

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

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

FILE P.I. # 0010157

OFFICE Design Policy & Support

Cobb County
GDOT District 7 - Metro Atlanta
Skip Spann Connector From Busbee
Parkway to Frey Road

DATE February 13, 2013

FROM  for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED CONCEPT REPORT

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

Attachment

DISTRIBUTION:

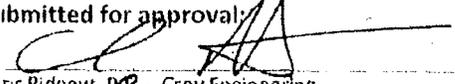
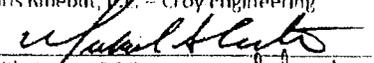
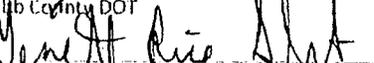
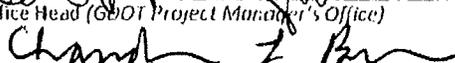
Bobby Hilliard, Program Control Administrator
Genetha Rice-Singleton, State Program Delivery Engineer
Glenn Bowman, State Environmental Administrator
Cindy VanDyke, State Transportation Planning Administrator
Ben Rabun, State Bridge Engineer
Kathy Zahul, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Jeff Baker, State Utilities Engineer
Paul Tanner, Asst. State Transportation Data Administrator
Attn: Systems & Classification Branch
Ken Thompson, Statewide Location Bureau Chief
Tamaya Huff, State Pedestrian and Bicycle Coordinator
Rachel Brown, District Engineer
Scott Lee, District Preconstruction Engineer
Jonathan Walker, District Utilities Engineer
Chandria Brown, Project Manager
BOARD MEMBER - 11th Congressional District

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

Project Type: New Construction P.I. Number: 0010157
 GDOT District: District 7 County: Cobb County
 Federal Route Number: N/A State Route Number: N/A
 Project Number: _____

The proposed project consists of a new alignment in Northern Cobb County with a grade separation over I-75 that connects Frey Road to Townpark Lane. The project also includes slip ramps connecting the I-75 SB exit ramp to Frey Road and Busbee Drive to the I-75 NB entrance ramp. A traffic signal on Frey Road will be relocated to better accommodate the proposed new alignment. A roundabout is included at the Skip Spann Busbee Drive intersection. Resurfacing and restriping will be necessary along Frey Road and Busbee Drive.

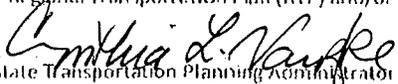
Submitted for approval:

	<u>12-7-12</u>
Chris Rideout, P.E. - Crox Engineering	DATE
	<u>12-12-12</u>
Cobb County DOT	DATE
	<u>12/18/2012</u>
Office Head (GDOT Project Manager's Office)	DATE
	<u>12/18/2012</u>
GDOT Project Manager	DATE

Recommendation for approval:

Program Control Administrator	DATE
* Glenn Bowman / <u>MDS</u>	<u>12/30/12</u>
State Environmental Administrator (recommendation required)	DATE
* Kathy Zahal / <u>MDS</u>	<u>12/27/12</u>
State Traffic Engineer (recommendation required for roundabout projects)	DATE
* Lisa Myers / <u>MDS</u>	<u>12/20/12</u>
Project Review Engineer	DATE
* John Hancock / <u>MDS</u>	<u>1/20/13</u>
State Utilities Engineer Assistant State Innovative Program Delivery Engineer	DATE
* Jonathan Walker / <u>MDS</u>	<u>12/19/12</u>
for District Engineer (projects not originating in District Office)	DATE
* Ben Rabun / <u>MDS</u>	<u>1/30/13</u>
State Bridge Design Engineer	DATE
* Windy Bickers / <u>MDS</u>	<u>1/14/13</u>
for State Transportation Financial Management Administrator	DATE

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

	<u>12-19-12</u>
State Transportation Planning Administrator (recommendation required)	DATE

* Recommendation on file - MDS

PROJECT LOCATION



County: Cobb

PLANNING & BACKGROUND DATA

Project Justification Statement: The primary purposes of the proposed project are to provide traffic relief on Chastain Road in the vicinity of the Interstate 75 (I-75) interchange, improve operations, and reduce accidents along Chastain Road. Currently, vehicles traveling east-west in the area must use Chastain Road to cross I-75 and to access Kennesaw State University (KSU), which is located off of Frey Road on the west side of I-75. This project is needed because high traffic volumes along Chastain Road within the project limits cause major congestion, delays, and higher accident rates. A secondary benefit of the proposed project would be additional access to, and connectivity around, the KSU campus facilities and surrounding residential and commercial areas.

The table below shows the Average Daily Traffic (ADT) in vehicles per day (VPD) for the segments of roadway in the area of the proposed project.

Road/Segment	2010 Conditions ADT*	No-Build Condition	
		2014 – Build Year ADT*	2034 - Design Year ADT*
Chastain Road (west of I-75)	51,520	49,000	66,220
Chastain Road (east of I-75)	44,280	40,780	55,280
Frey Road (just north of Chastain Road)	18,520	20,600	27,500
New Busbee-Frey Connector	N/A	N/A	N/A
Busbee Drive	5,440	5,760	7,860
Townpark Lane	3,060	3,260	4,320
George Busbee Parkway	17,040	18,420	24,620

*In vehicles per day (vpd).

In addition, several locations along Chastain Road in the project area and at the intersection of Busbee Drive and George Busbee Parkway would experience a Level of Service (LOS) of F in the future under no-build conditions.

The crash rates along Chastain Road in the vicinity of I-75 (between the intersections of Kennesaw State University Road and George Busbee Parkway) were compared to the corresponding statewide averages for similar road types for the latest six years (2004 through 2009) that were available from Georgia DOT. Chastain Road, within the project area, experienced higher than average crash rates for 2005 to 2009.

The goal of the proposed project is to reduce accidents and reduce traffic volumes along Chastain Road within the project area.

County: Cobb

Description of the proposed project:

The proposed project consists of a new alignment in northern Cobb County measuring approximately 2,800 feet with a grade separation over I-75 that connects Frey Road to Townpark Lane. The project also includes slip ramps connecting the I-75 southbound exit ramp to Frey Road and Busbee Drive to the I-75 northbound entrance ramp. A roundabout is proposed at the intersection of the proposed Skip Spann Connector and Busbee Drive. A traffic signal on Frey Road will be relocated to better accommodate the proposed new alignment. A new signal will be installed at the intersection of Busbee Drive and Busbee Parkway. Resurfacing and restriping will be necessary along Frey Road and Busbee Drive. The project is located approximately 1 mile east of the city limit of Kennesaw.

Federal Oversight: Full Oversight Exempt State Funded Other

MPO: Atlanta Regional Commission (ARC)

MPO Project ID CO-400

Congressional District(s): 11

Projected Traffic: ADT

Current Year (2010): N/A Open Year (2014): 9,240 Design Year (2034): 12,030
Traffic Projections Performed by: Croy/Arcadis

Functional Classification (Mainline): Urban Collector Street

Is this a 3R (Resurfacing, Restoration, & Rehabilitation) Project? No Yes

Is this project on a designated Bike Route, Pedestrian Plan, or Transit Network?

None Bike Route Pedestrian Plan Transit Network

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern: The proposed project will provide an additional link between the KSU campus, which is located on the Westside of I-75, and the commercial, recreational and residential areas located on the eastside of I-75. The project will not have any impacts on historical or environmental resources. There are not any context sensitive issues or concerns identified within the corridor.

Context Sensitive Solutions: Although there are not any specific issues identified, the project has been designed with both vehicular and pedestrian movements. Ten foot wide multiuse paths and enhanced pedestrian crossings have been included in the design. Major stakeholders, including KSU and the Town Center Area CID have been involved with the design process from the beginning.

DESIGN AND STRUCTURAL DATA

Mainline Design Features: *Skip Spann Connector*

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	N/A		4
- Lane Width(s)	N/A	12	11
- Median Width & Type	N/A	20' Raised	16' Raised
- Outside Shoulder or Border Area Width	N/A		17'-6" Urban
- Outside Shoulder Slope	N/A		2%
- Inside Shoulder Width	N/A	N/A	N/A
- Sidewalks	N/A	5'	5'-10'
- Auxiliary Lanes	N/A	12'	12'
- Bike Lanes	N/A		Yes
Posted Speed	N/A		35 mph
Design Speed	N/A	35 mph	35 mph
Min Horizontal Curve Radius	N/A	371	400
Superelevation Rate	N/A	4%	4%
Grade	N/A	10%	8.2%
Access Control	N/A		By Permit
Right-of-Way Width	N/A		103'
Maximum Grade – Crossroad	N/A		3.6%
Design Vehicle	N/A	SU	WB-67
<i>Additional Items as needed</i>	N/A		

*According to current GDOT design policy if applicable

Major Structures:

Structure	Existing	Proposed
<i>Bridge over I-75</i>	N/A	476 feet long, 95 feet wide, four 12-foot lanes with 16-foot raised median, 4-foot bike lanes and 15-foot sidewalks
<i>Retaining wall</i>	N/A	170 ft retaining wall is required along the southern limit of Skip Spann Connector west of the intersection with Busbee Dr
<i>Box Culvert</i>	N/A	six 7 ft x 10 ft box culverts to traverse wetland 3

Major Interchanges/Intersections:

Road Name	Interchange	Intersection
Chastain Road/I-75 southbound exit ramp		X
Chastain Road/Frey Road		X
Skip Spann Connector/Frey Road		X
Skip Spann Connector/Busbee Drive		X
Chastain Road/Busbee Drive		X
Chastain Road/I-75 northbound entrance ramp		X
Busbee Parkway/Busbee Drive		X

Utility Involvements:

Natural Gas	Atlanta Gas Light
Telephone	AT&T
Power company	Cobb EMC
Cable TV	Comcast
Water/Sewer	Cobb County Water and Sewer
Power Company	Georgia Power

Public Interest Determination Policy and Procedure recommended (Utilities)? No Yes

SUE Required: No Yes

Railroad Involvement: None

Complete Streets - Bicycle, Pedestrian, and/or Transit Warrants:

Warrants met: None Bicycle Pedestrian Transit

Due to the proximity of Kennesaw State University, bicycle and pedestrian facilities have been included in the project. These include 4' bike lanes and 10' sidewalks along Skip Spann connector. Coordination with Cobb County Transit (CCT) will be necessary to ascertain whether or not any new bus stops will be necessary along the proposed route. There will be minor adjustments to two of the three existing bus stops along the project corridor.

County: Cobb

Right-of-Way:

Required Right-of-Way anticipated: No Yes Undetermined
 Easements anticipated: None Temporary Permanent Utility Other
Check all easement types that apply.

Anticipated number of impacted parcels: 12
 Displacements anticipated: Total: 0
 Businesses: 0
 Residences: 0
 Other: 0

Location and Design approval: Not Required Required

Off-site Detours Anticipated: No Undetermined Yes

Transportation Management Plan [TMP] Required: No Yes
 If Yes: Project classified as: Non-Significant Significant
 TMP Components Anticipated: TTC TO PI

Note: Due to the projects vicinity to the Interstate System and construction that will occur within the Interstate R/W, the project is considered significant. However, this project does not have sustained work zone impacts and an exception to the TMP requirements is anticipated.

Design Exceptions to FHWA/AASHTO controlling criteria anticipated:

FHWA/AASHTO Controlling Criteria	No	Undeter -mined	Yes	Appvl Date (if applicable)
1. Design Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Lane Width	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Shoulder Width	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Bridge Width	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Horizontal Alignment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Superelevation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. Vertical Alignment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Grade	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. Stopping Sight Distance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. Cross Slope	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Vertical Clearance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Lateral Offset to Obstruction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. Bridge Structural Capacity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

County: Cobb

Design Variances to GDOT Standard Criteria anticipated:

GDOT Standard Criteria	Reviewing Office	No	Undeter- -mined	Yes	Appvl Date (if applicable)
1. Access Control - Median Opening Spacing	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Median Usage & Width	DP&S	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Intersection Skew Angle	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Lateral Offset to Obstruction	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Intersection Sight Distance	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Bike, Pedestrian & Transit Accommodations	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. GDOT Drainage Manual	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Georgia Standard Drawings	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. GDOT Bridge & Structural Manual	Bridge Design	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. Roundabout Illumination	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Rumble Strips	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Safety Edge	DP&S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

VE Study anticipated: No Yes Completed – Date: 5/3/2012

ENVIRONMENTAL DATA

Anticipated Environmental Document:

GEPA: **NEPA:** CE - Approved 6-27-2012 EA/FONSI EIS

Project Air Quality:

Is the project located in a PM 2.5 Non-attainment area? No Yes

Is the project located in an Ozone Non-attainment area? No Yes

Is a Carbon Monoxide hotspot analysis required? No Yes

The proposed concept matches the project as planned in the conforming plans model description (CO-400) which is identified in ARC's Envision6 RTP.

The proposed project has been evaluated by interagency groups including, FHWA, USEPA, Georgia EPD and ARC. They agreed, on December 13, 2010, that this project does not appear to be a "Project of Concern" according to the Transportation Conformity Rule, and therefore meets the statutory and regulatory requirements for PM2.5 hotspots without a qualitative analysis.

MS4 Compliance – Is the project located in an MS4 area? No Yes

The CE was approved prior to the June 30, 2012 implementation date for MS4 requirements.

County: Cobb

Environmental Permits/Variances/Commitments/Coordination anticipated:

Permit/ Variance/ Commitment/ Coordination Anticipated	No	Yes	Remarks
1. U.S. Coast Guard Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Forest Service/Corps Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. CWA Section 404 Permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NWP 23 with PCN. Mitigation is required.
4. Tennessee Valley Authority Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Buffer Variance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. Coastal Zone Management Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7. NPDES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8. FEMA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9. Cemetery Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10. Other Permits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
11. Other Commitments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
12. Other Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Coordination with Cobb County Transit (CCT) regarding relocation of bus stops.

Is a PAR required? No Yes Completed – Date:

NEPA/GEPA: CE was approved June 27, 2012.

Ecology: A Phase I Ecological Resources Survey Report and a Phase II Ecological Resources Assessment of Effects report have been completed for the project. No protected species or suitable habitats were located along the project corridor. One jurisdictional perennial stream and two jurisdictional wetlands are located in the project area; 0.40 acre of permanent impact to one wetland would occur, and compensatory mitigation is required for this impact. No other ecological issues.

History: No historic properties affected. No SHPO concurrence needed.

Archeology: No archaeological resources present. No SHPO concurrence needed.

Air & Noise: The project is not a project of concern for particulate matter 2.5 and is a project with Low Potential Mobile Source Air Toxic (MSAT) effects. The project is consistent with state and federal air quality goals.

The project is a Type I Project for Noise Assessments; therefore, a Noise Impact Assessment is being conducted for the project.

Public Involvement: A public information open house was held for this project May 24, 2012. The project was also included in the list of projects for the 2012-2015 Cobb County Special Purpose Local Option Sales Tax (SPLOST), for which a series of public meetings were held throughout Cobb County in the fall of 2010.

Major stakeholders: Kennesaw State University, Town Center CID

ROUNDABOUTS

Roundabout Lighting agreement/commitment letter received: No Yes
Lighting agreement has been added as an attachment.

Feasibility Study:

A roundabout feasibility study was completed on 8/07/12 for this project. Roundabouts were studied for the intersection of the proposed Skip Spann Connector and Busbee Drive and the intersection of Busbee Drive and Busbee Parkway. The proposed roundabout at the intersection of Skip Spann Connector and Busbee Drive would be more cost effective than a signalized intersection in terms of operational expenditures and initial construction cost. The roundabout at the intersection of Busbee Parkway and Busbee Drive has advantages over a traditional signal installation for this location although not as drastic as the first intersection. It was decided to incorporate the roundabout on the Skip Spann Connector and not to incorporate the roundabout on Busbee Parkway. The feasibility study has been attached to this report.

Peer Review required: No Yes Completed – Date:
A Peer Review is required for this project and is currently underway.

CONSTRUCTION

Issues potentially affecting constructability/construction schedule:

The project begins in front of a parking deck for Kennesaw State University. Coordination with the university will be necessary so as to have a minimal effect on the traffic patterns of the students. The mill and inlay to be performed on Frey Road and Busbee Drive should be carefully considered to lessen the inconvenience of the traveling public.

Early Completion Incentives recommended for consideration: No Yes

PROJECT RESPONSIBILITIES

Project Activities:

Project Activity	Party Responsible for Performing Task(s)
Concept Development	Croy Engineering/Arcadis
Design	Croy Engineering/Arcadis
Right-of-Way Acquisition	Cobb County DOT
Utility Relocation	Utility Owners
Letting to Contract	Cobb County DOT
Construction Supervision	Cobb County DOT
Providing Material Pits	N/A
Providing Detours	N/A
Environmental Studies, Documents, and Permits	Croy Engineering/Arcadis
Environmental Mitigation	TBD
Construction Inspection & Materials Testing	TBD

Lighting required: No Yes

Lighting will be included along the Skip Spann Connector including the roundabout. Installation costs are included in the project construction cost. Cobb County will assume maintenance once project is complete.

Concept Meeting: A Concept Meeting was held at the GDOT General Office on November 8, 2012. The minutes are attached to this concept report.

Other projects in the area:

- PI 0007892 - I-75 from SR 5 Conn to CR 633/Glade Road – Reconstruction – CST currently in Long Range 2
- PI M004422 – I-75 Sign Upgrades – Cobb County – Scheduled LET Date 5/17/2013
- PI 0008256 - I-75 / I-575 Managed Lanes – New Construction – Cobb & Cherokee Counties - CST currently 2014, 2015, 2016 and 2018. **The proposed managed lane for this project will be within the existing median along I-75 at the location PI 0010157’s proposed alignment will cross the interstate. The proposed bridge bents have been located to avoid impacting the future construction of the managed lanes.**
- PI 0005128 – I-75 Noise Barriers From Chastain Rd/Cobb to SR 92/Cherokee – Cobb & Cherokee Counties – CST currently in Long Range 1

County: Cobb

Other coordination to date:

- A concept meeting and PFPR have been held with Cobb County DOT. A meeting was held on June 23, 2010 at the Georgia DOT Office of Environmental Services to introduce Michael Murdoch to the project. Representatives from Croy Engineering, Arcadis, Cobb County, and the Town Center CID were all in attendance.
- Preliminary coordination has occurred with FHWA. It has been determined that an IMR will not be required for the project. During the preliminary design phase, Cobb DOT will be submitting for an encroachment permit with FHWA.

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
By Whom	TCACID	Cobb County	N/A	TBD	TBD	
\$ Amount	\$1,391,650	\$2,670,000	N/A	\$13,310,584	\$18,400	\$17,390,634
Date of Estimate		1/13/2012		9/28/2012	1/3/2012	

*CST Cost includes: Construction, Engineering and Inspection, and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION**Alternative selection:**

Preferred Alternative: A new road spanning I-75 north of Chastain Rd beginning at the entrance to the southern KSU parking deck and terminating at a realigned Town Park Lane to the east. A Roundabout is proposed at the intersection of the Skip Spann Connector and Busbee Drive. A signal is proposed for the intersection of Busbee Dr and Busbee Pkwy.			
Estimated Property Impacts:	10	Estimated Total Cost:	\$17,285,634
Estimated ROW Cost:	\$2,670,000	Estimated CST Time:	24 months
Rationale: This alternative was chosen because it adequately satisfies the need for reduced congestion on Chastain Road and accomplishes this goal with minimal impact to the surrounding properties. The addition of the roundabout significantly reduces operational costs.			

No-Build Alternative: <i>description</i>			
Estimated Property Impacts:	0	Estimated Total Cost:	0
Estimated ROW Cost:	0	Estimated CST Time:	0
Rationale: With traffic volumes along the Chastain Road corridor expected to rise significantly over the next couple of decades, inaction simply was not a valid option.			

County: Cobb

ALTERNATIVES DISCUSSION (Cont.)

Alternative 1: An alternative bridge location was investigated further north. This option would have lined up with Cobb Avenue in front of the Convocation Center of Kennesaw State University.			
Estimated Property Impacts:	10	Estimated Total Cost:	\$24,715,634
Estimated ROW Cost:	\$10,100,000	Estimated CST Time:	24 months
Rationale: This option was not chosen because it would have rendered a large portion of the parcel east of interstate 75 undevelopable.			

Alternative 2: A new road spanning I-75 north of Chastain Rd beginning at the entrance to the southern KSU parking deck and terminating at a realigned Town Park Lane to the east. New signalized intersections are proposed at the intersections of Skip Spann Connector/Busbee Drive and Busbee Pkwy/Busbee Drive.			
Estimated Property Impacts:	10	Estimated Total Cost:	\$16,134,111
Estimated ROW Cost:	\$2,670,000	Estimated CST Time:	24 months
Rationale: This alternative was not chosen because of the benefits of the roundabout outweighed any additional costs incurred.			

Attachments:

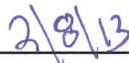
1. Concept Layout
2. Typical sections
3. Detailed Cost Estimates:
 - a. Construction including Engineering and Inspection
 - b. Completed Fuel & Asphalt Price Adjustment forms
 - c. Right-of-Way
 - d. Mitigation Cost estimate
4. Crash summaries
5. Traffic diagrams
6. Capacity analysis summary (*tabular format*)
7. Summary of TE Study and/or Signal Warrant Analysis
8. Roundabout Data
 - a. Roundabout feasibility study
 - b. Lighting agreement or commitment letter
9. VE Implementation Letter
10. Conforming plan's network schematics showing thru lanes
11. Minutes of Concept meetings
12. PFA's and/or SAA's.
13. E-mail from FHWA confirming that an IMR is not necessary

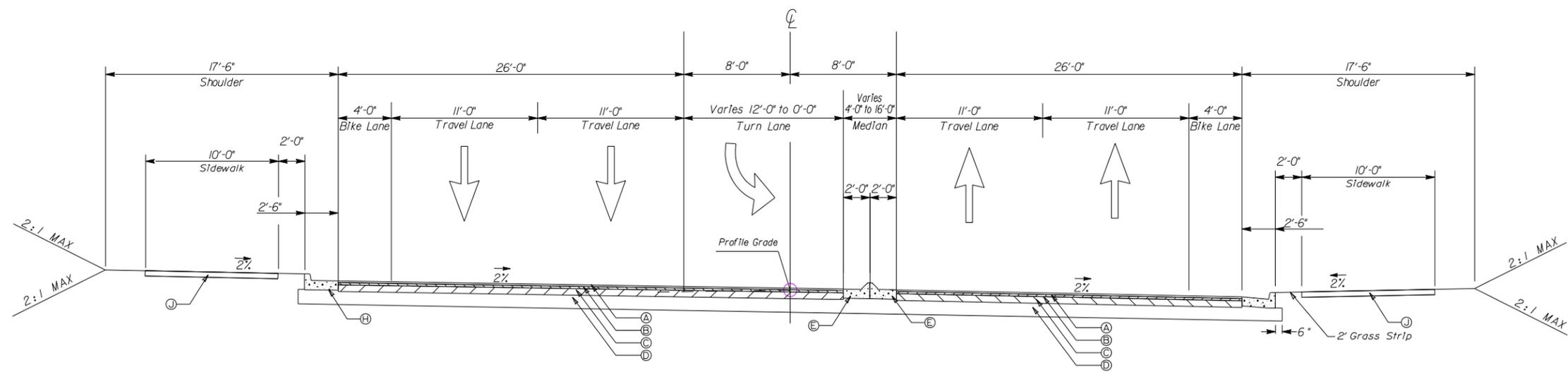
APPROVALS

Concur: _____
Director of Engineering

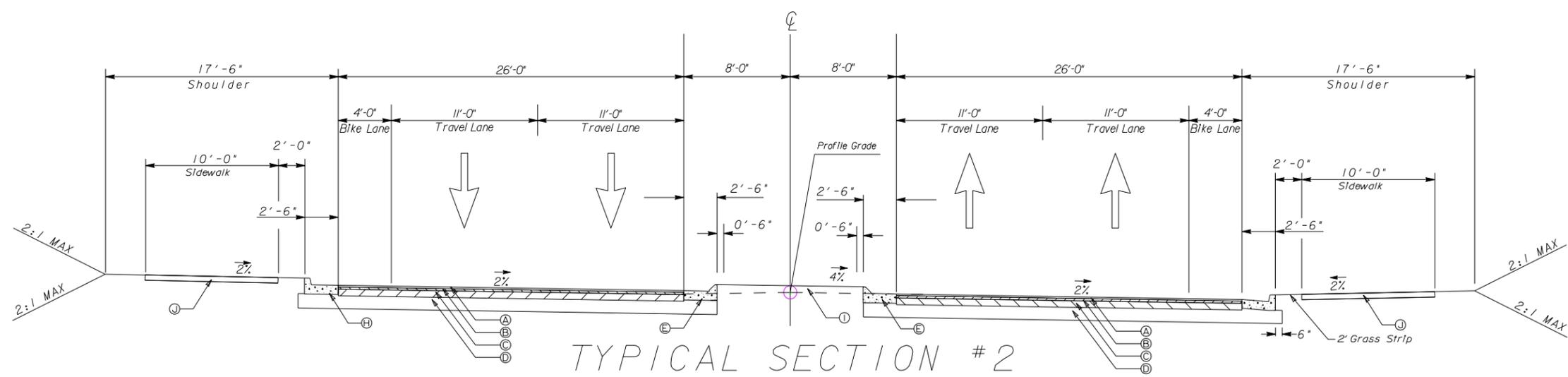
Date

Approve:  _____
Chief Engineer

 _____
Date



TYPICAL SECTION # 1
 SKIP SPANN CONNECTOR
 STA. 104+00.18 TO 105+48.91



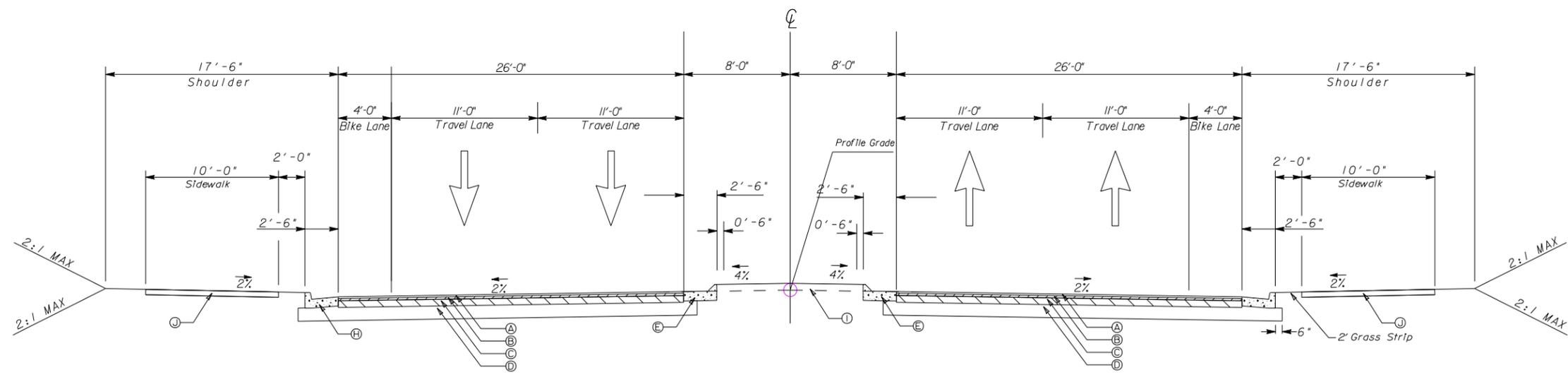
TYPICAL SECTION # 2
 SKIP SPANN CONNECTOR
 STA. 110+24.91 TO 112+09

- REQUIRED PAVEMENT**
- (A) RECYC. ASPH. CONCR. 12.5mm SUPERPAVE, 165LB/SY (1 1/2")
 - (B) RECYC. ASPH. CONCR. 19mm SUPERPAVE, 220LB/SY (2")
 - (C) RECYC. ASPH. CONCR. 25mm SUPERPAVE, 660LB/SY (6")
 - (D) GRADED AGGREGATE BASE, 10"
 - (E) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 7
 - (F) 4" x 5' CONC. SIDEWALK, GA. CONSTR. DET. A-3
 - (G) RED STAMPED CONCRETE MEDIAN / GRASS MEDIAN (TYP)
 - (H) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 2
 - (I) GRASS MEDIAN
 - (J) 6" x 10' CONCRETE SIDEWALK

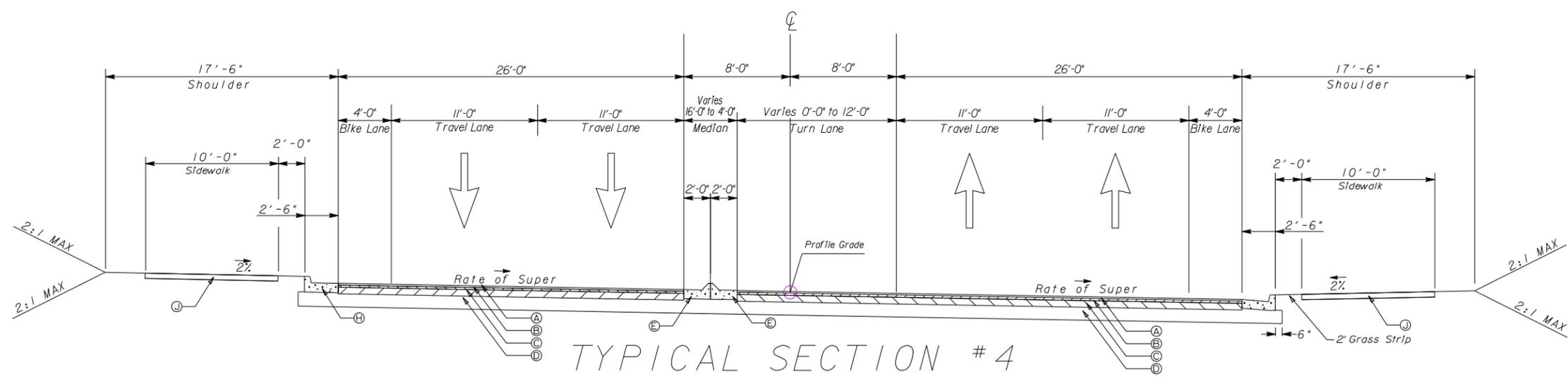
CROY ENGINEERING
 Engineers
 Planners
 Surveyors
 200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413
 MARIETTA, GA 30062
 PHONE: (770) 971-5407 FAX: (770) 971-0620

REVISION DATES	

COBB COUNTY
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
TYPICAL SECTIONS



TYPICAL SECTION #3
 SKIP SPANN CONNECTOR
 STA. 112+09 TO 113+37



TYPICAL SECTION #4
 SKIP SPANN CONNECTOR
 STA. 113+37 TO 117+04.88

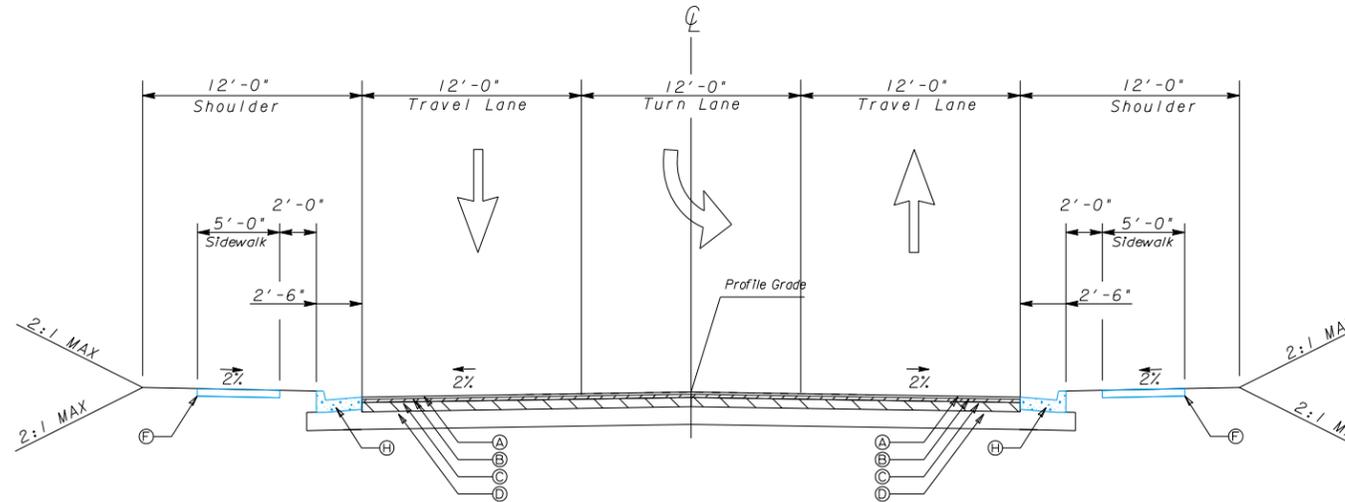
- REQUIRED PAVEMENT**
- (A) RECYC. ASPH. CONCR. 12.5mm SUPERPAVE, 165LB/SY (1 1/2")
 - (B) RECYC. ASPH. CONCR. 19mm SUPERPAVE, 220LB/SY (2")
 - (C) RECYC. ASPH. CONCR. 25mm SUPERPAVE, 660LB/SY (6")
 - (D) GRADED AGGREGATE BASE, 10"
 - (E) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 7
 - (F) 4" x 5' CONC. SIDEWALK, GA. CONSTR. DET. A-3
 - (G) RED STAMPED CONCRETE MEDIAN / GRASS MEDIAN (TYP)
 - (H) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 2
 - (I) GRASS MEDIAN
 - (J) 6" x 10' CONCRETE SIDEWALK



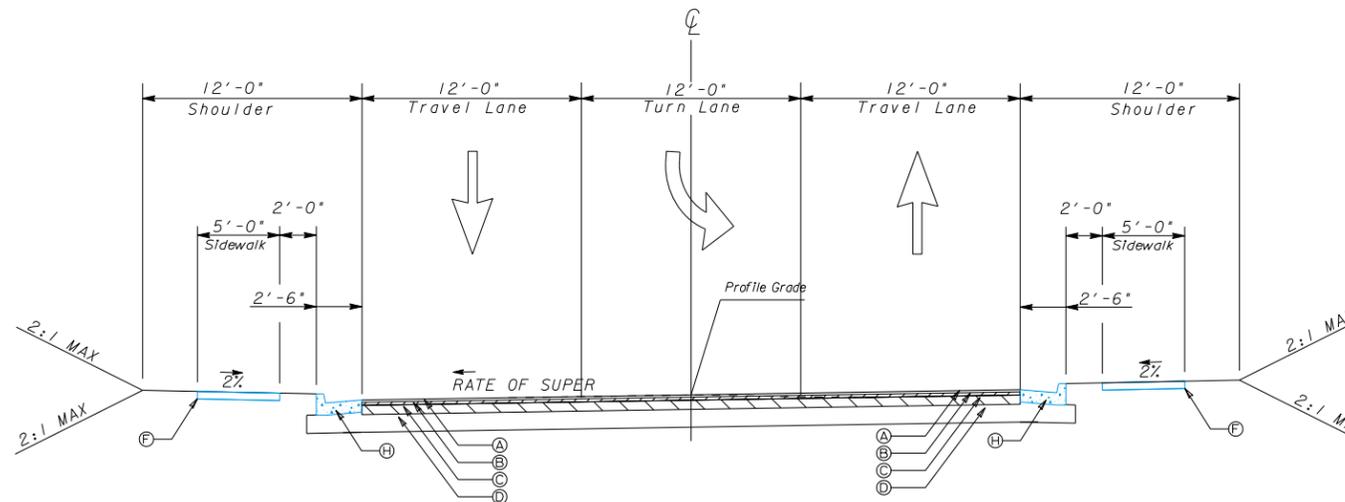
200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413
 MARIETTA, GA 30062
 PHONE: (770) 971-5407 FAX: (770) 971-0620

REVISION DATES	

COBB COUNTY
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
TYPICAL SECTIONS



TYPICAL SECTION #5
BUSBEE-FREY CONNECTOR
STA. 117+54.31 TO 119+17



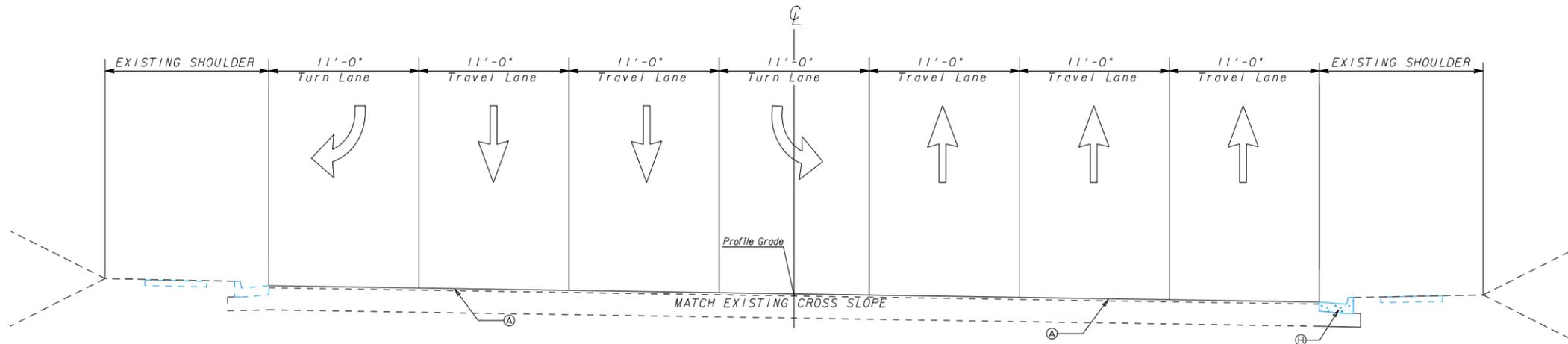
TYPICAL SECTION #6
BUSBEE-FREY CONNECTOR
STA. 119+17 TO 128+63

- REQUIRED PAVEMENT**
- (A) RECYC. ASPH. CONCR. 12.5mm SUPERPAVE, 165LB/SY (1 1/2")
 - (B) RECYC. ASPH. CONCR. 19mm SUPERPAVE, 220LB/SY (2")
 - (C) RECYC. ASPH. CONCR. 25mm SUPERPAVE, 660LB/SY (6")
 - (D) GRADED AGGREGATE BASE, 10"
 - (E) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 7
 - (F) 4" x 5' CONC. SIDEWALK, GA. CONSTR. DET. A-3
 - (G) RED STAMPED CONCRETE MEDIAN / GRASS MEDIAN (TYP)
 - (H) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 2
 - (I) GRASS MEDIAN
 - (J) 6" x 10' CONCRETE MULTI-USE PATH

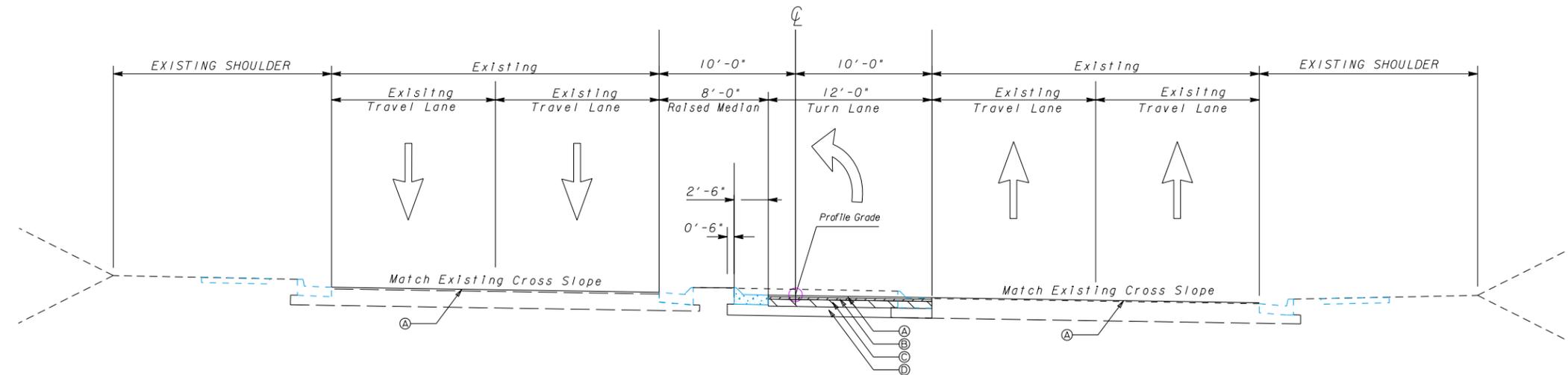
REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:
TYPICAL SECTIONS



TYPICAL SECTION #7
FREY ROAD
STA. 5+06 TO 10+38.68



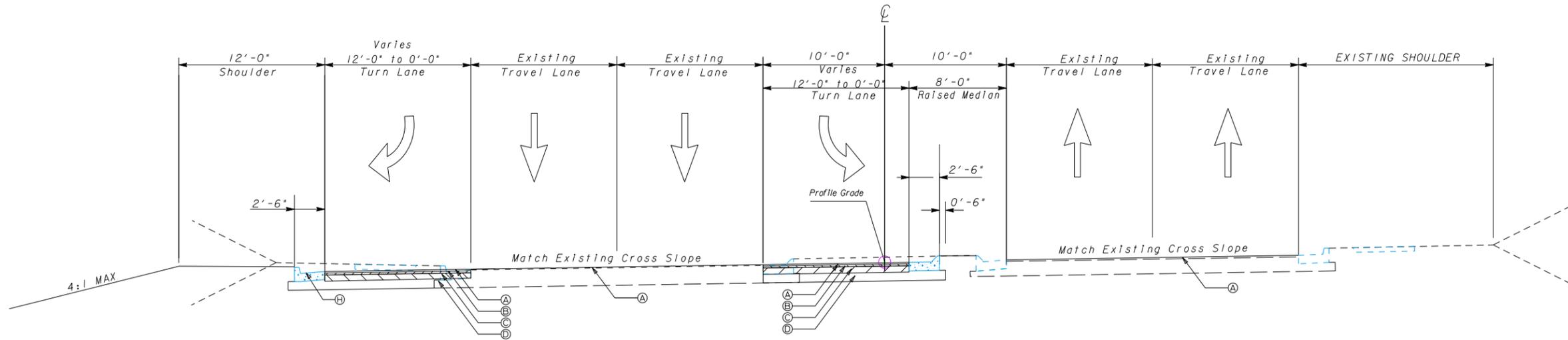
TYPICAL SECTION #8
FREY ROAD
STA. 10+38.68 TO 20+00

- REQUIRED PAVEMENT**
- (A) RECYC. ASPH. CONCR. 12.5mm SUPERPAVE, 165LB/SY (1 1/2")
 - (B) RECYC. ASPH. CONCR. 19mm SUPERPAVE, 220LB/SY (2")
 - (C) RECYC. ASPH. CONCR. 25mm SUPERPAVE, 660LB/SY (6")
 - (D) GRADED AGGREGATE BASE, 10"
 - (E) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 7
 - (F) 4" x 5' CONC. SIDEWALK, GA. CONSTR. DET. A-3
 - (G) RED STAMPED CONCRETE MEDIAN / GRASS MEDIAN (TYP)
 - (H) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 2
 - (I) GRASS MEDIAN
 - (J) 6" x 10' CONCRETE MULTI-USE PATH

REVISION DATES

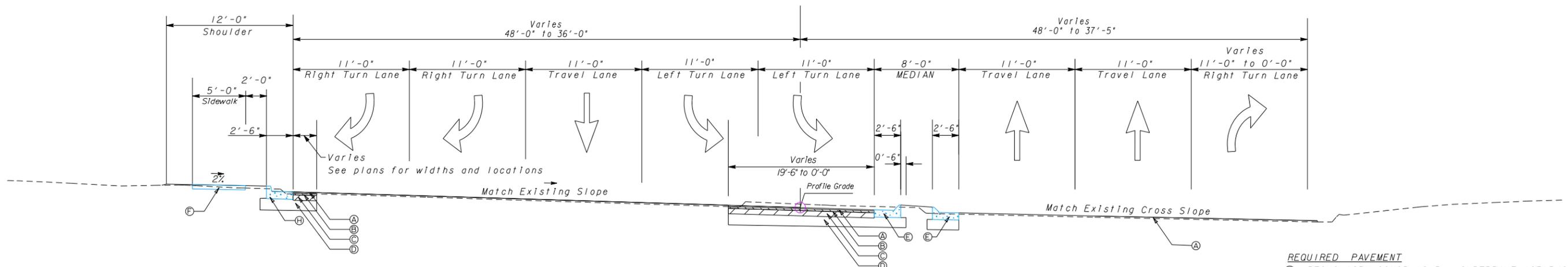
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TYPICAL SECTIONS



