





Using the ICE 2.0

to Conduct Intersection Control Evaluations

Training Workshop


August 2017

Jonathan Reid, PE PTOE

Purpose of ICE Tool

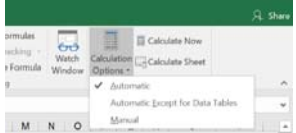

- Tool goal: provide a **simplified and consistent way** of using data to assess and quantify intersection control benefits
 - Traffic
 - Safety
 - Cost
 - Environmental Impact
 - Stakeholder Posture
- Support ICE policy to provide **traceability, transparency, consistency and accountability** when identifying and selecting intersection control
- Reduce time required to analyze and compare multiple intersection alternatives
- Select alternative that **reflects the overall best value** in terms of specific performance-based criteria.



What the ICE Tool is NOT

- Not viable for 100% of alternative studies due to extent of control possibilities and geometric variabilities
- A determinate of final project cost for the preferred alternative
- A replacement for good engineering judgment in evaluating alternatives

NOTE: Before you get started, make sure that Calculation Options (under FORMULAS tab) is set to Automatic calculations

Case Study: SR 22 @ Fulton Mill Road

- Rural intersection in Bibb County, GA
- Minor stop, skewed intersection with high-crash history (1 fatality)
- SR 22 is four-lane median-divided highway; narrows to two lanes west of Fulton Mill Intersection
- Not exact representation - liberties taken to illustrate tool functions











Intersection Control Evaluation

ICE 2.0 TOOL – INTRODUCTION

SAMPLE BLANK INTRODUCTION WORKSHEET

Always fill out the INTRODUCTION tab first, whether completing a full ICE analysis (Stage 1 and Stage 2) or the WAIVER form



ICE 2.0
Georgia Department of Transportation

ICE 2.0
Version 2.0
 Revised 1/1/2017

GDOT PI # (or NA)	County	Requested By	Date
Major (State) Road		GDOT District #/NA	Area Type
Minor (Crossing) Road		Prepared By	Analyst
Project Purpose		Project ID	

Introduction In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each State prepare a Strategic Highway Safety Plan (SHSP) by which to prioritize safety funding investments. Intersections quickly became a common component of a majority of States' SHSP emphasis areas and HSIP project lists, including in Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a transparent and repeatable procedure to streamline the evaluation of intersection control alternatives, and to further leverage the safety advancements noted above for intersection improvements beyond just the safety program. As approximately one-third of all traffic fatalities and roughly seventy-five percent of all traffic crashes in Georgia occur at or adjacent to intersections, the Georgia SHSP includes an emphasis on enhancing intersection safety in order to advance toward the Toward Zero Deaths vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety toward those ends.

Tool Goal The goal of this ICE tool is to provide a simplified and consistent way of using traffic, safety, cost, environmental impact and political support data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets the project purpose and reflects the overall level value in terms of specific performance-based efforts.

Requirements An ICE is required for any intersection improvement to (e.g., a new intersection, an intersection modification, widening/reconstruction or corridor project), or work accomplished through a diversity or encouragement permit that affects an intersection) where (1) the intersection activities at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System, and/or (2) the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. Please see the "Waiver" tab to review criteria that may make a project waiver eligible and how to submit a waiver request to the Department. An ICE is not required when the proposed work involved does not include any changes to the intersection design, for instance, a project limited only to "red" and "W" pavement resurfacing with no change to intersection geometry or control, or routine traffic signal timing (not to include adding a phase) and equipment maintenance.

Two-Stage Process A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed to keep data input to a minimum, requiring limited data entry and drop-down menu choices. All fields shaded gray include drop-down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked to prohibit editing data or calculations.

Stage 1: Stage 1 is conducted as early in the project development process as possible and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to eliminate non-competitive options and identify which alternatives merit further consideration based on their practical feasibility. Users should use good engineering judgment in responding to screen policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2: Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of an alternative, a preferred alternative that may be advanced to detailed design. The data entry is similar in process to Stage 1 but is more robust, requiring separate analysis of each alternative to determine cost, impacts, operations, safety and project support. A separate "Decision Instructions" tab is provided to provide guidance to the user on data entry and a separate "Cost Estimate" tab aids in developing project alternative costs. Once all the data is entered, a score and ranking of each alternative is calculated and reported on the bottom line of the worksheet to return on the best intersection treatment to select as the preferred alternative.

