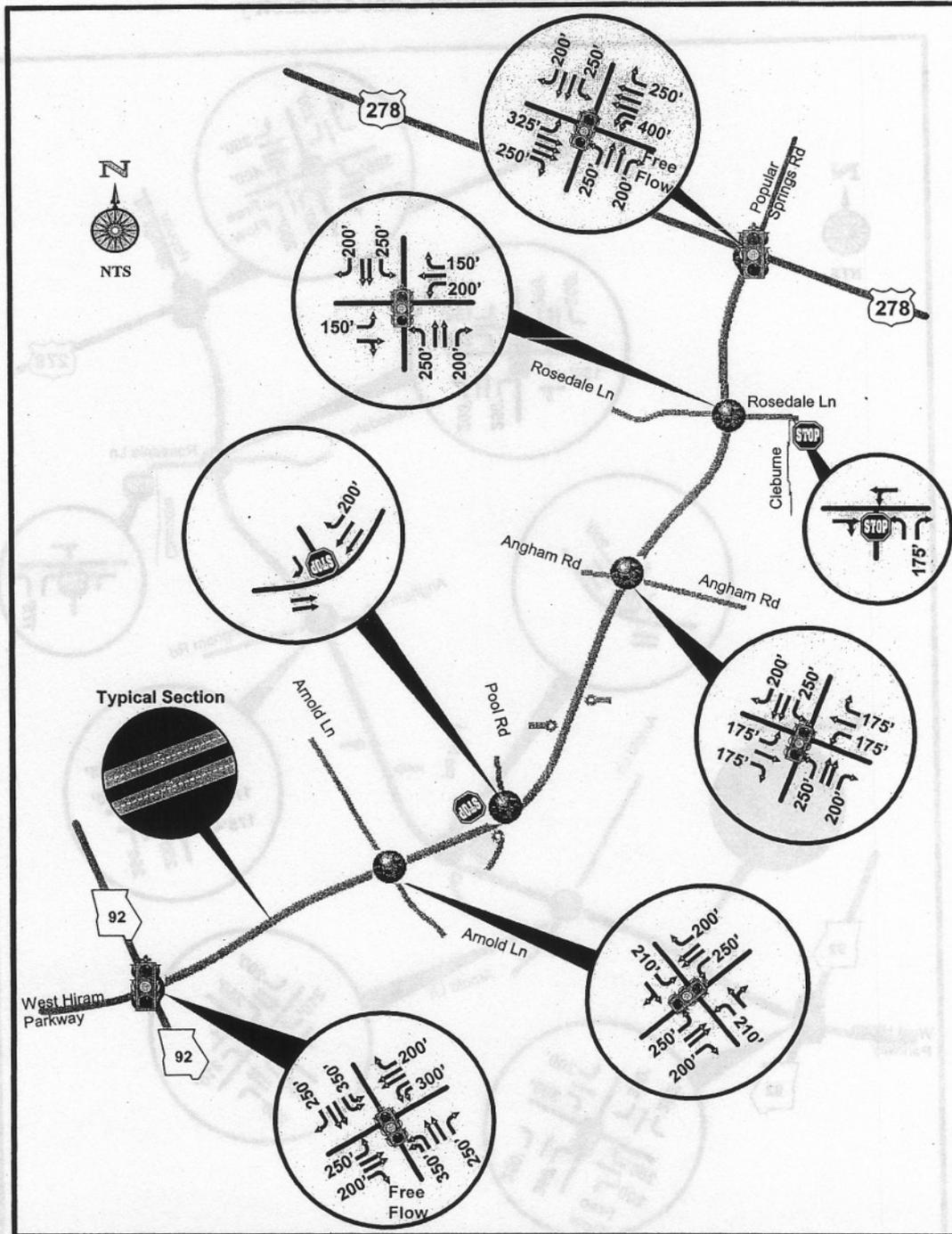
Figure 6
2007 Recommended Lane Geometry





East Hiram Parkway Corridor Analysis

Figure 7
2027 Ultimate Lane Geometry



Department of Transportation
State of Georgia

INTERDEPARTMENTAL CORRESPONDENCE

File: MSL-0004-00(688) Paulding County
P.I. No. 0004688

Office: Traffic Safety & Design
Atlanta, Georgia

Date: December 01, 2004

From: ^{PMA/AG} Phillip M. Allen, State Traffic Safety and Design Engineer

To: Meg Pirkle, Assistant Director of Preconstruction

Subject: Project Concept Report Review

We have reviewed the above referenced concept report for the construction of East Hiram Parkway, beginning at the intersection of SR 92 and West Hiram Parkway (currently under construction) and extend northeasterly to US 278 at Cleburne parkway/Poplar Springs Road, near the Cobb county line, in Paulding County.

The Office of Traffic Safety and Design finds this report satisfactory for approval because it will improve safety and traffic operations within this area.