TYPICAL SECTION #9

FREY ROAD
STA. 20+00 TO 26+20.87



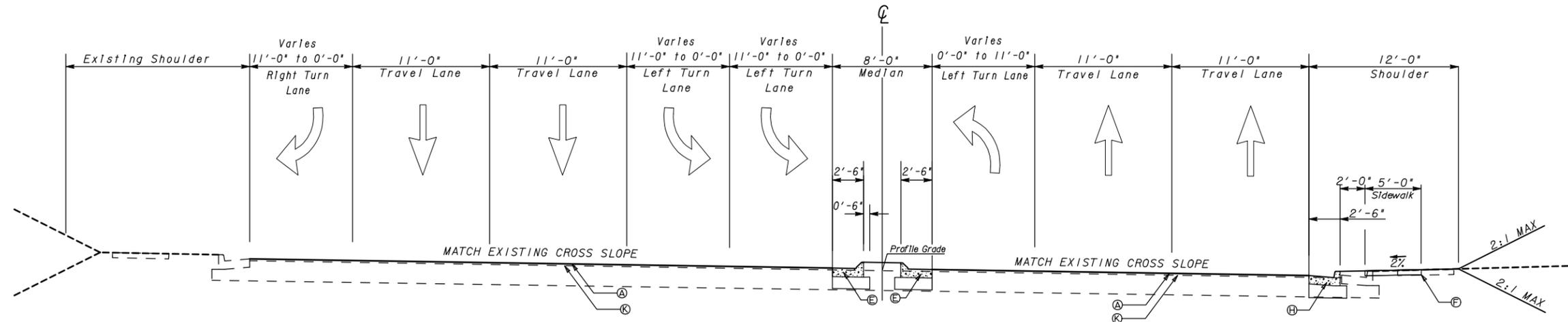
TYPICAL SECTION #10

BUSBEE DR
STA. 35+78.63 TO STA. 39+59.50

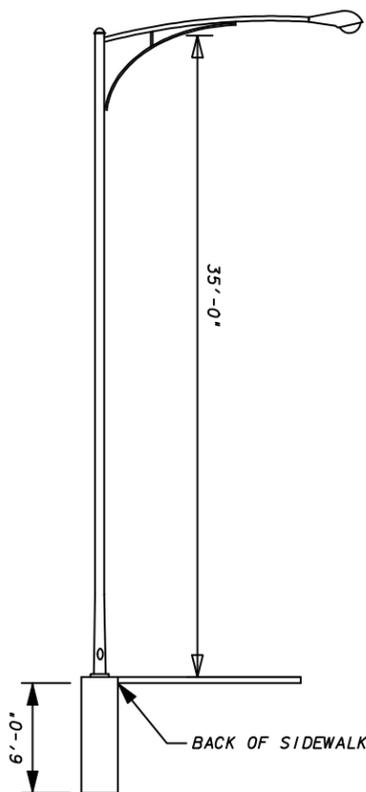
- REQUIRED PAVEMENT**
- (A) RECYC. ASPH. CONCR. 12.5mm SUPERPAVE, 165LB/SY (1 1/2")
 - (B) RECYC. ASPH. CONCR. 19mm SUPERPAVE, 220LB/SY (2")
 - (C) RECYC. ASPH. CONCR. 25mm SUPERPAVE, 660LB/SY (6")
 - (D) GRADED AGGREGATE BASE, 10"
 - (E) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 7
 - (F) 4" x 5' CONC. SIDEWALK, GA. CONSTR. DET. A-3
 - (G) RED STAMPED CONCRETE MEDIAN / GRASS MEDIAN (TYP)
 - (H) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 2
 - (I) GRASS MEDIAN
 - (J) 6" x 10' CONCRETE MULTI-USE PATH

REVISION DATES

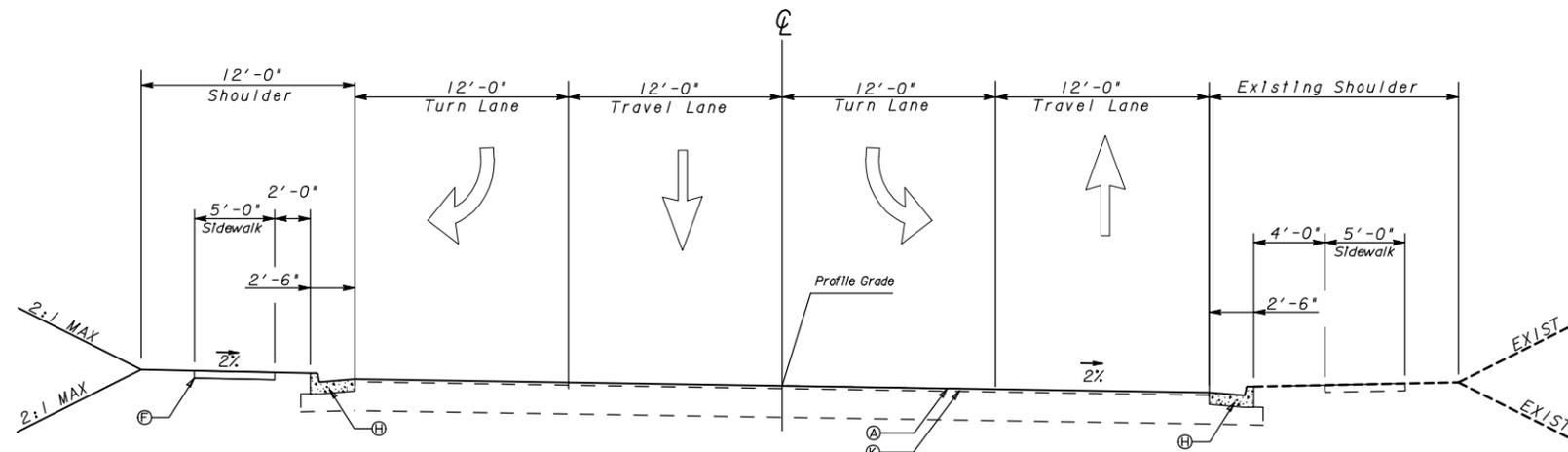
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
TYPICAL SECTIONS



TYPICAL SECTION #11
BUSBEE DRIVE
STA. 39+59.50 TO 45+00



STREETLIGHT POLE DETAIL



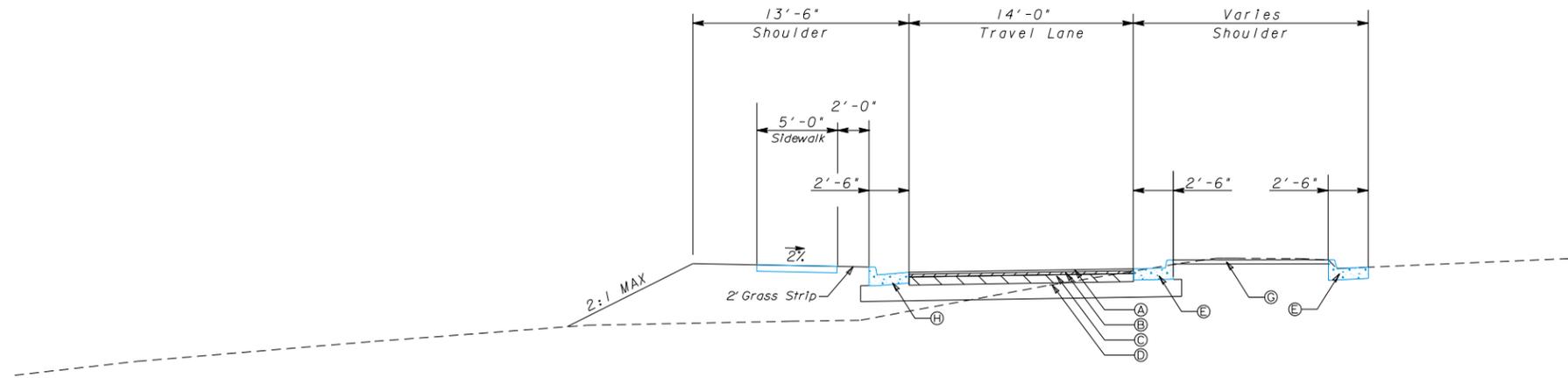
TYPICAL SECTION #12
BUSBEE DRIVE
STA. 45+00 TO 49+71.86

- REQUIRED PAVEMENT**
- (A) RECYC. ASPH. CONCR. 9.5mm SUPERPAVE, 137.5LB/SY (1 1/4")
 - (B) RECYC. ASPH. CONCR. 19mm SUPERPAVE, 220LB/SY (2")
 - (C) RECYC. ASPH. CONCR. 25mm SUPERPAVE, 770LB/SY (7")
 - (D) GRADED AGGREGATE BASE, 12"
 - (E) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 7
 - (F) 4" x 5' CONC. SIDEWALK, GA. CONSTR. DET. A-3
 - (G) RED STAMPED CONCRETE MEDIAN / GRASS MEDIAN (TYP)
 - (H) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 2
 - (I) GRASS MEDIAN
 - (J) 6" x 10' CONCRETE SIDEWALK
 - (K) ASPHALT LEVELING AS REQUIRED

CROY ENGINEERING
Engineers
Planners
Surveyors
200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413
MARIETTA, GA 30062
PHONE: (770) 971-6407 FAX: (770) 971-0620

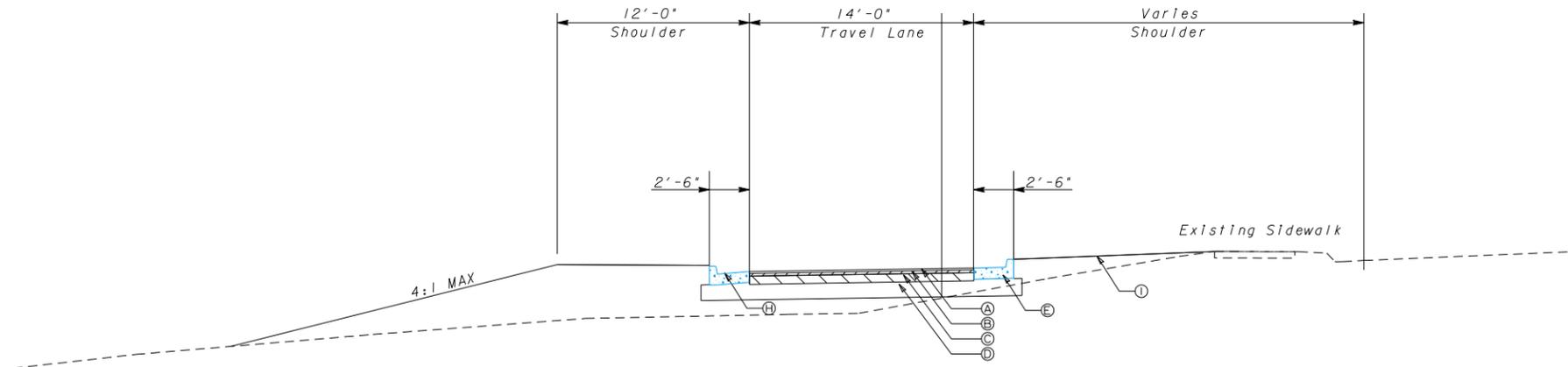
REVISION DATES

COBB COUNTY
DEPARTMENT OF TRANSPORTATION
OFFICE:
TYPICAL SECTIONS
SKIP SPANN CONNECTOR



TYPICAL SECTION #13

Slip Ramp from I-75 SB Exit Ramp to Frey Rd
Sta. 65+50 to Sta. 68+50



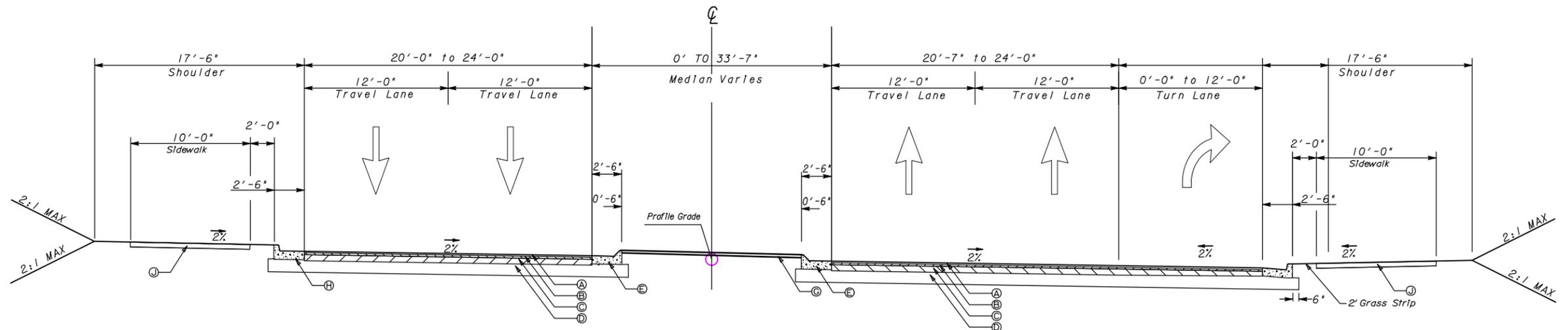
TYPICAL SECTION #14

Slip Ramp from Busbee Dr to I-75 NB Entrance Ramp
Sta. 77+00 to Sta. 80+50

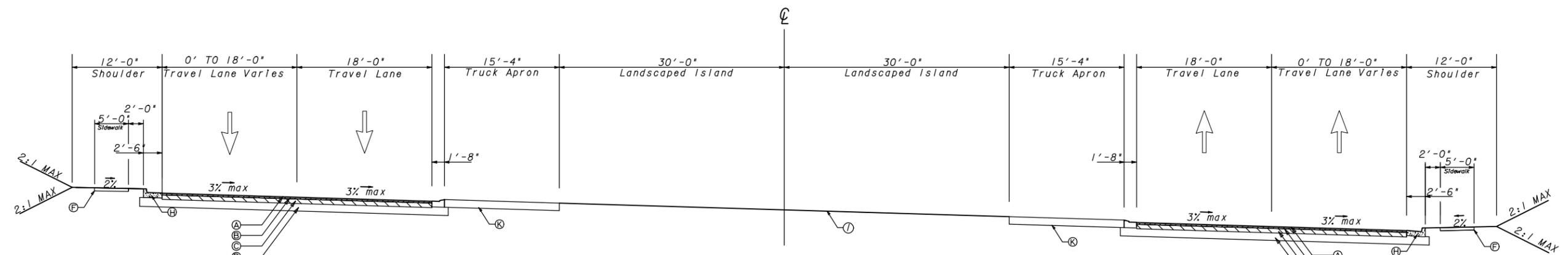
- REQUIRED PAVEMENT**
- (A) RECYC. ASPH. CONCR. 12.5mm SUPERPAVE, 165LB/SY (1 1/2")
 - (B) RECYC. ASPH. CONCR. 19mm SUPERPAVE, 220LB/SY (2")
 - (C) RECYC. ASPH. CONCR. 25mm SUPERPAVE, 660LB/SY (6")
 - (D) GRADED AGGREGATE BASE, 10"
 - (E) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 7
 - (F) 4" x 5' CONC. SIDEWALK, GA. CONSTR. DET. A-3
 - (G) RED STAMPED CONCRETE MEDIAN (TYP)
 - (H) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 2
 - (I) GRASS MEDIAN
 - (J) 6" x 10' CONCRETE MULTI-USE PATH

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
TYPICAL SECTIONS



TYPICAL SECTION #15
KSU DRIVEWAY
STA. 100+11.61 TO 103+23.54



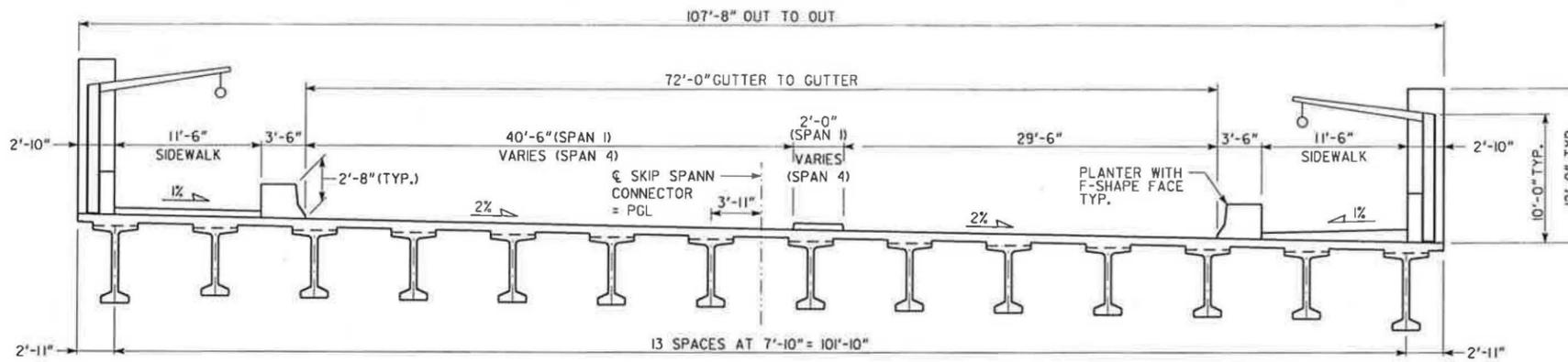
TYPICAL SECTION #16
ROUNDBOUT

- REQUIRED PAVEMENT**
- (A) RECYC. ASPH. CONCR. 9.5mm SUPERPAVE, 137.5LB/SY (1 1/2")
 - (B) RECYC. ASPH. CONCR. 19mm SUPERPAVE, 220LB/SY (2")
 - (C) RECYC. ASPH. CONCR. 25mm SUPERPAVE, 770LB/SY (7")
 - (D) GRADED AGGREGATE BASE, 12"
 - (E) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 7
 - (F) 4" x 5' CONC. SIDEWALK, GA. CONSTR. DET. A-3
 - (G) RED STAMPED CONCRETE MEDIAN / GRASS MEDIAN (TYP)
 - (H) 8" x 30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 2
 - (I) GRASS MEDIAN
 - (J) 6" x 10' CONCRETE SIDEWALK
 - (K) RED STAMPED CONCRETE TRUCK APRON (8")

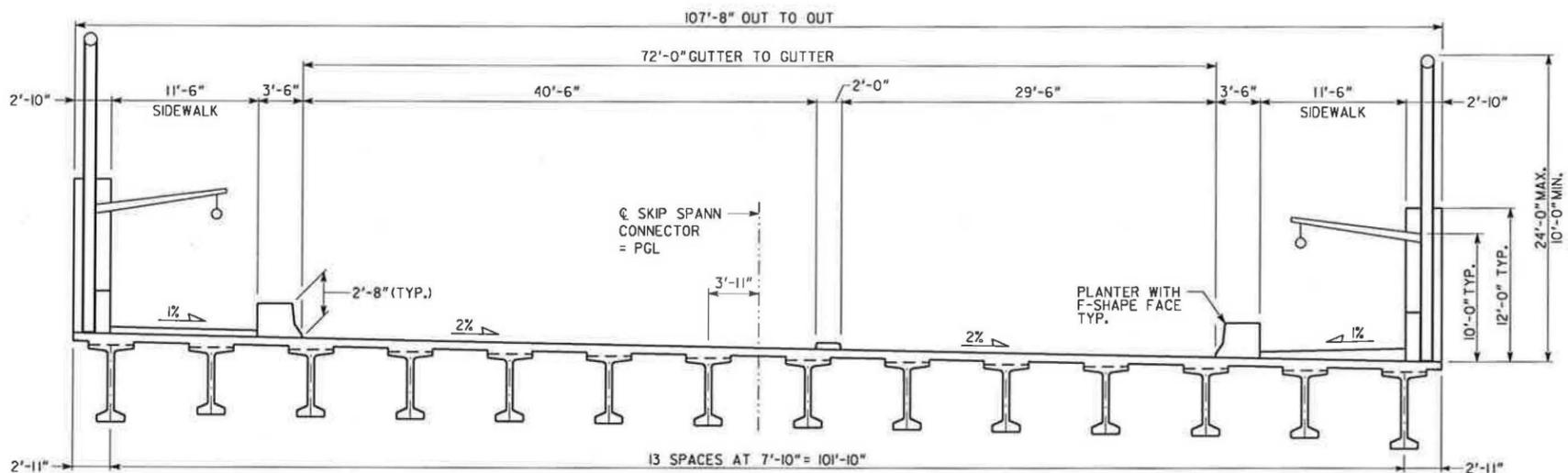
CROY Engineers
ENGINEERS Planners
SURVEYORS

200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413
MARIETTA, GA 30062
PHONE: (770) 971-5407 FAX: (770) 971-0620

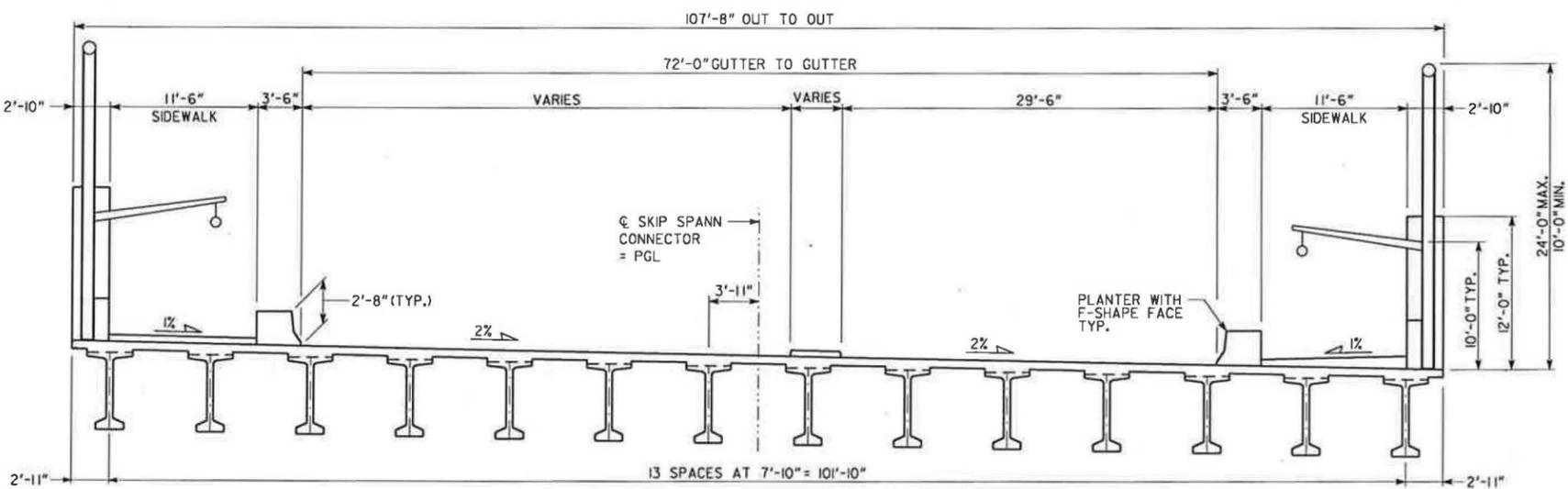
REVISION DATES		COBB COUNTY DEPARTMENT OF TRANSPORTATION	
		OFFICE:	
		TYPICAL SECTIONS	
		SKIP SPANN CONNECTOR	
		DRAWING No. 5-08	



TYPICAL SECTION SPANS 1 AND 4
 54 IN BULB TEE PSC BEAM (INTERIOR)
 74 IN BULB TEE PSC BEAM (EXTERIOR)



TYPICAL SECTION SPAN 2
 54 IN BULB TEE PSC BEAM (INTERIOR)
 74 IN BULB TEE PSC BEAM (EXTERIOR)



TYPICAL SECTION SPAN 3
 74 IN BULB TEE PSC BEAM

User Name: joponte Date: 12/16/2012 Time: 10:52:33 AM
 File Name: g:\tr\63899\busbae-frey_connector\bridge\preliminary\02-63899-1s.dgn

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ARCADIS



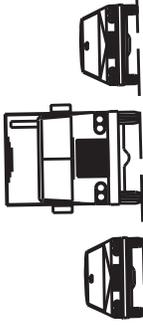
DESIGNED BY	RHC	DATE	11/19/2012	DRAWN BY	JJA/MLF	DATE	11/21/2012
CHECKED BY	MDM	DATE	11/29/2012	CHECKED BY	MDM/JL	DATE	11/29/2012
SUPERVISED BY	MICHAEL D. MOLLANEN, P.E.						

COBB COUNTY DEPARTMENT OF TRANSPORTATION
 SUBMITTED BY
 MICHAEL D. MOLLANEN, P.E. DATE 12/6/2012

PI 0010157
 PRELIMINARY TYPICAL SECTIONS
 SKIP SPANN CONNECTOR OVER I-75
 COBB COUNTY

ACCOUNT NO.	EDIT
DRAWING NO.	2

EXISTING
I-75 SOUTHBOUND
GENERAL PURPOSE LANES



PROPOSED
I-75 REVERSIBLE
MANAGED LANE

10' SHLDR

12'

4' SHLDR



8' SHLDR



EXISTING
I-75 NORTHBOUND
GENERAL PURPOSE LANES

TS-15
I-75 TYPICAL SECTION
NORTH OF I-575
(LOOKING NORTH)

JOB ESTIMATE REPORT

JOB NUMBER : 0010157 (8-8-12) SPEC YEAR: 01
 DESCRIPTION: SKIP SPANN CONNECTOR

COST GROUPS FOR JOB 0010157 (8-8-12)

COST GROUP DESCRIPTION	QUANTITY	PRICE	AMOUNT	ACTIVE?
ERTHLS EARTHWORK (LS)	1.000	875000.00000	875000.00	Y
TRFT TRAFFIC CONTROL-TEMPORARY (LS)	1.000	250000.00000	250000.00	Y
EROCPCO EROSION CONTROL (PERCENT OF JOB)	86718.750	1.75000	151757.81	Y
STRO STRUCTURES, OTHER (SF)	48000.000	150.00000	7200000.00	Y
PVMKPCTO PAVEMENT MARKING (PERCENT OF JOB)	86718.750	1.75000	151757.81	Y
LSCPPCTO LANDSCAPING (PERCENT OF JOB)	86718.750	0.50000	43359.38	Y
ACTIVE COST GROUP TOTAL			8671875.00	
INFLATED COST GROUP TOTAL			8671875.00	

ITEMS FOR JOB 0010157 (8-8-12)

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0015	310-5120	SY		GR AGGR BS CRS 12IN INCL MATL	23000.000	13.24	304520.00
0020	402-1802	TN		RECYL AC PATCHING, INCL BM&HL	50.000	75.57	3778.50
0025	402-1812	TN		RECYL AC LEVELING, INC BM&HL	1500.000	59.05	88575.00
0030	402-3103	TN		REC AC 9.5 MM SP, TPII, GP2, INCL BM & HL	2615.000	63.54	166157.10
0035	402-3190	TN		RECYL AC 19 MM SP, GP 1 OR 2, INC BM&HL	2450.000	57.93	141928.50
0040	402-3121	TN		RECYL AC 25MM SP, GP1/2, BM&HL	12650.000	53.81	680696.50
0045	413-1000	GL		BITUM TACK COAT	4500.000	1.92	8640.00
0050	432-5010	SY		MILL ASPH CONC PVMT, VARB DEPTH	1800.000	2.55	4590.00
0055	433-1100	SY		REF CONC APPR SL/INCL CURB	700.000	100.00	70000.00
0060	441-0004	SY		CONC SLOPE PAV, 4 IN	1000.000	80.00	80000.00
0065	441-0104	SY		CONC SIDEWALK, 4 IN	4300.000	20.92	89956.00
0070	441-0740	SY		CONC MEDIAN, 4 IN	1750.000	36.41	63717.50
0072	441-0756	SY		CONC MEDIAN, 8 IN	550.000	47.25	25987.50
0074	441-5001	LF		CONC HEADER CURB, 4", TP 1	300.000	18.00	5400.00
0075	441-6216	LF		CONC CURB & GUTTER/ 8"X24"TP2	9300.000	9.74	90582.00
0080	441-6730	LF		CONC CURB & GUTTER/ 12"X30"TP7	3700.000	10.54	38998.00
0085	446-1100	LF		PVMT REF FAB STRIPS, TP2, 18 INCH WIDTH	3500.000	13.46	47110.00
0090	500-3115	LF		CLASS A CONCRETE, TYPE P2, RETAINING WALL	200.000	351.19	70238.00
0094	500-3800	CY		CL A CONC, INCL REINF STEEL SIX-BARREL BOX CULVERT	750.000	841.19	630892.50
0095	550-1180	LF		STM DR PIPE 18", H 1-10	4200.000	20.48	86016.00
0100	550-4218	EA		FLARED END SECT 18 IN, ST DR	5.000	600.00	3000.00
0105	639-3004	EA		STEEL STRAIN POLE, TP IV	15.000	6000.00	90000.00
0110	641-1100	LF		GUARDRAIL, TP T	200.000	66.30	13260.00
0115	641-1200	LF		GUARDRAIL, TP W	3500.000	21.93	76755.00
0120	641-5001	EA		GUARDRAIL ANCHORAGE, TP 1	5.000	765.00	3825.00
0125	641-5012	EA		GUARDRAIL ANCHORAGE, TP 12	5.000	2346.00	11730.00
0128	647-1000	LS		TRAF SIGNAL INSTALLATION NO - SKIP SPANN @ FREY	1.000	150000.00	150000.00
0133	647-1000	LS		TRAF SIGNAL INSTALLATION NO - FREY @ CHASTAIN	1.000	150000.00	150000.00
0134	647-1000	LS		TRAF SIGNAL INSTALLATION NO - BUSBEE DR @ BUSBEE PARKWAY	1.000	150000.00	150000.00
0139	647-1000	LS		TRAF SIGNAL INSTALLATION NO - BUSBEE DR @ CHASTAIN (MODIFICATION)	1.000	50000.00	50000.00
0144	647-1000	LS		TRAF SIGNAL INSTALLATION NO - I-75 EXIT RAMP (MODIFICATION)	1.000	50000.00	50000.00
0149	668-1100	EA		CATCH BASIN, GP 1	51.000	1797.00	91647.00
0153	682-9030	LS		LIGHTING SYSTEM	1.000	100000.00	100000.00
0154	937-6050	EA		INT VIDEO DET SYS ASMBLY, TP A	6.000	5600.00	33600.00
0159	937-6051	EA		INT VIDEO DET SYS ASMBLY, TP B	2.000	5600.00	11200.00
ITEM TOTAL							3682800.10
INFLATED ITEM TOTAL							3682800.10

TOTALS FOR JOB 0010157 (8-8-12)

ESTIMATED COST:	12354675.10
CONTINGENCY PERCENT (0.0):	0.00
ESTIMATED TOTAL:	12354675.10

PROJ. NO.
P.I. NO. 0010157
DATE 9/17/2012

CALL NO.

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Sep-12	\$ 3.836
DIESEL		\$ 4.068
LIQUID AC		\$ 576.00

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

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

Asphalt

Price Adjustment (PA)				332035.2	\$	332,035.20
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	921.60		
Monthly Asphalt Cement Price month project let (APL)			\$	576.00		
Total Monthly Tonnage of asphalt cement (TMT)				960.75		

ASPHALT	Tons	%AC	AC ton
Leveling	1500	5.0%	75
12.5 OGFC		5.0%	0
12.5 mm		5.0%	0
9.5 mm SP	2615	5.0%	130.75
25 mm SP	12650	5.0%	632.5
19 mm SP	2450	5.0%	122.5
19215			960.75

BITUMINOUS TACK COAT

Price Adjustment (PA)				\$	6,679.74	\$	6,679.74
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	921.60			
Monthly Asphalt Cement Price month project let (APL)			\$	576.00			
Total Monthly Tonnage of asphalt cement (TMT)				19.32795415			

Bitum Tack

Gals	gals/ton	tons
4500	232.8234	19.3279541

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)					0	\$	-
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	921.60			
Monthly Asphalt Cement Price month project let (APL)			\$	576.00			
Total Monthly Tonnage of asphalt cement (TMT)				0			

Bitum Tack

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

TOTAL LIQUID AC ADJUSTMENT \$ **338,714.94**

GEORGIA DEPARTMENT OF TRANSPORTATION
LOCAL ACQUISITION - DETAILED ROW COST ESTIMATE SUMMARY

Date (MM/YYYY): 1/13/12 Project: Busbee Dr. - Frey Rd. Connector
 Revised: N/A County: Cobb
 PI: 10157

Description: N/A
 Parcels: 10 R/W Plan Date: Preliminary
 FOR FUNDING ONLY

CONTRACT

Land and Improvements _____	\$2,511,654.99
Valuation Services _____	\$21,000.00
Legal Services _____	\$65,800.00
Relocation _____	\$0.00
Demolition _____	\$0.00
TOTAL CONTRACT _____	\$2,598,454.99

IN-HOUSE

Sponsor In-house _____	\$50,500.00
Sponsor Estimated Costs _____	\$2,648,954.99
Agency Oversight In-house _____	\$11,500.00
TOTAL ESTIMATED COSTS _____	\$2,660,454.99
TOTAL ESTIMATED COSTS (ROUNDED) _____	\$2,670,000.00

Preparation Credits	Hours	Signature
HallRigdon, MAI	24	_____

Hall Rigdon *CG#: 680 (DATE) 1/13/12
 _____ *CG#: _____ (DATE) _____

*CG required only if used for Negotiations

Attachment(s): Project Location Map; Subject/Comp Location Map; Comparable Sales Data

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE PROJECT No. , **OFFICE**
 DATE

P.I. No.

FROM

TO Lisa L. Myers, Project Review Engineer

SUBJECT REVISIONS TO PROGRAMMED COSTS

PROJECT MANAGER

MNGT LET DATE

MNGT R/W DATE

PROGRAMMED COST (TPro W/OUT INFLATION)

CONSTRUCTION \$

DATE

RIGHT OF WAY \$

DATE

UTILITIES \$

DATE

LAST ESTIMATE UPDATE

REVISED COST ESTIMATES

CONSTRUCTION* \$

RIGHT OF WAY \$

UTILITIES \$

* Costs contain % Engineering and Inspection

REASON FOR COST INCREASE

Price increased with addition of lighting.

CONTINGENCY SUMMARY

Construction Cost Estimate:	\$ 12,354,675	(Base Estimate)
Engineering and Inspection:	\$ 617,733.76	(Base Estimate x 5 %)
Total Liquid AC Adjustment	\$ 338,174.94	(From attached worksheet)
Construction Total:	\$ 13,310,584	

REIMBURSABLE UTILITY COST

Utility Owner

Reimbursable Cost

Attachments

ENVIRONMENTAL COMMITMENTS TABLE

PI#: 0010157 | County: Cobb | Date Updated: 01/30/12 | Stage: CE
 Date on Plans Reviewed by OES: Plans Not Available

Review These commitments are feasible.
 (must be checked at all stages)

Project Manager (PM) Michael S. White
 PM Signature/Date 2-7-12

Plans incorporate the commitments.
 (must be checked to certify for letting)

Engineer of Record (EOR) _____
 EOR Signature/Date _____

Air/Noise to Arch to
 Eco RF/ATKINS 3/5/12 Hist to
 NEPA mn

A. Resources to be Delineated on the Plans and/or Listed in the Environmental Resource Impact Table (ERIT)

Resource Name	Additional Information (refer to the SP, plan note, design feature, permit, variance, commitment, etc...)	Name and Date of Report or Transmittal		Correctly Shown?	
		Plan Sheet	ERIT	Plan Sheet	ERIT
A-1 Wetland 1	None	Ecology AOE Report 09/30/11	Yes	Yes	Yes
A-2 Perennial Stream 2	None	Ecology AOE Report 09/30/11	Yes	Yes	Yes
A-3 Perennial Stream 2 Buffer	None; Refer to Design Feature C-1	Ecology AOE Report 09/30/11	Yes	Yes	Yes
A-4 Wetland 3	0.40 acre of impact; Refer to Permit D-2 and Mitigation D-3	Ecology AOE Report 09/30/11	Yes	Yes	Yes

B. Special Provisions (Attach all special provisions to the commitments table, if available)

Special Provision	Purpose	Est. Cost	SP's Latest Date
None			

C. Plan Notes and Design Features (Description: For plan notes, provide exact wording in "quotes" and approximate location)

Purpose	Description	Est. Cost	Correctly Shown?
Stream Buffers	Install orange barrier fencing around the construction limits along stream buffers within the project limits to minimize impacts to these buffers.	Negligible	No

D. Permits, Buffer Variances and Mitigation Credits

Permit, Variance, etc	Additional Information (permit details, number of credits needed, etc...)	Est. Cost	Acquired?
D-1 Notice of Intent (NOI) for NPDES	The Office of Bidding Administration and Construction Contractor will submit a NOI to the NPDES General Permit following award of the contract but prior to construction.	Negligible	Will be acquired following letting
D-2 Section 404 Nationwide Permit 23	Required prior to project's letting.	Negligible	No
D-3 Wetland Mitigation Credits	2,3 credits needed	\$18,400	No

E. Other Commitments or Requirements (Status: Pre- and Post - Complete or Incomplete; During - Signature Req'd)

Pre-, During, or Post	Commitment	Responsible party	Est. Cost	Status
Preconstruction	Cobb County will coordinate with Cobb Community Transit (CCT) regarding relocation of any CCT bus stop shelters located within the project limits.	Cobb County and Georgia DOT District 7 Design	Negligible	Incomplete
During Construction	In the event that human remains are discovered during construction, project activities will stop and appropriate state and tribal authorities will be immediately notified.	Contractor with oversight by Georgia DOT Office of Construction	Negligible	Incomplete

Project is Complete or Under Construction, Area or Construction Engineer affirms that all Special Provisions, Plan Notes and During Construction Commitments here or are being adhered to during the project's construction.

Please Print Name and Title: _____ Signature: _____ Date: _____
 Total Estimated Cost: \$18,400
 Please provide an explanation if unable to sign.

2.2 Accident Analysis

Safety analysis parameters, including total crash rates, fatality rates, and injury rates, were developed for the study area. The latest six years (2004 through 2009) of accident data were obtained from Georgia Department of Transportation (GDOT) to develop these parameters. Table 1 summarizes the crash analysis results for Chastain Road between the intersections of Chastain Road at State University Road and George Busbee Parkway. On average, 89 crashes were experienced along the study corridor each year.

Table 1 Crash Analysis Summary – Chastain Road (Segment and Intersection Level Combined)

Item/Year		Year					
		2004	2005	2006	2007	2008	2009*
Crash Types	Angle	6	30	15	32	36	20
	Rear-End	13	70	54	48	69	54
	Sideswipe – Same Direction	9	9	8	16	8	14
	Sideswipe – Opposite Direction	0	0	0	0	1	1
	Head On	0	2	3	1	2	1
	Not a Collision with a Motor Vehicle	3	4	2	0	2	3
Total Crashes		31	115	82	97	118	93
Total Non-Fatal Injuries		12	33	21	18	37	23
Total Fatalities		0	0	0	0	0	0
Annual Average Daily Traffic		39,355	39,740	40,060	25,070	34,070	--
Crash Rate (per 100 MVMT)		292	1,071	758	1,432	1,282	--
Statewide Crash Rate (per 100 MVMT)		509	554	548	513	469	--
Non-Fatality Injury Rate (per 100 MVMT)		113	307	194	266	402	--
Statewide Non-Fatality Injury Rate (per 100 MVMT)		194	213	208	190	176	--
Fatality Rate (per 100 MVMT)		0	0	0	0	0	--
Statewide Fatality Rate (per 100 MVMT)		1.44	1.63	1.55	1.48	1.47	--

*Year 2009 data are not yet complete.

