

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** City of Roswell, Fulton County **OFFICE:** Engineering Services  
P.I. No.: 0010874  
Big Creek Pkwy, SR140 to East of SR 400 **DATE:** July 28, 2014

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

**TO:** Albert V. Shelby III, State Program Delivery Engineer

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

The VE Study for the above project was held May 12-15, 2014. Responses were received on July 18, 2014. 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 and/or Design Variance, the DE or DV must be requested separately.

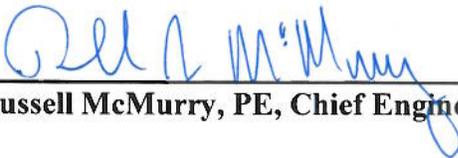
ALT #	Description	Potential Savings/ LCC	Implement	Comments
A-2	Reduce the 12 feet wide multi-use trail to 10 feet.	\$690,000	Yes	This will be done.
A-3	Reduce the multi-use trail width on the bridges to the minimum acceptable width of 8 feet wide.	\$1,098,000	No	Reduced path width on the bridge would compromise the available recovery space on the outside of the trail and limit the opportunities for sign locations. When clearance needs are considered, the true lateral requirements of a trail are actually greater on a bridge.
A-5	Use the proposed 12 feet wide multi-use trail and eliminate the on-road bicycle lanes on each side of the roadway.	\$2,808,000	No	This project is on the multi-modal Roswell Loop Network as part of the Roswell Transportation Master plan and warrants on-road bicycle lanes. Residential and Commercial centers are located adjacent to this parkway so heavy use of the multi-use trail is expected which also increases the need for bicycle lanes.
A-6	Reduce the 5 feet wide grass buffer strip to 2 feet wide.	\$979,000	No	Reducing the buffer effectively nullifies the function of the required buffer and would create potential operational issues between the multi-use trail and the roadway.

A-7	Reduce width of the Typical Section 2 feet by removing the buffer strips from the bridges.	\$1,894,000	No	Reducing the buffer effectively nullifies the function of the required buffer and would create potential operational issues between the multi-use trail and the roadway. According to the AASHTO Guide for the Development of Bicycle Facilities the bicycle lane should not be considered as additional buffer.
A-10	Create a multi-use trail on a separate alignment from the bridges.	\$1,761,000	No	This idea would result in a more circuitous routing for pedestrians and will need to span over substantial wetlands and stream buffers via the use of boardwalk or open truss bridges which would require substantial excavation, retaining walls, and stream buffer variance. Impacts to these resources will require additional mitigation and permits. A sidewalk and grass strip would need to be added on the north shoulder of Big Creek Parkway and if all these items were implemented the cost/benefit of this item would be reduced to a net savings of \$575,411.
A-12	Replace 12 feet wide multi-use trail with 5 feet wide sidewalk.	\$2,414,000	No	This will be part of the Roswell Loop network which includes multi-use paths therefore; eliminating the trail through this corridor would diminish the connectivity of the proposed system. Replacing the trail with a standard sidewalk would reduce the effectiveness and attractiveness to many bicyclists and families from the surrounding residential areas who want to access the other trails.
A-13	Shift the roundabout south along Warsaw Road about 150 feet.	\$150,000	No	Relocating the dual lane roundabout on Warsaw Road would place this intersection on a 5.0% grade which is not ideal because the grade should be less than 4.0% for operational purposes. A steeper grade makes it more difficult for vehicles with high centers of gravity to negotiate the circular roadway and will make drainage more challenging. This idea would require a large retaining wall to be added and additional impacts to the perennial stream. The design team believes any savings from this would be eliminated.