Documentation A complete ICE document consists of the combination of the outputs from both Stage 1 and Stage 2 along with supporting documentation, to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

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GDOT Georgia Department of Transportation

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL ICE Version 2.0
Revised 7/10/2017

GDOT PI # (or N/A): County: Requested By: Date:

Major (State) Road: GDOT District: #N/A Area Type:

Minor (Crossing) Road: Prepared By: Analyst:

Project Purpose: Project ID:

Introduction In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each State prepare a Strategic Highway Safety Plan (SHSP) by which to prioritize safety funding investments. Intersections quickly became a common component of a majority of States' SHSP emphasis areas and HSIP project lists, including in Georgia's SHSP. Intersection

INTRODUCTION tab has fields to fill in project info including project numbers, date, road names, analyst and purpose

General note: BLUE fields indicate data entry required; GREY fields contain drop-down lists

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GDOT Georgia Department of Transportation

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GDOT PI # (or N/A): 0013332 County: Requested By: Date:

Major (State) Road: GDOT District: 3 - Thomaston Area Type:



Minor (Crossing) Road: Prepared By: Analyst:


Project Purpose: Project ID:

Introduction In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each State prepare a Strategic Highway Safety Plan (SHSP) by which to prioritize safety funding investments. Intersections quickly became a common component of a majority of States' SHSP emphasis areas and HSIP project lists, including in Georgia's SHSP. Intersection

Selecting County (drop down menu) auto-populates GDOT District

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GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

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GDOT PI # (or N/A) 0013332

County: Bibb

Requested By: District Engineer

Date:

Major (State) Road:

GDOT District: 3 - Thomaston

Area Type:

Minor (Crossing) Road:

Prepared By:

Analyst:

Project Purpose:

Project ID:

Introduction In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each State prepare a Strategic Highway Safety Plan (SHSP) by which to prioritize safety funding investments. Intersections quickly became a common component of a majority of States' SHSP emphasis areas and HSIP project lists, including in Georgia's SHSP. Intersection

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Revised 7/10/2017

GDOT PI # (or N/A) 0013332

County: Bibb

Requested By: District Engineer

Date: 7/17/2017

Major (State) Road:

GDOT District: 3 - Thomaston

Area Type:

Minor (Crossing) Road:

Prepared By:

Analyst:

Project Purpose:

Project ID:

Introduction In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each State prepare a Strategic Highway Safety Plan (SHSP) by which to prioritize safety funding investments. Intersections quickly became a common component of a majority of States' SHSP emphasis areas and HSIP project lists, including in Georgia's SHSP. Intersection

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GDOT PI # (or N/A): 0013332 County: Bibb

Requested By: District Engineer Date: 7/17/2017

Major (State) Road: SR 22

GDOT District: 3 - Thomaston Area Type:

Minor (Crossing) Road: Fulton Mill Road



Prepared By: Analyst:


Project Purpose:

Project ID:

Introduction In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each State prepare a Strategic Highway Safety Plan (SHSP) by which to prioritize safety funding investments. Intersections quickly became a common component of a majority of States' SHSP emphasis areas and HSIP project lists, including in Georgia's SHSP. Intersection

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GDOT PI # (or N/A): 0013332 County: Bibb

Requested By: District Engineer Date: 7/17/2017

Major (State) Road: SR 22

GDOT District: 3 - Thomaston Area Type: Rural

Minor (Crossing) Road: Fulton Mill Road

Prepared By: Analyst:



Project Purpose:



Project ID:



Introduction In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each State prepare a Strategic Highway Safety Plan (SHSP) by which to prioritize safety funding investments. Intersections quickly became a common component of a majority of States' SHSP emphasis areas and HSIP project lists, including in Georgia's SHSP. Intersection


Selecting correct area type is important as it impacts analysis and cost estimates

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GDOT PI # (or N/A)	0013332	County:	Bibb	Requested By:	District Engineer	Date:	7/17/2017
Major (State) Road:	SR 22	GDOT District:	3 - Thomaston	Area Type:	Rural		
Minor (Crossing) Road:	Fulton Mill Road	Prepared By:	Arcadis	Analyst:	J. Reid		
Project Purpose:					Project ID:		
<p>Introduction In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each State prepare a Strategic Highway Safety Plan (SHSP) by which to prioritize safety funding investments. Intersections quickly became a common component of a majority of States' SHSP emphasis areas and HSIP project lists, including in Georgia's SHSP. Intersection</p>							
<div> Introduction Instructions Intersections Stage1 Stage2 Waiver Enviromental CostEstimate </div>							

				GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL		<small>ICE Version 2.0 Revised 7/10/2017</small>	
GDOT PI # (or N/A)	0013332	County:	Bibb	Requested By:	District Engineer	Date:	7/17/2017
Major (State) Road:	SR 22	GDOT District:	3 - Thomaston	Area Type:	Rural		
Minor (Crossing) Road:	Fulton Mill Road	Prepared By:	Arcadis	Analyst:	J. Reid		
Project Purpose:	Improve safety at intersection of multi-lane hwy at skewed, stop-controlled minor street				Project ID:		
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GDOT PI # (or N/A):	0013332	County:	Bibb	Requested By:	District Engineer	Date:	7/17/2017
Major (State) Road:	SR 22	GDOT District:	3 - Thomaston	Area Type:	Rural		
Minor (Crossing) Road:	Fulton Mill Road	Prepared By:	Arcadis	Analyst:	J. Reid		
Project Purpose:	Improve safety at intersection of multi-lane hwy at skewed, stop-controlled minor street					Project ID:	3013

Introduction In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each State prepare a Strategic Highway Safety Plan (SHSP) by which to prioritize safety funding investments. Intersections quickly became a common component of a majority of States' SHSP emphasis areas and HSIP project lists, including in Georgia's SHSP. Intersection


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Intersection Control Evaluation


ICE 2.0 TOOL – INSTRUCTIONS & INTERSECTIONS



**INSTRUCTIONS TO
FILL OUT
INTRODUCTION,
STAGE 1 & 2
WORKSHEETS**

How to Use the Intersection Control Evaluation (ICE) Tool: Introduction & Stages 1 and 2

ICE Version 2.0
Revised 7/16/2017



Step 1: On the "Introduction Tab", read the goals and process of the ICE tool, and enter general project information in the boxes at the top of the sheet that will be carried to other worksheets. Note that blue fields indicate a text response is needed and grey fields have drop-down menu choices.

Step 2: On the "Stage 1" tab, answer the seven policy questions for each unsignalized and signalized intersection type (see "Intersection Descriptions" tab for a detailed description of each intersection type) using drop-down menu choices "Yes" or "No". Use the right-most column to indicate why each intersection type should (or should not) be evaluated further in Stage 2 of the ICE process. If the answer to the 7th question is "Yes", the alternative will be highlighted green and be directly imported into the Stage 2 Decision Record for further evaluation. If a desired intersection control or improvement type is not in the drop-down menu, use the bottom row to write in a description.

ICE Waiver: Skip directly to the "ICE Waiver" tab if there is a justification why a project should not require an ICE evaluation (see criteria on tab). Fill in the intersection information, project specific operations and safety data and provide a written justification in the box at the bottom of the waiver worksheet. Once completed, submit as part of a TE study or driveway permit request for GDOT review and concurrence signature.

Step 3: On the "Stage 2" tab, enter specific data (as described below) for each alternative carried forward from Stage 1. Alternatives are scored (on a scale of 0 to 10) and ranked based on cost, operations, safety, environmental and political data entered. The highest score at the bottom of the worksheet is considered the best choice for intersection control among the alternatives considered.

General note: BLUE fields indicate data entry required. GREY fields contain drop-down lists.

Choose existing intersection condition from drop-down and type of analysis (Safety or Conventional / Funded project).

Enter PVO, injury & fatal crash data by type (most recent 5-year period available).

Control type improvement advanced from Stage 1

Provide construction, ROW, utility & environmental mitigation cost data for each alternative (Stages including PE and contingency will auto sum).

Provide design year daily & V/C data for each alternative and select analysis tool(s) used.

Use predefined Crash Reduction Factor (if available) for each control type for both PVO and injury/fatal crashes - CRR - input user defined CRR and ensure it will supersede provided values. A predefined CRR = 0% indicates no current CRR is available. CRRs are percent of crashes expected to be REMOVED by change in control type.

Provide known environmental impacts in several categories for each alternative. For severe impacts, cell will turn RED indicating need for separate justification (see LWR worksheet) to show that impact will not jeopardize project delivery.