EXISTING (2010) DHV

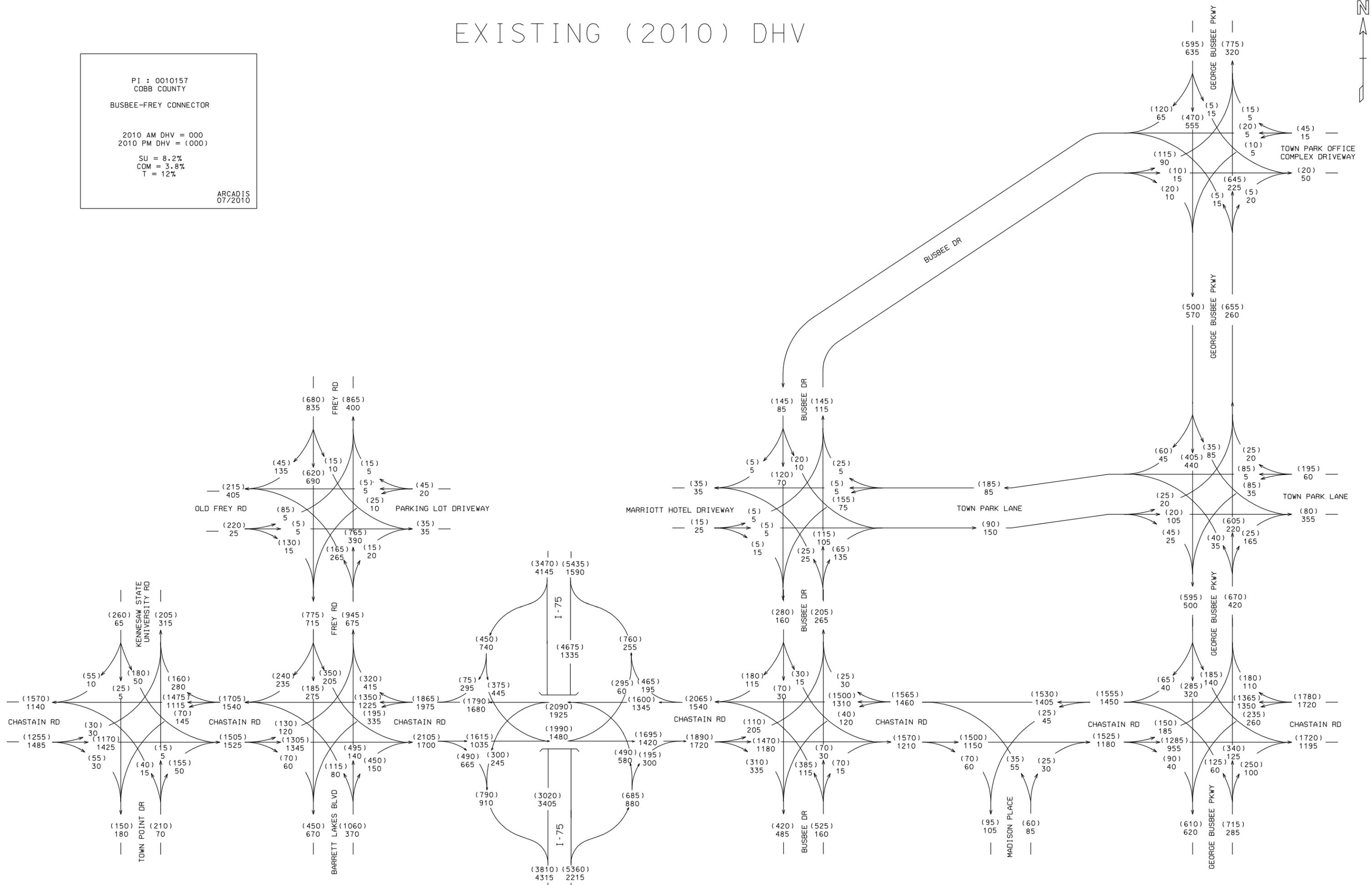


PI : 0010157
 COBB COUNTY
 BUSBEE-FREY CONNECTOR

2010 AM DHV = 000
 2010 PM DHV = (000)

SU = 8.2%
 COM = 3.8%
 T = 12%

ARCADIS
 07/2010



EXISTING (2010) ADT

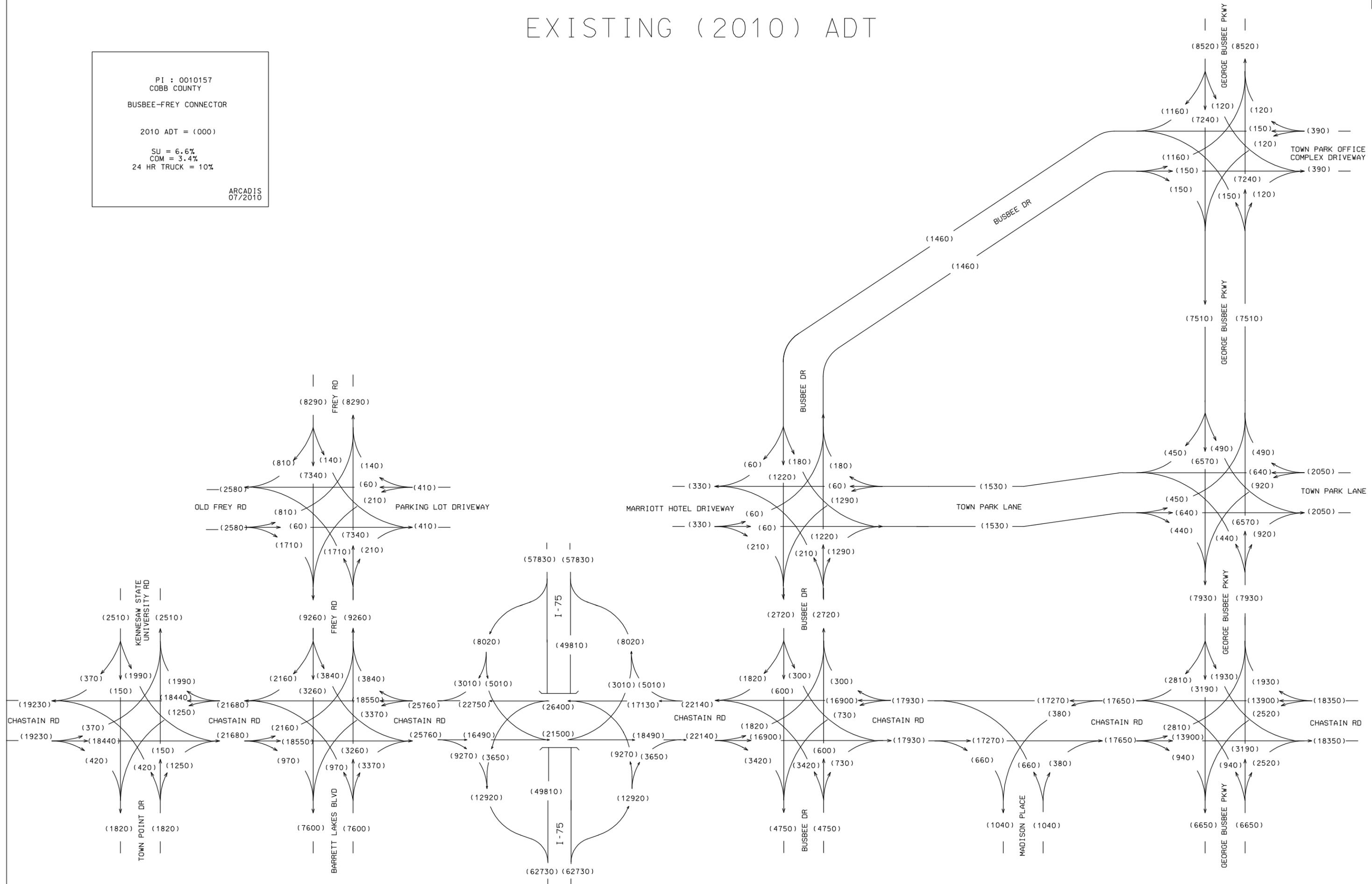


PI : 0010157
 COBB COUNTY
 BUSBEE-FREY CONNECTOR

2010 ADT = (000)

SU = 6.6%
 CDM = 3.4%
 24 HR TRUCK = 10%

ARCADIS
 07/2010



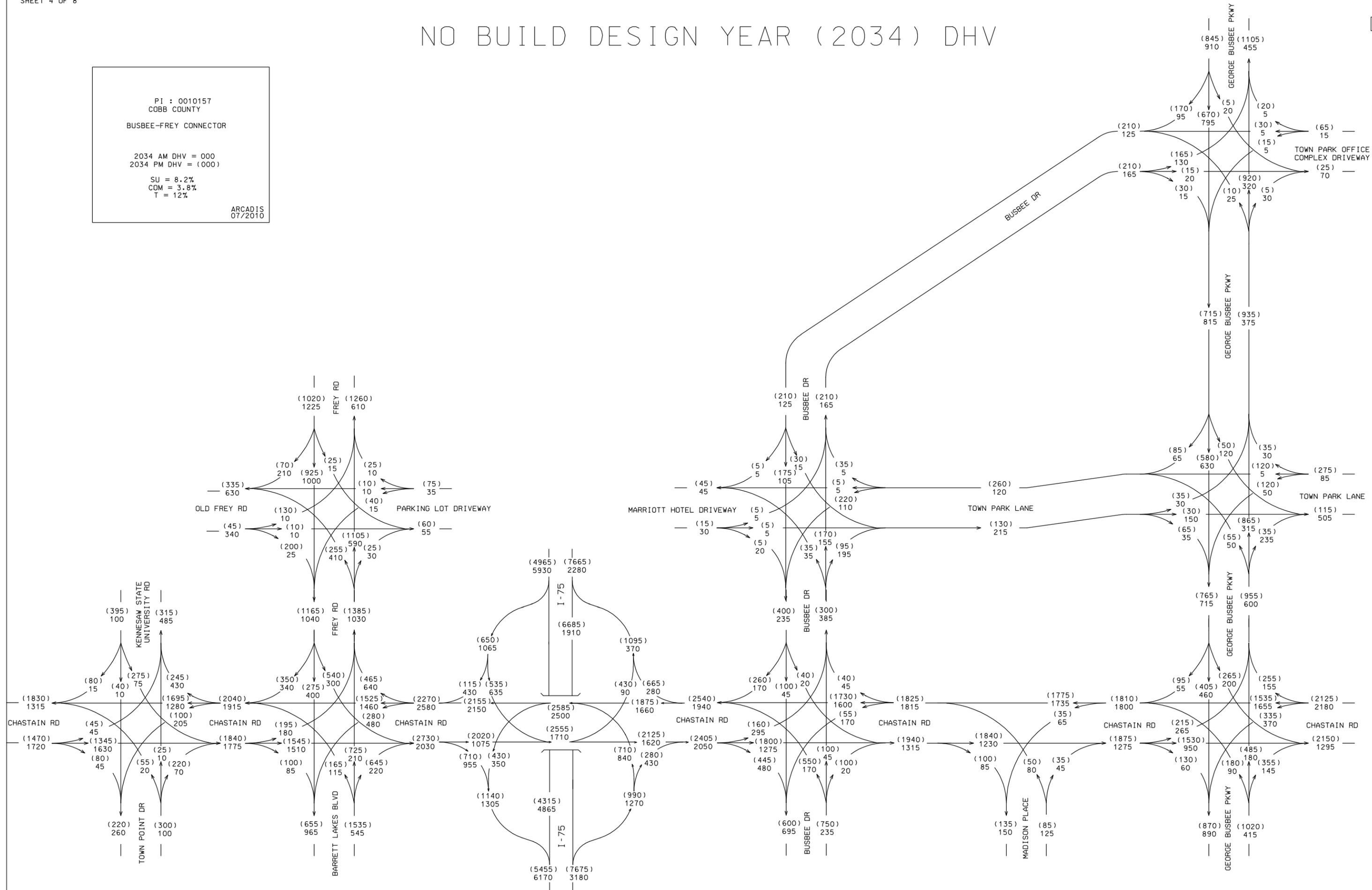
NO BUILD DESIGN YEAR (2034) DHV

PI : 0010157
 COBB COUNTY
 BUSBEE-FREY CONNECTOR

2034 AM DHV = 000
 2034 PM DHV = (000)

SU = 8.2%
 COM = 3.8%
 T = 12%

ARCADIS
 07/2010



NO BUILD OPEN YEAR (2014) & DESIGN YEAR (2034) ADT

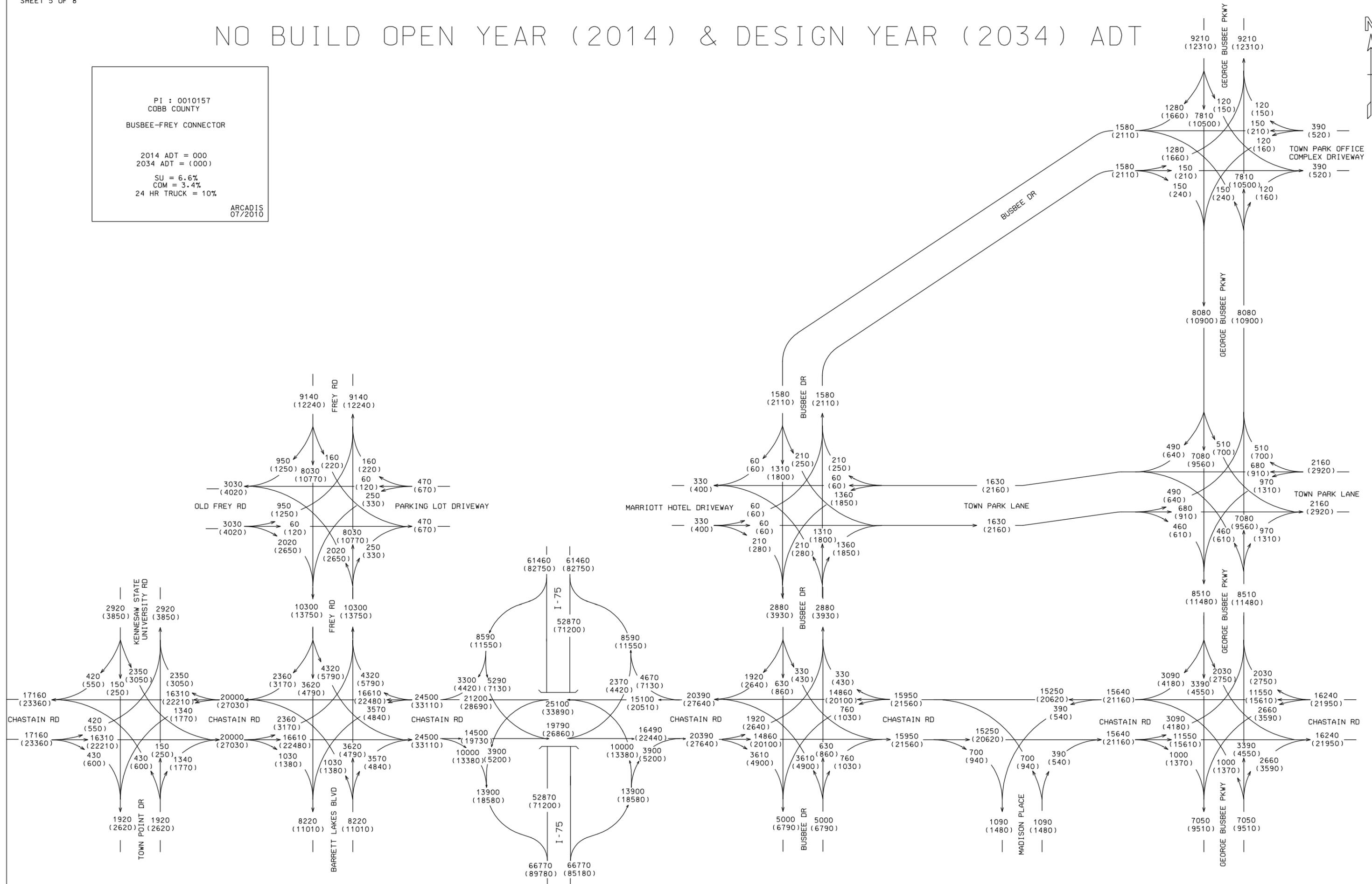


PI : 0010157
 COBB COUNTY
 BUSBEE-FREY CONNECTOR

2014 ADT = 000
 2034 ADT = (000)

SU = 6.6%
 COM = 3.4%
 24 HR TRUCK = 10%

ARCADIS
 07/2010



BUILD OPEN YEAR (2014) DHV

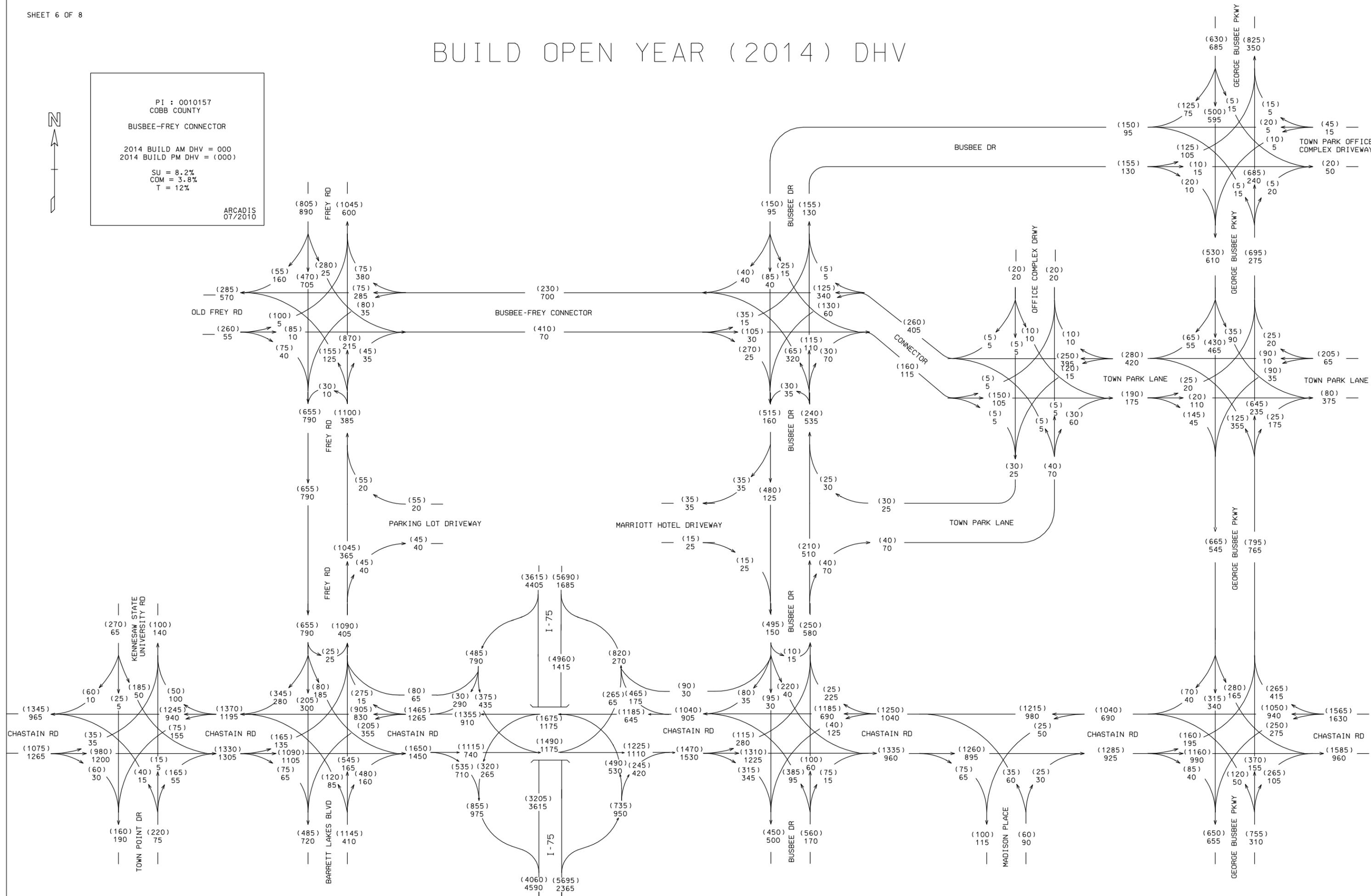


PI : 0010157
 COBB COUNTY
 BUSBEE-FREY CONNECTOR

2014 BUILD AM DHV = 000
 2014 BUILD PM DHV = (000)

SU = 8.2%
 COM = 3.8%
 T = 12%

ARCADIS
 07/2010



BUILD DESIGN YEAR (2034) DHV

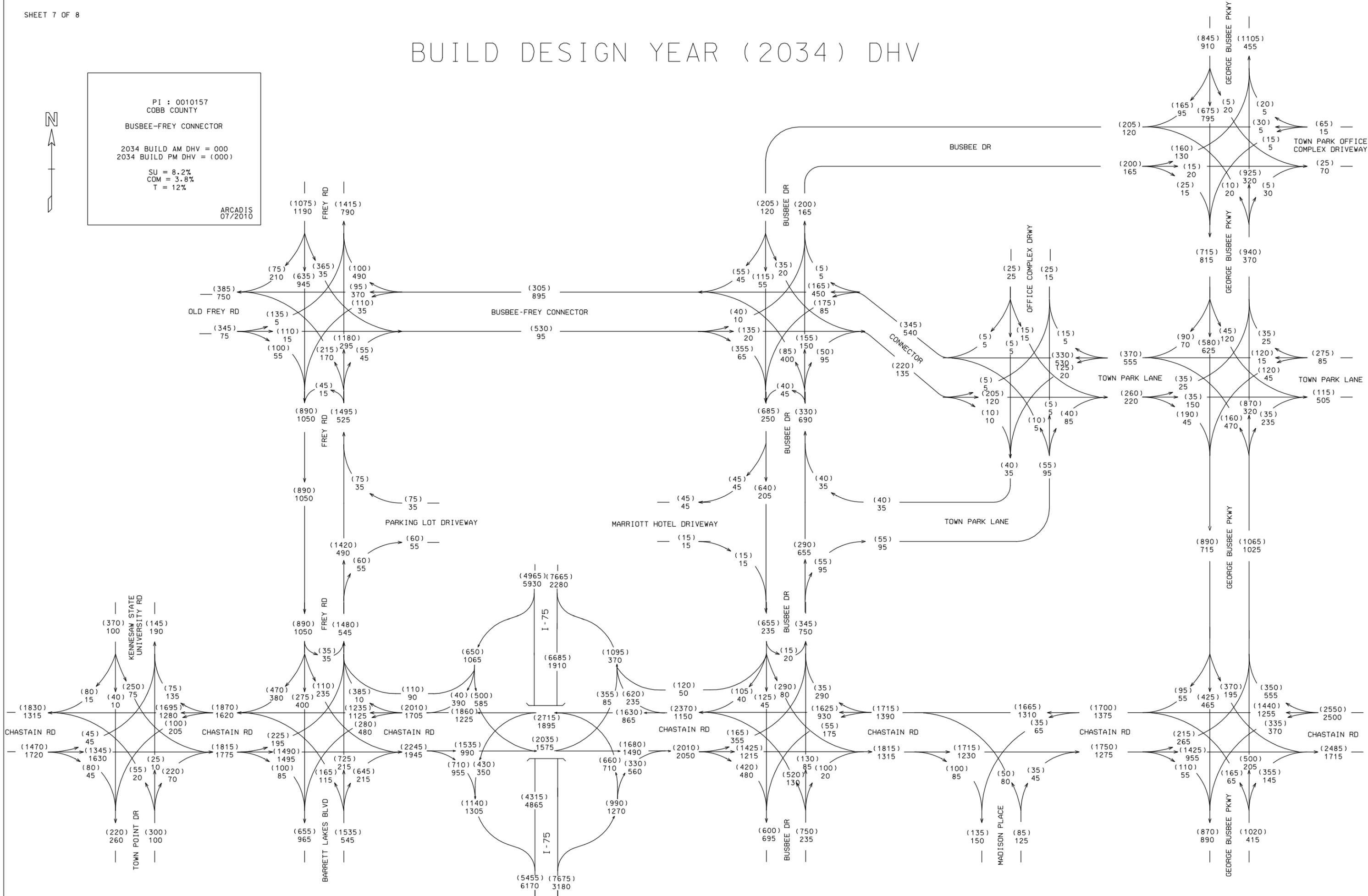


PI : 0010157
 COBB COUNTY
 BUSBEE-FREY CONNECTOR

2034 BUILD AM DHV = 000
 2034 BUILD PM DHV = (000)

SU = 8.2%
 COM = 3.8%
 T = 12%

ARCADIS
 07/2010



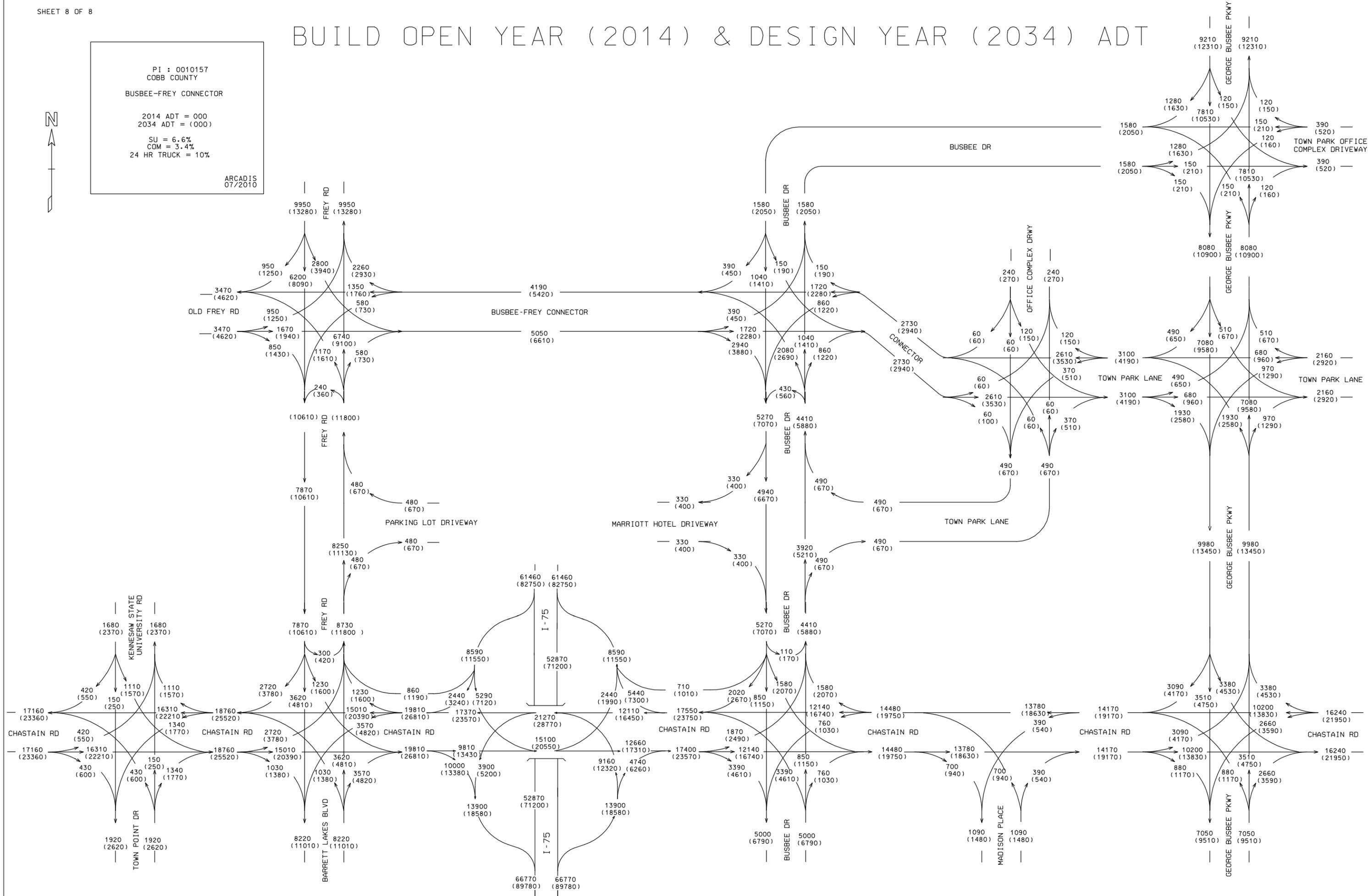
BUILD OPEN YEAR (2014) & DESIGN YEAR (2034) ADT

PI : 0010157
 COBB COUNTY
 BUSBEE-FREY CONNECTOR

2014 ADT = 000
 2034 ADT = (000)

SU = 6.6%
 COM = 3.4%
 24 HR TRUCK = 10%

ARCADIS
 07/2010



- KSU-bound traffic growth rate of 4 percent until year 2021
- Peak hour truck volume of 12 percent
- Daily truck volume of 10 percent
- A 20 percent reduction in daily traffic, which is expected to occur on Chastain Road in the future as a result of the nearby Big Shanty Road Extension and Improvement project, with an expected open year of 2012

Based on the data provided above and the trip distribution suggested by the ARC model, Table 3 highlights the expected outcome of the projected future travel pattern on Chastain Road in the year 2034 at the critical segment between the I-75 ramps on Chastain Road.

Table 3 Volume Reduction over No-Build Conditions

2034 Volume Reduction along Chastain Road in Build Conditions	
A.M. Peak Hour – Design Hourly Volume	22%
P.M. Peak Hour – Design Hourly Volume	16%
Average Daily Traffic Reduced	19%

5. Capacity Analysis

A capacity analysis is the primary method for evaluating the quality of service of highway and street facilities. Level of service (LOS) is a quality measure that describes operational conditions of these facilities. The Highway Capacity Manual 2000 (HCM 2000) published by the Transportation Research Board outlines capacity analysis procedures and the criteria for defining LOS.

The HCM 2000 defines six levels of service, designated by the letters A through F. LOS A represents the best operating conditions, and LOS F represents the worst. LOS criteria for signalized and unsignalized intersections are listed in Tables 4 and 5, respectively.

Table 4 LOS Criteria for Signalized Intersections

LOS	Control Delay per Vehicle (Sec)
A	≤10
B	>10–20
C	>20–35
D	>35–55
E	>55–80
F	>80

Table 5 LOS Criteria for Unsignalized Intersections

LOS	Average Control Delay (Sec)
A	0–10
B	>10–15
C	>15–25
D	>25–35
E	>35–50
F	>50

Capacity analyses were performed for unsignalized and signalized intersections and arterial corridors in the project area for existing (2010), open year (2014), and design year (2034) build and no-build conditions during a.m. and p.m. peak hours. Although no construction takes place in the no-build condition, signal coordination and optimization were performed for the corridor as part of the no-build analysis. Synchro 7 and CORSIM 6 software applications were used for the capacity analyses.

The results of the Synchro and CORSIM analyses are presented in Appendix C.

5.1 Existing Year (2010) Capacity Analysis

The capacity analysis for the existing year was performed using the currently implemented signal timings, including a headway of 3.5 seconds/vehicle for the ramp meters. The capacity analysis results for the existing year are summarized on Figure 5, which shows that the intersections of Frey Road at Chastain Road and George Busbee Parkway at Busbee Drive are currently operating at LOS F in the p.m. peak hour.

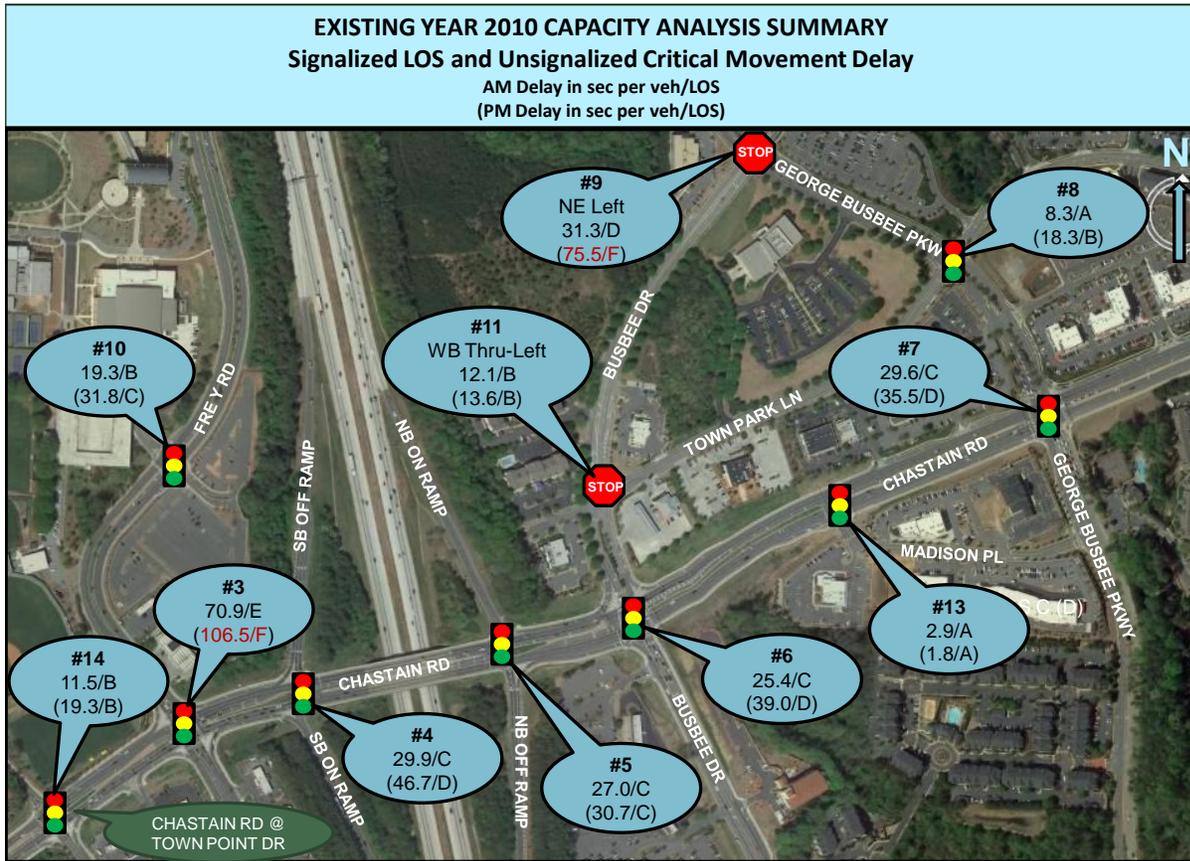


Figure 5 Existing Year (2010) Capacity Analysis Results

5.2 No-Build Analysis

Figures 6 and 7 summarize intersection LOS for signalized intersections and critical movement delays for unsignalized intersections within the project area for the open year and design year, respectively.

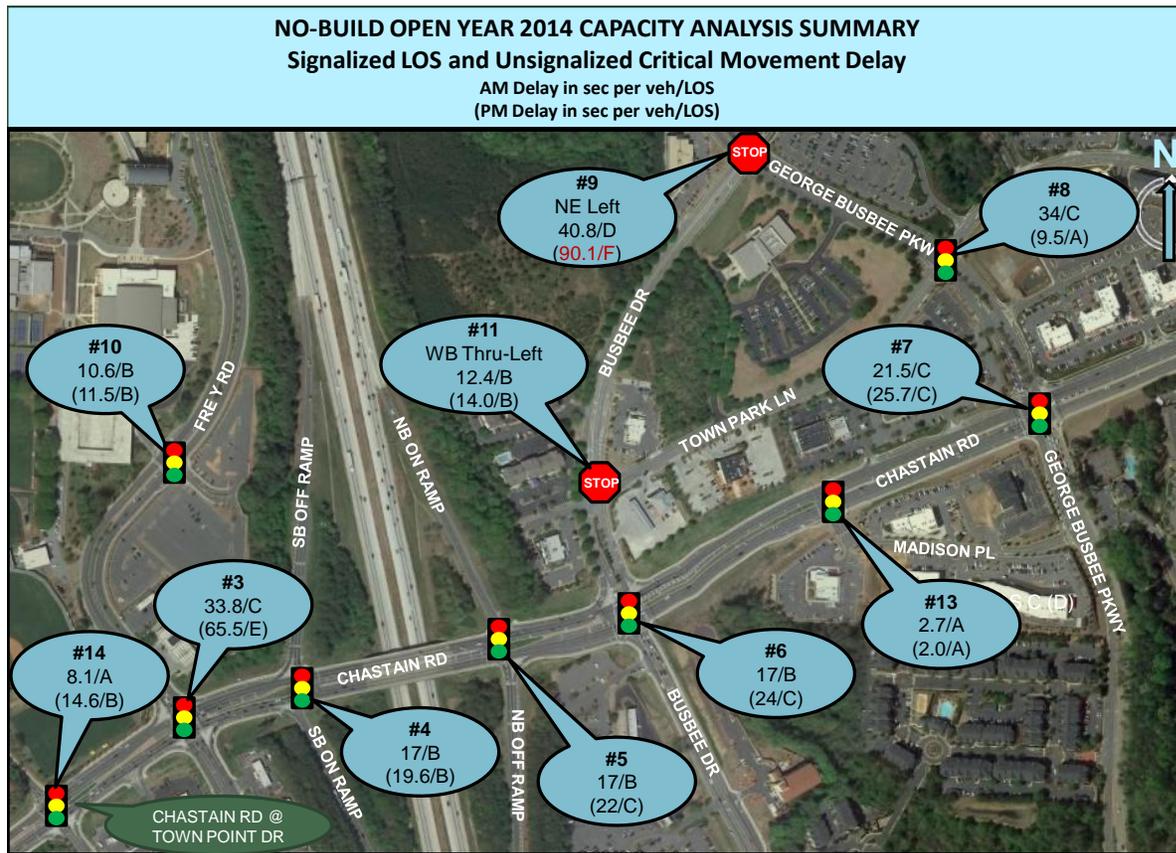


Figure 6 No-Build Open Year (2014) Capacity Analysis Summary

Highlights – No-Build Open Year:

- George Busbee Parkway at Busbee Drive will operate at LOS F with a delay of 90.1 seconds/vehicle in the p.m. peak hour.
- Chastain Road at Frey Road will operate at LOS E with a delay of 65.5 seconds/vehicle in the p.m. peak hour.

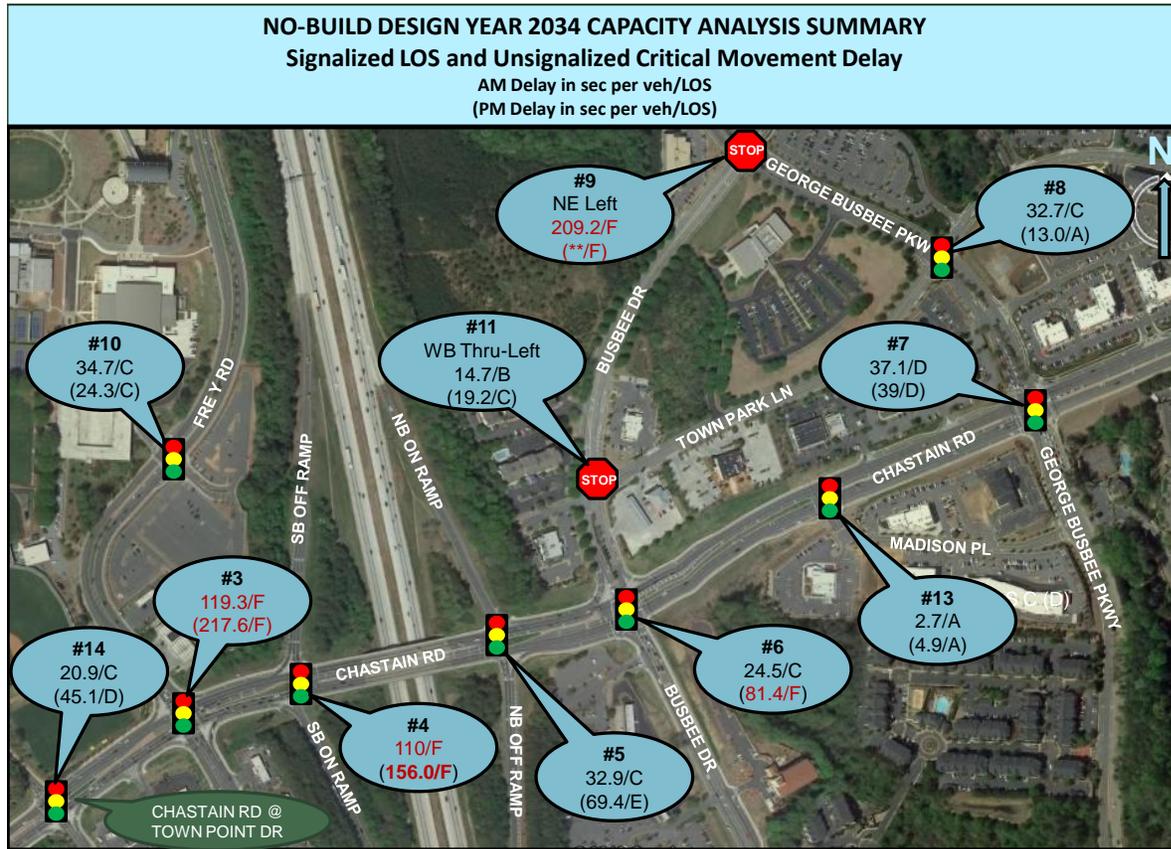


Figure 7 No-Build Design Year (2034) Capacity Analysis Summary

Highlights – No-Build Design Year:

- The area within the immediate vicinity of Chastain Road at the I-75 interchange will fail significantly during design year 2034, with two signalized intersections operating at LOS F during the a.m. peak hour and three signalized intersections failing during the p.m. peak hour.
- The unsignalized intersection of George Busbee Parkway at Busbee Drive will fail during the open year and the design year. A signal warrant analysis is recommended for this intersection.

6. Signal Warrant Analysis

A signal warrant analysis was performed to determine the need for traffic signals at new and currently unsignalized intersections for the build condition. Based on the traffic volumes and traffic analysis, a signal warrant analysis was conducted for the following three intersections for the open year or close to the open year:

- Busbee-Frey Connector at Frey Road (new)
- Busbee-Frey Connector at Busbee Drive (new)
- George Busbee Parkway at Busbee Drive (existing unsignalized)

Warrant analyses for the above intersections were performed based on the Manual on Uniform Traffic Control Devices and ITE Manual of Traffic Signal Design, 2nd edition guidelines for hourly volume distribution. The ITE manual states that in the absence of hourly volume distributions for a proposed intersection, it can be assumed that the eight highest hours will each exceed 6.25 percent of the ADT in the future.

Based on the above criteria, volumes were determined for future years for which the intersections met a particular signal warrant. Summaries of the signal warrant analysis are presented in Tables 6 and 7.

Table 6 ITE-Based Estimated Hourly Distribution Signal Warrant Analysis

Major Street	Minor Street	6.25% of Major Street 2014 ADT	6.25% of Minor Street 2014 ADT	Major Street 8th Highest DHV in Warrant Year	Minor Street 8th Highest DHV in Warrant Year	Warrant and Year Met
Busbee-Frey Connector	Busbee Drive	486	275	615	348	Warrant 1A 2022
George Busbee Parkway	Busbee Drive	1,080	98	1,112	101	Warrant 1B 2016

Table 7 Peak Hour Signal Warrant Analysis

Major Street	Minor Street	Major Street 2014 Peak Hour Volume	Minor Street 2014 Peak Hour Volume	Major Street Peak Hour Volume in Warrant Year	Minor Street Peak Hour Volume in Warrant Year	Warrant and Year Met
Busbee-Frey Connector	Busbee Drive	670	535	710	567	Warrant 3 2016

6.1 Build Alternative

In addition to the proposed Busbee-Frey Connector, the build condition includes several other proposed geometric improvements within the project area. These geometric improvements are summarized in Table 8. Refer to Appendix D for intersection sketches that show the proposed geometry.

Table 8 Build Condition Geometric Improvements

Intersection No.	Intersection Name	Proposed Geometric Improvements
1	Frey Road at Connector/KSU Parking Deck No. 9	Signalized intersection
2	Busbee Drive at Connector Road	Signalized intersection
3	Chastain Road at Frey Road	<ul style="list-style-type: none"> Modify the existing southbound dual protected left-turn lanes to a single protected permissive left-turn lane Modify existing northbound protected left-turn lane to a protected permissive left-turn lane
4	Chastain Road at I-75 Southbound Off-Ramp	Add a second right-turn and slip lane
5	Chastain Road at I-75 Northbound On-Ramp	Provide yield control to the proposed slip lane
6	Chastain Road at Busbee Drive	<ul style="list-style-type: none"> Add a second southbound right-turn lane for the slip lane to the northbound on-ramp Provide a dual southbound left-turn lane (400 feet)

Table 8 Build Condition Geometric Improvements

Intersection No.	Intersection Name	Proposed Geometric Improvements
7	Chastain Road at George Busbee Parkway	None
8	George Busbee Parkway at Townpark Lane	Make northbound left-turn lane a protected permissive phase
9	George Busbee Parkway at Busbee Drive	Signalized intersection with turn lane improvements
10	Frey Road at KSU Parking Lot No. 1	Median closure and right-in/right-out intersection
11	Busbee Drive at Townpark Lane	Median closure and right-in/right-out intersection
12	Connector at Townpark Lane	Two-way, stop-controlled intersection

Figures 8 and 9 summarize intersection LOS for signalized intersections and critical movement delays for unsignalized intersections within the project area for the open year and the design year, respectively.

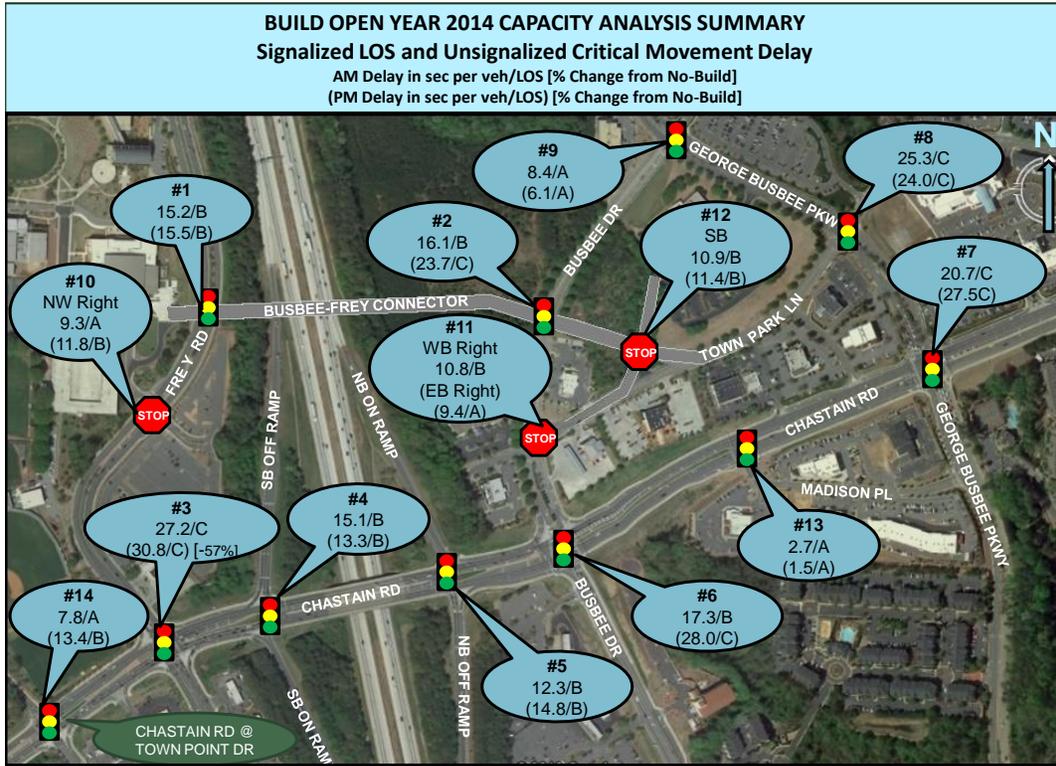


Figure 8 Build Open Year (2014) Capacity Analysis

Highlights – Build Open Year:

- The build open year shows improvement at the intersection of Chastain Road at Frey Road, which will otherwise operate at LOS E in the no-build open year.
- The proposed signalized (existing unsignalized) intersection of Busbee Drive at George Busbee Parkway will operate at LOS A.

