

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** CSMSL-0008-00(690) Chatham **OFFICE:** Engineering Services  
P.I. No.: 0008690  
Jimmy Deloach Connector **DATE:** March 30, 2010

**FROM:** Ronald E. Wishon, State Project Review Engineer *REW*

**TO:** Darryl D. VanMeter, PE, State Innovative Program Delivery Engineer  
Attn.: Mike Dover

**SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES**

The VE Study for the above project was held February 2-5, 2010. Responses were received on March 26, 2010. 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.

ALT #	Description	Potential Savings/LCC	Implement	Comments
BR-1	Reduce shoulders on long bridges	\$545,952	No	GDOT Bridge and Structures Design Policy Manual Section 2.9.1 requires bridge width to be based on total travel way plus recommended shoulder widths. This bridge carries multilane divided state route with rural section and design ADT of 16,760 with 55% trucks. Maintaining an 8 ft shoulder will benefit the operation of the system due to the large volume of trucks.
BR-2	Modify span arrangement on wetland bridges	\$422,131	No	With bridge hydraulic studies not yet performed to determine design flood stage elevation, it is not advisable to recommend longer spans for this bridge as longer spans will require deeper beams. In addition, it is unlikely that 20" PSC piles will work on 85 or 88 ft spans with AASHTO Type III beams as recommended by the VE Team. Concrete bents would be required which may require cofferdams to construct the bents in wetlands. Since this project is anticipated to use the design/build delivery method, it is more appropriate to give the contractor flexibility with structure type selection.

RD-1	Use median barrier in lieu of raised grassed median	\$856,196	Yes	This will be done.
RD-2	Construct a typical intersection at Bourne Ave.	\$610,500	No	<p>A typical T-intersection at Bourne Avenue was evaluated during concept development and was not recommended due to the following reasons:</p> <p>(1) Smaller travel time savings. T-intersection will provide travel time savings of 10.26 minutes/vehicle. A half diamond as currently proposed will provide a larger travel time savings of 11.35 minutes/vehicle.</p> <p>(2) Smaller benefit/cost ratio. T-intersection has an overall B/C ration of 6.66. Half diamond has an overall B/C ration of 7.04.</p> <p>(3) Larger "throw-away" for future expansion. The Statewide Truck Lane Needs Identification Study recommended Jimmy Deloach Connector to be constructed from SR 21 near Smith Avenue to SR 21 south of I-95. The project as currently proposed is a condensed version that serves the immediate need of the Port. It is consistent with the truck lane study and should not preclude future extension to SR 21. Providing a T-intersection at Bourne Avenue will result in a "throw-away" of \$1.13 million in pavement costs when this extension is executed. The currently proposed half diamond configuration will involve minimal "throw-away" during future extension and simplify maintenance of traffic during construction.</p>

RD-3	Construct a SPUI or TUDI at Grange Ave.	\$1,773,772	No	<p>Approximately 60% of the overall interchange turning movements are composed of trucks and tractor-trailers. Since the average length of these vehicles is two or three times the size of a passenger vehicle, they require a larger turning radius for safe maneuvering. Replacing the proposed spread diamond interchange with a tight diamond interchange would significantly reduce the spacing between the ramp intersections resulting in a small and insufficient turning radius. This may adversely impact the operation and safety of the interchange. Additionally, a SPUI would require a very wide turning radius to accommodate side by side trucks plus a longer bridge, which would not be feasible at this location.</p>
RD-4	Delete northbound (2A) exit and southbound (2D) entrance at Grange Ave.	\$3,896,420	No	<p>Removal of ramps 2A &amp; 2D will limit connectivity from Grange Road to Jimmy Deloach Connector. With the port planning a terminal gate at the east end of Grange Road, these ramps are required to provide adequate access between Jimmy Deloach Connector and Grange Road. A full diamond interchange is also consistent with the GDOT Statewide Truck Lanes Needs Identification Study from 2007 that recommends the extension of Jimmy Deloach Connector up to SR 21 in the north and south direction.</p>
RD-5	Reduce sum of the paved shoulder widths on ramps	\$434,209	Yes	<p>Ramp typical sections will be revised to show 10 ft paved outside shoulder and 2 ft paved inside shoulder.</p>