A-16a	Use the existing roadway template on Holcomb Woods Parkway.	\$1,136,000	No	Terminating the on-street bicycle lanes and the multi-use path at Old Alabama Road would not conform to the City's Transportation Master Plan or provide logical termini for bicyclists and pedestrians. A four-lane section is not required because the design year traffic forecasts indicate that a two-lane section is adequate for Holcomb Woods Parkway.
A-16b	Variation of A-16a, but add milling and re-surfacing to Holcomb Woods Parkway to re-stripe for on-road bike lane.	\$976,000	No	As part of the City of Roswell Transportation Master Plan this corridor is expected to provide a much better experience than an ordinary bike lane within a four-lane road. The proposed design reflects elements that are consistent with existing and other planned facilities for bicyclists.
A-16c	Variation of A-16b, but construct an additional 7 feet wide sidewalk to provide the 12 feet wide multi-use trail on the north side of the existing Holcomb Woods Parkway.	\$539,000	No	The conversion of the sidewalk to a trail would require widening the buffer 5 feet or providing a barrier. It would also require the re-design of intersections and driveway approaches to mitigate the operational concerns associated with side paths.
A-20	Re-align Big Creek Parkway across Big Creek to reduce environmental impacts and shorten the bridge.	\$5,114,000	No	To re-align the parkway through the Aspen Pointe Apartments at such a skewed angle would require a 200 feet long span and need to be steel which would cost more to construct. The estimated wetland impacts would increase by 0.92 acres and the additional stream impacts on Stream 18 would require additional use of MSE walls.
A-21	Use TEE intersection for Old Holcomb Bridge Road and Big Creek Parkway connection.	Proposed \$2,329,000 Actual \$1,609,031	Yes, with modifications.	The bridge over SR 400 will need to be widened to accommodate a left turn lane for the Old Holcomb Bridge Road Ext. and driveway access will need to be provided off of Big Creek Parkway to access the cellular tower facility adjacent to the Big Creek stream and SR 400. These additions will reduce the cost benefit of this alternative as noted.
C-1	Use 2:1 cut slopes in lieu of the proposed 4:1.	\$391,000	Yes	This will be done.

C-3	Steepen the profile grade of Big Creek Parkway to 4.2%.	\$57,000	No	The section of Big Creek Parkway immediately east of SR 400 has been designed to accommodate a future intersection with both a potential connection to Mansell Road and driveway access to a planned expansion of the Kimberly Clark facility. The design team cites NCHRP Report 672 that a steeper grade of 4.2% will create operational problems for this potential placement of a single lane roundabout at this future intersection.
C-4	Lower the Old Holcomb Bridge Road profile to closer match the existing conditions.	\$751,000	Yes	This will be done.

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

Approved:  Date: 7-31-14  
Russell McMurry, PE, Chief Engineer

LLM/RLR/MJS  
Attachments

c: Glenn Bowman/Paul Liles  
Joe Carpenter  
Albert V. Shelby III/Brad Saxon/Robert Murphy/Gerald McDaniel  
Jeff Baker/Marc Mastronardi  
Ben Rabun/Bill Duvall  
Richard O'Hara  
Shun Pringle/Sebastian Nesbitt/Percy Combay  
Ken Werho  
Lily Manavi  
Robert L. Reid Jr./Matt Sanders

Preconstruction Status Report

BIG CREEK PKWY FM W OF SR 140 TO E OF SR 140-INC NEW BRIDGE

0010874

COUNTY: Fulton  
 LENGTH (MI): 1.5  
 PROJ NO: 2030  
 PROJ MGR: Pegram, Vinisha  
 OFFICE: Program Delivery  
 CONSULTANT: Local Design, Local PE funds  
 SPONSOR: Roswell

MPO: Atlanta TMA  
 TIP #: FN-292  
 MODEL YR: 2030  
 TYPE WORK: Roadway Project  
 CONCEPT: New Construction  
 BOND PROJ: Gresham, Smith and Partners  
 DESIGN FIRM:

PRIORITY CD: 7  
 DOT DIST: 6  
 CONG. DIST: N  
 BIKE: N  
 MEASURE: N  
 SUFF:

BASELINE LET DAT: 9/10/18  
 SCHED LET DATE: 2/14/19  
 LIGHTING TYPE: None  
 MGMT LET DATE: 9/15/18  
 MGMT ROW DATE: 12/15/16  
 WHO LETS?: Local Let  
 LET WITH:

BASE START	BASE FINISH	TASKS	ACTUAL START	ACTUAL FINISH	%
12/2/13	11/6/14	Concept Development Summary	1/2/14		0
8/13/14	8/13/14	Concept Meeting			0
8/28/14	8/28/14	PM Submit Concept Report			0
11/6/14	11/6/14	Management Concept Approval Complete			0
1/31/14	8/11/14	VE Study Summary	1/17/14		65%
10/1/14	10/1/14	Public Information Open House Held			0
8/6/14	9/27/16	Environmental Summary			0
2/25/16	4/20/16	Pub Hear Held/Com Resp (EA/FONS/ GEPA)			0
1/7/14	5/28/15	Database Summary	5/30/12		0
5/29/15	12/18/15	Preliminary Roadway Plans			0
9/8/15	4/14/16	Preliminary Bridge Design Summary			0
12/13/17	5/8/18	404 Permit Summary			0
5/16/16	5/16/16	PFPR Inspection			0
6/8/16	7/20/16	R/W Plans Preparation			0
9/28/16	11/28/16	R/W Plans Final Approval			0
6/9/16	6/22/16	L & D Approval			0
10/5/16	6/7/18	ROW Acquisition Summary			0
12/28/16	12/28/16	ROW Authorization			0
9/8/15	6/6/16	Soil Survey Summary			0
4/15/16	1/13/17	BFI Report Summary			0
6/1/16	2/21/17	Final Construction Plans			0
1/17/17	9/29/17	Final Bridge Plans Preparation			0
12/13/17	6/6/18	Buffer Variance Applied for			0
1/3/18	1/3/18	FFPR Inspection			0
6/21/18	6/21/18	Submit Final Plans			0
7/12/18	7/12/18	Construction Authorization			0