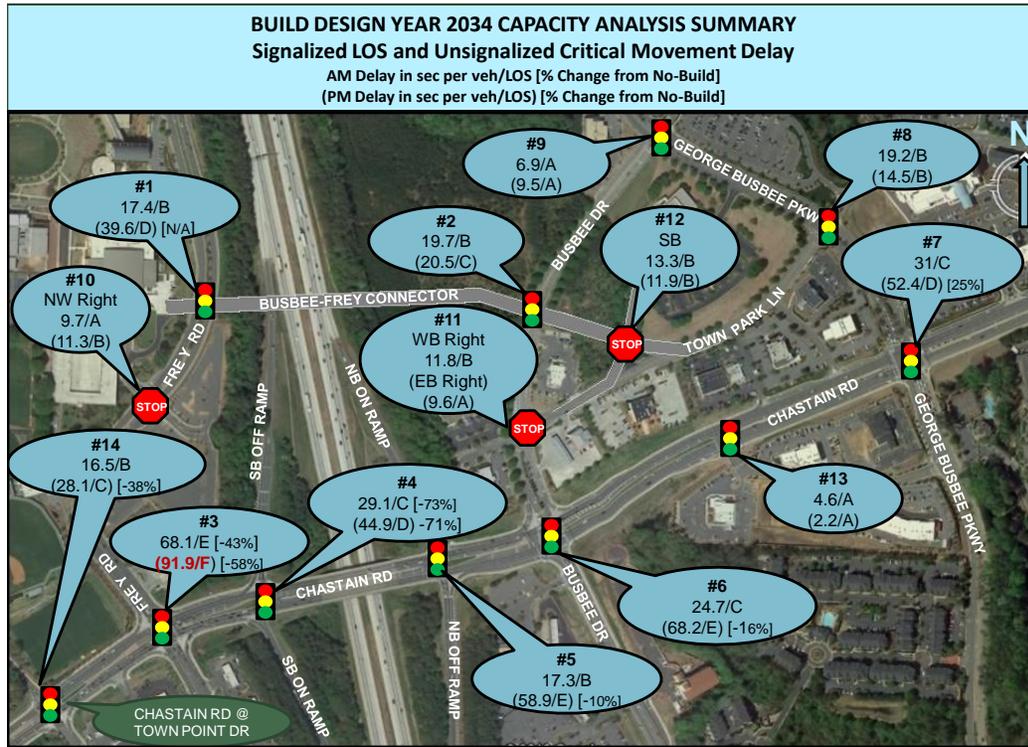


Figure 9 Build Design Year (2034) Capacity Analysis

Highlights – Build Design Year:

- The build design year shows considerable operational improvement for signalized intersections, with most operating at LOS E or better.
- The intersection of Chastain Road at Frey Road, which is suggested to operate at LOS F during the p.m. peak hour, will have a reduction of almost 58 percent in intersection delay as compared to no-build design year conditions.
- The new signalized intersections on the proposed connector will operate at LOS D or better.

Roundabout Feasibility Study

Parts 1 and 2

Shubhendu Mohanty

8/07/12



An analysis of 2 roundabouts for the proposed Skip Spann Connector in Northern Cobb County.

TABLE OF CONTENT

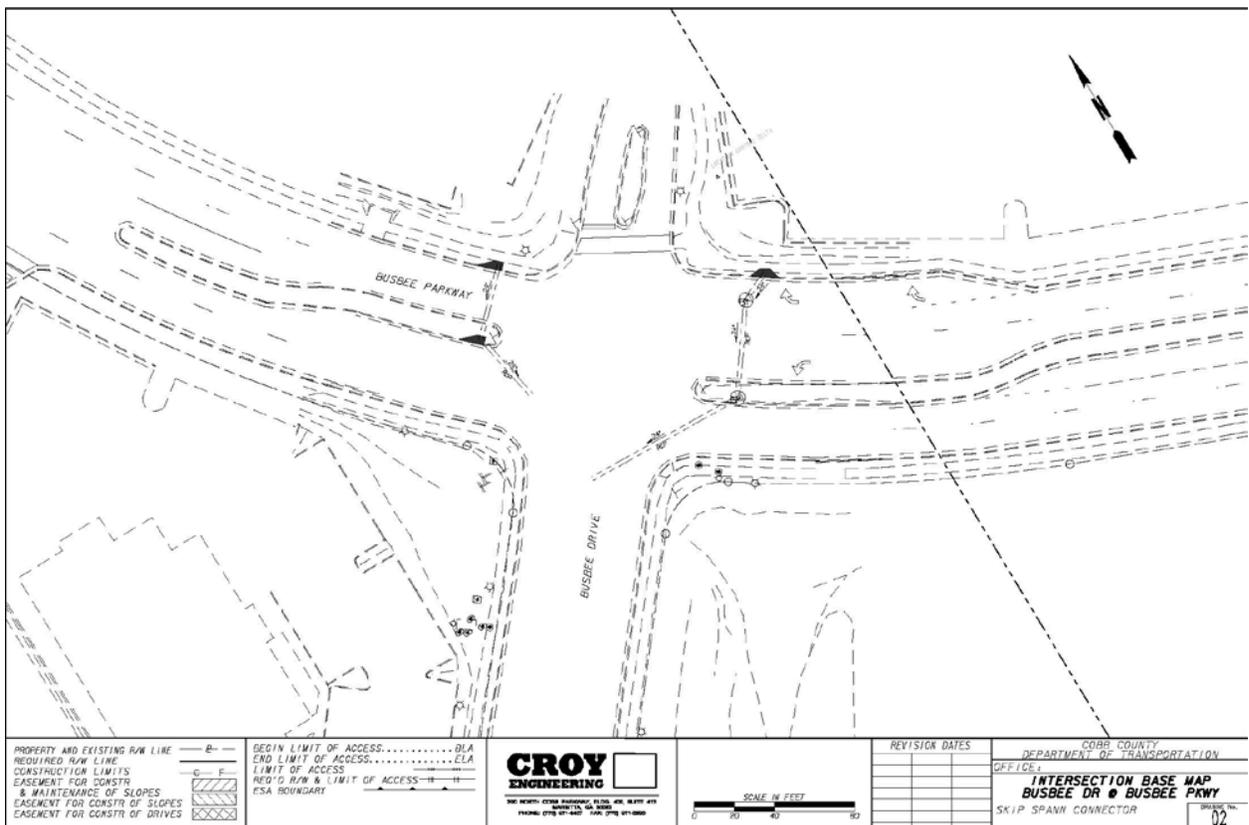
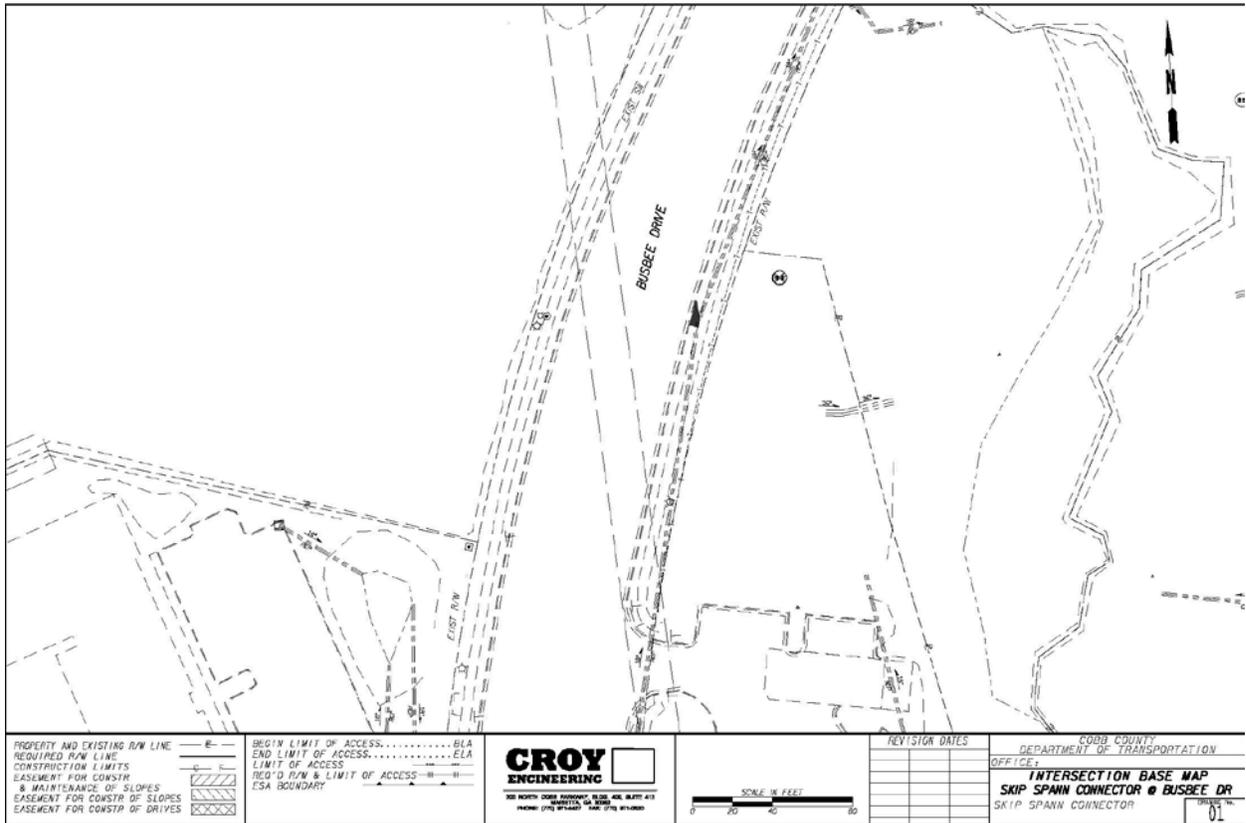
Roundabout Feasibility Study, Part 1- Alternate Comparison and Selection

1. **Intersection base Map**
2. **Signal warrant- Description Included**
3. **Alternative Sketch- Intersection base Map**
4. **Safety Assessment- Description Included**
5. **Entry Lane Assessment- Description Included**
6. **Operational Analyses- Description Included**
7. **Cost Comparison-Partial description Included but need to be completed**
8. **Select most favorable alternative**

Roundabout Feasibility Study, Part 2- Roundabout Layout

1. **Design alternate roundabout layouts**
2. **Identify Likely Impacts**
3. **Fastest Path**
4. **Design Vehicle**
5. **Design vehicle Swept path**
6. **Stopping Sight Distance**
7. **Staging Improvement N/A**
8. **Finalize concept layout**

1. Intersection base Map

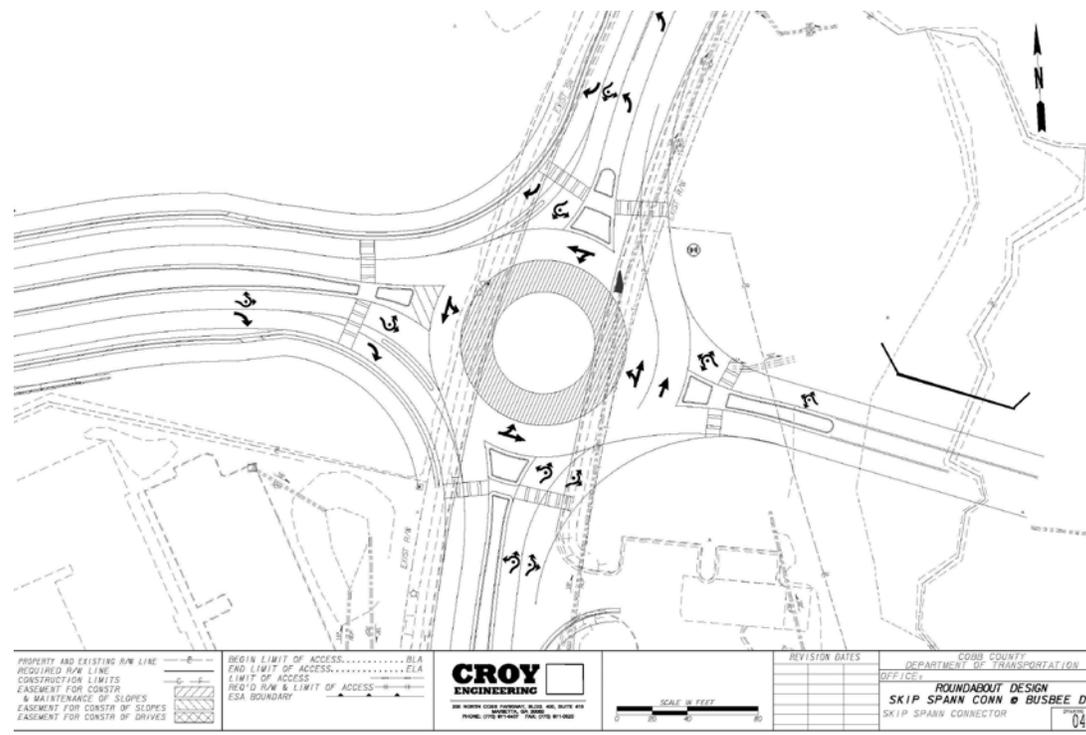
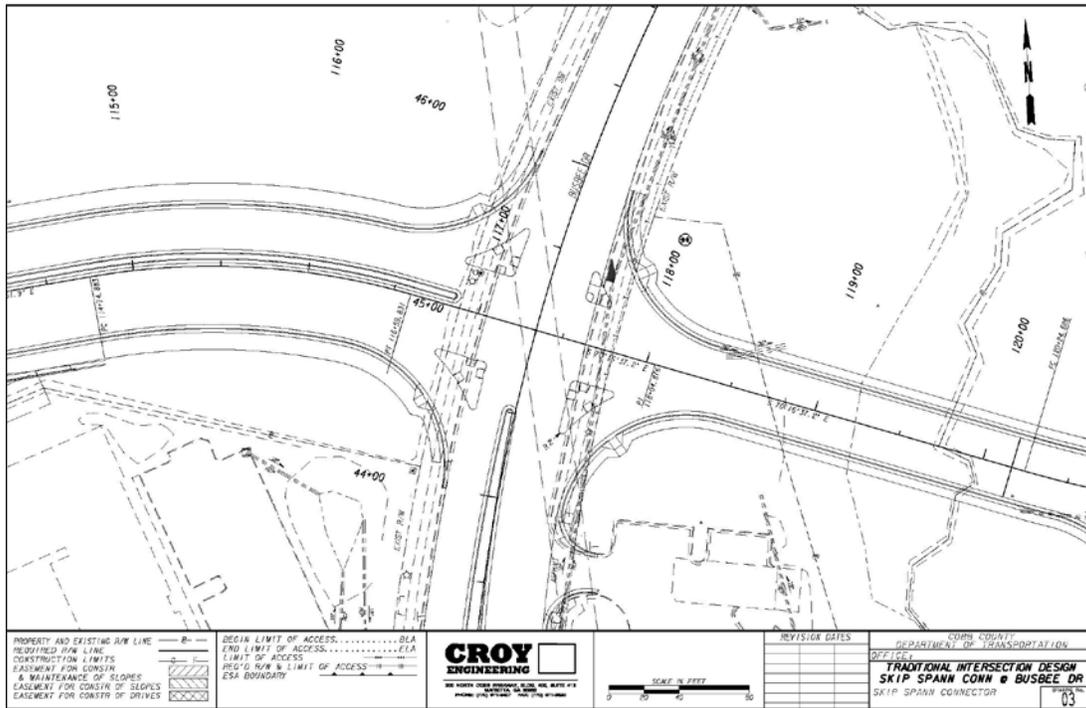


2. Signal Warrant Analysis

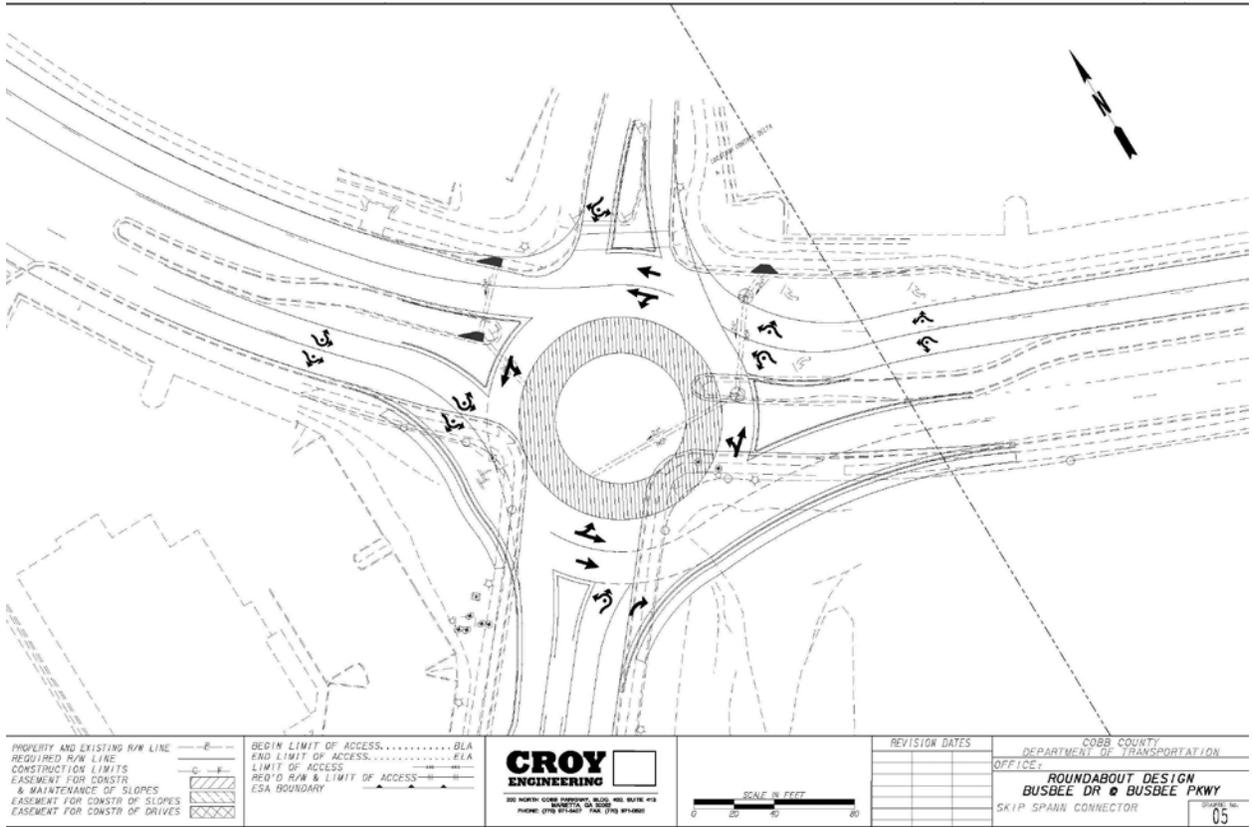
Details of preliminary signal warrant analyses for the two subject intersection locations are summarized under *Section 3 of Traffic Analyses Report-October 26, 2010*, prepared as a part of Skip Spann Connector traffic study.

The Study suggest that both intersections would potentially meet signal warrant in close proximity to the proposed open year and therefore, it is recommended that the intersections be analyzed for installing appropriate traffic control measures.

3. Alternate Sketches



Design – Roundabout Feasibility Study, Part 1-Alternate Comparison and Selection



PROPERTY AND EXISTING R/W LINE
 REQUIRED R/W LINE
 CONSTRUCTION LIMITS
 EASEMENT FOR CONSTR
 & MAINTENANCE OF SLOPES
 EASEMENT FOR CONSTR OF SLOPES
 EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
 END LIMIT OF ACCESS.....ELA
 LIMIT OF ACCESS
 REQ'D R/W & LIMIT OF ACCESS
 ESA BOUNDARY

CROY
ENGINEERING
 202 NORTH COBB EXPRESS, BLDG. 400, SUITE 412
 MARIETTA, GA 30067
 PHONE: (770) 575-4300 FAX: (770) 575-4302



REVISION DATES

COBB COUNTY
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
ROUNDAABOUT DESIGN
BUSBEE DR @ BUSBEE PKWY
 SKIP SPANN CONNECTOR

05

4. Safety Assessment

The roundabout safety evaluation for the two locations involves a generic estimate of effectiveness of the proposed roundabout over a proposed signalized intersection. The procedure requires predicting potential crashes associated with a signalized intersection and applying the Crash Reduction Factors to estimate the reduction in the number of crashes for the proposed countermeasure.

Predictive Crash Rates:

The potential reduction in future crashes and the associated dollar benefit of a roundabout over a signalized intersection is obtained using the *Predictive Crash Table Tool* developed by the Georgia Department of Transportation. The inputs that go into predicting these crashes include the major roadway classification type and the open year and design year Average Daily Traffic. The reports obtained using this tool are included at end of this section for reference.

Safety Assessment:

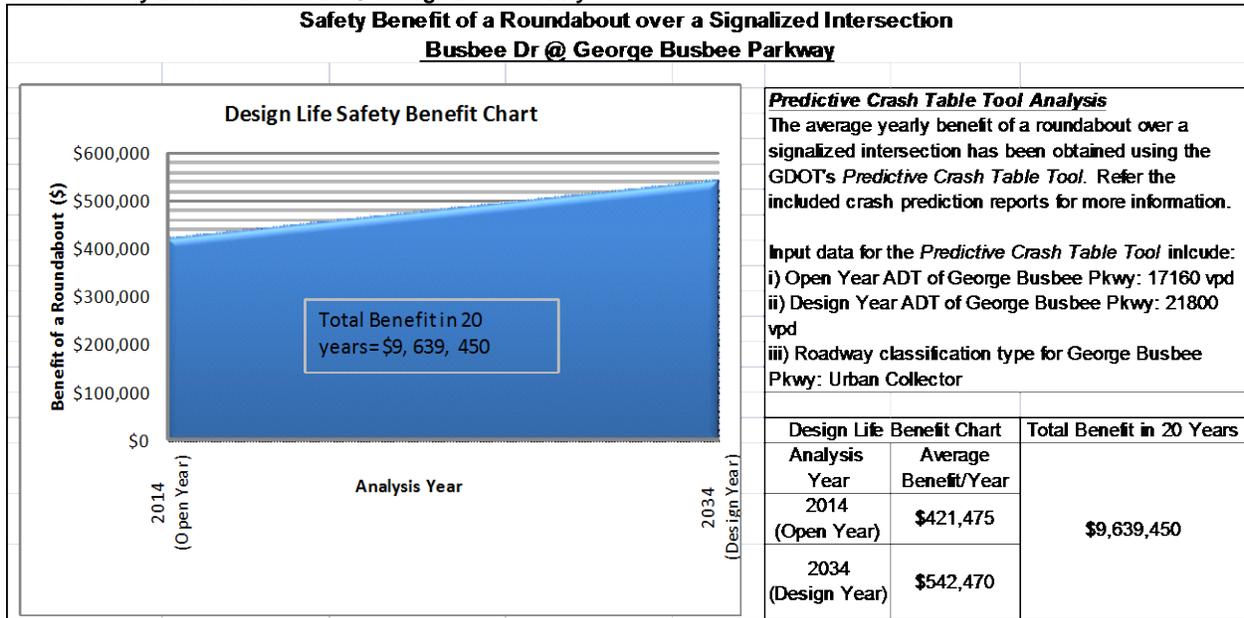
The total safety benefit of a roundabout over a signalized intersection is determined by interpolating the predicted dollar benefits in open year and in design year. The safety benefit calculation for the two intersection locations are is shown in Table in Table 1 & Table 2.

Table 1. Safety Benefit- Busbee Dr @ Skip Spann Connector

Safety Benefit of a Roundabout over a Signalized Intersection Busbee Dr @ Skip Spann Connector												
		<p>Predictive Crash Table Tool Analysis The average yearly benefit of a roundabout over a signalized intersection has been obtained using the GDOT's Predictive Crash Table Tool. Refer the included crash prediction reports for more information.</p> <p>Input data for the Predictive Crash Table Tool include: i) Open Year ADT of Busbee Drive: 5500 vpd ii) Design Year ADT of Busbee Drive: 7880 vpd iii) Roadway classification type for Busbee Drive: Urban Local</p>										
		<table border="1"> <thead> <tr> <th colspan="2">Design Life Benefit Chart</th> <th>Total Benefit in 20 Years</th> </tr> <tr> <th>Analysis Year</th> <th>Average Benefit/Year</th> <td rowspan="3" style="text-align: center; vertical-align: middle;">\$6,329,000</td> </tr> </thead> <tbody> <tr> <td>2014 (Open Year)</td> <td style="text-align: center;">\$316,450</td> </tr> <tr> <td>2034 (Design Year)</td> <td style="text-align: center;">\$316,450</td> </tr> </tbody> </table>	Design Life Benefit Chart		Total Benefit in 20 Years	Analysis Year	Average Benefit/Year	\$6,329,000	2014 (Open Year)	\$316,450	2034 (Design Year)	\$316,450
Design Life Benefit Chart		Total Benefit in 20 Years										
Analysis Year	Average Benefit/Year	\$6,329,000										
2014 (Open Year)	\$316,450											
2034 (Design Year)	\$316,450											

Design – Roundabout Feasibility Study, Part 1-Alternate Comparison and Selection

Table 2. Safety Benefit- Busbee Dr @ George Busbee Pkwy



Design – Roundabout Feasibility Study, Part 1-Alternate Comparison and Selection

PREDICTIVE CRASH TABLE TOOL ANALYSIS REPORT							
Analysis Year: Open Year 2014 & Design Year 2034							
Major Street, Roadway Classification, ADT: George Busbee Pkwy, Urban Local, 5500 vpd (Open Year) & 7880 vpd (Design Year)							
County & Intersection Location: Cobb County & Skip Spann Connector@ Busbee Drive							
Functional Class	19-Urban-Local						
AADT Range	5-10						
Type Collision	Total Crashes	Total Intersections	Avg. Total Crashes per Intersection	Avg. Fatal Crashes per Intersection	Avg. Injury Crashes per Intersection	Avg. PDO Crashes per Intersection	
2004	96	27	3.556	0.000	0.667	2.889	
Angle	46	27	1.704	0.000	0.333	1.370	
Head On	1	27	0.037	0.000	0.000	0.037	
Not A Collision With A Motor Vehicle	2	27	0.074	0.000	0.037	0.037	
Rear End	32	27	1.185	0.000	0.296	0.889	
Sideswipe - Same Direction	15	27	0.556	0.000	0.000	0.556	
2005	332	47	7.064	0.000	1.702	5.362	
Angle	137	47	2.915	0.000	0.851	2.064	
Head On	7	47	0.149	0.000	0.043	0.106	
Not A Collision With A Motor Vehicle	16	47	0.340	0.000	0.149	0.191	
Rear End	141	47	3.000	0.000	0.553	2.447	
Sideswipe - Opposite Direction	6	47	0.128	0.000	0.000	0.128	
Sideswipe - Same Direction	25	47	0.532	0.000	0.106	0.426	
2006	370	51	7.255	0.000	1.961	5.294	
Angle	165	51	3.235	0.000	1.118	2.118	
Head On	17	51	0.333	0.000	0.098	0.235	
Not A Collision With A Motor Vehicle	21	51	0.412	0.000	0.098	0.314	
Rear End	132	51	2.588	0.000	0.588	2.000	
Sideswipe - Opposite Direction	6	51	0.118	0.000	0.020	0.098	
Sideswipe - Same Direction	29	51	0.569	0.000	0.039	0.529	
2007	303	74	4.095	0.000	0.973	3.122	
Angle	108	74	1.459	0.000	0.446	1.014	
Head On	6	74	0.081	0.000	0.014	0.068	
Not A Collision With A Motor Vehicle	19	74	0.257	0.000	0.108	0.149	
Rear End	118	74	1.595	0.000	0.378	1.216	
Sideswipe - Opposite Direction	9	74	0.122	0.000	0.000	0.122	
Sideswipe - Same Direction	43	74	0.581	0.000	0.027	0.554	
2008	188	74	2.541	0.000	0.486	2.054	
Angle	85	74	1.149	0.000	0.189	0.959	
Head On	3	74	0.041	0.000	0.041	0.000	
Not A Collision With A Motor Vehicle	14	74	0.189	0.000	0.027	0.162	
Rear End	64	74	0.865	0.000	0.189	0.676	
Sideswipe - Opposite Direction	2	74	0.027	0.000	0.000	0.027	
Sideswipe - Same Direction	20	74	0.270	0.000	0.041	0.230	
Total	1289	55.552	24.509	0.000	5.789	18.720	
5-Year Average (2004-2008)	257.800	55.552	4.902	-	1.158	3.744	
			Avg. Crashes	Value	Crash Reduction	Total	
			Fatal:	0.000	\$ 5,800,000.00	0.800	\$ -
			Injury:	1.158	\$ 333,500.00	0.800	\$ 308,903.07
			PDO:	3.744	\$ 4,800.00	0.420	\$ 7,548.06
					Benefit per Year	\$ 316,451.13	
					5 Year Benefit	\$ 1,582,255.66	

Design – Roundabout Feasibility Study, Part 1-Alternate Comparison and Selection

PREDICTIVE CRASH TABLE TOOL ANALYSIS REPORT							
Analysis Year: Open Year (2014)							
Major Street, Roadway Classification, ADT George Busbee Pkwy, Urban Collector, 17160 vpd							
County & Intersection Location: Cobb County & Intersection of <u>George Busbee Parkway @ Busbee Drive</u>							
Functional Class	17-Urban-Collector Street						
AADT Range	15-20						
Type Collision	Total Crashes	Total Intersections	Avg. Total Crashes per Intersection	Avg. Fatal Crashes per Intersection	Avg. Injury Crashes per Intersection	Avg. PDO Crashes per Intersection	
2004	514	107	4.804	0.000	1.093	3.710	
Angle	175	107	1.636	0.000	0.477	1.159	
Head On	14	107	0.131	0.000	0.084	0.047	
Not A Collision With A Motor Vehicle	18	107	0.168	0.000	0.084	0.084	
Rear End	242	107	2.262	0.000	0.421	1.841	
Sideswipe - Opposite Direction	5	107	0.047	0.000	0.000	0.047	
Sideswipe - Same Direction	60	107	0.561	0.000	0.028	0.533	
2005	692	69	10.029	0.014	2.145	7.870	
Angle	223	69	3.232	0.014	0.913	2.304	
Head On	16	69	0.232	0.000	0.130	0.101	
Not A Collision With A Motor Vehicle	23	69	0.333	0.000	0.174	0.159	
Rear End	322	69	4.667	0.000	0.870	3.797	
Sideswipe - Opposite Direction	9	69	0.130	0.000	0.014	0.116	
Sideswipe - Same Direction	99	69	1.435	0.000	0.043	1.391	
2006	696	60	11.600	0.033	1.850	9.717	
Angle	226	60	3.767	0.017	0.817	2.933	
Head On	18	60	0.300	0.000	0.100	0.200	
Not A Collision With A Motor Vehicle	26	60	0.433	0.000	0.117	0.317	
Rear End	340	60	5.667	0.000	0.683	4.983	
Sideswipe - Opposite Direction	12	60	0.200	0.000	0.033	0.167	
Sideswipe - Same Direction	74	60	1.233	0.017	0.100	1.117	
2007	500	99	5.051	0.000	1.091	3.960	
Angle	171	99	1.727	0.000	0.525	1.202	
Head On	11	99	0.111	0.000	0.040	0.071	
Not A Collision With A Motor Vehicle	29	99	0.293	0.000	0.091	0.202	
Rear End	236	99	2.384	0.000	0.374	2.010	
Sideswipe - Opposite Direction	10	99	0.101	0.000	0.030	0.071	
Sideswipe - Same Direction	43	99	0.434	0.000	0.030	0.404	
2008	330	99	3.333	0.000	0.677	2.657	
Angle	121	99	1.222	0.000	0.313	0.909	
Head On	12	99	0.121	0.000	0.040	0.081	
Not A Collision With A Motor Vehicle	11	99	0.111	0.000	0.030	0.081	
Rear End	153	99	1.545	0.000	0.253	1.293	
Sideswipe - Opposite Direction	6	99	0.061	0.000	0.020	0.040	
Sideswipe - Same Direction	27	99	0.273	0.000	0.020	0.253	
Total	2732	86.800	34.817	0.048	6.856	27.913	
5-Year Average (2004-2008)	546.400	86.800	6.963	0.010	1.371	5.583	
			Avg. Crashes	Value	Crash Reduction	Total	
			Fatal:	0.010	\$ 5,800,000.00	0.800	\$ 44,382.61
			Injury:	1.371	\$ 333,500.00	0.800	\$ 365,839.48
			PDO:	5.583	\$ 4,800.00	0.420	\$ 11,254.39
					Benefit per Year	\$ 421,476.48	
					5 Year Benefit	\$ 2,107,382.40	

Design – Roundabout Feasibility Study, Part 1-Alternate Comparison and Selection

PREDICTIVE CRASH TABLE TOOL ANALYSIS REPORT							
Analysis Year: Design Year (2035)							
Major Street, Roadway Classification, ADT George Busbee Pkwy, Urban Co							
County & Intersection Location: Cobb County & Intersection of George Busbee Parkway @ Busbee Drive							
Functional Class	17-Urban-Collector Street						
AADT Range	20-25						
Type Collision	Total Crashes	Total Intersections	Avg. Total Crashes per Intersection	Avg. Fatal Crashes per Intersection	Avg. Injury Crashes per Intersection	Avg. PDO Crashes per Intersection	
2004	206	45	4.578	0.000	1.000	3.578	
Angle	52	45	1.156	0.000	0.400	0.756	
Head On	4	45	0.089	0.000	0.044	0.044	
Not A Collision With A Motor Vehicle	4	45	0.089	0.000	0.044	0.044	
Rear End	116	45	2.578	0.000	0.400	2.178	
Sideswipe - Opposite Direction	6	45	0.133	0.000	0.044	0.089	
Sideswipe - Same Direction	24	45	0.533	0.000	0.067	0.467	
2005	311	25	12.440	0.000	2.320	10.120	
Angle	85	25	3.400	0.000	0.840	2.560	
Head On	7	25	0.280	0.000	0.120	0.160	
Not A Collision With A Motor Vehicle	15	25	0.600	0.000	0.280	0.320	
Rear End	170	25	6.800	0.000	1.040	5.760	
Sideswipe - Opposite Direction	6	25	0.240	0.000	0.000	0.240	
Sideswipe - Same Direction	28	25	1.120	0.000	0.040	1.080	
2006	285	20	14.250	0.050	3.200	11.000	
Angle	99	20	4.950	0.000	1.200	3.750	
Head On	8	20	0.400	0.000	0.150	0.250	
Not A Collision With A Motor Vehicle	7	20	0.350	0.050	0.150	0.150	
Rear End	144	20	7.200	0.000	1.450	5.750	
Sideswipe - Opposite Direction	6	20	0.300	0.000	0.150	0.150	
Sideswipe - Same Direction	21	20	1.050	0.000	0.100	0.950	
2007	243	45	5.400	0.000	0.933	4.467	
Angle	76	45	1.689	0.000	0.400	1.289	
Head On	9	45	0.200	0.000	0.111	0.089	
Not A Collision With A Motor Vehicle	8	45	0.178	0.000	0.022	0.156	
Rear End	117	45	2.600	0.000	0.378	2.222	
Sideswipe - Opposite Direction	1	45	0.022	0.000	0.000	0.022	
Sideswipe - Same Direction	32	45	0.711	0.000	0.022	0.689	
2008	340	45	7.556	0.000	1.578	5.978	
Angle	103	45	2.289	0.000	0.600	1.689	
Head On	8	45	0.178	0.000	0.044	0.133	
Not A Collision With A Motor Vehicle	12	45	0.267	0.000	0.089	0.178	
Rear End	176	45	3.911	0.000	0.800	3.111	
Sideswipe - Opposite Direction	6	45	0.133	0.000	0.000	0.133	
Sideswipe - Same Direction	35	45	0.778	0.000	0.044	0.733	
Total	1385	36.000	44.223	0.050	9.031	35.142	
5-Year Average (2004-2008)	277.000	36.000	8.845	0.010	1.806	7.028	
			Avg. Crashes	Value	Crash Reduction	Total	
			Fatal:	0.010	\$ 5,800,000.00	0.800	\$ 46,400.00
			Injury:	1.806	\$ 333,500.00	0.800	\$ 481,900.09
			PDO:	7.028	\$ 4,800.00	0.420	\$ 14,169.34
					Benefit per Y	\$ 542,469.43	
					5 Year Benefit:	\$ 2,712,347.16	

5. Approach Entry Lane Analysis

Before conducting a detailed operational analysis each approach leg of the roundabout is evaluated individually to determine the number of entering lanes that are required based upon the conflicting flow rates. The entry lane evaluation has been conducted based on the guidelines of NCHRP 672, Exhibit 3-14. Per the guideline, the number of lanes required within the circulatory roadway is then the number of lanes needed at the entry lane approaches to provide lane continuity through the roundabout.

i) Busbee Dr @ Skip Spann Connector

The summary of entry-lane analyses for the intersection of Busbee Dr @ Skip Spann Connector is shown using Figure 1 and Table 1.

Figure 1. Traffic Flow at Roundabout Entry (Busbee Dr @ Skip Spann Connector)

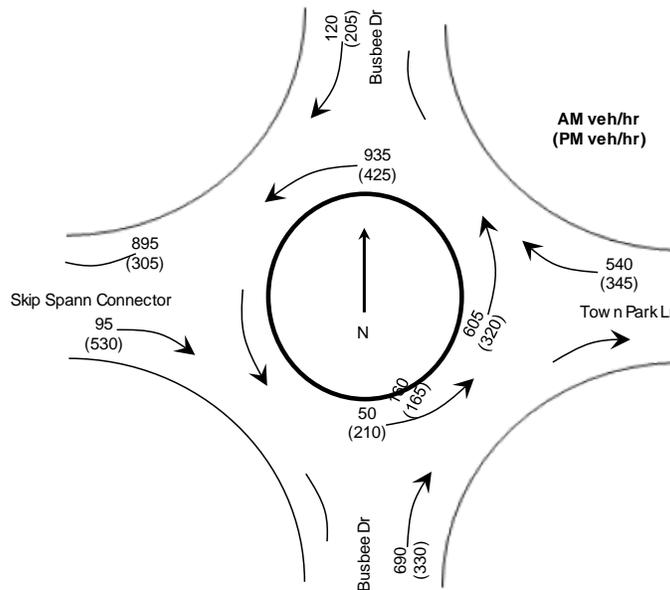


Table 1. Approach Entry Lane Analysis

Skip Spann Connector at Busbee Dr - Roundabout Entry Lane Assessment Build Design year 2034						
Peak Hour	Entry Lane Location	Entering Volume (veh/hr)	Circulating Volume (veh/hr)	Circulating Volume + Entry Volume	Conflicting Volume Threshold for Single-lane Entry (veh/hr)	Conclusion
AM Peak Hour	N Leg	120	935	1055	1000	i) Two-lane entry may be needed ii) Single-lane may be sufficient based upon more detailed analysis.
	E Leg	540	605	1145	1000	i) Two-lane entry may be needed ii) Single-lane may be sufficient based upon more detailed analysis.
	S Leg	690	50	740	1000	Single-lane entry likely to be sufficient
	W Leg	95	160	255	1000	Single-lane entry likely to be sufficient
PM Peak Hour	N Leg	205	425	630	1000	Single-lane entry likely to be sufficient
	E Leg	340	320	660	1000	Single-lane entry likely to be sufficient
	S Leg	330	210	540	1000	Single-lane entry likely to be sufficient
	W Leg	530	325	855	1000	Single-lane entry likely to be sufficient

ii) Busbee Dr @ George Busbee Pkwy

The summary of entry-lane analyses for the intersection of Busbee Dr @ George Busbee Pkwy is shown using Figure 2 and Table 3.

Figure 2. Traffic Flow at Roundabout Entry (Busbee Dr @ George Busbee Pkwy)

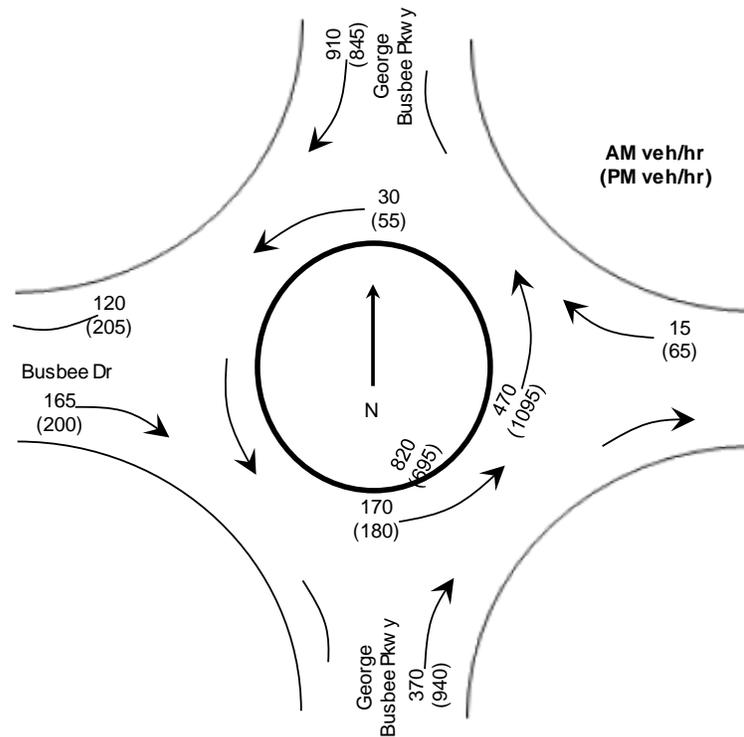


Table 2. Approach Entry Lane Analysis- Busbee Dr @ Skip Spann Connector

Busbee Dr at George Busbee Pkwy- Roundabout Entry Lane Assessment Build Design year 2034						
Peak Hour	Entry Lane Location	Entering Volume (veh/hr)	Circulating Volume (veh/hr)	Circulating Volume + Entry Volume	Conflicting Volume Threshold for Single-lane Entry (veh/hr)	Conclusion
AM Peak Hour	N Leg	910	30	940	1000	Single-lane entry likely to be sufficient
	E Leg	15	470	485	1000	Single-lane entry likely to be sufficient
	S Leg	370	170	540	1000	Single-lane entry likely to be sufficient
	W Leg	165	820	985	1000	Single-lane entry likely to be sufficient
PM Peak Hour	N Leg	845	55	900	1000	Single-lane entry likely to be sufficient
	E Leg	65	1095	1160	1000	i) T wo-lane entry may be needed ii) Single -lane may be sufficient based upon more detailed analysis.
	S Leg	940	180	1120	1000	i) T wo-lane entry may be needed ii) Single -lane may be sufficient based upon more detailed analysis.
	W Leg	200	695	895	1000	Single-lane entry likely to be sufficient

6. Operational Analyses

Analyses of the subject intersection locations are necessary to measure the MOE's, which provide a basis for comparing the operational performance of various countermeasures under consideration. The two types of countermeasures being compared are:

- i) Signalized Intersection
- ii) Roundabout (multi-lane and single lane)

Signalized Intersection

The operational analysis results of traffic signal control at the two intersection locations are summarized in Table 1. These results are based on the findings summarized in *Traffic Analyses Report* prepared as a part of Skip Spann Connector traffic study.

Table 1. Intersection Operational Analyses Results for Signal Control

Signalized Intersections Build Scenario Operational Analysis Results				
Intersection Location	Open Year Delay in secs per veh /LOS		Open Year Delay in secs per veh /LOS	
	AM	PM	AM	PM
Busbee Dr @ Busbee-Frey Connector Rd	16/B	24/C	20/B	20.5/C
Busbee Dr @ George Busbee Pkwy	8.5/A	6/A	7/A	9.5/A

Roundabout

Operational analyses required to assess the functionality of roundabouts have been carried out using *GDOT's Roundabout Analysis Tool, Ver 2.1*. The GDOT Roundabout Analysis Tool reports the analyses results for two separate procedures, and they are based on:

- i) 2010 Highway Capacity Manual (HCM) methodology
- ii) NCHRP Report 672, FHWA's Roundabout Informational Guide methodology

For the purposes of this feasibility study, the results based on 2010 HMC methodology have been used to assess the operating conditions for open year and results based on NCHRP methodology have been used to assess the operating conditions for design year.

Following are the inputs to the *Roundabout Analysis Tool*:

- o Intersection open and design year build volumes, developed and approved as a part of traffic study for Skip Spann Connector project.
- o Approximately 1 percent bicycle traffic across all approaches of both roundabouts.
- o Approximately 100 ped/hr across all approaches of intersection of Busbee Dr at Skip Spann Connector and approximately 50 ped/hr across all approaches of intersection of Busbee Dr at George Busbee Pkwy.
- o Twelve percent heavy vehicles.