Political Factor: "Strong" if local GDOT follows letter of support received; "Supportive" if general positive feedback about control type is received; "Neutral" if general negative feedback about control type is received; "Opposition" if formal opposition to project is received.

Final score and ranking of each alternative (AIWSC or Signal not warranted, no result is provided).

Enter explanation of non-topical data entry and/or why top highest scoring alternative is recommended.

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**INSTRUCTIONS TO
FILL OUT COST
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How to Use the Intersection Control Evaluation (ICE) Tool: Cost Estimates

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Row 10-11: Input limits of construction (the length of roadway impacted on main and crossing streets). This value is important to determine quantities by LF.

Row 12: Select the proposed type of pavement construction (full depth, mill & overlay or no work).

Row 13-16: Input number of vehicles impacted, and each new signal lighting pole & signalized pedestrian crossing for under each control type.

Row 17-21: Input linear foot of sidewalk, crosswalks, guardrail and retaining wall estimated for each control type (geometric change, enter sig of new or existing bridge if required under any alternative).

Row 22: ROW impacts are predetermined based on control type & ROW data from the Existing Conditions table. However, any structure encroachments should be monitored and a dollar amount entered here.

Row 24-27: Use proposed control type/improvement table (rows 24-27) to estimate roadway areas for "other alternatives". By default, existing geometry data is duplicated, and changed geometry will turn red (in the green example, adding 1' lanes on the main road).

General note: BLUE fields indicate data entry required. GREY fields contain drop-down lists.

Row 28-30: Select contingency and engineering % applied to all control types, grading, traffic control & safety percentages (applied to total construction cost) are calculated based on input values.

Impacts: Select the general topography at level, rising or steep grade terrain, how construction will be staged, and the level of expected utility impacts. These impact the cost multiplier percentages.

ROW Costs: The ROW costs and multipliers are based on county & location type. Rows do not include easement or any structure displacement (should be added in Row 22 for each specific alternative).

Intersection Roundabout Data: User inputs (piles, bascos, design width, roundabout dimensions) that drive costs.

Final Costs: The final cost estimate for each control type is carried into the Stage 2 worksheet. Note that environmental costs are estimated based on the number and severity of impacts identified in the Stage 2 worksheet. If the cost estimate seems low or high, users can adjust costs by a percentage factor (or override all cost inputs if better estimates are available). Any changes in the cost estimate triggers an override message and the cost deduction must be documented in the comments at the bottom of the worksheet.

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Intersection Control Types

<u>Unsignalized</u>	<u>Signalized</u>
<ul style="list-style-type: none"> • Minor Stop • All-Way Stop • Mini Roundabout • Single Lane Roundabout • Multilane Roundabout • RCUT • RIRO w/downstream U-Turn • High-T • Offset-Tee Pair • Other 	<ul style="list-style-type: none"> • Signal w/turn lanes mainline • Median U-Turn • Superstreet • Displaced Left Turn (CFI) • Continuous Green-Tee • Jughandle • Quadrant Roadway • Diverging Diamond • Single Point Interchange • Other

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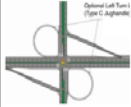











Click on image to link to design publications

Click on intersection control type images for additional FHWA resource publications