RD-12	Use SPUI or TUDI at Pierce Ave.	\$794,882	No	The Statewide Truck Lanes Needs Identification Study recommended Jimmy Deloach connector to be constructed from SR 21 near Smith Avenue to SR 21 south of I-95. The project as currently proposed is a condensed version that serves the immediate need of the Port. It is consistent with the truck lane study and should not preclude future extension to SR 21. A tight diamond interchange at Pierce Avenue was evaluated during the concept development and not recommended because of a larger "throw-away" of \$2.6 million when Jimmy Deloach Connector is extended to the north. The currently proposed spread diamond configuration will involve minimal "throw-away" and simplify maintenance of traffic during future extension.
RD-21	Adjust profile to reduce borrow	\$1,169,124	No	Actual vertical clearances at critical points under bridges are consistent with GDOT's Bridge and Structures Design Policy Manual sections 2.3.2 and 2.3.3 which recommend 16'-9" clearance for bridges over roadways and 23' for bridges over railroads. The proposed profile has been set at 3%, which was determined to be the maximum acceptable profile for the mainline due to high truck volumes.

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

Approved:  Date: 3/31/10  
 Gerald M. Ross, PE, Chief Engineer

REW/LLM

Attachments

c: Ben Buchan  
Darryl VanMeter/Mike Dover  
Paul Liles/Bill Duvall/Bill Ingalsbe  
Paul Alimia  
Brad Saxon/Anthony Cook/Teresa Scott  
Will Murphy/Troy Pittman  
Ken Werho  
Lisa Myers  
Matt Sanders

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

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INTERDEPARTMENT CORRESPONDENCE

**FILE:** CSMSL-0008-00(690), Chatham County  
P.I. No. 0008690  
Jimmy Deloach Connector from SR 307/Bourne  
Avenue to Jimmy Deloach Parkway  
*Darryl D. VanMeter*  
**OFFICE:** Innovative Program Delivery  
**DATE:** March 26, 2010

**FROM:** Darryl VanMeter, P.E., State Innovative Program Delivery Engineer

**TO:** Ronald E. Wishon, State Project Review Engineer

**SUBJECT: Value Engineering Study-Responses**

Reference is made to the recommendations that were contained in the Value Engineering Study Report dated February 17, 2010 for the above referenced project. Attached are the responses to the recommendations as prepared by Parsons Transportation; the consultant providing Preliminary Engineering services for Georgia Ports Authority. This office has reviewed the responses and concurs. Please contact Mike Dover should you need further information.

Cc: Ben Buchan, Director of Engineering  
Aykut Urgan, Parsons Transportation  
Randy Weitman, Georgia Ports Authority

## MEMORANDUM

**FROM:** Aykut Urgan, P.E., Project Manager – Parsons

**TO:** Mike Dover, P.E., Project Manager – GDOT Office of Innovative Program Delivery

**CC:** Randy Weitman, P.E. – Georgia Ports Authority

**DATE:** March 25, 2010

**SUBJECT:** CSMSL-0008-00(690), P.I. No. 0008690, Chatham County  
Jimmy Deloach Connector from SR 307/Bourne Avenue to Jimmy Deloach Parkway  
**Value Engineering Study-Responses**

Reference is made to the recommendations that were contained in the Value Engineering Study Report dated February 17, 2010 for the above referenced project. Our responses and recommendations are as follows:

<i>VE Recommendation No. &amp; Description w/ Projected Cost Savings</i>		<i>Recommendation Response and Comments</i>	
<i>Alternative Number</i>	<i>Description of Alternative &amp; Initial Cost Savings</i>	<i>Recommendation Response</i>	<i>Comments</i>
<b>Bridge (BR)</b>			
BR-1	Reduce shoulders on long bridges.  Savings = \$545,952	No, will not implement	GDOT Bridge and Structures Design Policy Manual Section 2.9.1 requires bridge width to be based on total Travel Way (TW) plus recommended shoulder widths. Referenced bridge carries multilane divided state route with rural section and design ADT of 16,760 (with 55% Truck). Maintaining an 8' shoulder will better benefit the operation of the system due to the large volume of trucks.
BR-2	Modify span arrangement on wetland bridges  Savings = \$422,131	No, will not implement	With bridge hydraulics studies not yet performed to determine design flood stage elevation, it is not advisable to recommend longer spans for this bridge as longer spans will require deeper beams. In addition, it is unlikely that 20" PSC piles will work on 85 or 88 feet spans with AASHTO Type III beams as recommended by VE study. In that case, concrete bents will be required which in turn may require cofferdams to construct these bents over wetland. Moreover, this project is anticipated to use the design/build delivery method and it may be more appropriate to give the contractor flexibility with structure type selection.