PMA/SZ/nr

Attachment (signature page)

Cc: Harvey Keepler, State Environment /Location Engineer
David Mulling, State Review Engineer
Joe Palladi, State Transportation Planning Administrator
Jamine Simpson, Financial Management Administrator
Kent L. Sager, District Six Engineer
Gerald M. Ross, State Road and Airport Design Engineer
Attn.: Stanley Hill, Design Group Manager
General Files
Office Files

September 9, 2004

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF DISTRICT ROAD AND AIRPORT DESIGN

PROJECT CONCEPT REPORT

MSL-0004-00(688)

Paulding County

P.I. NO. 0004688

East Hiram Parkway

FEDERAL ROUTE NO: N/A

STATE ROUTE NO: N/A

Recommendation for approval:

DATE 9-9-04

Stanley Hill
Project Manager

DATE 11/18/04

Deed M B
State Road & Airport Design Engineer

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

DATE _____	State Transportation Planning Administrator
DATE _____	Financial Management Administrator
DATE _____	State Environmental / Location Engineer
DATE _____	Project Review Engineer
<u>12-2-04</u>	<u>Phillip M. Allen</u>
DATE _____	State Traffic Safety & Design Engineer
DATE _____	State Bridge & Structural Engineer
DATE _____	District Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF DISTRICT ROAD AND AIRPORT DESIGN

PROJECT CONCEPT REPORT

MSL-0004-00(688)

Paulding County

P.I. NO. 0004688

East Hiram Parkway

FEDERAL ROUTE NO: N/A

STATE ROUTE NO: N/A

Recommendation for approval:

DATE 9-9-04

Stanley Hill
Project Manager

DATE 11/18/04

Dedrick M. B.
State Road & Airport Design Engineer

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

DATE _____ State Transportation Planning Administrator

DATE _____ Financial Management Administrator

DATE _____ State Environmental / Location Engineer

12/6/04
DATE _____ *David J. Mulling REW*
Project Review Engineer

DATE _____ State Traffic Safety & Design Engineer

DATE _____ State Bridge & Structural Engineer

DATE _____ District Engineer

September 9, 2004

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF DISTRICT ROAD AND AIRPORT DESIGN

PROJECT CONCEPT REPORT

MSL-0004-00(688)

Paulding County

P.I. NO. 0004688

East Hiram Parkway

FEDERAL ROUTE NO: N/A

STATE ROUTE NO: N/A

Recommendation for approval:

DATE 9-9-04

Stanley Hill
Project Manager

DATE 11/18/04

Deed M B
State Road & Airport Design Engineer

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

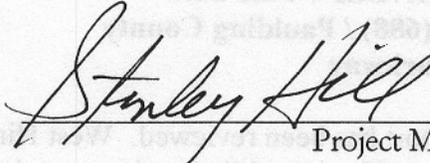
DATE	State Transportation Planning Administrator
<u>11-18-04</u>	<i>Gene Venzler</i>
DATE	Financial Management Administrator
DATE	State Environmental / Location Engineer
DATE	Project Review Engineer
DATE	State Traffic Safety & Design Engineer
DATE	State Bridge & Structural Engineer
DATE	District Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF DISTRICT ROAD AND AIRPORT DESIGN
PROJECT CONCEPT REPORT

MSL-0004-00(688)
Paulding County
P.I. NO. 0004688
East Hiram Parkway
FEDERAL ROUTE NO: N/A
STATE ROUTE NO: N/A

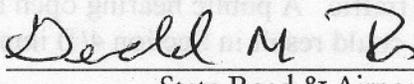
Recommendation for approval:

DATE 9-9-04



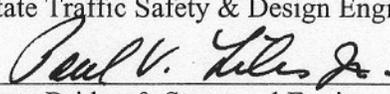
Project Manager

DATE 11/18/04



State Road & Airport Design Engineer

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

_____ DATE	_____ State Transportation Planning Administrator
_____ DATE	_____ Financial Management Administrator
_____ DATE	_____ State Environmental / Location Engineer
_____ DATE	_____ Project Review Engineer
_____ DATE	_____ State Traffic Safety & Design Engineer
<u>12/12/04</u> DATE	 _____ State Bridge & Structural Engineer
_____ DATE	_____ District Engineer

PAGE 1
December 9, 2004

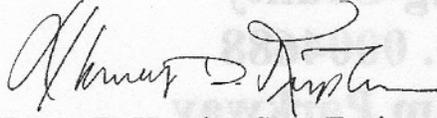
DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. No. 0004688

OFFICE: Environment/Location

DATE: December 6, 2004



FROM: Harvey D. Keeper, State Environmental/Location Engineer

TO: Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**SUBJECT: PROJECT CONCEPT REPORT
MSL-0004-00(688) / Paulding County
East Hiram Parkway**

The above subject concept report has been reviewed. West Hiram Parkway from Hiram-Sudie to Nebo Road is already open to traffic. A public hearing open house will be needed because of EA. Impacts to Silver Comet Trail could result in Section 4(f) impacts.

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

HDK/lc

Attachment

cc: David Mulling, P.E., Project Review Engineer
Gerald M. Ross, P.E., State Road & Airport Design Engineer

Financial Management Administrator	DATE
State Environmental / Location Engineer	DATE
Project Review Engineer	DATE
State Traffic Safety & Design Engineer	DATE
State Bridge & Structural Engineer	DATE
District Engineer	DATE

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF DISTRICT ROAD AND AIRPORT DESIGN
PROJECT CONCEPT REPORT

MSL-0004-00(688)
Paulding County
P.I. NO. 0004688
East Hiram Parkway
FEDERAL ROUTE NO: N/A
STATE ROUTE NO: N/A

Recommendation for approval:

DATE 9-9-04

Stanley Hill
Project Manager

DATE 11/18/04

Deed M B
State Road & Airport Design Engineer

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

DATE	State Transportation Planning Administrator
DATE	Financial Management Administrator
<u>12.06.04</u> DATE	<u>Thomas D. Taylor</u> State Environmental / Location Engineer
DATE	Project Review Engineer
DATE	State Traffic Safety & Design Engineer
DATE	State Bridge & Structural Engineer
DATE	District Engineer