100%

COST ESTAMTS		STIP AMOUNTS	
Phase	Approved	Proposed	Cost
PE	2013	2013	\$2,500.00
PE	LOCL	LOCL	\$2,395,800.00
ROW	LOCL	LOCL	\$13,000,000.00
CST	LOCL	LOCL	\$32,000,000.00

Phase	Activity	Cost	Fund
PE	7/23/12	\$0.00	40450
ROW	7/23/12	\$0.00	LOC
CST	7/23/12	\$0.00	LOC

District Comments

Jody Braswell, P.E. (P) 678.518.3655 (M) 678.836.9864 jody\_braswell@gspnet.com  
 Locals are actively working on project and is on schedule. (CRR 5/31/2013) Needs PCRf, coordinating with City to get PCRf 7/14/2014  
 PFA expected back from Roswell week of 9/17/12. (DMB)

Bridge: BRIDGE REQUIRED (LRFD)  
 IS: EAJNotApvd|OnSched|CenforRWA|AuthbyDec16|Caldwell 25.Jul14  
 Ingr Services: VE Letter Approved 7/31/14,  
 GPA: PFA SGN ROSWELL DO PE|CONTRIBUTE \$52,500 TOWARD GDOT IN-HOUSE REVIEW|ROW|UTIL & CST 11-30-12.  
 Planning: In Atlanta constrained RTP (4/10/14)  
 TIP: Project will improve mobility and connectivity within the transportation network. Project will also enhance economic development opportunities locally and within the region.  
 Utility: CC: CERT. PKG. TO SUO 02/14

Parcel CT	71	Total Parcel in ROW System:	Cond Filed:	Acquired by:	N/R	DEEDS CT:
Under Review		Options Pending:	Relocations:	Acquisition MGR:		
Released:		Condemnations - Pend:	Acquired:	R/W Cert Date:		

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** Project Number 0010874 **OFFICE:** Program Delivery  
P.I. No.: 0010874  
Big Creek PKWY FM SR140 to E. of SR40 **DATE:** July 11<sup>th</sup> 2014

**FROM:** Albert V. Shelby III, State Program Delivery Engineer *Albert Shelby*

**TO:** Lisa Myers, State Project Review Engineer  
Attn: Matt Sanders, Value Engineering Specialist

**SUBJECT: RESPONSE TO VALUE ENGINEERING STUDY ALTERNATIVES**

Attached are the responses for the Value Engineering Study. This office concurs with the responses.

If you have any questions, please contact Robert Murphy Project Manager at 404-631-1586

*AVS*  
AVS:BWS:RPM:KN





G R E S H A M  
S M I T H   A N D  
P A R T N E R S

July 1, 2014

Mr. Albert Shelby, III  
State Program Delivery Engineer  
Georgia Department of Transportation  
Office of Program Delivery  
600 West Peachtree Street, 24th Floor  
Atlanta, Georgia 30308

Attn: Robert Murphy, Project Manager

**Subject: Value Engineering Study-Responses  
City of Roswell, Fulton County  
P.I. Number: 0010874  
Big Creek Parkway  
GS&P Project No. 28926.00**

Reference is made to the recommendations that were contained in the *Value Engineering Report –Big Creek Parkway, P.I. 0010874, City of Roswell, Fulton County* dated May 28, 2014 for the above referenced project. Our responses and recommendations are as follows:

**1. Value Engineering Idea No. A-2 – Reduce width of multi-use trail to 10 feet.**

***Disposition Recommendation:***

**AGREE**    **AGREE, WITH MODIFICATIONS**    **DISAGREE**

- The AASHTO Guide for the Development of Bicycle Facilities, 2012 edition, states, *“The appropriate paved width for a shared use path is dependent upon the context, volume and mix of users. The minimum width for a two directional shared use path is 10 ft. Typically, widths range from 10 to 14 ft. with wider values applicable to areas with high use and/or a wider variety of user groups.”*

**Design Services For The Built Environment**



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**2. Value Engineering Idea No. A-3** – Reduce width of multi-use trail on bridges to 8 feet.