<i>VE Recommendation No. &amp; Description w/ Projected Cost Savings</i>		<i>Recommendation Response and Comments</i>	
<b>Roadway (RD)</b>			
RD-1	Use median barrier in lieu of raised grassed median  Savings = \$856,196	Yes, will implement	
RD-2	Construct a typical intersection at Bourne Avenue  Savings = \$610,500	No, will not implement	<p>Typical T-intersection at Bourne Avenue was evaluated during concept development and not recommended due to the following reasons –</p> <ul style="list-style-type: none"> <li>• Smaller travel time savings – T-intersection at Bourne Avenue will provide travel time savings of 10.26 minutes/vehicle. Half diamond as currently proposed will provide larger travel time savings of 11.35 minutes/vehicle through the proposed corridor.</li> <li>• Smaller benefit/cost ratio – T-intersection at Bourne Avenue has an overall B/C ratio of 6.66. Half diamond as currently proposed has an overall B/C ratio of 7.04.</li> <li>• Larger “throw-away” for future extension – The Statewide Truck Lanes Needs Identification Study recommended Jimmy DeLoach Connector to be constructed from SR 21 near Smith Avenue to SR 21 south of I-95. The project as currently proposed is a condensed version that serves the immediate need of the Port. However, it is consistent with the Truck Lanes study and should not preclude future extension to SR 21. Providing a T-intersection at Bourne Avenue will result in a “throw-away” of approximately \$1.13M in pavement costs when this extension is executed. The currently proposed half diamond configuration will involve minimal “throw-away” during future extension and simplify maintenance of traffic during construction.</li> </ul>
RD-3	Construct a “SPUI” or “TUDI” at Grange Avenue  Savings = \$1,773,772	No, will not implement	<ul style="list-style-type: none"> <li>• Approximately 60% of the overall interchange turning movements is composed of trucks and tractor-trailers. Since the average length of these vehicles is twice or thrice the size of passenger vehicles, they typically require a larger turning radius for safe maneuvering. Replacing the proposed spread diamond interchange with a tight diamond interchange would significantly reduce the spacing between the ramp intersections resulting in a small and insufficient turning radius. This may adversely impact the operations and safety at the interchange. Therefore, a tight urban diamond interchange is not an optimum choice for this location</li> <li>• A SPUI would need very wide turning radius to accommodate side by side trucks plus a longer bridge – which may not be feasible at this location.</li> </ul>

<i>VE Recommendation No. &amp; Description w/ Projected Cost Savings</i>		<i>Recommendation Response and Comments</i>	
RD-4	Delete northbound (2A) exit and southbound (2D) entrances at Grange Ave.  Savings = \$3,896,420	No, will not implement	<ul style="list-style-type: none"> <li>Removal of ramps 2A &amp; 2D will limit connectivity from Grange Road to Jimmy Deloach Connector. With the port planning a terminal gate at the east end of Grange Road, these ramps are required for providing adequate access between Jimmy Deloach Connector and Grange Road.</li> <li>Full diamond interchange configuration is also consistent with the GDOT Statewide Truck Lanes Needs Identification Study from 2007 that recommends the extension of Jimmy Deloach Connector up to SR 21 in the north and south direction.</li> </ul>
RD-5	Reduce sum of paved shoulder widths on ramps from 14' to 12'  Savings = \$434,209	Yes, will implement	<ul style="list-style-type: none"> <li>Ramp typical sections will be revised to show 10' paved outside shoulder and 2' paved inside shoulder.</li> </ul>
RD-12	Use a "SPUI" or "TUDI" at Pierce Ave.  Savings = \$794,882	No, will not implement	<ul style="list-style-type: none"> <li>The Statewide Truck Lanes Needs Identification Study recommended Jimmy Deloach Connector to be constructed from SR 21 near Smith Avenue to SR 21 south of I-95. The project as currently proposed is a condensed version that serves the immediate need of the Port. However, it is consistent with the Truck Lanes study and should not preclude future extension to SR 21.</li> <li>A tight diamond interchange at Pierce Avenue was evaluated during concept development and not recommended because of a larger "throw-away" of approximately \$2.6M when Jimmy Deloach Connector is extended to the north. The currently proposed spread diamond configuration will involve minimal "throw-away" and simplify maintenance of traffic during future extension.</li> </ul>
RD-21	Adjust profile to reduce borrow  Savings = \$1,169,124	No, will not implement	<ul style="list-style-type: none"> <li>Actual vertical clearances at critical points under bridges are consistent with GDOT's Bridge and Structures Design Policy Manual sections 2.3.2 and 2.3.3 that recommend 16'-9" clearance for bridges over roadways and 23' for bridges over railroads.</li> <li>Maximum profile grade for mainline has been determined to be 3% due to high truck volumes and was recommended at the Concept Team Meeting. The profile as currently proposed already utilizes 3% grades.</li> </ul>