Each roundabout location was analyzed to assess MOEs for a single lane and multilane scenario under open year and design year volumes.

- o **Busbee Dr @ Skip Spann Connector**

The results of operational analyses for the intersection of Busbee Dr at Busbee Frey Connector are summarized in Table 2.

Design – Roundabout Feasibility Study, Part 1-Alternate Comparison and Selection

Table 2. Operational Analyses Results - Busbee Dr @ Skip Spann Connector

Intersection Location	Analysis year	Peak Period	Single Lane Roundabout				Multilane Roundabout			
			N Leg	E Leg	S Leg	W Leg	N Leg	E Leg	S Leg	W Leg
Busbee Dr @ Skip Spann Connector	Open Year (2014)	AM	11/B	29/D	11/B	5/A	8/A	20.5/C	8.5/C	3/A
		PM	8/A	10/A	7/A	7/A	5.5/A	9.5/A	6.5/A	3/A
	Design Year (2034)	AM	11/B	57/F	12/B	4/A	6.0/A	25.5/D	6/A	1/A
		PM	8/A	10/A	8/A	7/A	6.5/A	8.1/A	5/A	6.0/A

Findings: Following are the conclusions based on the results of operational analyses:

- o While all approaches of a single lane roundabout would operate under LOS D or better in the open year, in the design year the westbound approach (east leg) of a single lane roundabout would operate at LOS F.
- o A multilane roundabout permitting two circulating lanes in the north-south direction would yield improved operation along all approaches of the roundabout during both open and design year.
- o The signalized intersection and the multi-lane roundabout are both expected to provide adequate operational performance in design year 2034.

Recommended Roundabout Geometry: In the event a roundabout is proposed at the intersection of Busbee Dr @ Skip Spann Connector, it is recommended that a multilane roundabout be constructed at this location in the open year. The roundabout should be striped to allow a single circulating lane in the east-west direction and two-circulating lanes in the north-south direction.

It is also recommended that if deemed necessary the performance of this multilane roundabout be reassessed after ten years to verify the need of restriping to achieve two-lane functionality in all directions.

o **Busbee Dr @ George Busbee Pkwy**

The results of operational analyses for the intersection of Busbee Dr at Busbee Frey Connector are summarized in Table 3.

Table 3. Operational Analyses Results - Busbee Dr @ George Busbee Pkwy

Intersection Location	Analysis year	Peak Period	Single Lane Roundabout				Multilane Roundabout			
			N Leg	E Leg	S Leg	W Leg	N Leg	E Leg	S Leg	W Leg
Busbee Dr @ George Busbee Pkwy	Open Year (2014)	AM	14/B	6/A	8/A	12/B	9/A	5/A	6/A	9/A
		PM	9/A	7/A	20/C	8/A	8/A	7.5	10/A	8.5/A
	Design Year (2034)	AM	23/C	5/A	8/A	12/B	6.3/A	4.5/A	4.7/A	10.5/B
		PM	15/C	11/B	92/F	11/B	6.3/A	10.5/B	8.2/A	9.3/A

Findings: Following are the findings based on the operational analyses results:

- o While all approaches of a single lane roundabout would operate under LOS C or better in the open year, in the design year the northbound approach (south leg) of a single lane roundabout would operate at LOS F.
- o A multilane roundabout permitting two circulating lanes in the north-south direction would yield improved operation along all approaches of the roundabout during both open and design year.

Design – Roundabout Feasibility Study, Part 1-Alternate Comparison and Selection

- The signalized intersection and the multi-lane roundabout are both expected to provide adequate operational performance in design year 2034.

Recommended Roundabout Geometry: In the event a roundabout is proposed at the intersection of Busbee Dr @ George Busbee Pkwy, it is recommended that a multilane roundabout be constructed at this location in the open year. The roundabout should be striped to allow a single circulating lane in the east-west direction and two-circulating lanes in the north-south direction.

It is also recommended that if deemed necessary the performance of this multilane roundabout be reassessed after ten years to verify the need of restriping to achieve two-lane functionality in all directions.

Reference & Output

The outputs generated through *GDOT's Roundabout Analysis Tool* have been included for reference.

7. Cost Comparison

Based on the operational analysis results it was observed that both, a signal control and a roundabout, are both suitable and provide adequate operational performance at the two subject intersection location. Therefore, a cost comparison between the alternatives will be helpful in further evaluating the alternative and arriving at a conclusion.

The results of cost comparison for the two intersection location are summarized in Table 1. The table lists the difference in cost of installing a roundabout over a signal control based on various factors.

Table 1. Cost Comparison

Estimated Benefit in Cost for Installing a Multi-lane Roundabout over a Signalized Intersection at Busbee Dr @ Skip Spann Connector Road		
Evaluation Criteria	Difference in Cost	Notes
Operations	\$2,092,209	Total operational benefit over a period of 20 years for a multi-lane roundabout over a signalized intersection
Environmental Factors	N/A	
Construction Cost	\$81,915	
Required Right-of-Way	-\$10,500	
Maintenance	\$100,000	Total cost over a period of 20 years, assuming \$5000 yearly maintenance cost
Safety Benefit	\$6,329,000	Predicted safety benefit over a period of 20 years
Combined Difference	\$8,592,624	

Estimated Benefit in Cost for Installing a Multi-lane Roundabout over a Signalized Intersection at Busbee Dr @ George Busbee Pkwy		
Evaluation Criteria	Difference in Cost	Notes
Operations	\$686,967	Total operational benefit over a period of 20 years for a multi-lane roundabout over a signalized intersection.
Environmental Factors	N/A	
Construction Cost	-\$47,164	
Required Right-of-Way	-\$110,000	
Maintenance	\$100,000	Total cost over a period of 20 years, assuming \$5000 yearly maintenance cost
Safety Benefit	\$9, 639,450	Predicted safety benefit over a period of 20 years
Combined Difference	\$10,269,253	

Conclusion:

- The proposed roundabout at the intersection of Skip Spann Connector and Busbee Drive would be more cost effective than a signalized intersection in terms of operational expenditures and initial construction cost.
- The roundabout at the intersection of Busbee Parkway and Busbee Drive has advantages over a traditional signal installation for this location although not as drastic as the first intersection.

Recommendation:

- For the intersection of the proposed Skip Spann Connector and Busbee Drive, a multi-lane roundabout is recommended.
- For the intersection of Busbee Parkway and Busbee Drive, a multi-lane roundabout is also recommended. However, GDOT and Cobb County have elected not to install a roundabout at this location at this time.

Estimation of Overall Operational Delay-Busbee Dr @ Skip Spann Connector

Multi-Lane Roundabout	Design Year Peak Hour Delay Calculation- Busbee Dr @ Skip Spann Connector						
		AM Peak Hour			PM Peak Hour		
		Delay/Veh	Entry Demand	Total Delay	Delay/Veh	Entry Demand	Total Delay
	N	6	120	0.20	6.5	205	0.37
	E	25	540	3.75	8.1	345	0.78
	S	6	690	1.15	5	330	0.46
	W	1	95	0.03	6	530	0.88
	AM Peak Hr Delay=>			5.13	PM Peak HR Delay=>		2.49
	Combined Peak Hr Delay=>			7.61			
	Open Year Peak Hour Delay Calculation- Busbee Dr @ Skip Spann Connector						
		AM Peak Hour			PM Peak Hour		
		Delay/Veh	Entry Demand	Total Delay	Delay/Veh	Entry Demand	Total Delay
	N	8	95	0.21	5.5	95	0.15
	E	20.5	405	2.31	9.5	260	0.69
S	8.5	535	1.26	6.5	240	0.43	
W	3	70	0.06	3	410	0.34	
AM Peak Hr Delay=>			3.84	PM Peak HR Delay=>		1.61	
Combined Peak Hr Delay=>			5.45				

Signalized Intersection	Design Year Peak Hour Delay Calculation- Busbee Dr @ Skip Spann Connector						
		AM Peak Hour			PM Peak Hour		
		Delay/Veh	Entry Demand	Total Delay	Delay/Veh	Entry Demand	Total Delay
	N	33.5	120	1.12	14.5	205	0.83
	E	34.5	540	5.18	46.5	345	4.46
	S	5.5	690	1.05	2.1	330	0.19
	W	19	95	0.50	18	530	2.65
	AM Peak Hr Delay=>			7.85	PM Peak HR Delay=>		8.12
	Combined Peak Hr Delay=>			15.97			
	Open Year Peak Hour Delay Calculation- Busbee Dr @ Skip Spann Connector						
		AM Peak Hour			PM Peak Hour		
		Delay/Veh	Entry Demand	Total Delay	Delay/Veh	Entry Demand	Total Delay
	N	16	95	0.42	7.5	95	0.20
	E	27.5	405	3.09	31.5	260	2.28
S	9.5	535	1.41	5.5	240	0.37	
W	19.5	70	0.38	20.5	410	2.33	
AM Peak Hr Delay=>			5.31	PM Peak HR Delay=>		5.17	
Combined Peak Hr Delay=>			10.48				

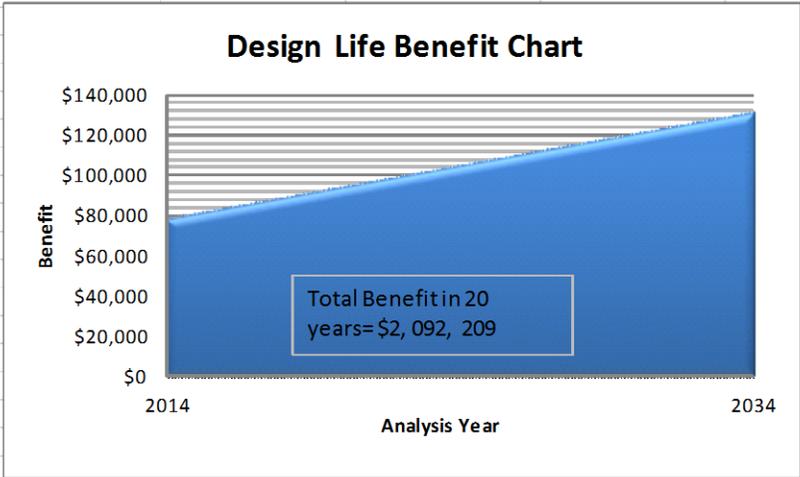
Notes:

- i) The roundabout approach delays are based upon analyses conducted using *GDOT's Roundabout Analysis Tool, Ver 2.1*.
- ii) The Signalized intersection delays are based on Synchro based analyses summarized in the *Traffic analyses Report-Oct 26 2010*.

Design – Roundabout Feasibility Study, Part 1-Alternate Comparison and Selection

Estimation of Operational Benefit- Busbee Dr @ Skip Spann Connector							
Design Year Benefit Calculation- Busbee Dr @ Busbee-Frey Connector							
Countermeasure	Total Number of Entering Vehicle	Total Delay/ AM & PM Peak (Hours)	Total Delay/Year (Hours)	% Trucks	Cost of Truck Delay (\$/Hr)	Cost of Car Delay (\$/Hr)	Cost of Delay/Year (\$)
Multi-Lane Roundabout	2855	7.6	5700	12%	\$72.65	\$13.75	\$118,663
Signalized Intersection	2855	16.0	12000	12%	\$72.65	\$13.75	\$249,816
Savings in Design year =>							\$131,153

Open Year Benefit Calculation- Busbee Dr @ Busbee-Frey Connector							
Countermeasure	Total Number of Entering Vehicle	Total Delay/ AM & PM Peak (Hours)	Total Delay/Year (Hours)	% Trucks	Cost of Truck Delay (\$/Hr)	Cost of Car Delay (\$/Hr)	Cost of Delay/Year (\$)
Multi-Lane Roundabout	2110	5.5	4125	12%	\$72.65	\$13.75	\$85,874
Signalized Intersection	2110	10.5	7875	12%	\$72.65	\$13.75	\$163,942
Savings in open year =>							\$78,068



Notes:
 i) Assumed Value of Auto Travel= \$13.75/Hr
 ii) Assumed Value of Truck Travel = \$72.65/Hr
 iii) All cost Calculated in terms of today's (2012) Dollars

Estimation of Overall Operational Delay-Busbee Dr @ George Busbee Pkwy

Multi-Lane Roundabout	Design Year Peak Hour Delay Calculation- Busbee Dr @ George Busbee Pkwy						
		AM Peak Hour			PM Peak Hour		
		Delay/Veh	Entry Demand	Total Delay	Delay/Veh	Entry Demand	Total Delay
	N	6.3	910	1.59	6.3	845	1.48
	E	4.5	15	0.02	10.5	65	0.19
	S	4.7	370	0.48	8.2	940	2.14
	W	10.5	165	0.48	9.3	200	0.52
	AM Peak Hr Delay=>			2.58	PM Peak HR Delay=>		4.33
	Combined Peak Hr Delay=>			6.90			
	Open Year Peak Hour Delay Calculation- Busbee Dr @ George Busbee Pkwy						
		AM Peak Hour			PM Peak Hour		
		Delay/Veh	Entry Demand	Total Delay	Delay/Veh	Entry Demand	Total Delay
	N	9	685	1.71	8	630	1.40
	E	5	15	0.02	7.5	45	0.09
S	6	275	0.46	10	695	1.93	
W	9	130	0.33	8.5	155	0.37	
AM Peak Hr Delay=>			2.52	PM Peak HR Delay=>		3.79	
Combined Peak Hr Delay=>			6.31				
Signalized Intersection	Design Year Peak Hour Delay Calculation- Busbee Dr @ George Busbee Pkwy						
		AM Peak Hour			PM Peak Hour		
		Delay/Veh	Entry Demand	Total Delay	Delay/Veh	Entry Demand	Total Delay
	N	5.5	910	1.39	10	845	2.35
	E	14.5	15	0.06	6	65	0.11
	S	3.5	370	0.36	19.5	940	5.09
	W	21	165	0.96	14	200	0.78
	AM Peak Hr Delay=>			2.77	PM Peak HR Delay=>		8.33
	Combined Peak Hr Delay=>			11.10			
	Open Year Peak Hour Delay Calculation- Busbee Dr @ George Busbee Pkwy						
		AM Peak Hour			PM Peak Hour		
		Delay/Veh	Entry Demand	Total Delay	Delay/Veh	Entry Demand	Total Delay
	N	4	685	0.76	4.5	630	0.79
	E	27.5	15	0.11	26	45	0.33
S	2.5	275	0.19	2	695	0.39	
W	44.5	130	1.61	53.5	155	2.30	
AM Peak Hr Delay=>			2.67	PM Peak HR Delay=>		3.80	
Combined Peak Hr Delay=>			6.48				

Notes:
 i) The roundabout approach delays are based upon analyses conducted using *GDOT's Roundabout Analysis Tool, Ver 2.1*.
 ii) The Signalized intersection delays are based on Synchro based analyses summarized in the *Traffic analyses Report-Oct 26 2010*.

Design – Roundabout Feasibility Study, Part 1-Alternate Comparison and Selection

Estimation of Operational Benefit- Busbee Dr @ George Busbee Pkwy							
Design Year Benefit Calculation- Busbee Dr @ George Busbee Pkwy							
Countermeasure	Total Number of Entering Vehicle	Total Delay/ AM & PM Peak (Hours)	Total Delay/Year (Hours)	% Trucks	Cost of Truck Delay (\$/Hr)	Cost of Car Delay (\$/Hr)	Cost of Delay/Year (\$)
Multi-Lane Roundabout	3510	6.9	5175	12%	\$72.65	\$13.75	\$107,733
Signalized Intersection	3510	11.1	8325	12%	\$72.65	\$13.75	\$173,310
Savings in Design year =>							\$65,577
Open Year Benefit Calculation- Busbee Dr @ George Busbee Pkwy							
Countermeasure	Total Number of Entering Vehicle	Total Delay/ AM & PM Peak (Hours)	Total Delay/Year (Hours)	% Trucks	Cost of Truck Delay (\$/Hr)	Cost of Car Delay (\$/Hr)	Cost of Delay/Year (\$)
Multi-Lane Roundabout	2630	6.3	4725	12%	\$72.50	\$13.75	\$98,280
Signalized Intersection	2630	6.5	4875	12%	\$72.50	\$13.75	\$101,400
Savings in open year =>							\$3,120

Design Life Benefit Chart

Total Benefit in 20 years = \$686,967

Notes:

- i) Assumed Value of Auto Travel= \$13.75/Hr
- ii) Assumed Value of Truck Travel = \$72.65/Hr
- iii) All cost Calculated in terms of today's (2012) Dollars

8. Select most favorable alternative

The roundabout at the intersection of the Skip Spann Connector and Busbee Dr was chosen over the traditional signalized intersection for several reasons.

- First of all, a roundabout would account for fewer crashes than a traditional signalized intersection. The Desktop Reference documents a crash reduction factor of 35 that might be expected if a roundabout is installed instead of signalized intersection. This report shows a reduction of 1.33 angled crashes per year for the proposed Skip Spann Connector and Busbee Drive intersection and a reduction of 1.19 angled crashes per year for the existing Busbee Drive/ Busbee Parkway intersection.
- Secondly, the cost comparison for the Skip Spann intersection yielded a combined difference of **\$8,592,624**. This number accounts for operational costs, construction costs, maintenance and right of way.
- Lastly, the roundabout significantly reduces peak hour delay.

Even though the roundabout at the intersection of Busbee Dr and Busbee Pkwy seemed to perform well, it was decided by Cobb County and the Georgia Department of Transportation that the roundabout would not be implemented at this time.

1. Design alternate roundabout layouts

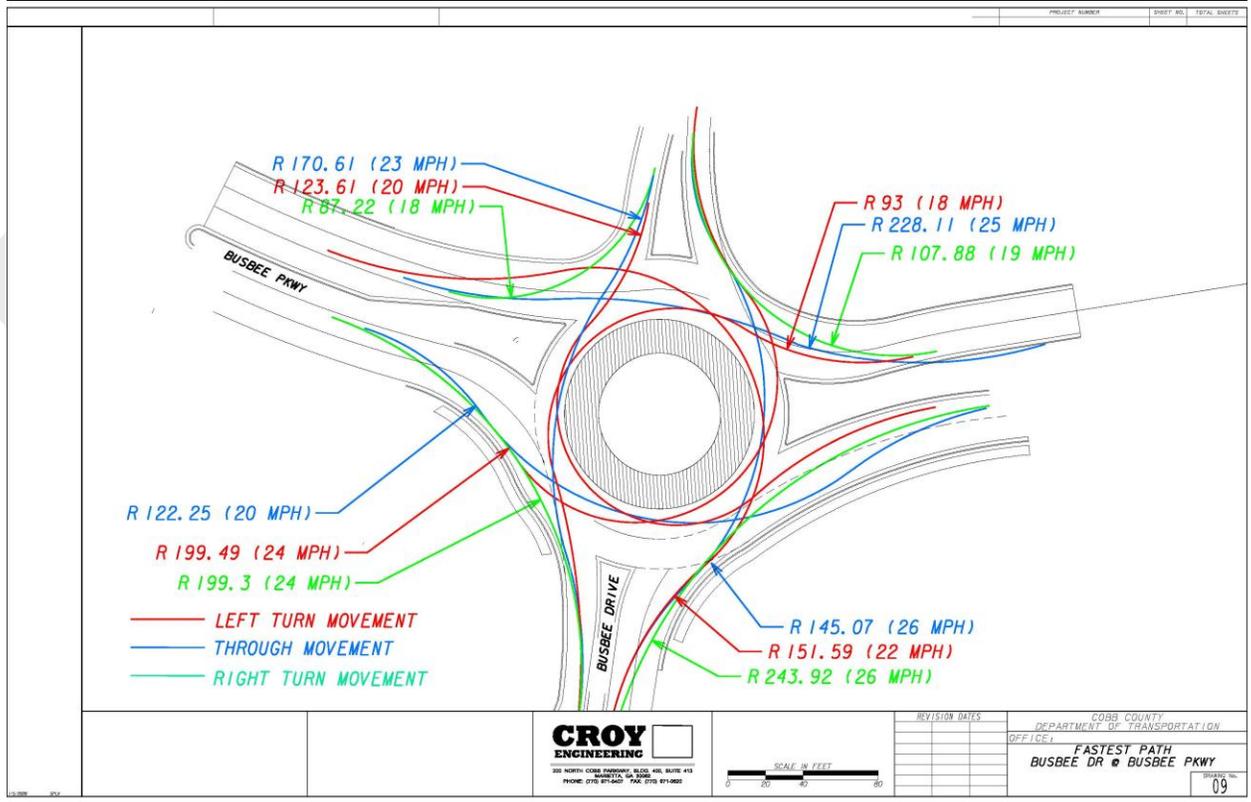
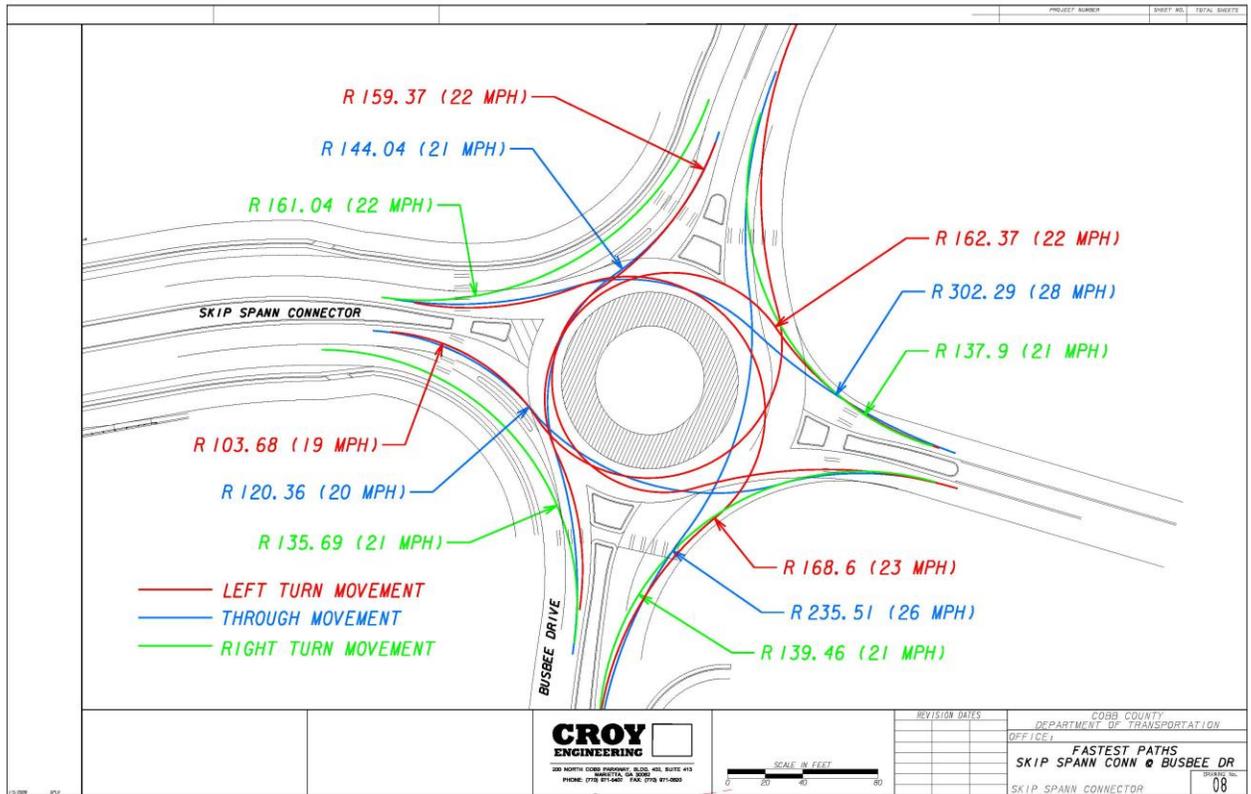
The multilane roundabout was chosen over the traditional signalized intersection for both of the intersections.

2. Identify Likely Impacts

For the intersection of the proposed Skip Spann Connector and Busbee Drive, the roundabout fits within the right of way already purchased. Few impacts are anticipated with respect to the underground utilities and environmental impacts resulting from the placement of a roundabout are not expected.

The proposed roundabout at the intersection of Busbee Parkway and Busbee Drive will require more right of way. There are no anticipated environmental impacts associated with the addition of a roundabout at this location. Coordination with the utility companies will be necessary to move some lighting structures and waterline facilities such as fire hydrants, valves, meters, etc.

3. Fastest Paths

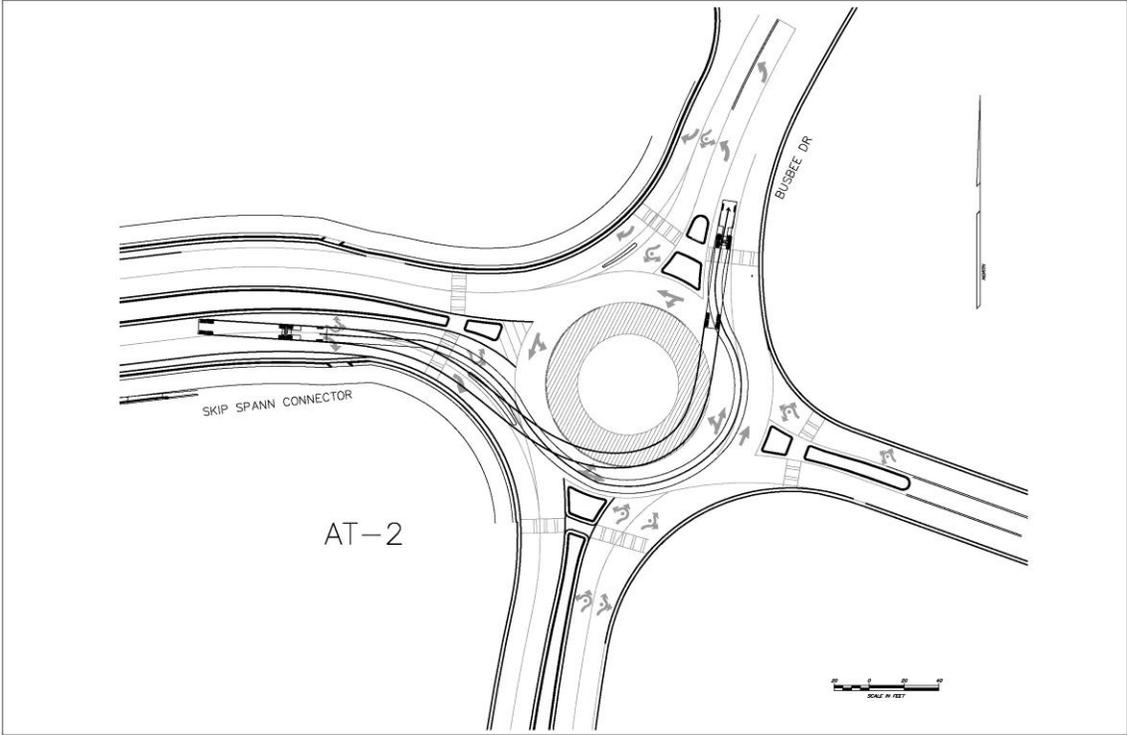
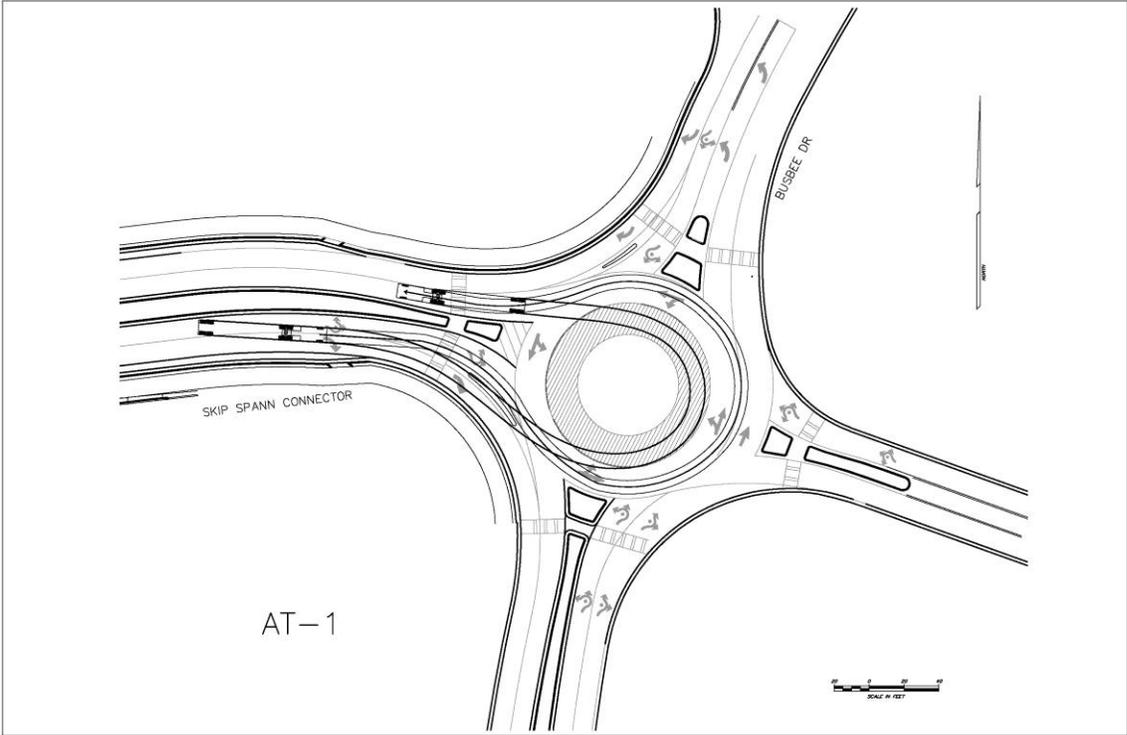


4. Design Vehicle

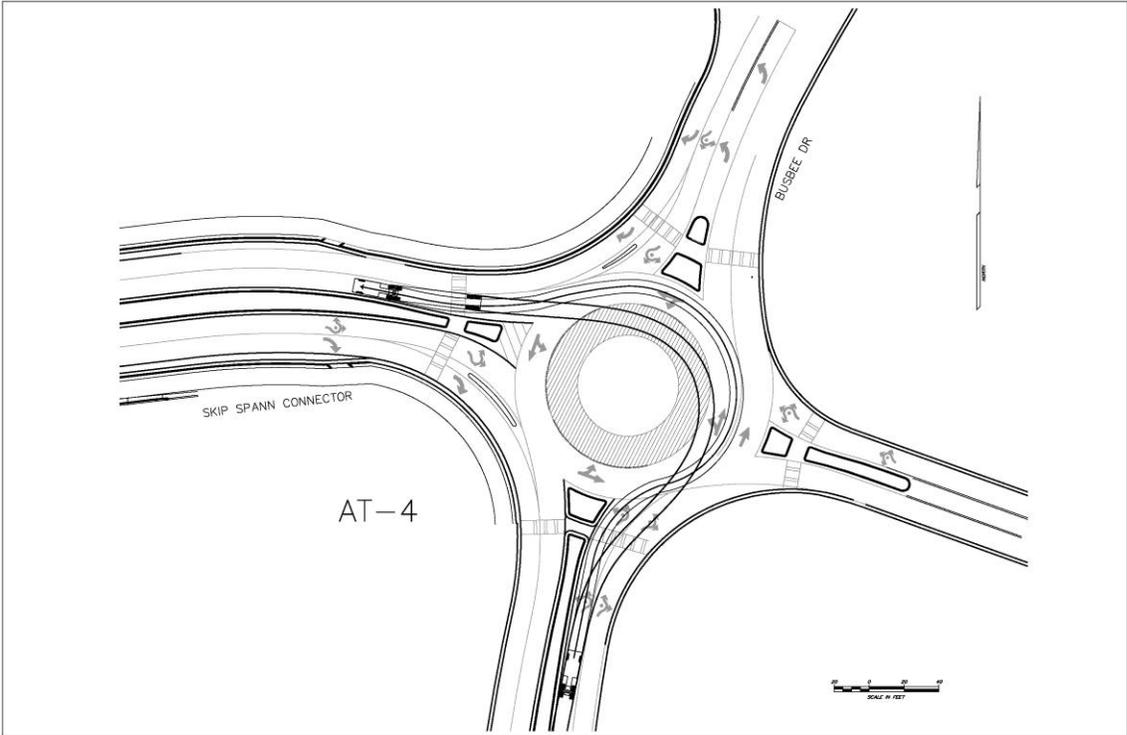
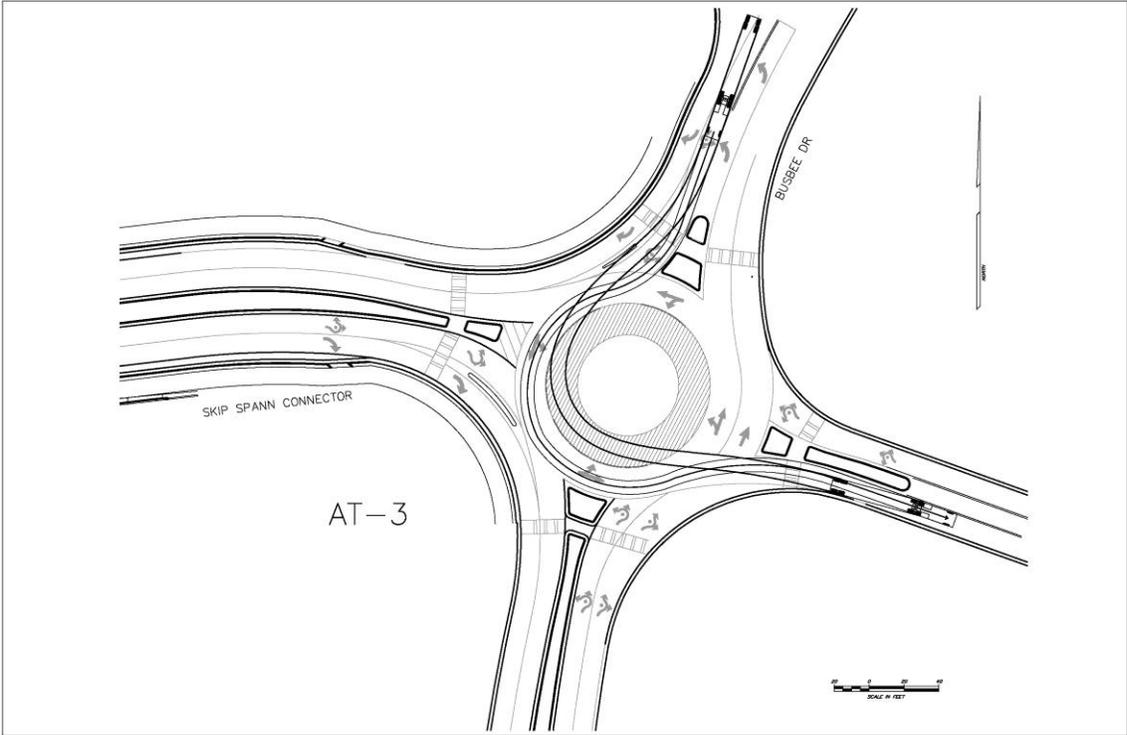
The classification for the Skip Spann Connector and Busbee Parkway is urban collector. The minimum design vehicle for a collector according to the GDOT design policy manual is an SU. Due to the presence of commercial property and restaurants, it was determined that a WB-67 would be an appropriate design vehicle.

DRAFT

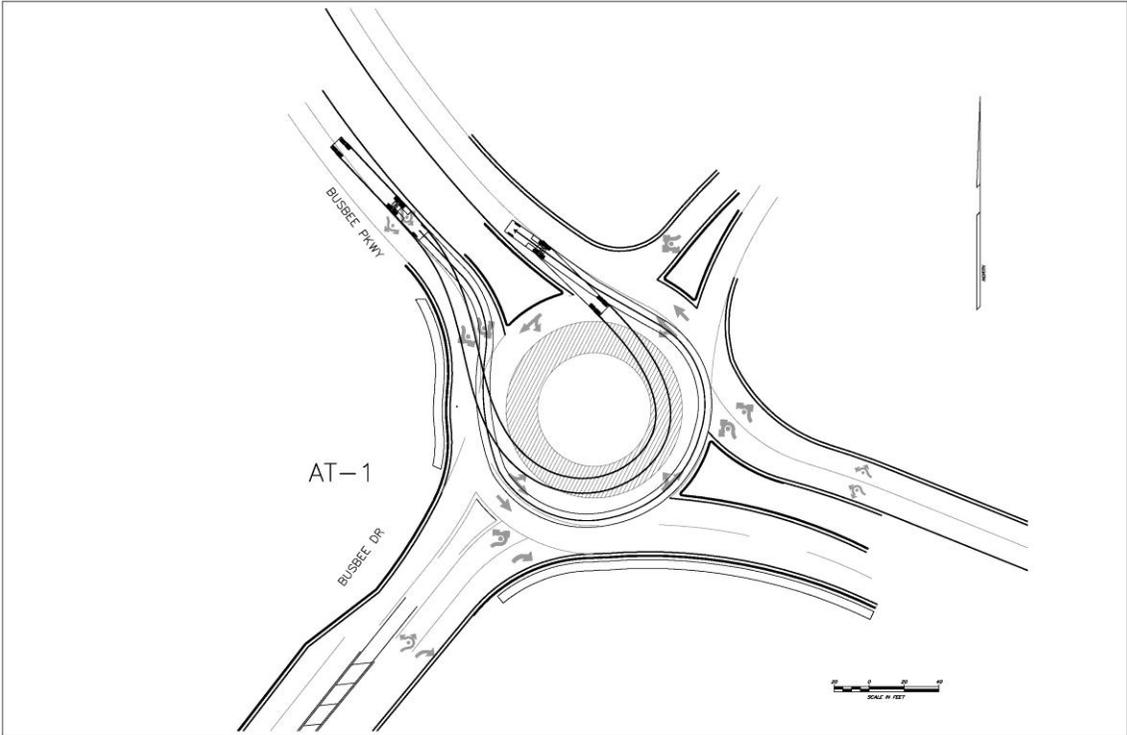
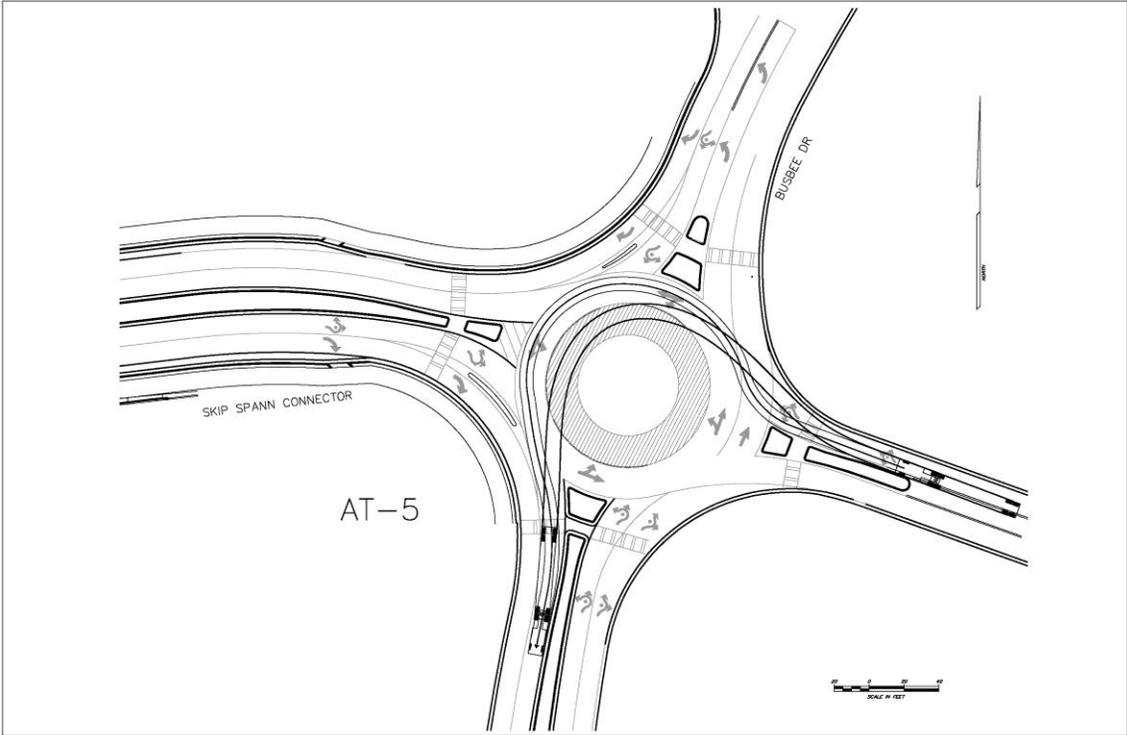
5. Design Vehicle Swept Path



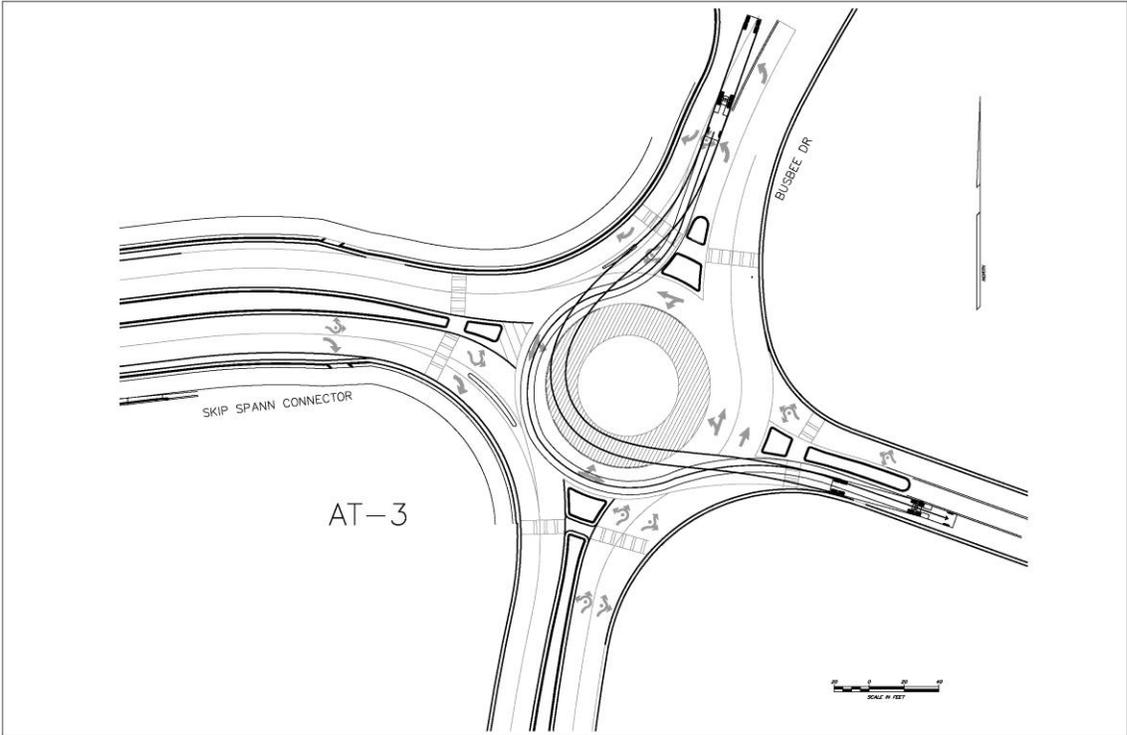
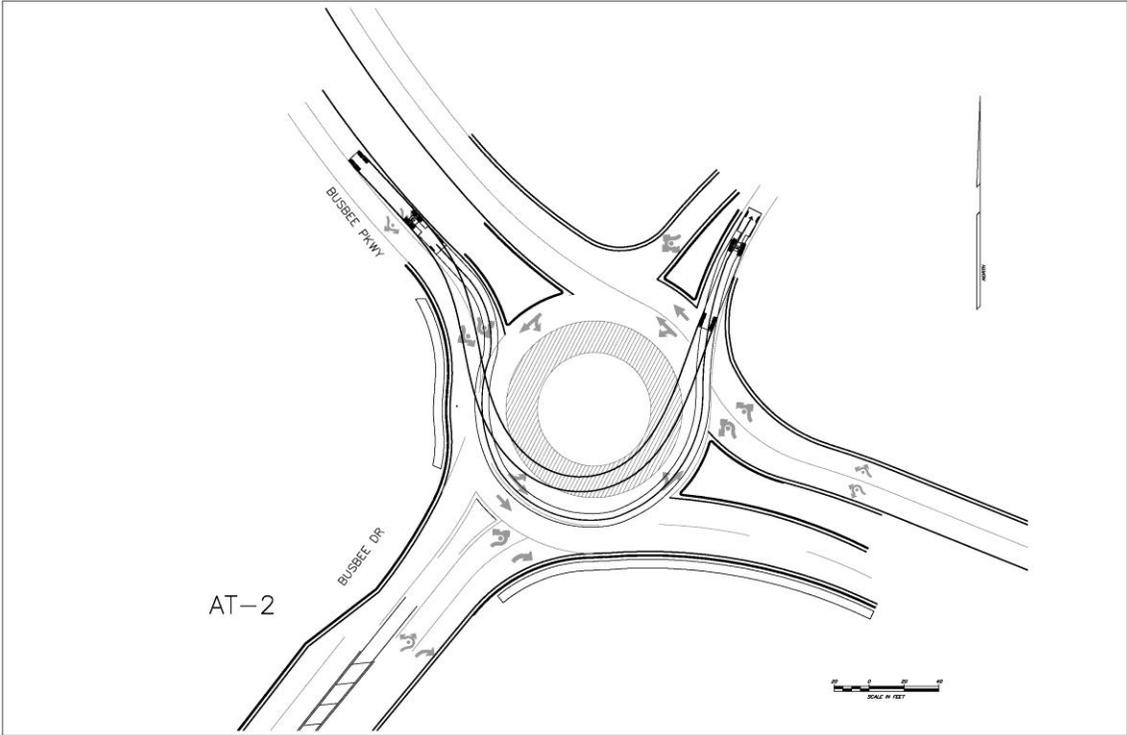
Design – Roundabout Feasibility Study, Part 2-Roundabout layout