**Disposition Recommendation:**

AGREE     AGREE, WITH MODIFICATIONS     DISAGREE

- The AASHTO Guide for the Development of Bicycle Facilities, 2012 edition, states, *“The appropriate paved width for a shared use path is dependent upon the context, volume and mix of users. The minimum width for a two directional shared use path is 10 ft. Typically, widths range from 10 to 14 ft. with wider values applicable to areas with high use and/or a wider variety of user groups.”*
- AASHTO does allow for a reduced width of 8 ft. “in very rare circumstances...where the following conditions prevail:
  - Bicycle traffic is expected to be low, even on peak days or during peak hours.
  - Pedestrian use of the facility is not expected to be more than occasional.
  - Horizontal and vertical alignments provide frequent, well-designed passing and resting opportunities.
  - The path will not be regularly subjected to maintenance vehicle loading conditions.

The implication of the word “prevail” in the guidance implies that several (if not all) of the above conditions will be ordinarily found as described. It is not anticipated that bicycle traffic will be ordinarily low, especially not on peak days or hours. Due to the proximity of residential developments, including two large multi-family developments, it is not expected that pedestrian use will only be occasional. While the bridges are only approximately 1900 feet of the total alignment, they will provide views of SR 400 and the surrounding wooded areas, which will likely invite trail users to stop on the bridge, thus potentially blocking and congesting the crowd. In the absence of designated overlook or rest spots, this behavior will could block a reduced-width trail entirely. It is likely, however, that maintenance vehicles could indeed remain on the roadway and off the trail, as the trail is immediately adjacent to the proposed roadway.

- Reduced path width on the bridge could compromise adherence to each of the above guidance points, reducing the available recovery space on



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the outside of the trail, and limiting the opportunities for sign locations, each of which could be accommodated by stripping off some outer area of the wider trail surface and leaving sufficient operating space open. Even if the trail width was reduced to the absolute minimum of 8 feet, that would need to exclude the minimum shy distance to the bridge railing, necessitating one foot of bridge width beyond the operating width of the trail. When clearance needs are considered, the true lateral requirements of a trail are actually greater on a bridge.

**3. Value Engineering Idea No. A-5 – Eliminate on-road bike lane.**

***Disposition Recommendation:***

**AGREE**    **AGREE, WITH MODIFICATIONS**    **DISAGREE**

- The project is on the Blue Loop, Purple Loop, Brown Loop, and Orange Loop multimodal routes of the Roswell Loop Network as part of the Roswell Transportation Master Plan. The Roswell Loop Network would include the installation the addition of on-street bicycle lanes that connect to existing and other planned facilities.
- According to the Complete Streets Design Policy in the *GDOT Design Policy Manual*, Big Creek Parkway would meet the Bicycle Warrant Standard based on the above consideration.
- The AASHTO Guide for the Development of Bicycle Facilities, 2012 edition, advises that “*provision of a pathway adjacent to the road is not a substitute for the provision of on-road accommodation such as paved shoulders or bike lanes, but may be considered in some locations in addition to bike lanes*”
- Big Creek Parkway will be adjacent or in close proximity to substantial employment and commercial centers (Kimberly Clark headquarters, multiple businesses on Holcomb Woods Parkway, east of Alabama road, and Holcomb Bridge Road establishments) from residential areas, this corridor will serve commuter and shopping trips. The expected heavy use of the pathway by casual recreational bicyclists, school children, and pedestrians will diminish its utility to bicyclists on a schedule.



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**4. Value Engineering Idea No. A-6 – Reduce 5 foot buffer area on trail side to 2 feet.**

