Attachment D

VALUE ENGINEERING

FY 2011

Value Engineering is a formal process that breaks projects into functions utilizing a team of experts to identify solutions that satisfy the functions. It is a process that can improve quality, constructability, and lower life-cycle costs. It is a tool used in project development. Value Engineering is an innovative way to change the way we think.

Value Engineering is:

- Function based analysis
- Multi-discipline team approach
- Systematic problem solving process
- Life-cycle cost oriented
- Value oriented
- Free of normal design restrictions
- A proven management technique

During a Value Engineering Study, the VE Team will question design policies, review alternate horizontal and vertical alignments, review alternate methods of construction, and review different materials for bridges and pavement. The team will perform Life Cycle Cost Analysis when appropriate. The team will review the need and purpose of the project, historical accident data, access points, staging and earthwork. Changes to the typical sections and lane widths will also be considered.

As more and more projects go through the Value Engineering process, a list of common recommendations has been created:

- Refine vertical profile and horizontal alignment
- Use 11 foot lanes
- Modify median width and type
- Minimize side road work
- Narrow shoulders
- Modify drainage
- Modify bridges and walls
- Modify sidewalk and multi-use trails
- Modify turn lanes

The Value Engineering program at the Georgia Department of Transportation began in 1996. In 1998, FHWA adopted a Value Engineering regulation that required VE Studies for all Federally funded projects on the National Highway System (NHS) over $25 million. In 1998, GDOT created their VE Policy. From 1998 to 2002, GDOT averaged 5 studies per year. From 2002 to 2005 this increased to 15 studies per year. In 2005, SAFETEA-LU eliminated the NHS requirement and required VE Studies for all Federal Aid projects. From 2005 to 2008, GDOT averaged 30 studies per year. In 2008, SB 417 lowered the threshold to $10 million. No exemptions were made for funding type; therefore, state funded projects now require VE Studies as well.

In 2005, 13 VE Studies were conducted by GDOT. The total savings were $84 million. For every dollar spent on VE, GDOT saved $300. In 2006, 26 VE Studies were conducted. The total savings were $13 million. For every dollar spent on VE, GDOT saved $23. The savings decreased from the previous year because of the SAFETEA-LU changes. Many projects were in the final design stages when their VE Studies were held. It is more difficult and costly to implement recommendations and make changes to project plans as design progresses. It will also delay the letting of the project. In 2007, 48 VE Studies were conducted. The total savings were $90 million. For every dollar spent on VE, GDOT saved $102.

In 2008, 39 VE Studies were conducted on projects over $25 million. An additional 2 VE Studies were conducted to review design policies. A total of 55 VE Studies were implemented, including many studies that were held the previous year. There were 639 recommendations, of which 304 were implemented. The total savings were $295 million. For every dollar spent on VE, GDOT saved $138.

In 2009, 90 VE Studies were conducted. Thirty seven of the projects were over $25 million. Fifty three of the projects were over $10 million but less than $25 million. A total of 85 VE Studies were implemented, including several studies that were held the previous year. There were 738 recommendations, of which 297 were implemented. The total savings were $162 million. For every dollar spent on VE, GDOT saved $73.

In 2010, 44 VE Studies were conducted. Twenty three of the projects were over $25 million. Twenty one of the projects were over $10 million but less than $25 million. A total of 53 VE Studies were implemented, including several studies that were held the previous year. There were 481 recommendations, of which 255 were implemented. The total savings were $270 million. For every dollar spent on VE, GDOT saved $217.

In 2011, 30 VE Studies were conducted. Thirteen of the projects were over $25 million. Seventeen of the projects were over $10 million but less than $25 million. A total of 27 VE Studies were implemented, including two studies that were held the previous year. There were 257 recommendations, of which 135 were implemented. The total savings were $47 million. For every dollar spent on VE, GDOT saved $55.

The Georgia Department of Transportation won two of the nine awards at the American Association of State Highway Officials (AASHTO) Value Engineering Conference in New Orleans in September 2011. The SR 36 Passing Lanes and Flint River Bridge replacement project in Upson and Talbot Counties won the national first place pre-construction award in the projects less than $25 million category. The Northwest Corridor project in Cobb and Cherokee Counties won the national honorable mention pre-construction award in the projects greater than $75 million category. Georgia was the only state to win two awards.

The following is a list of projects with Value Engineering Studies held and implemented in FY 2011:

- SR 11/US 41 from SR 49 to CR 535/Houston Lake Road in Houston and Peach Counties
- SR 520/Clark Avenue and Ramp Improvements in Dougherty County
- East/West One-Way Pair in McDonough in Henry County
- Cable Barrier Projects in Meriwether, Coweta, Harlason, Carroll, Douglas, Clayton, Peach, Bibb, Twiggs, Bleckley, Dawson and Lumpkin Counties
- SR 225 @ Coosawattee River Bridge in Gordon County
- Leesburg North Bypass in Lee County
- CR 787/Islands Expressway Bascule Bridge in Chatham County
- Northside Drive Safety Improvements in Fulton County
- SR 42/US 23 from SR 138 to I-675 in Clayton and Henry Counties
- New Oconee River Crossing in Laurens County
- SR 49 Drainage Improvements in Peach County
- SR 49 from Felton Road to Milledgeville Bypass in Baldwin County

- SR 1/US 27 from Veterans Highway to Old Dalton Road in Floyd County
- Courtland Street @ CSX RR Bridge Replacement in Fulton County
- SR 32 @ Flint River and Overflow Bridge in Lee and Worth Counties
- US 1/SR 4 corridor in Toombs County
- SR 91 and SR 520/US 82 Interchange in Dougherty County
- I-75 Managed and Auxiliary Lane in Henry County
- SR 60 from SR 136 to CR 158 in Hall County
- SR 3/US 41/Cobb Pkwy from Paces Mill Road to Akers Mill Road in Cobb County
- Sardis Road Connector in Hall County
- Encore Parkway Streetscape in Fulton County
- CS 650/Grange Road from SR 21 to SR 25 in Chatham County
- SR 83 Connector in Walton County
- Hillcrest Parkway Widening in Laurens County

The following is a list of projects with Value Engineering Studies held in FY 2010 and implemented in FY 2011:

- SR 30/US 280 @ Oconee River and Overflows in Montgomery and Wheeler Counties
- SR 166 @ Chattahoochee River in Douglas and Fulton Counties

The following is a list of projects with Value Engineering Studies held in FY 2011 and implementation pending in FY 2012:

- I-20 @ Savannah River in Richmond County
- Revive 285 Top End in Cobb Fulton DeKalb Counties
- I-285 East to I-75 South Ramp Alignment in Clayton County
- CR 253/Godby Road Widening in Clayton County
- Johnson Ferry/Glenridge Dr. Corridor in Fulton County