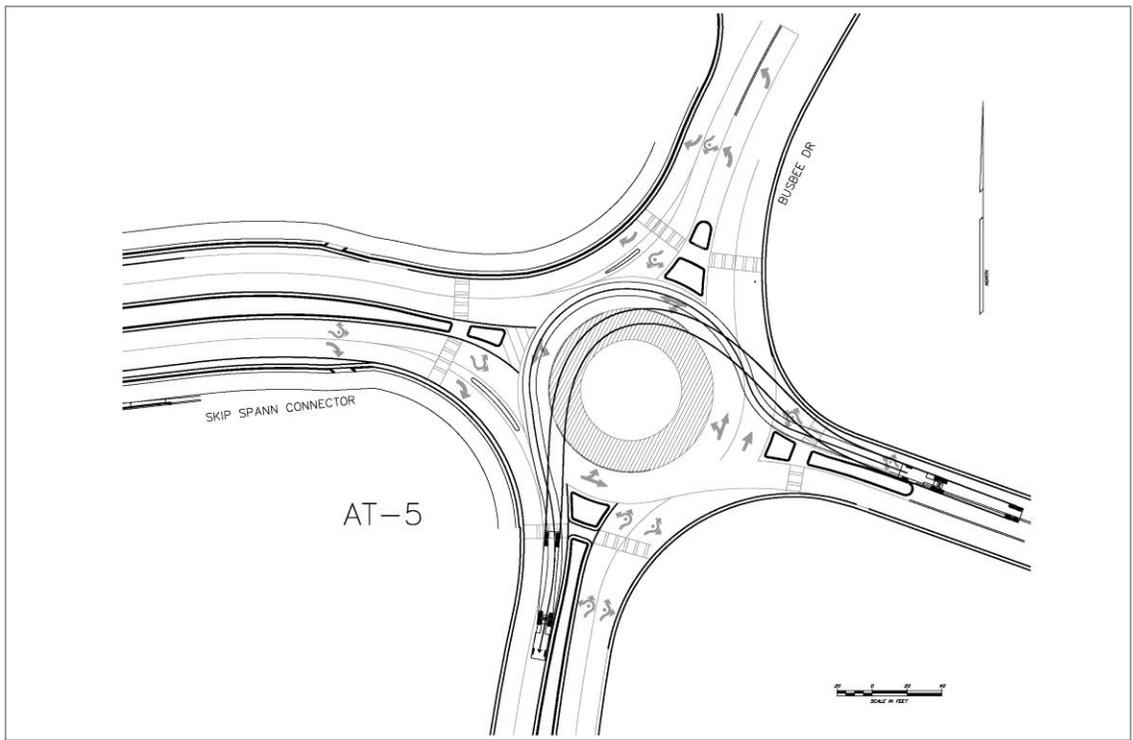
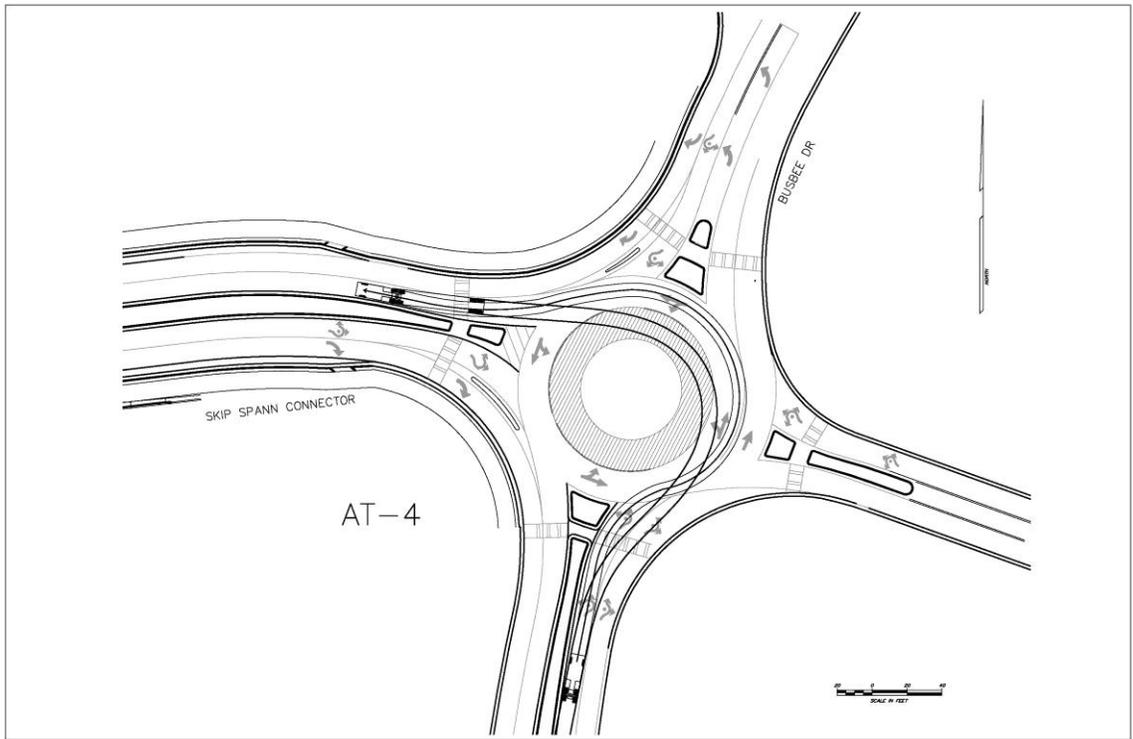
Design – Roundabout Feasibility Study, Part 2-Roundabout layout



Design – Roundabout Feasibility Study, Part 2-Roundabout layout

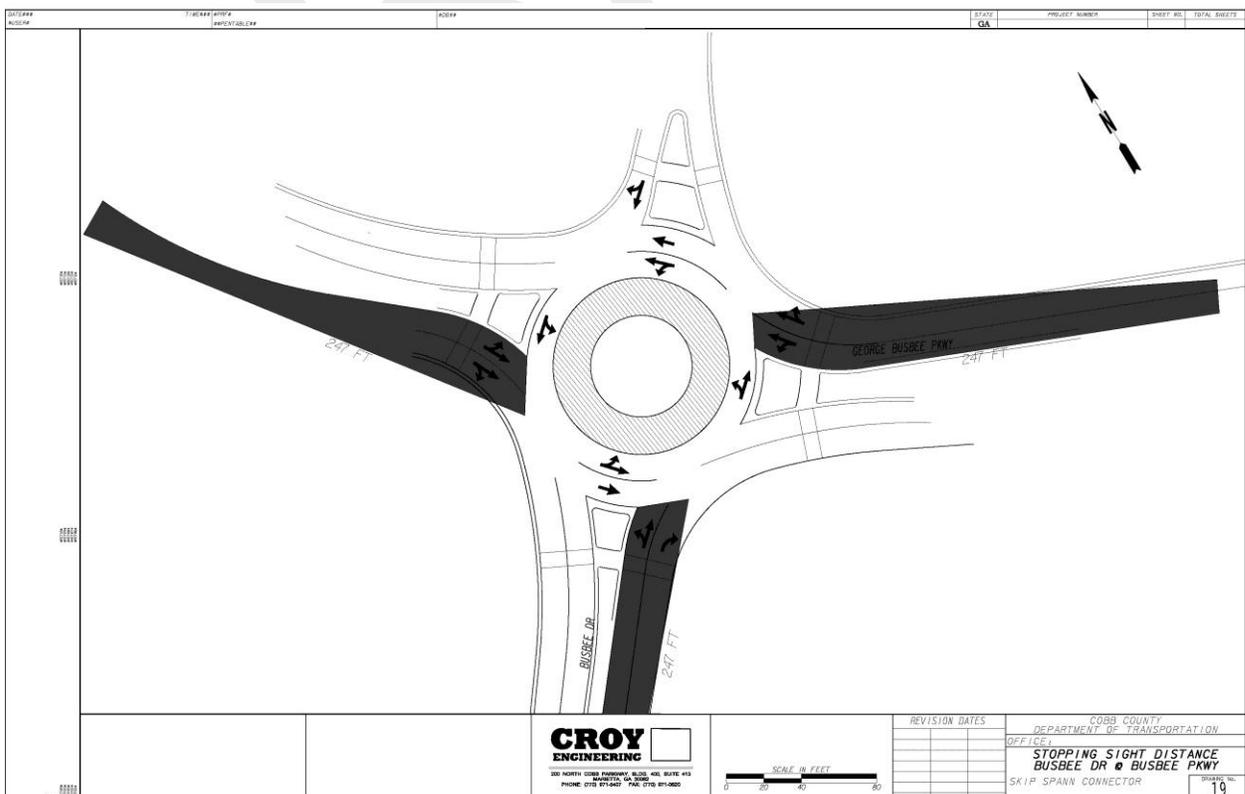
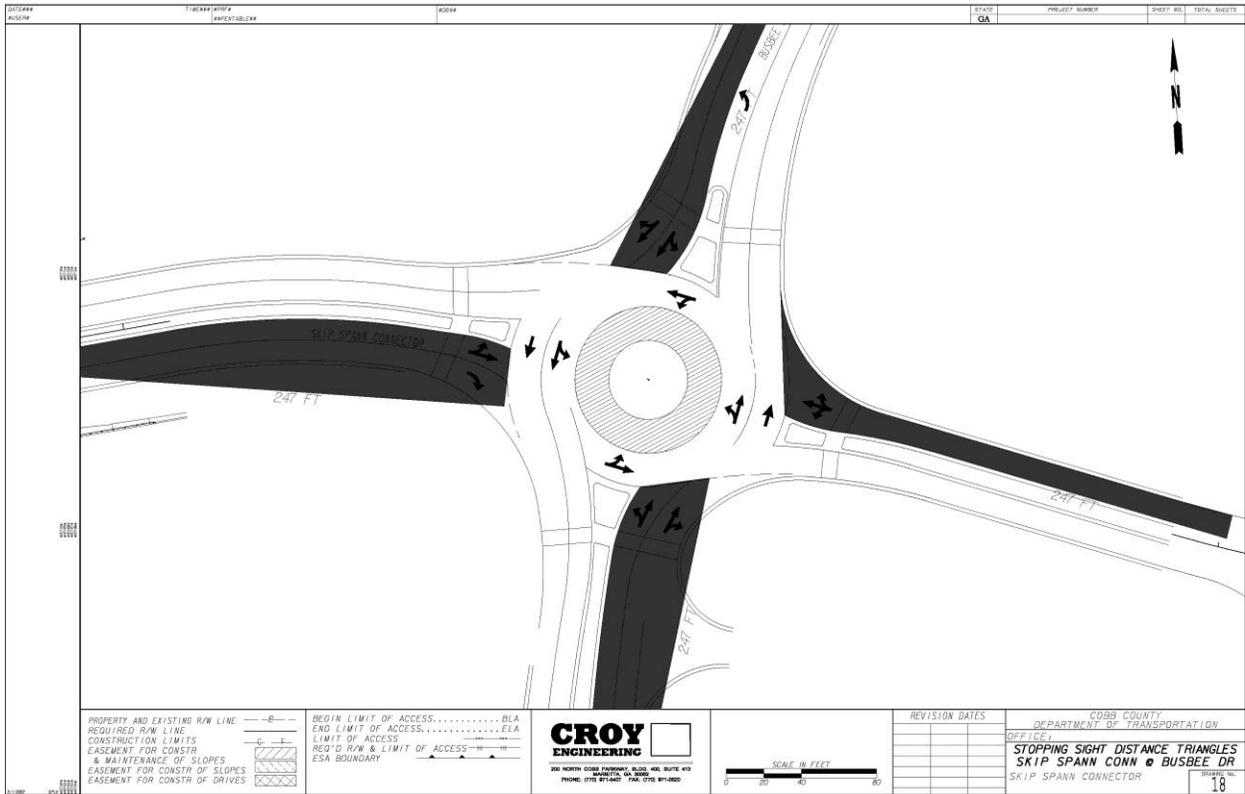


Design – Roundabout Feasibility Study, Part 2-Roundabout layout

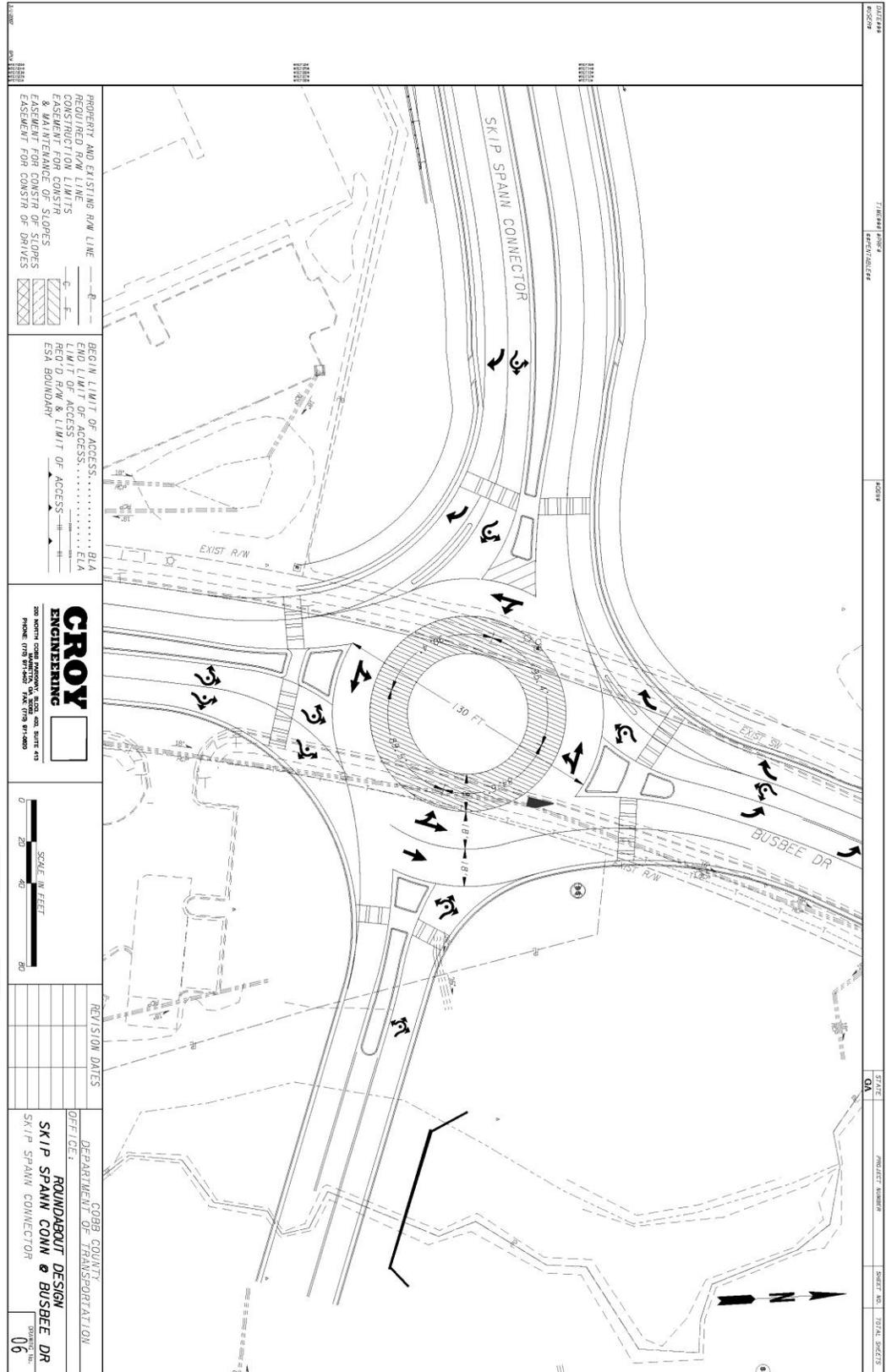


Design – Roundabout Feasibility Study, Part 2-Roundabout layout

6. Stopping Sight Distance



8. Finalize concept Layout



DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INDICATION OF ROUNDABOUT SUPPORT

To the Georgia Department of Transportation:

Attn: State Traffic Engineer
935 E. Confederate Ave, Building 24
Atlanta, GA 30316

Location

The Cobb County Department of Transportation supports the consideration of a roundabout at the location specified below.

Local Street Names: Proposed Skip Spann Connector at Busbee Drive

State/County Route Numbers: N/A

Associated Conditions

The undersigned agrees to participate in the following maintenance of the intersection in the event that the roundabout is selected as the preferred concept alternative:

- The full and entire cost of the electric energy used for any lighting installed and the maintenance thereof (if needed)
- Any maintenance costs associated with the landscaping as approved by the local government and the Georgia Department of Transportation (after construction is complete)

We agree to participate in a formal Local Government Lighting Project Agreement during the preliminary design phase. This indication of support is submitted and all of the conditions are hereby agreed to. The undersigned are duly authorized to execute this agreement.

This is the 6 day of DECEMBER, 2012

Attest:

Walter S. Wright
~~State~~
DISTRICT ENGINEER

By:

[Signature]

Title:

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: Cobb County **OFFICE:** Engineering Services
P.I. No.: 0010157
Busbee-Frey Connector **DATE:** May 1, 2012

FROM: Lisa L. Myers, State Project Review Engineer *llm*

TO: Bobby K. Hilliard, PE, State Program Delivery Engineer
Attn.: Chandria Brown, PE

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held February 6-9, 2012. Responses were received on April 25, 2012. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project. Please note, if the implementation of a VE recommendation requires a Design Exception or Design Variance, it (DE or DV) must be requested separately.

ALT #	Description	Potential Savings/ LCC	Implement	Comments
A-1	Reduce the length of the end spans for the new Busbee-Frey Connector bridge over I-75 by moving the toe of slope closer to the edge of the Chastain Road ramps.	\$1,439,000	No	A-1 will not be implemented because A-8 was selected based on the bridge ends were set at the proximity to the right of way lines to allow for flexibility with respect to three other future projects along the I-75 corridor.
A-3	Reduce the sidewalks on the bridge from 15' to 10'.	\$714,000	No	It is anticipated that high pedestrian volumes will utilize this proposed bridge to cross the interstate going to and from KSU. 20% of the 8,000 students that live off campus will be traveling from the east side to get to the main campus. Those wanting to access the Student Center, Soccer Stadium, and retail shopping located on the east side of the interstate are expected to use this route as well.
A-8	Use MSE walls to reduce the length of the bridge end spans by locating the walls closer to the Chastain Road ramps.	\$431,000	Yes	This will be done.

C-1	Re-align the Proposed Connector to Bussbee Drive and eliminate Townpark Lane Tie-In to the Busbee-Frey Connector Extension.	\$1,960,000	No	A traffic analysis was conducted to evaluate the impact of eliminating the Townpark Lane connection and an unacceptable Level of Service was observed. In addition to this analysis, elimination of this tie-in would adversely impact access to the current properties along the existing Townpark Lane.
C-1.1	Eliminate Townpark Lane Tie-In to Busbee-Frey Connector Extension	\$2,060,000	No	A traffic analysis was conducted to evaluate the impact of eliminating the Townpark Lane connection and an unacceptable Level of Service was observed. In addition to this analysis, elimination of this tie-in would adversely impact access to the current properties along the existing Townpark Lane.
C-2	Use 11' lanes for the Busbee-Frey Connector.	\$362,000	Yes	This will be done.
C-3	Use a 16' raised median for the Busbee-Frey Connector.	\$335,000	Yes	This will be done.
C-4	Use a 5-lane, flush median.	\$521,900	No	C-4 will not be implemented because C-3 was selected instead.
C-5	Use a 3-lane, flush median.	\$1,830,000	No	According to the Turn Lane Length analysis a four lane configuration is required. A 3-lane alternative would cause long queues to form at each end of the connector requiring extended right turn lanes of 670' and 380' to be added. Considering the length of the connector, only 250' of an actual 3-lane section could be achieved.
C-6	Use a Roundabout at the Busbee-Frey Connector and Busbee Drive Intersection.	\$75,000	Yes	This will be done.
C-12	Reduce Pavement thickness	\$245,000	No	Office of Materials & Research does not approve of this alternative and has suggested a more conservative design. The pavement analysis used in the VE study had an error in the LDF factor and if the correct factor of 1.00 was used, the conceptual design is more in line with GDOT requirements.

F-6	Reduce the number of culvert cells to two and excavate additional volume for flood storage, if required.	\$321,000	No	At this crossing location the detention pond is classified as a wetland. Further upstream, the wetland turns into a buffered stream so this alternative will not be implemented to avoid any additional impacts to these noted resources. Reservoir routing was utilized to determine the current number of barrels for this structure to achieve a (No Rise) condition and the Office of Design Policy & Support concurs with this response.
M-1	Use standard width (5 feet) sidewalks along the Busbee-Frey Connector.	\$1,560,000	No	It is anticipated that high pedestrian volumes will utilize this proposed bridge to cross the interstate going to and from KSU. 20% of the 8,000 students that live off campus will be traveling from the east side to get to the main campus. Those wanting to access the Student Center, Soccer Stadium, and retail shopping located on the east side of the interstate are expected to use this route as well.

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

Approved:  Date: 5/3/2012
Gerald M. Ross, PE, Chief Engineer

LLM/MJS
 Attachments

- c: Russell McMurry/Paul Liles
- Bobby Hilliard/Stanley Hill/Chandria Brown
- Ben Rabun/Bill Duvall
- Michael Murdoch/Carla Benton-Hooks
- Lee Upkins
- Melissa Harper
- Ken Werho
- Matt Sanders



DEPARTMENT OF TRANSPORTATION

1890 County Services Parkway
Marietta, Georgia 30008-4014

Phone: (770) 528-1600 Fax: (770) 528-1601

March 23, 2012

Chandria L. Brown, P.E.
Project Manager
Office of Program Delivery
Georgia Department of Transportation
600 West Peachtree Street, 25th Floor
Atlanta, GA 30308

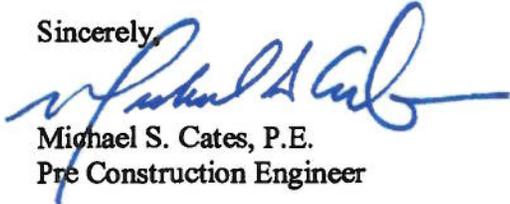
RE: PI 0010157
Busbee Frey Connector

Dear Ms. Brown,

Enclosed are the responses to the Value Recommendations for the above referenced project as prepared by Croy Engineering. Each item contains a response indicating if it will or will not be implemented. Where the response is "will not implement", a complete justification of the response is included. Supporting calculations are included where appropriate.

If you need additional information, please contact the CCDOT Project Manager, Mike Wright at 770-528-4375 or the consultant Project Manager, Chris Rideout at 770-971-5407.

Sincerely,



Michael S. Cates, P.E.
Pre Construction Engineer

MSC/MSW/dlb

cc: Dan McDuff
James Hudgins
Mike Wright
Chris Rideout – Croy Engineering
File

Enclosures



Idea A-1: Reduce the length of the bridge end spans.

VE Team Savings: \$ 1,439,000

Response: **Will not implement.** The bridge ends are set at the proximity to the I-75 right of way lines to allow for maximum flexibility with respect to future projects along the I-75 corridor. These projects include:

AR-ML-930, PI# 0008256 – Northwest Corridor (I-75 and I-575) Managed Lanes, GDOT is currently evaluating potential managed lane options along I-75. This additional bridge length will provide flexibility for different managed lanes and general purpose lane improvement options along I-75.

CO-400, PI# 0010157 - Busbee-Frey connector is Phase 1 of a proposed \$40 million dollar split-diamond concept which will ultimately connect to the Wade Green interchange to the north. Maintaining the proposed end bent configuration will allow for flexibility during the future plan development. This project has been included in Cobb County's adopted project list to be funded with the 15% local allocation of the Region Transportation Referendum.

TIA-CO-035 – Enhanced Premium Transit Service project is being considered for the I-75 corridor. Cobb County is currently financing the alternative analysis along the corridor.

ASP-AR-418 – Northwest Corridor High Capacity Rail Service. This project consists of potential high capacity rail service from Southern Polytechnic Institute to the Town Center Area.

Note: The VE study had an error in the cost savings calculations. The length of the recommended bridge is 395'; however 375' was used in the square foot computations. This will result in a potential savings of \$1,125,800, not the \$1,439,000 shown in the report.

Idea A-3: Reduce the bridge sidewalk width from 15 feet to 10 feet.

VE Team Savings: \$ 714,000

Response: **Will not implement.** Based on information obtained from KSU, approximately 8000 students live in off-campus student housing. Large portions, ~20%, of these students live on the east side of I-75. Along with the KSU Student Center, the KSU Soccer Stadium and the existing retail shopping also being located on the east side of I-75, it is anticipated that this project will need to accommodate a high pedestrian volume to and from the KSU main campus. Given the direct connection to the University campus, and the fact that the KSU campus is expanding to all four quadrants of the Chastain Road/I-75 Interchange, it is expected that the growing student population will utilize the proposed bridge to cross the interstate and as a place to congregate, similar to the 5th Street Bridge in downtown Atlanta adjacent to the Georgia Tech Campus.

KSU's student population is expected to grow ~30% over the next few years and the administration is actively seeking locations for additional student housing including sites on the east side of I-75. Currently there is a zoning application to build student housing in the northwest quadrant of the proposed Busbee-Frey and Busbee Drive intersection.

Idea A-8: Use MSE walls to reduce the length of the bridge end spans.

VE Team Savings: \$431,000

Response: ***Will implement.***

Recommendation C-1 & C1.1: Realign Busbee-Frey Connector, Tie in Busbee Drive, and Eliminate Tie-in to Townpark Lane

VE Team Savings: \$ 1,960,000 (C-1)

VE Team Savings: \$ 2,060,000 (C-1.1)

Response: ***Will not implement.***

Approximately 90% of the traffic utilizing the Busbee-Frey Connector consists of vehicles diverted from Chastain Road via Busbee Drive and Townpark Lane. A travel demand model test run was conducted to evaluate the impact of eliminating the Townpark Lane connection. It was seen that the traffic demand stayed essentially the same but the vehicles were now diverted solely to Busbee Drive. At the intersection of Busbee Drive and Chastain Road, an 85% increase in volume was seen for westbound to northbound right turns and southbound to east bound left turn. A Synchro traffic signal analysis was conducted to assess the impact of this increased traffic and the results showed that the resulting signal Level of Service will be unacceptable.

Further analysis was conducted to identify additional improvements required to bring this intersection to an acceptable LOS. It was seen that triple southbound to east bound left-turning lanes with 350 lf of storage and 180 lf of taper will be required. It was also seen that a total of 550 lf right turn lane storage and 100 lf of taper will be required for eastbound to northbound right turn lane.

		Busbee Drive at Chastain Road intersection analysis		
		Under Current Design Delay(sec)/LOS	With VE Recommendation Delay(sec)/LOS	With VE Recommendation including additional improvements Delay(sec)/LOS
Time Period	A.M.	25/C	27/C	26/C
	P.M.	68/E	80/F	68/E

In addition, elimination of this tie-in will adversely impact access to properties along existing Townpark Lane. Existing Townpark Lane is being converted to a right-in/right-out operation at its intersection with Busbee Drive to provide additional southbound left-turn storage for the Busbee Drive and Chastain Road intersection. Under the proposed condition, traffic from properties along Townpark Lane can still access Chastain Road (westbound) and I-75 via the proposed Townpark Lane tie-in. Elimination of this tie-in will force these vehicles to head west and make a large U-turn type movement via Townpark Lane and George Busbee Parkway.

**C-1 & C-1.1 – Intersection Analysis - Proposed Intersection Configuration with Townpark Lane in place
(Currently proposed design)**

Scenario-1 (W/O Townpark Conn-Dual Left Turn)
6: Chastain Rd & Busbee Dr

Year 2034 PM Peak Hour
3/13/2012

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	165	1425	420	105	1750	190	520	130	100	15	425	50	55
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Ideal Flow (voph)	12	12	12	12	12	12	12	12	12	12	12	12	
Lane Width (ft)	200	180	0	270	470	0	0	0	0	0	0	0	
Storage Length (ft)	2	1	1	1	1	1	1	1	1	1	1	1	
Storage Lanes	75	75	75	75	75	75	75	75	75	75	75	75	
Taper Length (ft)	0.97	0.91	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00	
Lane Util. Factor			0.850			0.850		0.935				0.850	
Fr													
Fit Protected	0.950			0.950			0.950				0.950		
Satd Flow (prot)	3155	4673	1455	1626	3252	1455	3155	1600	0	0	3155	1712	
Fit Permitted	0.950			0.950			0.950				0.604		
Satd Flow (perm)	3155	4673	1455	1626	3252	1455	3155	1600	0	0	2006	1712	
Right Turn on Red			Yes		Yes				Yes			Yes	
Satd Flow (RTOR)			364		146			26				60	
Link Speed (mph)		45			45							35	
Link Distance (ft)		45.1			8.38			35				162	
Travel Time (s)		6.8			12.7			15.0				3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	179	1549	457	114	1902	207	565	141	109	16	462	54	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	179	1549	457	114	1902	207	565	250	0	0	478	54	
Turn Type	Prot		Perm		Prot		Perm			Custom		Prot	
Protected Phases	1	6		5	2		7	4			3	8	
Permitted Phases			6		2		2			3		8	
Detector Phase	1	6	6	5	2	2	7	4		3	3	8	
Switch Phase													
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	15.0		8.0	8.0	15.0	
Total Split (s)	12.0	62.0	62.0	14.0	64.0	64.0	24.0	18.0	0.0	26.0	26.0	20.0	
Total Split (%)	10.0%	51.7%	51.7%	11.7%	53.3%	53.3%	20.0%	15.0%	0.0%	21.7%	21.7%	16.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	

Baseline
%User_name%

Synchro 7 - Report
Page 1

Scenario-1 (W/O Townpark Conn-Dual Left Turn)
6: Chastain Rd & Busbee Dr

Year 2034 PM Peak Hour
3/13/2012

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None		None	None	None
Act Effct Green (s)	8.0	54.6	54.6	13.4	60.0	60.0	24.0	14.0		22.0	13.9	13.9
Actuated g/C Ratio	0.07	0.46	0.46	0.11	0.50	0.50	0.20	0.12		0.18	0.12	0.12
v/c Ratio	0.85	0.73	0.52	0.63	1.17	0.26	0.90	1.19		1.30	0.27	0.27
Control Delay	72.2	16.3	2.9	53.6	100.5	2.3	66.1	164.0		192.9	50.6	14.8
Queue Delay	0.0	0.8	0.7	0.0	27.6	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	72.2	17.2	3.6	53.6	128.1	2.3	66.1	164.0		192.9	50.6	14.8
LOS	E	B	A	D	F	A	E	F		F	D	B
Approach Delay		16.8			112.8			96.1			161.8	
Approach LOS		B			F			F			F	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 16 (13%), Referenced to phase 2:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.30

Intersection Signal Delay: 80.1

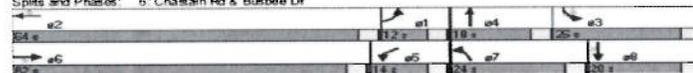
Intersection LOS: F

Intersection Capacity Utilization: 91.9%

ICU Level of Service: F

Analysis Period (min): 15

Splits and Phases: 6: Chastain Rd & Busbee Dr



C-1 & C-1.1 – Intersection Analysis - Proposed Intersection configuration without Townpark Lane in place (VE Recommendation)

Scenario#II(With Townpark Connection)
6: Chastain Rd & Busbee Dr

Year 2035 PM Peak Hour
3/13/2012

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Volume (vph)	165	1425	420	55	1625	35	520	130	100	15	290	125	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12
Storage Length (ft)	200		180	0		270	470		685	0		0	
Storage Lanes	2		1	1		1	1		0		2	1	
Taper Length (ft)	75		75	75		75	75		75		75	75	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850		0.935				0.850	
Flt Protected	0.950			0.950			0.950				0.950		
Satd Flow (prot)	3127	4631	1442	1612	3223	1442	3127	1586	0	0	3127	1696	1442
Flt Permitted	0.950			0.950			0.950				0.604		
Satd Flow (perm)	3127	4631	1442	1612	3223	1442	3127	1586	0	0	1968	1696	1442
Right Turn on Red			Yes			Yes		Yes			Yes		Yes
Satd Flow (RTOR)			384			29		27			35		102
Link Speed (mph)		45			45			35				35	
Link Distance (ft)		451			838			769				162	
Travel Time (s)		6.8			12.7			15.0				3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	1549	457	60	1766	38	565	141	109	16	315	136	114
Shared Lane Traffic (%)													
Lane Group Flow (vph)	179	1549	457	60	1766	38	565	250	0	0	331	136	114
Turn Type	Prot	Perm	Perm	Prot	Perm	Prot	Prot	custom	Prot	Prot	Perm	Perm	Perm
Protected Phases	1	6		5	2		7	4			3	8	
Permitted Phases			6			2				3		3	8
Detector Phase	1	6	6	5	2	2	7	4		3	3	8	8
Switch Phase													
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	11.0	62.0	62.0	14.0	65.0	65.0	24.0	21.0	0.0	23.0	23.0	20.0	20.0
Total Split (%)	9.2%	51.7%	51.7%	11.7%	54.2%	54.2%	20.0%	17.5%	0.0%	19.2%	19.2%	16.7%	16.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Baseline
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Synchro 7 - Report
Page 1

Scenario#II(With Townpark Connection)
6: Chastain Rd & Busbee Dr

Year 2035 PM Peak Hour
3/13/2012

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	7.0	59.6	59.6	10.3	61.0	61.0	20.0	17.0		19.0	16.0	16.0
Actuated g/C Ratio	0.06	0.50	0.50	0.09	0.51	0.51	0.17	0.14		0.16	0.13	0.13
w/c Ratio	0.96	0.67	0.50	0.43	1.06	0.95	1.06	1.01		1.05	0.60	0.41
Control Delay	94.4	15.5	2.6	37.8	73.3	6.1	111.2	105.3		111.6	59.9	19.1
Queue Delay	0.0	0.6	0.5	0.0	33.7	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	94.4	16.1	3.2	37.8	107.0	6.1	111.2	105.3		111.6	59.9	19.1
LOS	F	B	A	D	F	A	F	F		F	E	B
Approach Delay		19.8			102.7		109.4				81.3	
Approach LOS		B			F		F				F	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 1 (1%), Referenced to phase 2:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum w/c Ratio: 1.08

Intersection Signal Delay: 68.2

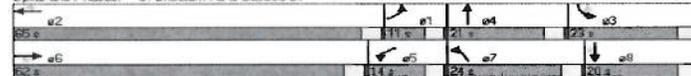
Intersection LOS: E

Intersection Capacity Utilization 84.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Chastain Rd & Busbee Dr



C-1 & C-1.1 – Intersection Analysis - Improved Intersection configuration without Townpark Lane in place (VE Recommendation with necessary improvements)

Scenario-III (W/O Townpark Conn-Triple Left Turn)
6: Chastain Rd & Busbee Dr

Year 2034 PM Peak
3/13/2012

Line Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Line Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Volume (vph)	166	1425	420	105	1750	190	520	130	100	15	425	50	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	200		180	0		270	470		685	0		0	
Storage Lanes	2		1	1		1	1		0	3		1	
Taper Length (ft)	75		75	75		75	75		75			75	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.94	1.00	
Ft			0.850			0.850		0.935				0.850	
Ft Protected	0.950			0.950		0.950		0.950			0.950		
Satd Flow (prot)	3127	4631	1442	1612	3223	1442	3127	1586	0	0	4545	1696	
Ft Permitted	0.950			0.950		0.950		0.950			0.604		
Satd Flow (perm)	3127	4631	1442	1612	3223	1442	3127	1586	0	0	2889	1442	
Right Turn on Red			Yes		Yes		Yes		Yes			Yes	
Satd Flow (RTOR)			366			157		27				60	
Link Speed (mph)		45			45			35				35	
Link Distance (ft)		451			838			769				162	
Travel Time (s)		6.8			12.7			15.0				3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	179	1549	457	114	1902	207	565	250	0	0	478	54	
Turn Type	Prot		Perm	Prot		Perm	Prot		Custom		Prot	Perm	
Protected Phases	1	6		5	2		7	4			3	8	
Permitted Phases			6			2				3		8	
Detector Phases	1	6	6	5	2	2	7	4		3	3	8	
Switch Phase													
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	15.0		8.0	8.0	15.0	
Total Split (s)	11.0	59.0	59.0	20.0	68.0	68.0	25.0	19.0	0.0	22.0	22.0	16.0	
Total Split (%)	9.2%	49.2%	49.2%	16.7%	56.7%	56.7%	20.8%	15.8%	0.0%	18.3%	18.3%	13.3%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	

Baseline
%user_name%

Synchro 7 - Report
Page 1

Scenario-III (W/O Townpark Conn-Triple Left Turn)
6: Chastain Rd & Busbee Dr

Year 2034 PM Peak
3/13/2012

Line Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None		None	None	None
Act Effd Green (s)	7.0	52.9	52.9	18.1	64.0	64.0	24.2	15.0		18.0	10.7	10.7
Actuated g/C Ratio	0.06	0.44	0.44	0.15	0.53	0.53	0.20	0.12		0.15	0.09	0.09
v/c Ratio	0.98	0.76	0.54	0.47	1.11	1.11	0.25	0.90	1.13	1.10	0.36	0.33
Control Delay	101.5	18.4	3.3	40.2	72.2	1.5	65.9	141.0		121.5	57.4	17.4
Queue Delay	0.0	1.3	0.8	0.0	37.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	101.5	19.7	4.2	40.2	109.3	1.5	65.9	141.0		121.5	57.4	17.5
LOS	F	B	A	D	F	A	E	F		F	E	B
Approach Delay		23.2			95.7			88.9			105.1	
Approach LOS		C			F			F			F	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 16 (13%), Referenced to phase 2 WBT, Start of Green

Normal Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 68.5

Intersection Capacity Utilization: 67.7%

Intersection LOS: E

ICU Level of Service: E

Analysis Period (min): 15

Spplits and Phases: 6: Chastain Rd & Busbee Dr

Idea C-2: Use 11 foot lanes for the Busbee-Frey Connector.

VE Team Savings: \$362,000

Response: *Will implement.*

Idea C-3: Reduce the median width from 20 feet to 16 feet on the Busbee-Frey Connector.

VE Team Savings: \$335,000

Response: *Will implement.*

Idea C-4: Use a 5-lane; flush median section for the Busbee-Frey Connector.

VE Team Savings: \$521,900

Response: **Will not implement.**

Idea C-2 & C-3 will be implemented in lieu of Idea C-4. The cost savings associated with Ideas C-2 and C-3 will offset the potential savings resulting from C-4. The raised median will also allow for the installation of landscaping, in keeping with the pedestrian friendly nature of the corridor.

Idea C-5: Use a 3-lane; flush median section for the Busbee Frey Connector.

VE Team Savings: \$1,830,000

Response: **Will not implement.** The current configuration of four-lane divided highway functions as a two through-lane roadway with long right-turn drop lanes in both eastbound and westbound approaches of the bridge.

The right turning drop lanes serve two major purposes:

- I. Accommodating high queue lengths contributed by heavy right turning traffic in the eastbound and westbound approaches of the bridge.
- II. Act as receiving lanes for free flow right turning lanes at the intersections of Busbee Dr and Frey Road.

It is anticipated that under a 3-lane section configuration, long queues will form at each end of the Busbee-Frey Connector. At the western end where the connector intersects Frey Road, the right turn lane will be 670 linear-feet. This length is being dictated by the westbound through lane queues. The right turn lane needs to be longer than the through queues to prevent through lane traffic blocking the right turns. At the eastern end where the connector intersects Busbee Drive, a minimum 380 linear-feet right turn lane will be required. The proposed section between these intersections is approximately 1,300 linear feet. After accommodating these right turn lanes, the remaining 3-lane section available on the connector will only be approximately 250 linear-feet. Therefore, the actual savings in asphalt and earthwork under the proposed recommendation will be approximately \$49,000.

Turn Lane Length analysis						
Parameters	Busbee Frey Conn. @ Frey Rd			Busbee Frey Conn. @ Busbee Dr		
	WBL	WBT	WBR	EBL	EBT	EBR
95 Percentile Queue Length (Maximum of AM & PM)	180	490	200'	80	190	120
Minimum Deceleration Length for Type C Median @ 35mph	200'	N/A	200'	200'	N/A	200'
Taper Length Requirements	180'	N/A	180'	180'	N/A	180'
Recommended Turn lane Length	670' =(490+180)	N/A	670' =(490+180)	460'	N/A	380' =(200+180)

Queuing Analysis- Year 2034 AM Peak Hour – 3 Lane Segment

Intersection: 102: KSU Parking Deck & Frey Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	T	R	UL	T	TR	L	T	T	
Maximum Queue (ft)	26	121	72	577	475	238	102	101	51	437	429	
Average Queue (ft)	1	44	27	326	34	101	57	58	21	278	299	
95th Queue (ft)	9	96	72	492	198	172	109	107	46	423	429	
Link Distance (ft)	338	338		1282		335	335	335		1281	1281	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				300				400				350
Storage Blk Time (%)								7				2
Queuing Penalty (veh)								38				1

Intersection: 140: Connector & Busbee Dr

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB	
Directions Served	L	T	L	TR	UL	TR	L	T	R	
Maximum Queue (ft)	47	50	224	442	422	314	81	143	45	
Average Queue (ft)	10	17	88	325	216	71	24	50	9	
95th Queue (ft)	35	46	204	458	372	180	65	103	35	
Link Distance (ft)		1282		379	731	731		391	391	
Upstream Blk Time (%)										8
Queuing Penalty (veh)										0
Storage Bay Dist (ft)	250		150				300			
Storage Blk Time (%)			2	31						
Queuing Penalty (veh)			9	29						

Queuing Analysis- Year 2034 PM Peak Hour – 3 Lane Segment

Intersection: 102: KSU Parking Deck & Frey Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB	
Directions Served	L	TR	L	T	UL	T	TR	L	T	T	R	
Maximum Queue (ft)	377	386	202	255	257	388	366	425	1207	1119	56	
Average Queue (ft)	264	310	105	92	136	327	341	416	807	590	4	
95th Queue (ft)	390	438	183	185	237	382	373	469	1280	1023	28	
Link Distance (ft)	338	338		1290	335	335	335		1285	1285		
Upstream Blk Time (%)	13	33										
Queuing Penalty (veh)	0	0										
Storage Bay Dist (ft)				300					350			350
Storage Blk Time (%)									65			
Queuing Penalty (veh)									225			

Intersection: 103: Connector & Busbee Dr

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	UL	TR	L	T
Maximum Queue (ft)	92	279	323	224	377	181	308	52	143
Average Queue (ft)	36	93	13	151	139	97	62	20	60
95th Queue (ft)	82	181	117	239	270	180	176	49	121
Link Distance (ft)		1290			501	355	355		766
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250	150				300	
Storage Blk Time (%)		1		13	9				
Queuing Penalty (veh)		2		25	16				

Idea C-6: Use a roundabout at the Busbee-Frey Connector and Busbee Drive intersection.