***Disposition Recommendation:***

AGREE    AGREE, WITH MODIFICATIONS    DISAGREE

- Reducing the width of the buffer from 5 ft. to 2 ft. effectively nullifies the function of the buffer and would create potential operational issues between the multi-use trail and the adjacent roadway.
- The AASHTO Guide for the Development of Bicycle Facilities, 2012 edition, advises that “*A wide separation should be provided between a two-way sidepath and the adjacent roadway to demonstrate to both the bicyclist and the motorist that the path functions as an independent facility for bicyclists and other users. The minimum recommended distance between a path and the roadway curb (i.e., face of curb) or edge of traveled way (where there is no curb) is 5 ft. (1.5 m). Where a paved shoulder is present, the separation distance begins at the outside edge of the shoulder. Thus, a paved shoulder is not included as part of the separation distance. Similarly, a bike lane is not considered part of the separation; however, an unpaved shoulder (e.g., a gravel shoulder) can be considered part of the separation. Where the separation is less than 5 ft. (0.5 m), a physical barrier or railing should be provided between the path and the roadway. Such barriers or railings serve both to prevent path users from making undesirable or unintended movements from the path to the roadway and to reinforce the concept that the path is an independent facility.*” Therefore, the bicycle lane should not be considered as additional buffer as suggested by the VE Study.

**5. Value Engineering Idea No. A-7 – Eliminate buffer strips on bridges.**

***Disposition Recommendation:***

AGREE    AGREE, WITH MODIFICATIONS    DISAGREE

- Reducing the width of the buffer from 5 ft. to 2 ft. effectively nullifies the function of the buffer and would create potential operational issues between the multi-use trail and the adjacent roadway.
- The AASHTO Guide for the Development of Bicycle Facilities, 2012 edition, advises that “*A wide separation should be provided between a*



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*two-way sidepath and the adjacent roadway to demonstrate to both the bicyclist and the motorist that the path functions as an independent facility for bicyclists and other users. The minimum recommended distance between a path and the roadway curb (i.e., face of curb) or edge of traveled way (where there is no curb) is 5 ft. (1.5 m). Where a paved shoulder is present, the separation distance begins at the outside edge of the shoulder. Thus, a paved shoulder is not included as part of the separation distance. Similarly, a bike lane is not considered part of the separation; however, an unpaved shoulder (e.g., a gravel shoulder) can be considered part of the separation. Where the separation is less than 5 ft. (0.5 m), a physical barrier or railing should be provided between the path and the roadway. Such barriers or railings serve both to prevent path users from making undesirable or unintended movements from the path to the roadway and to reinforce the concept that the path is an independent facility". Therefore, the bicycle lane should not be considered as additional buffer as suggested by the VE Study.*

**6. Value Engineering Idea No. A-10 – Use new alignment for multi-use trail.**

***Disposition Recommendation:***

**AGREE**     **AGREE, WITH MODIFICATIONS**     **DISAGREE**

- This idea would result in a more circuitous routing for pedestrians traveling on Big Creek Parkway for such work-related destinations such as Kimberly-Clark.
- This idea would entail maintenance concerns with extensive use of wooden, ' boardwalk' type structures over wetlands.
- The south side of the existing SR 400 bridge over Big Creek is presently on a narrow, steep slope with riprap protection. Placement of a multi-use trail here will require substantial excavation, retaining walls and a stream buffer variance. Further, sharp horizontal curves on the trail will be needed on both sides of the existing SR 400 bridge that will likely have inadequate stopping sight distance.
- The multi-use trail will need to span over substantial wetlands and stream buffers via the use of boardwalk or open truss bridges. Impacts to these resources will require additional mitigation and permits.



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- A 5 ft. wide sidewalk with 2 ft. grass strip would need to be placed on the north shoulder of Big Creek Parkway in place of the multi-use trail to accommodate local pedestrian access.
- If implemented as above, the above considerations would substantially lessen the cost/benefit for Value Engineering Idea A-10 as follows:

Category	Savings from VE Study Report			Engineer's Estimated Savings		
	Savings	Add'l Cost	Net	Savings	Add'l Cost	Net
Grading	\$2,727,242.00	\$898,000.00	\$1,829,242.00	\$986,753.38	\$967,166.15	\$19,587.23
Paving				\$54,463.50	\$126,575.15	\$(72,111.65)
Retaining Wall				\$0.00	\$88,484.00	\$(88,484.00)
Bridge 1- BCP@Stream				\$1,843,222.22	\$0.00	\$1,843,222.22
Bridge 2- BCP @ SR 400				\$375,000.00	\$0.00	\$375,000.00
Bridge 3- OHBR@Stream				\$173,111.11	\$0.00	\$173,111.11
Pedestrian Truss @Stream				\$0.00	\$500,000.00	\$(500,000.00)
Boardwalk				\$0.00	\$967,500.00	\$(967,500.00)
Right of Way	\$32,000.00	\$100,000.00	\$(68,000.00)	\$0.00	\$207,414.00	\$(207,414.00)
			<b>\$1,761,000.00</b>			<b>\$575,410.91</b>

**7. Value Engineering Idea No. A-12 – Replace 12 foot multi-use trail with 5 foot sidewalk.**

**Disposition Recommendation:**

AGREE     AGREE, WITH MODIFICATIONS     DISAGREE

- The project is on the Blue Loop, Purple Loop, Brown Loop, and Orange Loop multimodal routes of the Roswell Loop Network as part of the Roswell Transportation Master Plan. The Roswell Loop Network would include the installation of multi-use paths next to the road lanes that connect to existing and other planned facilities. Therefore, eliminating the trail through this corridor would diminish the connectivity of the proposed Loop system. Further, replacing the trail with a standard 5 ft.