PRECONSTRUCTION STATUS REPORT FOR PI:0008690

**PROJ ID :** 0008690  
**COUNTY :** Chatham  
**LENGTH (MI) :** 5.33  
**PROJ NO. :** CSMSL-0008-00(690)  
**PROJ MGR :** Dover, Mike  
**AOHD Initials :** MD  
**OFFICE :** Innovative Prog. Delivery  
**CONSULTANT :** Local Design, Local PE funds  
**SPONSOR :** GDOT  
**DESIGN FIRM :** Parsons Transportation Group, Inc.

**JIMMIE DELOACH PKWY EXT FM S OF I-95 TO S OF SR 307 @ SR 21**  
**MPO :** Savannah TMA  
**TIP # :**  
**MODEL YR :**  
**TYPE WORK :** Roadway Project  
**CONCEPT :** NL 4R(MED 24)  
**PROG TYPE :** New Construction  
**Prov. for ITS :** N  
**BOND PROJ. :**

**MGMT LET DATE :** 10/22/2010  
**MGMT ROW DATE :**  
**BASELINE LET DATE :**  
**SCHED LET DATE :** 4/29/2011  
**WHO LETS? :** GDOT Let  
**LET WITH :**

**PRIORITY CODE :**  
**DOT DIST :** 5  
**CONG. DIST :** 12  
**BIKE :** Y  
**MEASURE :** E  
**NEEDS SCORE :** 4  
**BRIDGE SUFF :**

BASE		LATE		LATE		ACTUAL		ACTUAL		PROGRAMMED FUNDS		STIP AMOUNTS				
START	FINISH	START	FINISH	START	FINISH	START	FINISH	START	FINISH	Activity	Approved	Proposed	Cost	Activity	Cost	Fund
			5/20/2010	8/7/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	PE	2008	2008	200,000.00	PE	2,277,200.00	60402
			5/20/2010	11/19/2009	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	PE	2009	2009	6,287,400.00	PE	2,277,200.00	60402
			5/20/2010	5/20/2010	5/20/2010	5/20/2010	5/20/2010	5/20/2010	5/20/2010	PE	LR	LR	9,945,761.35	PE	2,277,200.00	60402
			4/20/2010	4/20/2010	4/20/2010	4/20/2010	4/20/2010	4/20/2010	4/20/2010	ROW	LR	LR	276,427,917.02	ROW	6,152,009.00	0TH
			6/4/2010	6/4/2010	6/4/2010	6/4/2010	6/4/2010	6/4/2010	6/4/2010	CST	LR	LR	174,770,962.48	CST	9,120,007.00	0TH
			5/21/2010	5/21/2010	5/21/2010	5/21/2010	5/21/2010	5/21/2010	5/21/2010							
			11/5/2010	11/5/2010	12/30/2010	12/30/2010	12/30/2010	12/30/2010	12/30/2010							
			5/21/2010	5/21/2010	8/19/2010	8/19/2010	8/19/2010	8/19/2010	8/19/2010							

ACTUAL		ACTUAL		ACTUAL		ACTUAL		ACTUAL		ACTUAL		ACTUAL		ACTUAL		ACTUAL	
START	FINISH																
8/7/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009	11/19/2009
11/19/2009	11/19/2009	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010	2/2/2010
12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009	12/1/2009
12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009	12/21/2009

**Bridge :** BRIDGE REQUIRED - DESIGN/BUILD  
**Design :** concept report submitted 2-2-10, Parsons completing draft EA  
**EIS :** EA(NotAvpd) OnSchdROW) Alimia 02-11-10  
**LGPA :** NOTIFICATION LETTER SENT TO CHATHAM & PORTWENTWORTH 2-8-08.  
**Planning :** comments to NP sent 1-8-10, Coastal GA Reg 1 Bike/Ped Plan requires new est projects to accommodate bicycles (2005, pg.35)  
**Programming :** 1625 5-08  
**EMG :** PE BY LOCAL

**Cond. Filed :** 20  
**Under Review :** Options - Pending  
**Released :** Condemnations- Pend

**Acquired by :** DOT  
**Acquisition MGR :**  
**R/W Cert Date :**

**DEEJAS CT :**