VE Team Savings: \$75,000

Response: **Will implement (pending roundabout feasibility study).** The roundabout feasibility study will take into account anticipated large pedestrian volumes in the area as well as traffic benefits including the approach grades of several of the approaches. Per GDOT direction, if feasible, the roundabout will be designed to accommodate "active pedestrian crossings", which may be needed in the future.

Idea C-12: Reduce the pavement thickness.

VE Team Savings: \$245,000

Response: **Will not implement.** The vehicle classification on the Busbee-Frey connector is expected to closely match the current vehicle classification for Frey Road. Since the 9.5 % truck on Frey road closely matches the overall 10% established for the project, the truck volumes will not be modified.

Truck Percentage Comparison Summary						
	Overall Project Area			Frey Road		
	Single Unit (SU)	Combination Unit (Com)	Total Truck	Single Unit (SU)	Combination Unit (Com)	Total Truck
24-Hour Truck	6.7%	3.4%	10.1%	6.1%	3.4%	9.5%

A pavement analysis will be prepared using the traffic numbers and truck percentages approved by GDOT. The analysis will be submitted to the GDOT Office of Material and Research for final approval.

Based on a preliminary analysis, GDOT's Office of Material and Research suggests the following mix design:

- 1.25" - 9.5 mm SP
- 2" - 19 mm SP
- 7" - 25 mm SP
- 12" - GAB

During the preliminary design phase, the pavement design mix will be submitted to OMR for approval.

Note: The pavement design analysis used in the VE study has an error in the LDF factor. Using the correct LDF of 1.00, the proposed pavement design, shown in the plans, will be approximately 0.8% under designed, which is in line with GDOT requirements.

Idea F-6: Use fewer culvert cells at the regional detention pond crossing.

VE Team Savings: \$321,000

Response: **Will not implement.** This recommendation if implemented will cause additional impacts to the wetland and may cause new impacts to the stream and stream buffer.

The crossing in question is along Townpark Lane where it crosses the regional detention pond. This area falls under FEMA Zone A Special Flood Hazard Area. Although FEMA allows up to 1-foot rise in water surface elevation in this type of floodplain, Cobb County requires the proposed crossing result in no increase (No Rise) to the 100-year floodplain elevation.

The project will be placing 3400 CY of fill in this detention pond and will divide regional detention facility with the proposed culverts acting as an outlet structure for the upper portion of the existing facility (upper pond) and the existing regional detention facilities outlet structure acting as the outlet structure for the lower portion of the existing facility (lower pond). Therefore, reservoir routing was utilized to determine the number of culvert barrel required for this project.

The regional detention is also classified as partial wetland and partial stream. At the crossing location, the detention pond is classified as wetland. Further upstream, the wetland turns into a buffered stream. Currently, the project is not impacting the stream or stream buffer. Only 0.40 acre of the wetland impact is being anticipated.

Idea M-1: Use standard width 5 foot sidewalks on the Busbee-Frey Connector.

VE Team Savings: \$1,560,000

Response: **Will not implement.** Based on information obtained from KSU, approximately 8000 students live in off-campus student housing. A large portion, ~20%, of these students live on the east side of I-75. Along with the KSU Student Center, the KSU Soccer Stadium and the existing retail shopping also being located on the east side of I-75, it is anticipated that this project will need to accommodate a high pedestrian volume to and from the KSU main campus. Given the direct connection to the University campus, it is expected that the student population will utilize the proposed bridge to traverse the interstate and as a place to congregate, similar to the 5th Street Bridge in downtown Atlanta adjacent to the Georgia Tech Campus.

KSU's student population is expected to grow ~30 to 40% over the next few years and the administration is actively seeking additional locations for additional housing including sites on the east side of I-75.

The proposed 10' sidewalk is also in line with the goals of both Cobb County and the Town Center Community Improvement District to provide a vast network of sidewalks and multi-use paths throughout the area. Currently, 10' sidewalks are being installed along the Big Shanty Connector and Town Point Parkway projects. Additionally, the Town Center CID has identified Busbee Drive as a LCI focus area. The CID has applied for LCI funds to construct a multi-use path and bicycle lane along the entire Busbee Drive corridor.

Recommendations A-1, A-2 and A-3

Bridge Design Feedback

Brown, Chandria

From: DuVall, Bill
Sent: Thursday, April 19, 2012 2:02 PM
To: Brown, Chandria
Cc: Rabun, Ben; Sanders, Matt
Subject: RE: PI 0010157 - Bridge Design VE Response Concurrences

Chandria,

The bridge office address' the structural related items in the VE Study as you requested as follows:

VE Alternative A-1, Reduce bridge lengths; end spans: Will Not Implement -The Bridge Office agrees with Cobb County regarding the future use of I-75 and the need to provide access beneath the proposed structure.

VE Alternative A-3, Reduce bridge sidewalk width to 10 feet: Will Not Implement – Based on the anticipated pedestrian volumes related to Kennesaw State University provided by Cobb County, the designer requires 15 foot sidewalks. The Bridge Office does not object to the proposed widths.

VE Alternative A-8, Use MSE walls at end bents: Cobb County recommends implementing this alternative. The Bridge Office accepts this recommendation based on the information available. However, this project is in the concept phase. No plans for the bridge, walls, roadway or right of way have been submitted to the Bridge Office for review nor a cost estimate. If it is determined during the development of preliminary or final plans that a 4 span bridge is more economical, then you will need to draft a reversal for this alternative.

If you have any further questions or comments, please let me know.

Thanks,
Bill

From: Brown, Chandria
Sent: Friday, April 13, 2012 10:59 AM
To: DuVall, Bill
Cc: Rabun, Ben
Subject: FW: PI 0010157 - Bridge Design VE Response Concurrences

Mr. DuVall,

I'm following up on my April 2, 2012 e-mail requesting your VE Concurrences for the response for PI 0010157. Please advise as to the status of your review.

Thanks,

Recommendation F-6

Design Policy & Support Feedback

Brown, Chandria

From: McManus, Brad
Sent: Tuesday, April 03, 2012 9:06 AM
To: Brown, Chandria
Cc: Hill, Stanley
Subject: RE: PI 0010157 - Drainage VE Response Concurrence

According to Cobb County the 6 barrel culvert was sized using routing analysis. That is what we asked for about one month ago. I am taking Cobb County at its word and concur with Cobb County's response to the VE study on recommendation F-6.

Brad McManus, PE
Design Group Manager
GDOT, Office of Design Policy and Support
25th floor (Mail to 26th floor)
600 West Peachtree Street
Atlanta, Georgia 30308
Phone 404 631 1630
fax 404 631 1949

From: Brown, Chandria
Sent: Monday, April 02, 2012 4:26 PM
To: McManus, Brad
Cc: Hill, Stanley
Subject: PI 0010157 - Drainage VE Response Concurrence

Mr. McManus,

The VE Study for PI 0010157 – Busbee Frey Connector was held the week of February 6, 2012. This a new location overpass bridge over I-75 north of the I-75 Chastain Road Interchange. Cobb County has provided responses for the VE comments within the attached document. Please provide your feedback and/or concurrence for the Drainage related response by or before COB 04/10/12: **F-6**.

For your immediate reference, I have placed the VE Report, VE Study Package, VE Study Plan Set and the VE Responses at the following location on PCCOMMON.

<\\Gdot-ad\preconstruction\RoadDesign\Pccommon\0010157\VE Study>

Please let me know if you have any questions.

Recommendation C-12

Brown, Chandria

Office of Materials & Research Feedback 1 of 5

From: Jubran, Abdallah (AJ)
Sent: Wednesday, April 04, 2012 10:56 AM
To: Brown, Chandria
Cc: Hill, Stanley; Scruggs, Thomas; Turner, James
Subject: RE: PI 0010157 - Pavement VE Response Concurrences
Attachments: PI 0010157VEResponse.pdf

Chandria,

I see two issues with the VE analysis:

- a. AMEC decided to cut the truck percent in half, and
- b. Erroneously used and LDF of 0.01 instead of 1.0 which should be entered as 100%. This should have been flagged, but apparently not caught in the quality review.

I am presenting two alternates in the attached pdf. They are based on the following

1. Used approved traffic volumes on cover sheet
2. Used 10% truck percentage as stipulated in the VE report
3. Used an ESAL factor of 0.73 as used in VE report. This factor with Item 2 equate to MU=1.5% and SU=3.5%
4. Used a 0-5% underdesign for Urban areas with curb and gutter
5. Used an LDF of 100% - one lane, all truck traffic in that lane (VE used 0.01)
6. The Pavement Sections I came up with are the following:

Surface: 1.25 in 9.5 mm SP This is the surface mix type according to Mix Guidelines
Binder: 2 in 19 mm SP
Base HMA: 6 in 25 m SP
Base: 12 in GAB

This gives a 6.1% underdesign which does not meet the 0-5% guideline but is provided for your information, and

Surface: 1.25 in 9.5 mm SP This is the surface mix type according to Mix Guidelines
Binder: 2 in 19 mm SP
Base HMA: 7 in 25 m SP
Base: 12 in GAB

Recommendation C-12

Office of Materials & Research Feedback 2 of 5

This design gives a 0.8% underdesign which meets the 0-5% guideline.

Please advise if additional information is needed. Thanks. AJ

From: Brown, Chandria
Sent: Monday, April 02, 2012 4:16 PM
To: Jubran, Abdallah (AJ)
Cc: Turner, James; Hill, Stanley
Subject: PI 0010157 - Pavement VE Response Concurrences

Mr. Jubran,

The VE Study for PI 0010157 – Busbee Frey Connector was held the week of February 6, 2012. This a new location overpass bridge over I-75 north of the I-75 Chastain Road Interchange. Cobb County has provided responses for the VE comments within the attached document. Please provide your feedback and/or concurrences for the Pavement related comment by or before COB 04/10/12: **C-12**.

For your immediate reference, I have placed the VE Report, VE Study Package, VE Study Plan Set and the VE Responses at the following location on PCCOMMON.

<\\Gdot-ad\preconstruction\RoadDesign\Pccommon\0010157\VE Study>

Please let me know if you have any questions.

Thanks,
Chandria L. Brown, P.E.
Project Manager
Office of Program Delivery
Georgia Department of Transportation
600 West Peachtree Street, 25th Floor
Atlanta, GA 30308
Phone: (404) 631-1580
Mobile: (404) 357-5049
Fax: (404) 631-1588
E-mail: chbrown@dot.ga.gov

Recommendations C-1, C1.1, C2, C3, C4, C5, C6, M-1

Traffic Operations Feedback

Brown, Chandria

From: Zehngraff, Scott E.
Sent: Monday, April 09, 2012 4:59 PM
To: Lobdell, Mike; Brown, Chandria
Cc: Zahul, Kathy; Werho, Ken; Pass, Daniel; DeNard, Paul
Subject: RE: PI 0010157 - District 7 Traffic Operations VE Response Concurrence

I just spoke with Dan Pass about this, and I wanted to share this with you...

All we are recommending at this time is being able to accommodate "active pedestrian accommodations" in the future...
This will likely be conduit from the shoulder to the splitter islands across all multilane approaches (and exits) to (and from) the roundabout...
The PROWAG (if approved) and ADA regulations may allow the use of RRFBs...

we are not requiring active pedestrian crossings at this time... and will not until we get final determination on what PROWAG decides...

Scott E. Zehngraff, P.E. General Operations Manager Traffic Operations 404-635-8127 cell: 404-805-8016

From: Lobdell, Mike
Sent: Monday, April 09, 2012 11:13 AM
To: Zehngraff, Scott E.; Brown, Chandria
Cc: Zahul, Kathy; Werho, Ken
Subject: RE: PI 0010157 - District 7 Traffic Operations VE Response Concurrence

The rationale for the responses appears reasonable to me. For C6 keep in mind that a pedestrian hybrid beacon will be required on all legs if this is a multi lane roundabout.

Mike Lobdell, P.E.
(770) 986-1765
mlobdell@dot.ga.gov

From: Zehngraff, Scott E.
Sent: Friday, April 06, 2012 3:26 PM
To: Brown, Chandria; Lobdell, Mike
Cc: Zahul, Kathy; Werho, Ken
Subject: RE: PI 0010157 - District 7 Traffic Operations VE Response Concurrence

Mike,
We can work together on the responses for this... please let me know what I can do to help

PRECONSTRUCTION STATUS REPORT FOR PI:0010157

PROJ ID : 0010157
 COUNTY : Cobb
 LENGTH (MI) : 0.50
 PROJ MGR: Brown, Chandria
 AOHD Initials: SSH
 OFFICE : Program Delivery
 CONSULTANT: Local Design, Local PE funds
 SPONSOR : Cobb County
 DESIGN FIRM: Croy Engineering, LLC.

SKIP SPANN CONNECTOR FROM BUSBEE PKWY TO FREY ROAD
 MPO: Atlanta TMA
 TIP #: CO-400
 MODEL YR : 2020
 TYPE WORK: Bridges
 CONCEPT: New Construction
 PROG TYPE: N
 Prov. for ITS:
 BOND PROJ :

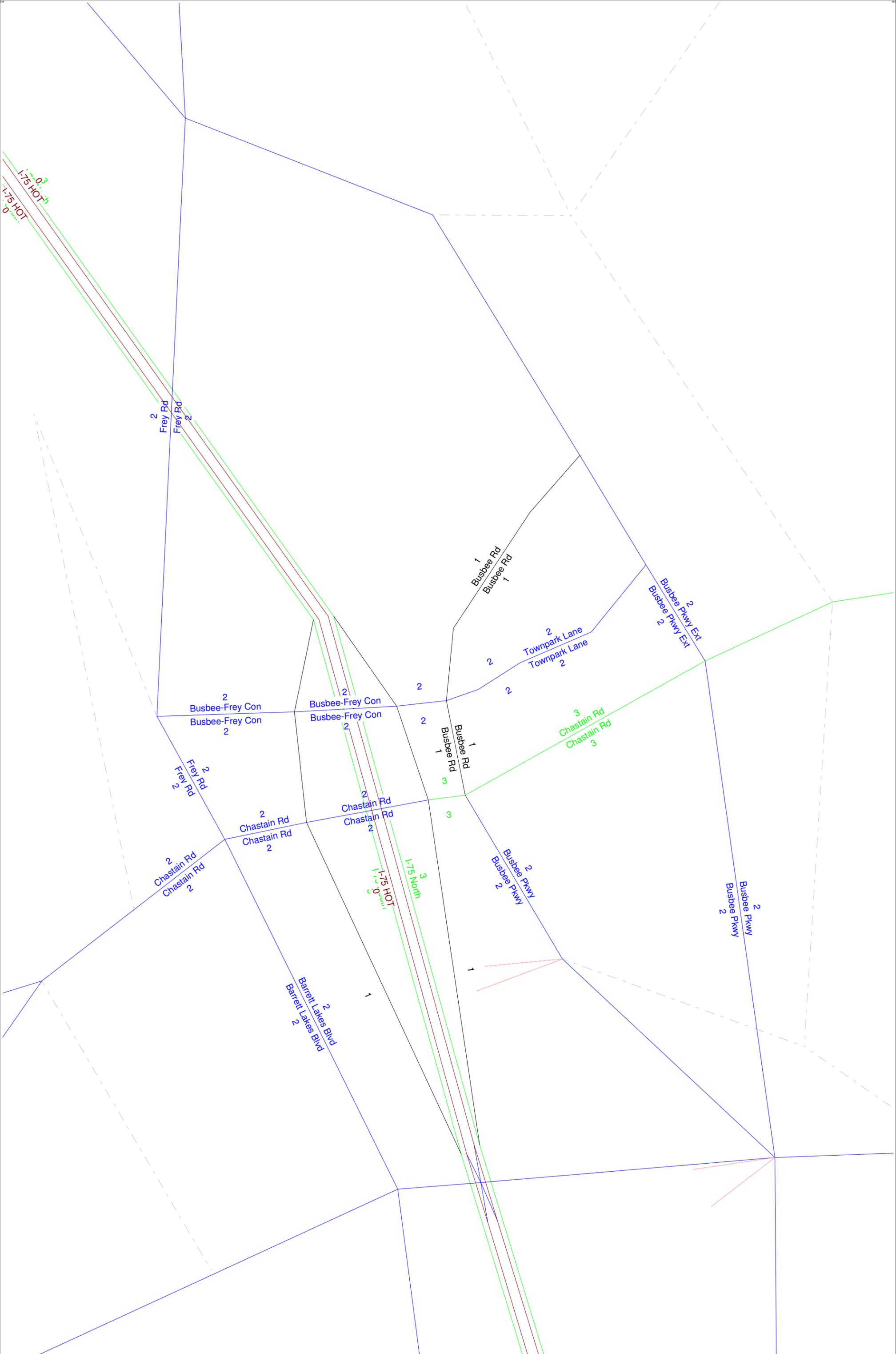
MGMT LET DATE : 11/15/2013
 MGMT ROW DATE : 11/16/2012
 BASELINE LET DATE: 11/14/2013
 SCHED LET DATE : 2/17/2014
 WHO LETS?: Local Let
 LET WITH :

PRIORITY CODE: TIA
 DOT DIST: 7
 CONG. DIST: 11
 BIKE: N
 MEASURE:
 NEEDS SCORE:
 BRIDGE SUFF:

BASE START	BASE FINISH	LATE START	LATE FINISH	TASKS	ACTUAL START	ACTUAL FINISH	%	PROGRAMMED FUNDS				STIP AMOUNTS			
								Activity	Approved	Proposed	Cost	Fund	Status	Date Auth	Activity
5/28/2012	7/27/2012	3/1/2009	3/1/2009	Concept Development			0	PE	LOCL	LOCL	4,161,226.00	LOC	AUTHORIZED		
4/3/2012	6/4/2012	6/4/2012	6/4/2012	Concept Meeting			0	PE	2012	2012	75,000.00	LOC	PRECAST		
4/30/2012	6/29/2012	6/29/2012	6/29/2012	PM Submit Concept Report			0	ROW	2012	2013	2,500,000.00	LOC	PRECAST		
5/1/2012	7/2/2012	7/2/2012	7/2/2012	Concept Report Review and Comments			0	CST	2016	2016	19,000,000.00	LOC	PRECAST		
5/28/2012	7/27/2012	7/27/2012	7/27/2012	Management Concept Approval Complete			90								
4/6/2012	5/18/2012	5/18/2012	5/18/2012	Value Engineering Study	10/28/2011		50								
4/30/2012	9/10/2012	9/10/2012	9/10/2012	Environmental Approval	1/1/2010		100								
11/10/2011	6/7/2012	6/7/2012	6/7/2012	Field Surveys/SDE	3/1/2009	6/1/2009	100								
10/8/2012	5/9/2012	5/9/2012	5/9/2012	Preliminary Plans	10/1/2009		48								
5/29/2012	12/7/2012	7/30/2012	12/7/2012	Preliminary Bridge Design	2/1/2010		67								
12/14/2012	9/2/2013	3/19/2013	9/2/2013	Underground Storage Tanks			0								
7/6/2012	10/9/2012	10/9/2012	10/9/2012	404 Permit Obtainment			0								
7/9/2012	11/20/2012	10/10/2012	11/20/2012	PFPR Inspection			0								
8/20/2012	11/21/2012	11/21/2012	11/21/2012	R/W Plans Preparation			0								
8/14/2012	11/15/2012	11/15/2012	11/15/2012	R/W Plans Final Approval			0								
10/19/2012	11/15/2012	11/15/2012	11/15/2012	L & D Approval			0								
2/22/2013	3/7/2013	5/28/2013	6/10/2013	R/W Authorization			0								
11/11/2011	8/21/2012	7/6/2012	12/6/2012	Stake R/W			0								
11/11/2011	8/21/2012	5/10/2012	11/26/2012	Soil Survey			0								
8/15/2012	2/22/2013	11/16/2012	5/28/2013	Bridge Foundation Investigation			0								
10/8/2012	1/25/2013	1/9/2013	4/30/2013	Final Design			0								
3/25/2013	3/25/2013	6/26/2013	6/26/2013	Final Bridge Plans Preparation			0								
4/2/2013	4/15/2013	7/4/2013	7/17/2013	PFPR Inspection			0								
				Submit FFPR Responses (OES)			0								

Bridge: BRIDGE REQUIRED
Design: CobbDOT; VE Study Resp in Prog; CE will be EA, clb 04/24/12
EIS: CE/On sched for Env Baseline 4.30.12/Benton-Hooks 3.08.12
LGPA: PFA SGN COBB DO PEIROWUTIL & CST; INCLUDING \$75K FOR GDOT REVIEW
 11-30-11 NOTIFICATION LETTER SENT TO COBB 11-5-10. LETTER DATED 11-14-11 FROM HILLARD
 ALLOWING FOR THE COLLECTION OF FINAL 25K FOR OVERSIGHT TO BE COLLECTED IN MAY 2012.
Planning: PE-Oversight funded locally (e-mail MF 110910) (HDG)
Programming: 100% LOCAL FUNDED PROJECT - PROGRAMMED AT THE REQUEST OF COBB COUNTY; \$88K
 SETUP IN PE FOR GDOT OVERSIGHT PER PFA ATTACHMENT D. 8-9-11
Utility: CC: NEED PPLANS 11/10
Engr. Services: VE responses rec'd. waiting on Impl Letter Approval

Pred. Parcel CT:	7	Total Parcel in ROW System:	1	Cond. Filled:	0	Acquired by:	LOC	DEEDS CT:	0
Under Review:	0	Options - Pending:	0	Relocations:	0	Acquisition MGR:			
Released:	1	Condemnations- Pend:	0	Acquired:	0	R/W Cert Date:			



SUBJECT: Concept Team Meeting Minutes
PI NO. 0010157, Cobb County
Skip Spann Connector From Busbee Pkwy to Frey Road

LOCATION: A Concept Team meeting was held on November 8, 2012 at 9:30 AM at the Georgia Department of Transportation (GDOT) General Office in Room 403 in Atlanta, GA

ATTENDEES: A list of meeting attendees is provided at the end of the meeting minutes.

PURPOSE:

- 1) Present the Draft Concept Report; preferred concept and alternatives
- 2) Discuss Schedule
- 3) Obtain feedback and identify any issues
- 4) Determine next steps

Meeting Minutes Provided By: Chandria Brown, Project Manager
GDOT – Office of Program Delivery

Notes below summarize discussions and decisions from the Concept Team Meeting.

1. The GDOT Project Manager, Chandria L. Brown, conducted the meeting. The GDOT PM opened the meeting with the following information:
 - General Project Description –
 - It was requested all attendees sign the Sign In sheet.
 - An Agenda was provided to all attendees.
 - Chris Rideout with Croy Engineering presented the conceptual project information that was provided in the Concept Team Meeting (CTM) Package.
 - It was stated Meeting Minutes would be distributed by the GDOT Project Manager.
 - It was also stated GDOT's role is to provide Preliminary Engineering Oversight for this project. This project is currently Locally funded for PE, Right of Way and Construction.
2. The Project Manager proceeded to request that every attendee introduce themselves and state their organization and affiliation with the project. There were 2 representatives from Cobb County present: Mike Cates and Mike Wright. Cobb County's Designers, Croy Engineering and Arcadis were also present. There were no Public Officials present at this meeting.
3. The Project Manager then proceeded to reiterate the project's description.

'The proposed project consists of a new alignment in Northern Cobb County with a grade separation over I-75 that connects Frey Road to Townpark Lane. The project also includes slip ramps connecting the I-75 SB exit ramp to Frey Road and Busbee Drive to the I-75 NB

**PI 0010157 – SKIP SPANN CONNECTOR
FROM BUSBEE PKWY TO FREY ROAD
Concept Team Meeting Minutes
November 8, 2012
Page 2 of 7**

entrance ramp. A traffic signal on Frey Road will be relocated to better accommodate the proposed new alignment. Resurfacing and restriping will be necessary along Frey Road and Busbee Drive.'

4. The Project Manager then proceeded to go over the project's current baseline schedule & proposed schedule revision.
 - At the time of the meeting, the project was in the FY 2012-17 Transportation Improvement Plan as follows: PE FY 2011 - Authorized; PE FY 2012 – Authorized (GDOT Oversight); Right of Way Phase FY 2013; Construction Phase FY 2016.
 - Concept Approval was scheduled for 5/28/12 however; the actual Concept Team Meeting occurred November 8, 2012. Concept Report Submittal is anticipated for December 2012.
 - Environmental Approval occurred on 6/27/12. The baseline schedule was set based on an April 2012 Env Approval.
 - Database Completion was completed June 2009 by the Cobb County's Team and is noted in GDOT's Scheduling software.
 - Preliminary Design was to begin June 7, 2012 according to the current baseline. However, based on activities to date, Preliminary Design is anticipated to begin December 31, 2012.
 - Right of Way Acquisitions were to begin November 15, 2012 according to the current baseline. However, based on activities to date, Right of Way Acquisitions are anticipated to begin May 13, 2013.
 - 404 Permitting activities were originally scheduled to be completed by May 30, 2013. However, based on activities to date, 404 Permitting is anticipated to be completed by November 25, 2013.
 - The current baseline schedule is based on a November 22, 2013 LET Date. However, based on activities to date, the Letting to Construction is anticipated to occur May 2014.

A project schedule revision is imminent because the project's VE Study activities, including the Roundabout Feasibility Studies and Peer Review were not officially completed until August 2012. Also, since CST is anticipated for FY 2014, a TIP update will be requested.

5. Notes of the meetings that preceded the Concept Team Meeting are as follows:
 - A concept meeting and PFPR were previously held within Cobb County DOT's organization prior to the execution the Project Framework Agreement with GDOT.
 - A meeting was held on June 23, 2010 at the Georgia DOT Office of Environmental Services to introduce Michael Murdoch, GDOT NEPA coordinator, to the project. Representatives from Croy Engineering, Arcadis, Cobb County and the Town Center CID were in attendance.

**PI 0010157 – SKIP SPANN CONNECTOR
FROM BUSBEE PKWY TO FREY ROAD
Concept Team Meeting Minutes
November 8, 2012
Page 3 of 7**

- The VE Study was held the week of February 6, 2012 at GDOT. The Implementation Recommendations Report was approved May 3, 2012.
6. The GDOT noted this project has an aggressive schedule. The UST Phase I Report, Preliminary Bridge/Wall Plans and Pavement Evaluation Report will be submitted to GDOT in the effort to hold a PFPR by early Spring 2013 and to authorize Cobb County's R/W Team to begin R/W Acquisitions by May 2013.
 7. The meeting was turned over to Croy Engineering to review the Power Point presentation prepared for the Concept Team Meeting. The presenter was Chris Rideout. The Power Point presentation included: the Location Map; Pictures of the project location; Project Justification Statement as provided by Croy Engineering & Approved by the GDOT Office of Planning; Existing Design Criteria; Proposed Design Criteria for the preferred alternate and the alternate design considerations. During the presentation there were some comments for clarification of the project information being presented as well as some issues that were identified. The Preferred Design as presented in the presentation and within the Draft Concept Report is to provide a new roadway spanning I-75 north of Chastain Rd beginning at the entrance to the southern KSU parking deck and terminating at a realigned Town Park Lane to the east. A Roundabout is proposed at the intersection of the Skip Spann Connector and Busbee Drive. A signal is proposed for the intersection of Busbee Dr and Busbee Pkwy.

Key points and issues discussed during the presentation were as follows:

- The FHWA encroachment process will proceed once the Concept has been approved.
- The question of the necessity of an Interchange Modification Report (IMR) was discussed. Because of the limited impacts to the function of the interstate, an IMR has not been developed by Cobb County. However, there is no specific documentation to date except for 10/28/11 Meeting Minutes stating Cobb DOT discussed this issue with the Office of Planning and the Chief Engineer's Office during programming activities which resulted in the determination that an IMR is not required for this project. The direction to date has been to only pursue a FHWA encroachment permit. The GDOT PM will pursue further documentation regarding this issue.
- It was noted the construction costs in the TIP did not match the construction estimate put forth in the concept report. The project in the TIP was initially a much larger project; the scope has been modified for a less costly design. The ARC is in the process of updating the construction cost in the TIP.
- The 2012 Cost Estimate was submitted to the GDOT Office of Engineering Services on September 28, 2012. - \$13, 205, 584 – CST; \$2, 670,000 – Right of Way; \$0.00 - Utilities
- Design Policy noted the Concept Report Template submitted for the Concept Team Meeting is not the most current Concept Report Template. This will need to be updated prior to submission of the Concept Report for Review & Approval.
- Design Policy also suggested that a Complete Streets section be added to the Concept Report.

**PI 0010157 – SKIP SPANN CONNECTOR
FROM BUSBEE PKWY TO FREY ROAD
Concept Team Meeting Minutes
November 8, 2012
Page 4 of 7**

- With the CE document approval before June 30, 2012, the new MS4 requirements will not be implemented on this project. A note in the Concept Report will suffice.
 - Proposed Major Structures: Bridge; MSE Retaining Wall; Retaining Wall; six 7ft x 10ft box culvert.
 - Proposed Bridge will span I-75. A bridge typical section will be added to the Concept Report.
 - 24 HR Truck percentage = 10%
 - Proposed Bridge Typical = 4 -11' Travel lanes; 16' Raised median; 15' Shoulders
 - Proposed Roadway Typical = 4 - 11' Lanes; 16' Raised median; 10' Sidewalks
 - Design Speed = 35 mph
 - Existing R/W width = N/A
 - Overall Cost: Approximately \$16,154,825 <PE, ROW, Utility, CST>
 - 3 Additional Alternates: 1) Move bridge further north; 2) No Build; 3) Signalized intersection at Busbee Drive/Skip Spann Connector in lieu of roundabout.
8. Immediately following the Roadway Design presentation, the opportunity to ask for clarifications regarding the presentation was offered. There were no further questions at this point in the meeting.
9. The PM proceeded with noting the other projects in the area that may coincide with this project's schedule at some point.
- PI 0007892 - I-75 from SR 5 Conn to CR 633/Glade Road – Reconstruction – CST currently in Long Range 2
 - PI M004422 – I-75 Sign Upgrades – Cobb County – Scheduled LET Date 5/17/2013
 - PI 0008256 - I-75 / I-575 Managed Lanes – New Construction – Cobb & Cherokee Counties - CST currently 2014, 2015, 2016 and 2018. **This proposed managed lane for this project will be within the existing median along I-75 at the location PI 0010157's proposed alignment will cross the interstate**
 - PI 0005128 – I-75 Noise Barriers From Chastain Rd/Cobb to SR 92/Cherokee – Cobb & Cherokee Counties – CST currently in Long Range 1
- The Design Team will coordinate with the current Project Managers for these projects to prevent any design and/or scheduling conflicts with PI 0010157.
10. The PM then proceeded with the rest of the Agenda which was to obtain feedback from the GDOT office representatives at the meeting.

**PI 0010157 – SKIP SPANN CONNECTOR
FROM BUSBEE PKWY TO FREY ROAD
Concept Team Meeting Minutes
November 8, 2012
Page 5 of 7**

- Planning – It was noted that the ARC conformity model did not match the existing conditions for Busbee Drive. This needs to be updated by coordinating with ARC. Since this is for an existing road, progress of current project won't be impacted. Cobb County will need to contact ARC to initiate this revision to the model.
- Bridge Design/Bridge Construction - No representatives present
- Right of Way – No representatives present; However, it was noted a Programmatic Categorical Exclusion for 1 Protective Buy was approved October 19, 2011. This information was forwarded to the Office of Right Way on October 20, 2011.
- Environmental:
 - A question was asked regarding the implementation of items on the green sheet, most notably coordination with Cobb County Transit (CCT) and wetlands mitigation. Croy Engineering noted that there are a couple of bus stops along the corridor that will require slight modifications. Coordination with the CCT will occur during final design. It was also noted that a small amount of wetland mitigation will be required. This will occur during the permitting process prior to letting.
 - It was noted that in the original CE a roundabout was not included. It was determined that it would be addressed during the environmental re-evaluation. The previous correspondence regarding this issue would be forwarded to the current GDOT NEPA representative to confirm whether or not an Environmental Re-evaluation is required prior to providing Cobb County Notice to Proceed with R/W Acquisitions.
- Utilities –
 - It was determined that no reimbursable utilities existed on the project and that Cobb County would handle the utility coordination. The GDOT PM referenced earlier discussions with the District 7 Utility Engineer's Office indicating GDOT will not participate in Utility coordination however, GDOT will review Utility Certification documents in preparation for the project's Letting.
 - The State Utilities Construction Engineer asked if a Public Interest Determination had been developed. This was not developed because the County has indicated there are no reimbursable Utilities at the project location and they do not feel Utility relocations pose a risk to the Project's Construction Schedule.
- Traffic Operations:
 - Traffic Ops suggested a peer review for the roundabout and that Dan Pass and Scott Zehngraft review it. A peer review is underway and will be submitted to Dan Pass for his review. Roundabout review meetings, held

**PI 0010157 – SKIP SPANN CONNECTOR
FROM BUSBEE PKWY TO FREY ROAD
Concept Team Meeting Minutes
November 8, 2012
Page 6 of 7**

on May 15, 2012 and July 23, 2012, with Dan Pass and Scott Zehngraff were conducted to analyze possible roundabout configurations and potential issues.

- Traffic Ops brought up the necessity of a lighting agreement for the Roundabout and made sure the bridge had proposed lighting included.
 - It was determined that signal permits would be necessary during the Preliminary design process. The proposed signal will be off of the state highway system, so the permitting process will occur through the local authorities. The permitting documents will be provided with the Preliminary Field Plan Review Package.
- Engineering Services:
 - It was determined that the Signals would be maintained by Cobb County.
 - It was determined that a Constructability Review would not be held due to the tight schedule.
 - Plausible detours were discussed to eliminate staging concerns.
 - District 7 Planning & Programming:
 - District 7 inquired about a Public Information Open House (PIOH). A PIOH was held on May 24, 2012 on the campus of Kennesaw State University.
 - District 7 suggested that if another PIOH is held, outreach to students should be stressed and the roundabout should be included.
 - If required, a detour meeting can also occur during the PIOH.
 - Design Policy and Support:
 - A suggestion was made to submit the L&D report and Concept Report concurrently to expedite the approval process. The L&D can't be approved prior to approval of Concept Report but GDOT will review and provide comments.
 - It was determined that the Approved Categorical Exclusion did not have to be added as an attachment and that the implementation letter for the VE would be sufficient.

11. The meeting was adjourned.

Next Steps

- Obtain written verification that an IMR is not necessary.
- Add Roundabout section to Concept Report.
- Utilize the most recent Concept Report template prior to submission for Review.
- Submit Concept Report for Review & Approval

**PI 0010157 – SKIP SPANN CONNECTOR
FROM BUSBEE PKWY TO FREY ROAD
Concept Team Meeting Minutes
November 8, 2012
Page 7 of 7**

- Apply for Federal encroachment permit.
- Project coordination meeting with PM for I-75 Managed Lane project.
- Verify a CE Re-evaluation is not needed prior to Right of Way Authorization.
- Re-evaluate the CE adding the roundabout.
- Prepare for Preliminary Design.

General Office - Room 403 & 404 – 600 West Peachtree Street, Atlanta, GA 30308			
Name	Organization	Phone	Email
Chandria L. Brown	GDOT/Program Delivery	404-631-1580	chbrown@dot.ga.gov
Chris Rideout	Croy Engineering	770-971-5407	crideout@croyengineering.com
David Fox	Croy Engineering	770-971-5407	dfox@croyengineering.com
Ken Werho	GDOT/Traffic Ops/TMC	404-635-8144	kwerho@dot.ga.gov
Vicki Gavalas (via teleconference)	GDOT/ District 7 – Planning & Programming	770-986-1258	vgavalas@dot.ga.gov
Mike Cates	Cobb DOT	770-420-6659	mike.cates@cobbcounty.org
Shamir Poudel	Arcadis	770-431-8666	shamir.poudel@arcadis-us.com
Shubhendu Mohanty	Arcadis	770-384-6614	shubhendu.mohanty@arcadis-us.com
Steve Matthews	GDOT/Engineering Svcs	404-631-1769	smatthews@dot.ga.gov
Melanie Hale	GDOT/Design Policy	404-631-1542	mhale@dot.ga.gov
Keith Posey	GDOT/Design Policy	404-631-1219	kposey@dot.ga.gov
Merishia Robinson	GDOT/Program Delivery	404-631-1151	mrobinson@dot.ga.gov
Kyle Mote	GDOT/Planning	404-631-1811	kmote@dot.ga.gov
Ulysses Mitchell	GDOT/Planning	404-631-1746	umitchell@dot.ga.gov
Carla Benton-Hooks	GDOT/Environmental	404-631-1415	cbenton-hooks@dot.ga.gov
Mike Wright	Cobb DOT	770-528-4375	michael.wright@cobbcounty.org
Thomas Parker	GDOT/Utilities	404-347-0604	tparker@dot.ga.gov
Phillip Jackson	GDOT/CST D7 Area 2	404-326-5192	pjackson@dot.ga.gov

SIGN IN SHEET – November 8, 2012

PROJECT: PI 0010157 – Skip Spann Connector from Busbee Pkwy to Frey Road – Concept Team Meeting

TIME: 09:30 AM

LOCATION: General Office Rooms 403 & 404 – 600 West Peachtree Street, Atlanta, GA 30308

NAME	ORGANIZATION/TITLE	EMAIL ADDRESS	PHONE NO.
Chandria Brown	GDOT - PM	chbrown@dot.ga.gov	(404) 631-1580
CHRIS RIDEOUT	CROY	CRIDEOUT@CROYENGINEERING	(770) 971-5407
David Fox	Croy	dfox@croyengineering.com	(770) 971-5407
KEN WERHO	GDOT - TO TMC	KWERHO@DOT.GA.GOV	(404) 635-2859
Vicki Gavalus (tele-conference)	GDOT - DT-PPE	v.gavalus@dot.ga.gov	(770) 986-1258
MIKE CATES	Cobb DOT	M.MIKE.CATES@COBBcounty.org	(770) 420-6659
Shamir Poudel	ARCADIS	shamir.poudel@arcadis-us.com	(770) 431-8666
SHUBHENDU MOHANTY	ARCADIS	shubhendu.mohanty@arcadis-us.com	(770) 384-6614
Steve Matthews	GDOT - Engineer Senior	s.matthews@dot.ga.gov	(404) 631-1769
Melanie Hale	GDOT - Design Policy	mhale@dot.ga.gov	(4) 631-1542
KEITH POSEY	GDOT - DESIGN POLICY	kposey@dot.ga.gov	()
MERISHIA ROBINSON	GDOT - OPD	mrobinson@dot.ga.gov	(4) 631-1151
Kyle MOTE	GDOT - PLANNING	KMOTE@DOT.GA.GOV	(4) 631-1811
Mysses Mitchell	GDOT PLANNING	umitchell@dot.ga.gov	(404) 631-1746
Carla Benton-Hooks	GDOT OES	cbenton-hooks@ga.dot.gov	(404) 631-1415
MIKE WRIGHT	Cobb DOT	michael.wright@cobbcounty.org	(7) 528-4375
Thomas Parker	GDOT / Utilities	tparker@dot.ga.gov	(404) 347-0604
Phillip JACKSON	GDOT	p.jackson@dot.ga.gov	(404) 326-5192
			()



December 5, 2011

The Honorable Tim Lee
Commission Chairman
100 Cherokee Street, Suite 300
Marietta, Georgia 30090

Dear Mr. Lee:

I am returning for your files an executed agreement between the Georgia Department of Transportation and Cobb County for the following projects:

PROJECT#: Cobb County, P.I. # 0010157

We look forward to working with you on the successful completion of the joint projects. Should you have any questions, please contact the Project Manager Chandria Brown at (404)631-1580.

Sincerely,


Angela Robinson,
Financial Management Administrator

AR:rm

Enclosure

c: Bob Rogers
Bryant Poole – District 7
Vicki Gavalas – District 7
Jonathan Walker – District 7
Jeff Baker – Utilities
Faye DiMassimo

AGREEMENT

DO NOT OBLIGATE

BETWEEN

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

AND

COBB COUNTY

FOR

TRANSPORTATION FACILITY IMPROVEMENTS

This Framework Agreement is made and entered into this 30th day of November, 2011, by and between the DEPARTMENT OF TRANSPORTATION, an agency of the State of Georgia, hereinafter called the "DEPARTMENT", and COBB COUNTY, acting by and through its Board of Commissioners, hereinafter called the "LOCAL GOVERNMENT".

WHEREAS, the LOCAL GOVERNMENT has represented to the DEPARTMENT a desire to improve the transportation facility described in Attachment A, attached and incorporated herein by reference and hereinafter referred to as the "PROJECT"; and

WHEREAS, the LOCAL GOVERNMENT has represented to the DEPARTMENT a desire to participate in certain activities including the funding of certain portions of the PROJECT and the DEPARTMENT has relied upon such representations; and

WHEREAS, the DEPARTMENT has expressed a willingness to participate in certain activities of the PROJECT as set forth in this Agreement; and

WHEREAS, the DEPARTMENT has provided an estimated cost to the LOCAL GOVERNMENT for its participation in certain activities of the PROJECT; and

WHEREAS, the Constitution authorizes intergovernmental agreements whereby state and local entities may contract with one another “for joint services, for the provision of services, or for the joint or separate use of facilities or equipment; but such contracts must deal with activities, services or facilities which the parties are authorized by law to undertake or provide.” Ga. Constitution Article IX, §III, ¶I(a).

NOW THEREFORE, in consideration of the mutual promises made and of the benefits to flow from one to the other, the DEPARTMENT and the LOCAL GOVERNMENT hereby agree each with the other as follows:

1. The LOCAL GOVERNMENT has applied for and received “Qualification Certification” to administer federal-aid projects. The GDOT Local Administered Project (LAP) Certification Committee has reviewed, confirmed and approved the certification for the LOCAL GOVERNMENT to develop federal project(s) within the scope of its certification using the DEPARTMENT’S Local Administered Project Manual procedures. The LOCAL GOVERNMENT shall contribute to the PROJECT by funding all or certain portions of the PROJECT costs for the preconstruction engineering (design) activities,

hereinafter referred to as “PE”, all reimburseable utility relocations, all non-reimburseable utilities owned by the LOCAL GOVERNMENT, railroad costs, right of way acquisitions and construction, as specified in Attachment A, affixed hereto and incorporated herein by reference. In addition, the September 17, 2010 Planning Office memorandum titled “Preliminary Engineering Oversight for Project Managers/Project Delivery Staff”, outlines the five (5) conditions when the LOCAL GOVERNMENT will be requested to fund the PE oversight activities at 100%. Attached as Attachment “C” and incorporated herein by reference. Expenditures incurred by the LOCAL GOVERNMENT prior to the execution of this AGREEMENT or subsequent funding agreements shall not be considered for reimbursement by the DEPARTMENT. PE expenditures incurred by the LOCAL GOVERNMENT after execution of this AGREEMENT shall be reimbursed by the DEPARTMENT once a written notice to proceed is given by the DEPARTMENT.

2. The DEPARTMENT shall contribute to the PROJECT by funding all or certain portions of the PROJECT costs for the PE, right of way acquisitions, reimbursable utility relocations, railroad costs, or construction as specified in Attachment A and if none of the five (5) conditions apply from the Planning Office memorandum dated September 17, 2010.

3. The DEPARTMENT shall provide a PE Oversight Estimate to the LOCAL GOVERNMENT, if appropriate, appended as Attachment “D” and incorporated by reference as if fully set out herein. The LOCAL GOVERNMENT will be responsible for

Revised September 2011

providing payment in the form of a check, which represents 100% of the DEPARTMENT's PE Oversight Estimate at the time of the Project Framework Agreement execution.

If at any time the PE Oversight funds are depleted within \$5,000 of the remaining PE Oversight balance and project activities and tasks are still outstanding, the LOCAL GOVERNMENT shall, upon request, make additional payment to the DEPARTMENT. The payment shall be determined by prorating the percentage complete and using the same estimate methodology as provided in Attachment "D". If there is an unused balance after completion of all tasks and phases of the project, then pending a final audit, the remainder will be refunded to the sponsor.