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sidewalk would also reduce the corridor's attractiveness to many bicyclist cohorts, including children and families from the surrounding residential areas who may wish to access the Big Creek Greenway, the mountain bike trails, or Mimosa Elementary School on Warsaw Road.

- According to the Complete Streets Design Policy in the *GDOT Design Policy Manual*, Big Creek Parkway would meet the Pedestrian Warrant Standard based on the above consideration.

**8. Value Engineering Idea No. A-13 – Shift roundabout south on Warsaw Road.**

***Disposition Recommendation:***

AGREE     AGREE, WITH MODIFICATIONS     DISAGREE

- Relocating the dual lane roundabout on Warsaw Road would place this intersection on a 5.0% grade. Ideally, roundabouts should be placed at locations where the grade slopes mildly away from the center island in all directions or, at a minimum, the grade through the roundabout should be 4.0% or less. Therefore, placing the roundabout on a 5.0% grade may create operational problems with drainage and the ability of vehicles with higher centers of gravity to negotiate the circular roadway.
- Relocating the dual lane roundabout on Warsaw Road to the southwest would also compromise the deflection entries into the circular roadway from the north leg of Warsaw Road and Big Creek Parkway. As noted in NCHRP 672, deflected entries into the roundabout are essential to slow approaching motorists to speeds comparable with motorists in the circular roadway.
- This VE idea would entail placing the roundabout with a large retaining wall closer to the Roswell Creek Apartments. Placing an elevated roadway with a large retaining wall closer to the apartments would likely require a noise study with noise walls and additional public outreach. Further, such a close placement of the roadway may have Environmental Justice ramifications with substantially additional scope and schedule delays.



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- This VE idea would also incur additional impacts to the perennial stream at the intersection and would require additional usage of MSE walls to minimize these impacts.
- If implemented as above, the above considerations would substantially decrease the cost/benefit to be over \$100,000 more expensive than the original project cost as follows:

Category	Savings from VE Study Report			Engineer's Estimated Savings		
	Savings	Add'l Cost	Net	Savings	Add'l Cost	Net
Grading	\$0.00	\$0.00	\$0.00	\$0.00	\$42,000	\$(42,000)
MSE Wall				\$0.00	\$225,676.00	\$(225,676.00)
Right of Way	\$150,000.00	\$0.00	\$150,000.00	\$237,282.50	\$89,820.00	\$147,462.50
			<b>\$150,000.00</b>			<b>\$(120,213.50)</b>

**9. Value Engineering Idea No. A-16a** – Maintain existing Holcomb Woods Parkway; use current layout for connection.

**Disposition Recommendation:**

AGREE     AGREE, WITH MODIFICATIONS     DISAGREE

- The project, including Holcomb Woods Parkway, is on the Blue Loop, Purple Loop, Brown Loop, and Orange Loop multimodal routes of the Roswell Loop Network as part of the Roswell Transportation Master Plan and includes several connector spurs planned along the project to existing multi-use trails in the vicinity. The Roswell Loop Network would include the installation of multi-use paths next to the road and the addition of on-street bicycle lanes. Therefore, terminating the on-street bicycle lanes and the multi-use path at Old Alabama Road and not continuing them along Holcomb Woods Parkway to SR 140/Holcomb Bridge Road would not conform to the City's Transportation Master Plan or provide 'Logical Termini' for bicycle or pedestrian users.
- According to the Complete Streets Design Policy in the GDOT Design Policy Manual, Old Holcomb Woods Parkway would meet the Bicycle and Pedestrian Warrant Standards based on the above consideration.



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- The design year traffic forecasts indicate a two lane section is adequate along Holcomb Woods Parkway. A four lane section is not required.

**10. Value Engineering Idea No. A-16b** – Mill, resurface and restripe outer lane for on-road bike lane.

***Disposition Recommendation:***

AGREE    AGREE, WITH MODIFICATIONS    DISAGREE

- The project is on the Blue Loop, Purple Loop, Brown Loop, and Orange Loop multimodal routes of the Roswell Loop Network as part of the Roswell Transportation Master Plan. The Roswell Loop Network would include the installation the addition of on-street bicycle lanes that connect to existing and other planned facilities. Therefore, this corridor may be expected to provide a more comfortable experience to a broader range of bicyclists. A buffered bike lane within a two lane road will provide a more trail-like experience than an ordinary bike lane within a four-lane road.

**11. Value Engineering Idea No. A-16c** – Construct additional width sidewalk for 12 foot wide multi-use trail.

***Disposition Recommendation:***

AGREE    AGREE, WITH MODIFICATIONS    DISAGREE

- The feasibility of converting an existing sidewalk into a trail would need to be carefully considered, as it is not simply a matter of widening. Bicycling on sidewalks by adults is illegal in Georgia. Simply widening the sidewalk and calling it a sidepath is discouraged by the AASHTO Guide for the Development of Bicycle Facilities. AASHTO also explicitly states that *“(i)t is important to recognize that the development of extremely wide sidewalks does not necessarily add to the safety of sidewalk bicycle travel. Wide sidewalks might encourage higher speed bicycle use and can increase potential for conflicts with motor vehicles at intersections, as well as with pedestrians and fixed objects”*.
- The conversion of the sidewalk to a trail will require widening the buffer to 5 feet or providing a barrier. It would also require the careful re-design of the intersections and driveway approaches to mitigate the known



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operational concerns associated with sidepaths, documented on Section 5.2.2 of the AASHTO Bike Guide, and in accordance with the guidance outlined in Section 5.3.4 of the Bike Guide. Any sidepath, especially one with the steep grades, winding alignment, and frequent driveways found on Holcomb Woods Parkway should be designed to:

- reduce the speeds of both path users and motorists at conflict points; and
- provide adequate sight distance (appropriate to both motor vehicle and bicycle design speeds) in advance of conflict points; and
- include supplemental traffic control to remind all operators of their respective yielding obligations.
- Converting the existing sidewalk into a trail will require a design that accommodates bicycle operating characteristics, determined by higher design speeds, which in turn will necessitate specific minimum radii for horizontal curves, which could require acquisition of additional right-of-way. Providing the necessary visibility in advance of driveway crossings may also require removal of obstructions outside the existing right-of-way (trees, monument signs, etc.). Managing the speeds of motorists may require the introduction of traffic calming measures to the roadway. Managing the speeds of bicyclists may require alignment shifts, such as approach chicanes, which may require additional right-of-way to be effective.

**12. Value Engineering Idea No. A-16d** – Construct on-road bike lane and 12 foot trail; combine b and c.

***Disposition Recommendation:***

AGREE     AGREE, WITH MODIFICATIONS     DISAGREE

- See responses for Value Engineering Ideas A-16b and A-16c.



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**13. Value Engineering Idea No. A-20** – Realign Big Creek crossing for minimal environmental impacts.

***Disposition Recommendation:***

**AGREE**    **AGREE, WITH MODIFICATIONS**    **DISAGREE**

- Placing an elevated roadway with a large retaining wall so close to the adjacent Aspen Pointe apartments would likely require a noise study with noise walls, additional public outreach and cost to cures (displaced recreation area, etc.). Further, such a close placement of the roadway may have Environmental Justice ramifications with substantially additional scope and schedule delays.
- The alignment crossing over the stream at such a skewed angle necessitates a roughly 200 ft. long span. This span would need to be steel instead of concrete due to the lengths involved, would cost more to construct, and would require a more complicated design than the scoped bridge design.
- The estimated wetland impacts on A-20 are a substantial increase of 0.92 acre of wetland fill impacts.
- Additional stream impacts are incurred on Stream 18 and would require additional use of MSE retaining walls.
- If implemented as above, the above considerations would substantially lessen the cost/benefit for Value Engineering Idea A-20 as follows:



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Category	Savings from VE Study Report			Engineer's Estimated Savings		
	Savings	Add'l Cost	Net	Savings	Add'l Cost	Net
Grading	\$5,433,037.00	\$68,787.00	\$5,364,250.00	\$318,180.00	\$519,083.68	\$(200,903.68)
Paving				\$158,105.49	\$225,865.94	\$(67,760.45)
Cub and Gutter				\$16,464.88	\$22,470.24	\$(6,005.36)
MSE Wall				\$555,390.00	\$1,411,750.89	\$(856,360.89)
Bridge 1- BCP@Stream				\$4,104,766.67	\$0.00	\$4,104,766.67
Bridge 3- OHBR@Stream				\$0.00	\$1,331,666.67	\$(1,331,666.67)
Sound Barrier				\$0.00	\$179,850.00	\$(179,850.00)
Right of Way				\$0.00	\$250,000.00	\$(259,000.00)
<b>\$5,114,000</b>				<b>\$1,706,082.85</b>		