4. It is understood and agreed by the DEPARTMENT and the LOCAL GOVERNMENT that the funding portion as identified in Attachment "A" of this Agreement only applies to the PE. The Right of Way and Construction funding estimate levels as specified in Attachment "A" are provided herein for planning purposes and do not constitute a funding commitment for right of way and construction. The DEPARTMENT will prepare LOCAL GOVERNMENT Specific Activity Agreements for funding applicable to Right of Way or Construction when appropriate.

Further, the LOCAL GOVERNMENT shall be responsible for repayment of any expended federal funds if the PROJECT does not proceed forward to completion due to a lack of available funding in future PROJECT phases, changes in local priorities or

cancellation of the PROJECT by the LOCAL GOVERNMENT without concurrence by the DEPARTMENT.

5. In accordance with Georgia Code 32-2-2, The LOCAL GOVERNMENT shall be responsible for all costs for the continual maintenance and operations of any and all sidewalks and the grass strip between the curb and sidewalk within the PROJECT limits. The LOCAL GOVERNMENT shall also be responsible for the continual maintenance and operation of all lighting systems installed to illuminate any roundabouts constructed as part of this PROJECT. Furthermore, the LOCAL GOVERNMENT shall also be responsible for the maintaining of all landscaping installed as part of any roundabout constructed as part of this PROJECT.

6. Both the LOCAL GOVERNMENT and the DEPARTMENT hereby acknowledge that Time is of the Essence. It is agreed that both parties shall adhere to the schedule of activities currently established in the approved Transportation Improvement Program/State Transportation Improvement Program, hereinafter referred to as "TIP/STIP". Furthermore, all parties shall adhere to the detailed project schedule as approved by the DEPARTMENT, attached as Attachment B and incorporated herein by reference. In the completion of respective commitments contained herein, if a change in the schedule is needed, the LOCAL GOVERNMENT shall notify the DEPARTMENT in writing of the proposed schedule change and the DEPARTMENT shall acknowledge the change through written response letter; provided that the DEPARTMENT shall have final authority for approving any change.

Revised September 2011

If, for any reason, the LOCAL GOVERNMENT does not produce acceptable deliverables in accordance with the approved schedule, the DEPARTMENT reserves the right to delay the PROJECT's implementation until funds can be re-identified for right of way or construction phases, as applicable.

7. The LOCAL GOVERNMENT shall certify that the regulations for "CERTIFICATION OF COMPLIANCES WITH FEDERAL PROCUREMENT REQUIREMENTS, STATE AUDIT REQUIREMENTS, and FEDERAL AUDIT REQUIREMENTS" are understood and will comply in full with said provisions.

8. The LOCAL GOVERNMENT shall accomplish the PE activities for the PROJECT. The PE activities shall be accomplished in accordance with the DEPARTMENT's Plan Development Process hereinafter referred to as "PDP", the applicable guidelines of the American Association of State Highway and Transportation Officials, hereinafter referred to as "AASHTO", the DEPARTMENT's Standard Specifications Construction of Transportation Systems, and all applicable design guidelines and policies of the DEPARTMENT to produce a cost effective PROJECT. Failure to follow the PDP and all applicable guidelines and policies will jeopardize the use of Federal Funds in some or all categories outlined in this agreement, and it shall be the responsibility of the LOCAL GOVERNMENT to make up the loss of that funding. The LOCAL GOVERNMENT's responsibility for PE activities shall include, but is not limited to the following items:

a. Prepare the PROJECT Concept Report and Design Data Book in accordance with the format used by the DEPARTMENT. The concept for the PROJECT shall be developed to accommodate the future traffic volumes as generated by the LOCAL GOVERNMENT as provided for in paragraph 7b and approved by the DEPARTMENT. The concept report shall be approved by the DEPARTMENT prior to the LOCAL GOVERNMENT beginning further development of the PROJECT plans. It is recognized by the parties that the approved concept may be updated or modified by the LOCAL GOVERNMENT as required by the DEPARTMENT and re-approved by the DEPARTMENT during the course of PE due to updated guidelines, public input, environmental requirements, Value Engineering recommendations, Public Interest Determination (PID) for utilities, utility/railroad conflicts, or right of way considerations.

b. Prepare a Traffic Study for the PROJECT that includes Average Daily Traffic, hereinafter referred to as "ADT", volumes for the base year (year the PROJECT is expected to be open to traffic) and design year (base year plus 20 years) along with Design Hour Volumes, hereinafter referred to as "DHV", for the design year. DHV includes morning (AM) and evening (PM) peaks and other significant peak times. The Study shall show all through and turning movement volumes at intersections for the ADT and DHV volumes and shall indicate the percentage of trucks on the facility. The Study shall also include signal warrant evaluations for any additional proposed signals on the PROJECT.

c. Prepare environmental studies, documentation reports and complete Environmental Document for the PROJECT along with all environmental re-

evaluations required that show the PROJECT is in compliance with the provisions of the National Environmental Policy Act or the Georgia Environmental Policy Act as per the DEPARTMENT's Environmental Procedures Manual, as appropriate to the PROJECT funding. This shall include any and all archaeological, historical, ecological, air, noise, community involvement, environmental justice, flood plains, underground storage tanks, and hazardous waste site studies required. The completed Environmental Document approval shall occur prior to Right of Way funding authorization. A re-evaluation is required for any design change as described in Chapter 7 of the Environmental Procedures Manual. In addition, a re-evaluation document approval shall occur prior to any Federal funding authorizations if the latest approved document is more than 6 months old. The LOCAL GOVERNMENT shall submit to the DEPARTMENT all studies, documents and reports for review and approval by the DEPARTMENT, the FHWA and other environmental resource agencies. The LOCAL GOVERNMENT shall provide Environmental staff to attend all PROJECT-related meetings where Environmental issues are discussed. Meetings include, but are not limited to, concept, field plan reviews and value engineering studies.

d. Prepare all PROJECT public hearing and public information displays and conduct all required public hearings and public information meetings with appropriate staff in accordance with DEPARTMENT practice.

e. Perform all surveys, mapping, soil investigations and pavement evaluations needed for design of the PROJECT as per the appropriate DEPARTMENT Manual.

f. Perform all work required to obtain all applicable PROJECT permits, including, but not limited to, Cemetery, TVA and US Army Corps of Engineers permits, Stream Buffer Variances and Federal Emergency Management Agency (FEMA) approvals. The LOCAL GOVERNMENT shall provide all mitigation required for the project, including but not limited to permit related mitigation. All mitigation costs are considered PE costs. PROJECT permits and non-construction related mitigation must be obtained and completed 3 months prior to the scheduled let date. These efforts shall be coordinated with the DEPARTMENT.

g. Prepare the stormwater drainage design for the PROJECT and any required hydraulic studies for FEMA Floodways within the PROJECT limits. Acquire of all necessary permits associated with the Hydrology Study or drainage design.

h. Prepare utility relocation plans for the PROJECT following the DEPARTMENT's policies and procedures for identification, coordination and conflict resolution of existing and proposed utility facilities on the PROJECT. These policies and procedures, in part, require the Local Government to submit all requests for existing, proposed, and relocated facilities to each utility owner within the project area. Copies of all such correspondence, including executed agreements for reimbursable utility/railroad relocations, shall be forwarded to the DEPARTMENT's Project Manager and the District Utilities Engineer and require that any conflicts with the PROJECT be resolved by the LOCAL GOVERNMENT. If it is determined that the PROJECT is located on an on-system route or is a DEPARTMENT LET PROJECT, the LOCAL GOVERNMENT and the District Utilities Engineer shall ensure that permit applications are approved for each utility company in conflict with

the project. If it is determined through the DEPARTMENT's Project Manager and State Utilities Office during the concept or design phases the need to utilize Overhead/Subsurface Utility Engineering, hereinafter referred to as "SUE", to obtain the existing utilities, the LOCAL GOVERNMENT shall be responsible for acquiring those services. SUE costs are considered PE costs.

i. Prepare, in English units, Preliminary Construction plans, Right of Way plans and Final Construction plans that include the appropriate sections listed in the Plan Presentation Guide, hereinafter referred to as "PPG", for all phases of the PDP. All drafting and design work performed on the project shall be done utilizing Microstation V8i and InRoads software respectively using the DEPARTMENT's Electronic Data Guidelines. The LOCAL GOVERNMENT shall further be responsible for making all revisions to the final right of way plans and construction plans, as deemed necessary by the DEPARTMENT, for whatever reason, as needed to acquire the right of way and construct the PROJECT.

j. Prepare PROJECT cost estimates for construction, Right of Way and Utility/railroad relocation along with a Benefit Cost, hereinafter referred to as "B/C ratio" at the following project stages: Concept, Preliminary Field Plan Review, Right of Way plan approval (Right of Way cost only), Final Field Plan Review and Final Plan submission using the applicable method approved by the DEPARTMENT. The cost estimates and B/C ratio shall also be updated annually if the noted project stages occur at a longer frequency. Failure of the LOCAL GOVERNMENT to provide timely and accurate cost estimates and B/C ratio may delay the PROJECT's

implementation until additional funds can be identified for right of way or construction, as applicable.

k. Provide certification, by a Georgia Registered Professional Engineer, that the Design and Construction plans have been prepared under the guidance of the professional engineer and are in accordance with AASHTO and DEPARTMENT Design Policies.

l. Provide certification, by a Level II Certified Design Professional that the Erosion Control Plans have been prepared under the guidance of the certified professional in accordance with the current Georgia National Pollutant Discharge Elimination System.

m. Provide a written certification that all appropriate staff (employees and consultants) involved in the PROJECT have attended or are scheduled to attend the Department's PDP Training Course. The written certification shall be received by the Department no later than the first day of February of every calendar year until all phases have been completed.

9. The Primary Consultant firm or subconsultants hired by the LOCAL GOVERNMENT to provide services on the PROJECT shall be prequalified with the DEPARTMENT in the appropriate area-classes. The DEPARTMENT shall, on request, furnish the LOCAL GOVERNMENT with a list of prequalified consultant firms in the appropriate area-classes. The LOCAL GOVERNMENT shall comply with all applicable state and federal regulations for the procurement of design services and in accordance

with the Brooks Architect-Engineers Act of 1972, better known as the Brooks Act, for any consultant hired to perform work on the PROJECT.

10. The DEPARTMENT shall review and has approval authority for all aspects of the PROJECT provided however this review and approval does not relieve the LOCAL GOVERNMENT of its responsibilities under the terms of this agreement. The DEPARTMENT will work with the FHWA to obtain all needed approvals as deemed necessary with information furnished by the LOCAL GOVERNMENT.

11. The LOCAL GOVERNMENT shall be responsible for the design of all bridge(s) and preparation of any required hydraulic and hydrological studies within the limits of this PROJECT in accordance with the DEPARTMENT's policies and guidelines. The LOCAL GOVERNMENT shall perform all necessary survey efforts in order to complete the hydraulic and hydrological studies and the design of the bridge(s). The final bridge plans shall be incorporated into this PROJECT as a part of this Agreement.

12. The LOCAL GOVERNMENT unless otherwise noted in attachment "A" shall be responsible for funding all LOCAL GOVERNMENT owned utility relocations and all other reimbursable utility/railroad costs. The utility costs shall include but are not limited to PE, easement acquisition, and construction activities necessary for the utility/railroad to accommodate the PROJECT. The terms for any such reimbursable relocations shall be laid out in an agreement that is supported by plans, specifications, and itemized costs of the work agreed upon and shall be executed prior to certification by the

Revised September 2011

DEPARTMENT. The LOCAL GOVERNMENT shall certify via written letter to the DEPARTMENT's Project Manager and District Utilities Engineer that all Utility owners' existing and proposed facilities are shown on the plans with no conflicts 3 months prior to advertising the PROJECT for bids and that any required agreements for reimbursable utility/railroad costs have been fully executed. Further, this certification letter shall state that the LOCAL GOVERNMENT understands that it is responsible for the costs of any additional reimbursable utility/railroad conflicts that arise during construction.

13. The DEPARTMENT will be responsible for all railroad coordination on DEPARTMENT Let and/or State Route (On-System) projects; the LOCAL GOVERNMENT shall address concerns, comments, and requirements to the satisfaction of the Railroad and the DEPARTMENT. If the LOCAL GOVERNMENT is shown to LET the construction in Attachment "A" on off-system routes, the LOCAL GOVERNMENT shall be responsible for all railroad coordination and addressing concerns, comments, and requirements to the satisfaction of the Railroad and the DEPARTMENT for PROJECT.

14. The LOCAL GOVERNMENT shall be responsible for acquiring a Value Engineering Consultant for the DEPARTMENT to conduct a Value Engineering Study if the total estimated PROJECT cost is \$10 million or more. The Value Engineering Study cost is considered a PE cost. The LOCAL GOVERNMENT shall provide project related design data and plans to be evaluated in the study along with appropriate staff to present and answer questions about the PROJECT to the study team. The LOCAL

Revised September 2011

GOVERNMENT shall provide responses to the study recommendations indicating whether they will be implemented or not. If not, a valid response for not implementing shall be provided. Total project costs include PE, right of way, and construction, reimbursable utility/railroad costs.

15. The LOCAL GOVERNMENT, unless shown otherwise on Attachment A, shall acquire the Right of way in accordance with the law and the rules and regulations of the FHWA including, but not limited to, Title 23, United States Code; 23 CFR 710, et. Seq., and 49 CFR Part 24 and the rules and regulations of the DEPARTMENT. Upon the DEPARTMENT's approval of the PROJECT right of way plans, verification that the approved environmental document is valid and current, a written notice to proceed will be provided by the DEPARTMENT for the LOCAL GOVERNMENT to stake the right of way and proceed with all pre-acquisition right of way activities. The LOCAL GOVERNMENT shall not proceed to property negotiation and acquisition whether or not the right of way funding is Federal, State or Local, until the right of way agreement named "Contract for the Acquisition of Right of Way" prepared by the DEPARTMENT's Office of Right of Way is executed between the LOCAL GOVERNMENT and the DEPARTMENT. Failure of the LOCAL GOVERNMENT to adhere to the provisions and requirements specified in the acquisition contract may result in the loss of Federal funding for the PROJECT and it will be the responsibility of the LOCAL GOVERNMENT to make up the loss of that funding. Right of way costs eligible for reimbursement include land and improvement costs, property damage values, relocation assistance expenses and contracted property management costs. Non reimbursable right of way

Revised September 2011

costs include administrative expenses such as appraisal, consultant, attorney fees and any in-house property management or staff expenses. The LOCAL GOVERNMENT shall certify that all required right of way is obtained and cleared of obstructions, including underground storage tanks, 3 months prior to advertising the PROJECT for bids.

16. The DEPARTMENT unless otherwise shown in Attachment “A” shall be responsible for Letting the PROJECT to construction, solely responsible for executing any agreements with all applicable utility/railroad companies and securing and awarding the construction contract for the PROJECT when the following items have been completed and submitted by the LOCAL GOVERNMENT:

- a. Submittal of acceptable PROJECT PE activity deliverables noted in this agreement.
- b. Certification that all needed rights of way have been obtained and cleared of obstructions.
- c. Certification that the environmental document is current and all needed permits and mitigation for the PROJECT have been obtained.
- d. Certification that all Utility/Railroad facilities, existing and proposed, within the PROJECT limits are shown, any conflicts have been resolved and reimbursable agreements, if applicable, are executed.

If the LOCAL GOVERNMENT is shown to LET the construction in Attachment “A”, the LOCAL GOVERNMENT shall provide the above deliverables and certifications and

shall follow the requirements stated in Chapters 10, 11, 12 and 13 of the DEPARTMENT's Local Administered Project Manual. The LOCAL GOVERNMENT shall be responsible for providing qualified construction oversight with their personnel or by employing a Consultant firm prequalified in Area Class 8.01 to perform construction oversight. The LOCAL GOVERNMENT shall be responsible for employing a GDOT prequalified consultant in area classes 6.04a and 6.04b for all materials testing on the PROJECT, with the exception of field concrete testing. All materials testing, including field concrete testing shall be performed by GDOT certified technicians who are certified for the specific testing they are performing on the PROJECT. The testing firm(s) and the individual technicians must be submitted for approval prior to Construction.

17. The LOCAL GOVERNMENT shall provide a review and recommendation by the engineer of record concerning all shop drawings prior to the DEPARTMENT review and approval. The DEPARTMENT shall have final authority concerning all shop drawings.

18. The LOCAL GOVERNMENT agrees that all reports, plans, drawings, studies, specifications, estimates, maps, computations, computer files and printouts, and any other data prepared under the terms of this Agreement shall become the property of the DEPARTMENT if the PROJECT is being let by the DEPARTMENT. This data shall be organized, indexed, bound, and delivered to the DEPARTMENT no later than the advertisement of the PROJECT for letting. The DEPARTMENT shall have the right to use this material without restriction or limitation and without compensation to the LOCAL GOVERNMENT.

19. The LOCAL GOVERNMENT shall be responsible for the professional quality, technical accuracy, and the coordination of all reports, designs, drawings, specifications, and other services furnished by or on behalf of the LOCAL GOVERNMENT pursuant to this Agreement. The LOCAL GOVERNMENT shall correct or revise, or cause to be corrected or revised, any errors or deficiencies in the reports, designs, drawings, specifications, and other services furnished for this PROJECT. Failure by the LOCAL GOVERNMENT to address the errors, omissions or deficiencies within 30 days of notification shall cause the LOCAL GOVERNMENT to assume all responsibility for construction delays and supplemental agreements caused by the errors and deficiencies. All revisions shall be coordinated with the DEPARTMENT prior to issuance. The LOCAL GOVERNMENT shall also be responsible for any claim, damage, loss or expense, to the extent allowed by law that is attributable to errors, omissions, or negligent acts related to the designs, drawings, specifications, and other services furnished by or on behalf of the LOCAL GOVERNMENT pursuant to this Agreement.

20. The DEPARTMENT shall be furnished with a copy of all contracts and agreements between the LOCAL GOVERNMENT and any other agency or contractor associated with construction activities. The DEPARTMENT's Project Manager shall be the primary point of contact unless otherwise specified.

21. The LOCAL GOVERNMENT shall provide the DEPARTMENT with a detailed project schedule that reflects milestones, deliverables with durations for all pertinent activities to develop critical path elements. An electronic project schedule shall be submitted to the Project Manager after execution of this agreement.

This Agreement is made and entered into in FULTON COUNTY, GEORGIA, and shall be governed and construed under the laws of the State of Georgia.

The covenants herein contained shall, except as otherwise provided, accrue to the benefit of and be binding upon the successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the DEPARTMENT and the LOCAL GOVERNMENT have caused these presents to be executed under seal by their duly authorized representatives.

DEPARTMENT OF TRANSPORTATION

COBB COUNTY

BY: [Signature]
Commissioner

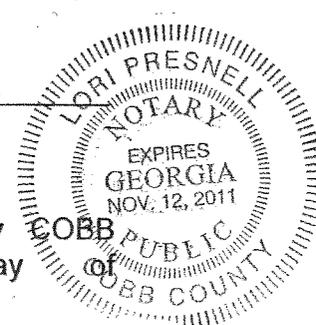
BY: [Signature]
Tim Lee
Chairman

ATTEST:
[Signature]
Treasurer

Signed, sealed and delivered this 3rd day of November, 2011, in the presence of:

[Signature]
Witness

[Signature]
Notary Public



This Agreement approved by COUNTY, the 3rd day of November, 2011.

Attest
[Signature]
Name and Title
Candace W. Ellison
County Clerk

FEIN: 58-6000804

Attachment "A" Funding Sources and Distribution
 Project No.: 0010157 Sponsor: Cobb County

PI 0010157 – Cobb County

Attach "Project Manager" Project Charging Form for Approval

Preliminary Engineering - Phase I ¹				GDOT Oversight for PE (Phase I) ²				Preliminary Engineering Grand Total (Phase I)			
Percentage	PE Amount	Maximum PE Participation Amount (\$)	Participant	PE Activity Sponsor	Percentage	Amount	Participant	Percentage	Amount	Percentage	Amount
1	\$0.00	\$0.00	Federal	Local	0%	\$0.00	Federal	0%	\$0.00	0%	\$0.00
2	\$0.00	\$0.00	State	Government	0%	\$0.00	State	0%	\$0.00	0%	\$0.00
3	\$0.00	N/A	Local		100%	\$75,000.00	Local	100%	\$75,000.00	100%	\$75,000.00
4	\$0.00	\$0.00	Other		0%	\$0.00	Other	0%	\$0.00	0%	\$0.00
Total	\$0.00				100%	\$75,000.00		100%	\$75,000.00	100%	\$75,000.00

Right of Way - Phase II ³				Utility Relocation - Phase IV			
Percentage	ROW Amount	Maximum ROW Participation Amount (\$)	Participant	Acquisition By:	Utility Funding By:	Acquisition Fund By:	Railroad Funding By:
1	\$0.00	\$0.00	Federal	Local	Local Government	Local Government	Local Government
2	\$0.00	\$0.00	State	Government	Local Government	Local Government	Local Government
3	\$936,360.00	N/A	Local		100%	100%	100%
4	\$0.00	\$0.00	Other				
Total	\$936,360.00						

Construction - Phase III ³				GDOT Oversight for CST (Phase III) ²			
Percentage	CST Amount	Maximum CST Participation Amount (\$)	Participant	Letting By:	Testing (Phase V) Funding By:	Inspection (Phase VI) Funding By:	Local government
1	\$0.00	\$0.00	Federal	Local Govt	Local Government	Local government	Local government
2	\$0.00	\$0.00	State		Local Government	Local government	Local government
3	\$39,051,794.57	N/A	Local		100%	100%	100%
4	\$0.00	\$0.00	Other				
Total	\$39,051,794.57						

Summary of Phases I Through III			
Percentage	CST Amount	Maximum Participation Amount (\$)	Participant
1	\$0.00	\$0.00	Federal
2	\$0.00	\$0.00	State
3	\$40,063,154.57	N/A	Local
4	\$0.00	\$0.00	Other
Total	\$40,063,154.57		

¹The maximum allowable GDOT participating amounts for PE phase are shown above. The local government will only be reimbursed the percentage of the accrued invoiced amounts up to but not to exceed the maximum amount indicated.

²GDOT Oversight for PE (Phase I) is detailed in Attachment "D".

³ Right-of-Way and Construction amounts shown are for budget planning purposes only.

NOTE: Separate GDOT P.O.s will be established for each funding phase.

The GDOT Oversight check shall be remitted to the District Planning and Programming Engineer along with the signed Project Framework Agreement (PFA).

Revised September 2011

ATTACHMENT "B" Project Timeline

PI # 0010157 – Cobb County

Proposed Project Timeline

Environmental Phase	Execute Agreement	Month/Year (Approve Concept)	Month/Year (Approve Env. Document)	Month/Year (Authorize Right of Way funds)	Month/Year (Authorize Const. funds)
		June 2012	April 2013	October 2013	October 2014
Concept Phase					
Preliminary Plan Phase					
Right of Way Phase					

Annual Reporting Requirements

The Local Government shall provide a written status report to the Department's Project Manager with the actual phase completion date(s) and the percent complete/proposed completion date of incomplete phases. The written status report shall be received by the Department no later than the first day of February of every calendar year until all phases have been completed.

ATTACHMENT "C"

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE OFFICE Planning
 DATE September 17, 2010
 FROM  Angela T. Alexander, State Transportation Planning Administrator
 TO Todd I. Long, PE, PTOE, Director of Planning
 Gerald M. Ross, PE, Chief Engineer/Deputy Commissioner
 SUBJECT Preliminary Engineering Oversight for Project Managers/Project Delivery Staff

Note: This memo supersedes the previous PE Oversight Memo, dated August 17, 2010. PE Oversight funding for Safe Route to School (SRTS) projects are eligible for PE Oversight funds, paid for with funding from the SRTS program. No other changes were made to the memo.

As you are aware, the Department is unable to continue funding PE oversight with 100% motor fuel funds due to the decline in motor fuel revenues. As a result, the Department needs an established procedure detailing the circumstances under which the Department will fund PE oversight with federal-aid funds (matched with state motor fuel funds) and when the Department will request that the local government/project sponsor fund the Department's expenses associated with PE oversight. The PE Oversight funds will be used to fund staff man-hours and any other associated expenses incurred by any GDOT employee working on the project. Please note that the process detailed below applies equally to routes both on and off the state highway system.

GDOT Funds PE Oversight with Federal-Aid:

The Department will fund PE oversight with federal-aid funds (and matching motor fuel funds), only if a subsequent project phase (ROW, UTL, CST) is programmed within the first 4 active years of the currently approved TIP/STIP. The source of federal-aid funds to be used for the PE oversight activities is as follows:

- 1) Projects on the National Highway System will use NHS funds (L050) to finance GDOT's PE oversight expenses
- 2) Projects *not* on the National Highway System but eligible for Surface Transportation Program (STP) funds, will follow one of the scenarios below:
 - a) Projects in urban areas between 5,000 and 199,999 in population will use L200 funds (with MPO approval, if applicable)
 - b) Projects in urban areas with a population greater than 200,000 will use L230 funds (with MPO approval)
 - c) Projects in rural areas with a population less than 5,000 will use L250 funds
 - d) The Department may, at the joint discretion of the Chief Engineer and Director of Planning, apply L240 funds to any federal-aid eligible project

- 3) Projects which have received an earmark in federal legislation, will use a portion of the earmark funding for GDOT's PE oversight expenses, pending MPO approval if applicable. (Note: earmark funded projects could receive PE oversight funding regardless of the funding being programmed within the first 4 active years of a currently approved TIP/STIP).
- 4) Projects funded with Safe Route to School (SRTS) funds will use SRTS funds to finance GDOT's PE oversight expenses, regardless of whether or not a subsequent phase of the project appears in the STIP/TIP.

GDOT Requests Local Government/Project Sponsor to Fund PE Oversight:

The Department will request that the local government fund PE oversight with 100% local funds under the following conditions:

- 1) A subsequent phase of the project is not programmed within the first 4 active years of the Currently approved TIP/STIP
- 2) The MPO has elected to not approve the use of L200 or L230 funds for GDOT's PE oversight expenses
- 3) The project is funded with CMAQ funds
- 4) The project is funded with an earmark identified in federal legislation and the local government/entity which secured the earmark (or MPO, if applicable) declines to allow GDOT to use a portion of the earmark for PE oversight expenses
- 5) The project is currently funded entirely with local funds; however, the local government intends to secure federal funding at a future date

Once the PE oversight process is implemented, it will be the responsibility of the GDOT Project Manager to work with the GDOT Office of Financial Management to establish an appropriate amount of federal-aid funded PE oversight funding, or work with the local government to secure locally sourced PE oversight funds.

If you approve of this process, please sign below. Once an acceptable process is developed and approved by both the Chief Engineer and Director of Planning, we will provide the finalized process to the Office of Program Control for distribution to the GDOT Project Managers and incorporation into future Project Framework Agreements. If you have any questions, please contact Matthew Fowler at 404-631-1777.

Approved:  _____ 7/27/10
 Todd L. Long, PE, PTOE, Director of Planning Date

Approved:  _____ 10/7/20
 Gerald M. Ross, PE, Chief Engineer/Deputy Commissioner Date

ATTACHMENT "D"

GDOT Oversight Estimate for Locally Administered Project

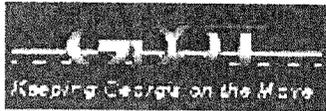
Thursday, September 29, 2011 4:18 PM

PI Number	0010157	Project Number	
County	Cobb	Project Length	0.540 Miles
Project Manager	Brown, Chandria	Project Cost	\$ 39,738,102.00
Project Type	Urban Arterial/Collector (Widen/Reconstruct/New)		
Project Description	Busbee Frey Connector		
Expected Life of Project	4.00 Years		

Project Phase	Oversight Hours	Oversight Cost
1. Project Initiation	80	\$ 4,000.00
2. Concept Development	220	\$ 11,000.00
3. Database Preparation	96	\$ 4,000.00
4. Preliminary Design	480	\$ 21,000.00
5. Environmental	306	\$ 11,000.00
6. Final Design	518	\$ 23,000.00
Travel Expenses		\$ 1,000.00
Total Oversight Estimate	1,699	\$ 75,000.00
Percentage of Project Cost	0.19 %	

Note: The project cost is greater than \$10,000,000.00. Therefore, a Value Engineering study is required and the estimated cost for the oversight of this study is \$5,400.00 which is included in the Concept Development Phase.

Y:\CD Common\Projects\0010157\Preconstruction\Budget\PE Oversight Estimate\PI 0010157_092911_Oversight Estimate for Consultant & LAP Projects v201.xlsm



GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT AFFIDAVIT

Contract No. and Name: P.I. No. 0010157
Townpark Lane @ I-75 - New Overpass (Busbee-Frey Connector)
Name of Contracting Entity: Cobb County Department of Transportation

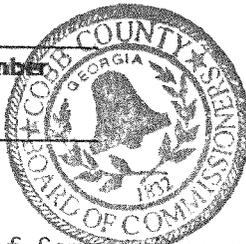
By executing this affidavit, the undersigned person or entity verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm, or corporation which is contracting with the Georgia Department of Transportation has registered with, is authorized to participate in, and is participating in the federal work authorization program commonly known as E-Verify,* in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91.

The undersigned person or entity further agrees that it will continue to use the federal work authorization program throughout the contract period, and it will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the undersigned with the information required by O.C.G.A. § 13-10-91(b).

The undersigned person or entity further agrees to maintain records of such compliance and provide a copy of each such verification to the Georgia Department of Transportation at the time the subcontractor(s) is retained to perform such service.

35131
EEV / E-Verify™ User Identification Number
[Signature]
BY: Authorized Officer or Agent
(Name of Person or Entity)
Chairman, Cobb County Board of Commissioners
Title of Authorized Officer or Agent

October 18, 2006
Date of Authorization
11/3/11
Date

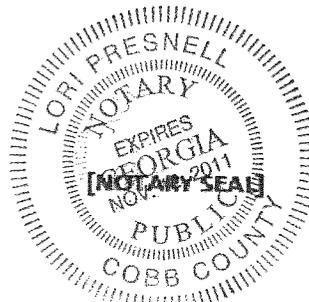


Timothy D. Lee
Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN
BEFORE ME ON THIS THE

3rd DAY OF November, 2011
[Signature]
Notary Public

My Commission Expires: 11/12/11



* or any subsequent replacement operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603

Reference No. 12126

**AGREEMENT
BETWEEN
COBB COUNTY
AND
TOWN CENTER AREA COMMUNITY IMPROVEMENT DISTRICT
FOR
TRANSPORTATION FACILITY IMPROVEMENTS**

This Cobb Framework Agreement ("CFA") is made and entered into this 4th day of Oct., 2011, by and between COBB COUNTY, a political subdivision of the State of Georgia, hereinafter called the "COUNTY", and the **TOWN CENTER AREA COMMUNITY IMPROVEMENT DISTRICT** acting by and through its Board, hereinafter called the "TCACID". Reference to the DEPARTMENT shall be deemed to refer to the Georgia Department of Transportation.

WHEREAS, the TCACID and the COUNTY are interested in furthering the transportation facility described in Attachment A attached, and incorporated herein by reference, and hereinafter referred to as the "PROJECT"; and

WHEREAS, in order for the DEPARTMENT to oversee the Preliminary Engineering (the "PE Oversight"), the COUNTY is required to enter into a Project Framework Agreement ("PFA") with the DEPARTMENT whereby the COUNTY agrees, among other things, to accomplish all PE activities for the PROJECT and to pay for the DEPARTMENT'S PE Oversight; and

WHEREAS, the TCACID is willing to perform or has performed all PE activities required in the PFA and to pay all such costs, fees, or other charges related to the PE activities and PE Oversight in order to advance the PROJECT; and

WHEREAS, the COUNTY is willing to enter into the PFA with the DEPARTMENT based upon this commitment from the TCACID and pursuant to the terms and conditions set forth in this CFA.

NOW THEREFORE, in consideration of the mutual promises made and of the benefits to flow from one to the other, the receipt and sufficiency of which is hereby acknowledged, the COUNTY and the TCACID hereby agree each with the other as follows:

1. The COUNTY agrees to execute a PFA with the DEPARTMENT in the form attached hereto and made a part hereof as Attachment B. Once fully executed, the executed PFA shall be substituted for the Attachment B attached hereto without any further action needed or required by the COUNTY or the TCACID.

2. The TCACID agrees it shall be fully responsible for funding in a timely manner and when due the cost of the DEPARTMENT'S PE Oversight (currently estimated to be \$88,000). The COUNTY will forward all invoices received from the DEPARTMENT to the TCACID and the TCACID shall make payment to the COUNTY within 30 days of receipt. Only upon receipt of the funds from TCACID will the COUNTY make payment to the DEPARTMENT.

3. The TCACID agrees it shall cause to be accomplished and shall fully fund all of the PE activities for the PROJECT (currently estimated to be \$1,211,750). The PE activities shall include those listed in Section 8 of the PFA. The PE activities shall be

accomplished in accordance with the DEPARTMENT's Plan Development Process ("PDP"), the applicable guidelines of the American Association of State Highway and Transportation Officials, the DEPARTMENT's Standard Specifications Construction of Transportation Systems, and all applicable design policies of the DEPARTMENT / COUNTY. All drafting and design work performed on the PROJECT shall be done utilizing Microstation and Inroads software, respectively, and shall be organized as per the DEPARTMENT's Plan Presentation Guidelines and Electronic Data Guidelines. All Primary Consultant firms hired by the TCACID to provide services on the Project shall be prequalified with the Georgia Department of Transportation in the appropriate area-classes.

If the total estimated PROJECT cost approaches \$10,000,000.00 or more, the TCACID shall fully fund a Value Engineering Study to be completed by the DEPARTMENT OR COUNTY and shall provide PROJECT related design data, key design staff, and plans to be evaluated in the Study. Total PROJECT costs include preliminary engineering, right of way, utility relocation and construction.

4. The TCACID certifies that it understands the regulations for "CERTIFICATION OF COMPLIANCES WITH FEDERAL PROCUREMENT REQUIREMENTS, STATE AUDIT REQUIREMENTS, AND FEDERAL AUDIT REQUIREMENTS" and will comply in full with said provisions.

5. The COUNTY shall review and has approval authority for all aspects of the PROJECT provided, however, this review and approval does not relieve the TCACID of its responsibilities under the terms of this CFA. The COUNTY will appoint a Project Manager who will work with the

DEPARTMENT and other Federal / State Agencies to obtain all needed approvals as deemed necessary with information furnished by the TCACID. All TCACID correspondence or requests related to the PROJECT shall flow through the COUNTY's Project Manager.

6. The COUNTY has identified \$2,500,000 in its 2011 SPLOST program for Right-of-Way acquisition related to this PROJECT. These funds will be made available for such purpose if this PROJECT becomes funded and the COUNTY and the TCACID agree for the PROJECT to be constructed. No Right-of-Way acquisition activities will be undertaken or cost incurred without the consent of the COUNTY and the TCACID.

7. If the COUNTY and the TCACID agree for the PROJECT to be constructed, the COUNTY may request that the TCACID pay, or obtain funds from a third party to pay, costs, fees, or other charges set forth or referred to in the PFA that are the responsibility of the COUNTY, including but not limited to those related to reimbursable utility relocations, non-reimbursable utilities owned by the COUNTY, wetland and stream mitigation costs, permit fees, right of way acquisitions exceeding \$2,500,000.00, and construction. No utility relocation activities will be undertaken or cost incurred without the consent of the COUNTY and the TCACID. The TCACID understands the COUNTY does not have approved funding for the PROJECT and is under no obligation to provide now or hereafter any funding for the PROJECT except as specifically set forth and conditioned herein. Likewise, the COUNTY understands the

TCACID does not have approved funding for the PROJECT and is under no obligation to provide now or hereafter any funding for the PROJECT except as specifically set forth herein. Any agreement with regard to future funding of the PROJECT and associated responsibilities of the COUNTY and the TCACID shall be accomplished through a Supplemental Agreement to this CFA executed by the COUNTY and the TCACID.

8. Notwithstanding the above, however, TCACID agrees it shall, at no cost or expense to the COUNTY, be responsible for the obligations under the terms of the PFA, except with regard to the COUNTY's \$2,500,000 Right of Way acquisition commitment to funding and associated responsibilities, the continual maintenance and operations of any and all sidewalks and the grass strip between the curb and the sidewalk, the COUNTY's failure to adhere to time schedules, notice requirements, and deadlines, the COUNTY's failure to comply with state and federal government requirements, regulations, and laws, the COUNTY's failure to comply with state and federal rules and regulations in the acquisition of Right-of-Way, responsibility for the professional quality of the design or construction of the PROJECT, and further excluding any negligent acts, omissions, or willful misconduct on the part of the COUNTY, its elected officials, employees, or agents for which the COUNTY agrees it shall, at no cost or expense to the TCACID, be responsible. Neither the COUNTY nor the TCACID is designing or constructing the PROJECT with its personnel, but those services will be performed by independent contractors which will do so pursuant to DEPARTMENT rules, regulations, directives, guidelines, specifications, and control. Each party shall require all contractors to indemnify and insure the COUNTY and TCACID for any claims,

damages, actions, judgments, costs, penalties, liabilities, demands, request for payments, loss and/or expenses caused by any contractor's negligent acts or omissions, or wilfull misconduct in the design, construction, or other services related to the PROJECT. If the PROJECT is funded and constructed, the provisions set forth above shall equally apply to any obligations of the TCACID or COUNTY set forth in a Supplemental Agreement.

9. The term of this CFA shall commence on the date the last party executes it (the "Effective Date") and shall conclude at the earlier of the date of final acceptance of the PROJECT, or the date the COUNTY and the TCACID agree not to construct the PROJECT. Notwithstanding the above, terms that should naturally survive the termination or expiration of this CFA, as amended, shall so survive.

10. This CFA constitutes the entire understanding between the parties, and as of its Effective Date, supersedes all prior oral or written understandings between the parties concerning the subject matter of this CFA.

11. All notices and other communications required or permitted under this CFA shall be in writing and shall be sent by certified mail, return receipt requested with postage and fees prepaid to the addresses set forth below, and shall be deemed to be effective when actually received or refused. Either party may change the address to which future notices or other communications shall be sent by notifying the other party.

If to County: DOT, Director
1890 County Services Parkway
Marietta, GA 30008

If to TCACID: Chairman
Town Center Area CID
245 Town Park Drive
Suite 440
Kennesaw, GA 30144

12. If any provision of this CFA, or the application thereof, is determined to be invalid or unenforceable for any reason, the remainder of that provision and all other provisions of this CFA shall remain valid and enforceable.

13. Each of the individuals executing this CFA on behalf of the COUNTY or the TCACID represents to the other party that such individual is authorized to do so by requisite action of the party to this CFA.

14. Both the COUNTY and the TCACID hereby acknowledge that time is of the essence for the obligations set forth under this CFA.

15. This CFA is made and entered into in COBB COUNTY, GEORGIA, and shall be governed and construed under the laws of the State of Georgia. Exclusive venue for any actions brought in relation to this CFA shall be brought in a court of competent jurisdiction located in Cobb County, Georgia.

16. The covenants herein contained shall, except as otherwise provided, accrue to the benefit of and be binding upon the successors and assigns of the parties hereto.

17. This CFA is for the benefit of the COUNTY and the TCACID only and is not intended to benefit any third party or to give rise to any duty or causes of action for any third party, and no provisions contained within this agreement are intended to nor shall they in any way be construed to relive any consultant or contractor performing services in connection with the PROJECT of any liability or to complete the work in a good, substantial and workmanlike manner. No provision in this CFA is intended to nor shall it be construed in any way waive immunities or protections provided to either the COUNTY or to the TCACID by the Constitution and laws of the State of Georgia.

[SIGNATURES ON THE FOLLOWING PAGE]

IN WITNESS WHEREOF, the COUNTY and the TCACID have caused this CFA to be executed under seal by their duly authorized representatives.

COBB COUNTY, GEORGIA

Sworn to and subscribed before me this 4th day of Oct., 2011.

By: Helen C. Goreham
Timothy D. Lee, Chairman
Cobb County Board of Commissioners

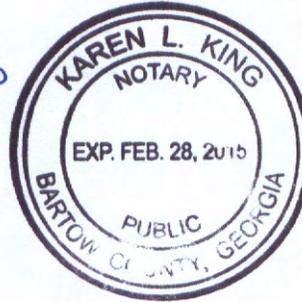
Helen Goreham, Vice Chair
Cobb County Board of
Commissioners



Karen L. King
Notary Public

My Commission Expires: 2-28-2015

(County Seal)

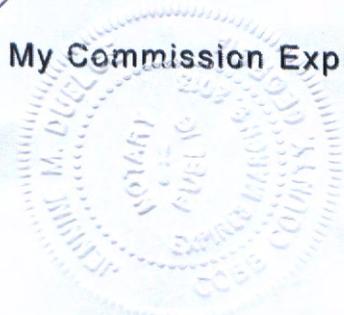


TOWN CENTER AREA COMMUNITY IMPROVEMENT DISTRICT Sworn to and subscribed before me this 20 day of September, 2011.

By: [Signature]
H. Mason Zimmerman, Chairman

Notary Public

My Commission Expires: 3/9/13



ATTACHMENT "A"

Project Number: TCID-24/PI 0010157

The proposed Project consists of a new alignment in northern Cobb County with a grade separation over I-75 that connects Frey Road to Townpark Lane. The project also includes slip ramps connecting the I-75 southbound exit ramp to Frey Road and Busbee Drive to the I-75 northbound entrance ramp. A traffic signal on Frey Road will be relocated to better accommodate the proposed new alignment. Resurfacing and restriping will be necessary along Frey Road and Busbee Drive.

Fax: (404) 631-1588
E-mail: chbrown@dot.ga.gov

From: alvin.gutierrez@dot.gov [<mailto:alvin.gutierrez@dot.gov>]
Sent: Thursday, November 29, 2012 11:59 AM
To: Brown, Chandria
Cc: Carlos.Figueroa@dot.gov
Subject: RE: PI 0010157 - SKIP SPANN CONNECTOR FROM BUSBEE PKWY TO FREY ROAD

Hi Chandria

After reviewing the layout for the Skip Spann Connector, it is clear that no IMR is necessary for this project since there is no direct impact on the operational integrity and safety of I-75. As your question regarding an encroachment permit, the answer is yes but there a few people at GDOT that are familiar with the process. You can contact Daphne Cautela (not sure about last name correct spelling) or Katie Mullins at GDOT.

Any other question or clarification, please do not hesitate to contact me at your convenience.

Regards,

Alvin

Alvin Gutierrez
Urban Transportation/Major Projects Engineer
FHWA-Georgia Division
61 Forsyth St SW
Suite 17T100
Atlanta, GA 30303-3104

work (404)562-3632
fax (404)562-3703

From: Brown, Chandria [<mailto:chbrown@dot.ga.gov>]
Sent: Wednesday, November 28, 2012 1:27 PM
To: Gutierrez, Alvin (FHWA)
Cc: Figueroa, Carlos (FHWA); Wright, Michael; Mike Cates P. E. (mike.cates@cobbcounty.org)
Subject: PI 0010157 - SKIP SPANN CONNECTOR FROM BUSBEE PKWY TO FREY ROAD

Mr. Gutierrez,

This e-mail is a follow-up to our conversation yesterday about PI 0010157. For your reference, below is a link to the Concept Team Meeting Materials presented at the November 8, 2012 Concept Team Meeting:

<ftp://ftp.dot.state.ga.us/DOTFTP/Anonymous-Public/0010157/FHWA/>

Username: dotpublic
Password: dotoutside02

Please let me know who the FHWA contact is for an Encroachment Permit for this project and please provide your documented assessment for whether or not an IMR is needed. The Concept Team Meeting Minutes are attached for your reference as well.

Thanks,

Chandria L. Brown, P.E.

Project Manager

Office of Program Delivery

Georgia Department of Transportation

600 West Peachtree Street, 25th Floor

Atlanta, GA 30308

Phone: (404) 631-1580

Mobile: (404) 357-5049

Fax: (404) 631-1588

E-mail: chbrown@dot.ga.gov

During inclement winter weather, Georgia DOT's priority is to clear travel lanes on the state's most-used roadways – the Interstate Highway System and other major arterial roads. The Department urges travelers to exercise caution and call 511 for updated information on roadway conditions before getting on the road during a winter weather event.

Visit us at <http://www.dot.ga.gov/winterweather> ; or follow us on <http://www.facebook.com/GeorgiaDOT> and <http://twitter.com/gadepoftrans>