**14. Value Engineering Idea No. A-21** – Use a TEE intersection for Old Holcomb Bridge Road connection.

**Disposition Recommendation:**

AGREE     AGREE, WITH MODIFICATIONS     DISAGREE

- Placing an elevated roadway with a large retaining wall so close to the adjacent Aspen Pointe apartments would likely require a noise study with noise walls, additional public outreach and cost to cures (displaced recreation area, etc.). Further, such a close placement of the roadway may have Environmental Justice ramifications with substantially additional scope and schedule delays.
- While this option eliminates the need for a bridge on Old Holcomb Bridge Road Extension and omits the left turn lane on the bridge over the Big Creek stream, the bridge over SR 400 will need to be widened to accommodate a left turn lane for the Old Holcomb Bridge Road Extension.
- Driveway access will need to be provided off of Big Creek Parkway to access the cellular tower facility adjacent to the Big Creek stream and SR 400.



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- If implemented as above, the above considerations would lessen the cost/benefit for Value Engineering Idea A-21 as follows:

Category	Savings from VE Study Report			Engineer's Estimated Savings		
	Savings	Add'l Cost	Net	Savings	Add'l Cost	Net
Grading	\$2,853,992.00	\$702,225.00	\$2,151,767.00	\$309,385.89	\$184,871.35	\$124,514.55
Paving				\$241,063.32	\$195,632.76	\$45,430.55
Curb and Gutter				\$37,007.20	\$22,160.00	\$14,847.20
MSE Wall				\$141,552.00	\$1,593,060.48	\$(1,451,508.48)
Side Barrier				\$37,792.00	\$0.00	\$37,792.00
Bridge 1- BCP@Stream				\$544,222.22	\$0.00	\$544,222.22
Bridge 2- BCP @ SR 400				\$2,325,000.00	\$(2,280,000.00)	\$45,000.00
Bridge 3- OHBR@Stream				\$1,767,777.78	\$0.00	\$1,767,777.78
Right of Way	\$176,800.00	\$0.00	\$176,800.00	\$1,777,215.00	\$1,116,410.00	\$660,805.00
<b>\$2,329,000</b>				<b>\$1,609,030.82</b>		

**15. Value Engineering Idea No. A-23** – Use Old Alabama Road for connection to Holcomb Bridge Road.

**Disposition Recommendation:**

AGREE     AGREE, WITH MODIFICATIONS     DISAGREE

- See responses for Value Engineering Ideas A-16b and A-16c.

**16. Value Engineering Idea No. C-1** – Steepen side-slope from 4:1 to 2:1.

**Disposition Recommendation:**

AGREE     AGREE, WITH MODIFICATIONS     DISAGREE



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**17. Value Engineering Idea No. C-3** – Review Big Creek Parkway profile; steepen grade to 4.2%.

***Disposition Recommendation:***

**AGREE**     **AGREE, WITH MODIFICATIONS**     **DISAGREE**

- As mentioned under the *Commitments* portion of the VE Study Constraints & Commitments form, the section of Big Creek Parkway immediately east of SR 400 has been designed to accommodate a future intersection with both a potential connection to Mansell Road (Big Creek Phase 3) and driveway access to a planned expansion of the Kimberly-Clark facility.
- A profile grade of 4.2% may create operational problems for the potential placement of a single lane roundabout at the aforementioned future intersection. According to the guidelines of NCHRP Report 672, Roundabouts - An Informational Guide, *“The outward cross-slope design means vehicles making through and left-turn movements must negotiate the roundabout at negative superelevation. Excessive negative superelevation can result in an increase in single-vehicle crashes and loss of-load incidents for trucks, particularly if speeds are high. However, in the intersection environment, drivers will generally expect to travel at slower speeds and will accept the higher side force caused by reasonable adverse superelevation.”*

**18. Value Engineering Idea No. C-4** – Lower Old Holcomb Bridge Road profile.

***Disposition Recommendation:***

**AGREE**     **AGREE, WITH MODIFICATIONS**     **DISAGREE**



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