ICE Version 2.0 Revised 7/10/2017

Unsignalized At-Grade Intersections		Signalized At-Grade Intersections	
 <p>Conventional Minor Street or All-Way Stop: The most common types of intersections, generally 2-leg or 4-leg, includes unsignalized (i.e. stop control, partial or all-way) and signalized. At a conventional 4-leg intersection there are 32 baseline conflict points.</p>	 <p>Offset Tee: The Offset T-intersection separates minor street approaches and offsets the intersection by a distance. This causes through movements on the minor route to be diverted to rightturns followed by leftturns (or vice versa). The offset tee has a total of 18 baseline conflict points.</p> <p><i>Also known as:</i> Paired Intersection</p>	 <p>Continuous Green Tee: A continuous green tee intersection is a signalized 3-leg intersection that features raised channelization that separates the "top" through movement from the other signal controlled movements at the intersection, enabling the top-through movement to operate continuously. A continuous green tee intersection has 9 baseline conflict points (the same as a conventional 3-leg).</p>	 <p>Jughandle: A Jughandle intersection uses a grade ramp connector between intersecting roadways to facilitate indirect leftturns and/or U-turns. The Jughandle connector can be located prior to the main intersection (Type A, comparable to a short diamond-style ramp) or after the intersection (Type C, comparable to a loop-style ramp). A Jughandle has 18 baseline conflict points.</p> <p><i>Also known as:</i> Jersey Left</p>
 <p>Mini, Single and Multi-Lane Roundabouts: Circulating traffic has priority with entries controlled by yield. Geometry allows all traffic into and thru the roundabout. Single lane & mini's have 1 circulating lane; multi-lane roundabouts have 2 or more circulating lanes. A mini roundabout has a smaller diameter and a fully reversible median island. At a 4-leg roundabout there are 8 baseline conflict points.</p> <p><i>Also known as:</i> Modern Roundabout</p>	 <p>Signalized Intersection: The most common types of intersections, generally 3-leg or 4-leg, includes unsignalized (i.e. stop control, partial or all-way) and signalized. At a conventional 4-leg intersection there are 32 baseline conflict points.</p>	 <p>Quadrant Roadway Intersection (QRI): A roadway in one intersection quadrant is used to eliminate all direct leftturn movements from the main intersection by re-routing them to turn to and from the quadrant roadway. The QRI relies on coordinated signalization of the main and two T-intersections. The QRI has 25 baseline conflict points.</p>	 <p>Interchanges with Signalized Ramp Terminals:</p> <p>Diverging Diamond Interchange (DDI): All traffic crosses over to the left side of the roadway between the interchange ramp terminals to take advantage of the one-way directional ramp geometry, eliminating left turn across opposing traffic before the ramps, before crossing back over. A DDI has 14 baseline conflict points.</p> <p><i>Also known as:</i> Double Crossover Diamond</p>
 <p>Reversible/Continuous U-Turn/RCUT: Movements from the major route are typically unaffected; minor route through and left movements are re-routed as right turns followed by U-turns. An RCUT intersection has 14 baseline conflict points.</p> <p><i>Also known as:</i> "Jawn" intersection</p>	 <p>Median U-Turn (MU/T): Left turn movements otherwise occurring at the main intersection are accommodated by U-turns in the median, preceding or following rightturns. May be partial (U-turns on major route only) or full (U-turns on both roads). The Boulder variant of a MU/T uses roundabouts on minor streets to accommodate U-turns. A conventional MU/T has 16 baseline conflict points.</p> <p><i>Also known as:</i> Indirect Left, Michigan Left</p>	 <p>Signalized BCUT: Minor route through and left movements are re-routed as rightturns followed by U-turns. Movements from major route are typically unaffected. An RCUT intersection has 14 baseline conflict points.</p> <p><i>Also known as:</i> Superstreet</p>	

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Unsignalized At-Grade Intersections

Conventional Minor Street or All-Way Stop:
The most common types of intersections, generally 3-leg or 4-leg, includes unsignalized (i.e., stop control, partial or all-way) and signalized. At a conventional 4-leg intersection there are 32 baseline conflict points.



Mini, Single and Multi-Lane Roundabouts: Circulating traffic has priority with entries controlled by yield. Geometry slows all traffic into and thru the roundabout. Single lane & mini's have 1 circulating lane, multi lane roundabouts have 2 or more circulating lanes. A mini roundabout has a smaller diameter and a fully traversable median island. At a 4-leg roundabout there are 8 baseline conflict points.



Restricted Crossing U-Turn (RCUT): Movements from the major route are typically unaffected, minor route through and left movements are re-routed as right turns followed by U-turns. An RCUT intersection has 14 baseline conflict points.



RRD w/Overlapping U-Turn: Minor route through and left movements are re-routed as right turns followed by U-turns. Left turns from the major street must make a U-turn followed by a right turn to reach the cross street. A RRD U-Turn intersection has 8 baseline conflict points.





U.S. Department of Transportation
Federal Highway Administration

Officialized 7/10/2017





RESTRICTED CROSSING U-TURN INTERSECTION

Informational Guide

August 2014

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Intersection Control Evaluation

ICE 2.0 TOOL – STAGE 1

GDOT
Georgia Department of Transportation

SAMPLE BLANK FULL STAGE 2 WORKSHEET

GDOT ICE STAGE 1: SCREENING DECISION RECORD

GDOT PI #: 000000
 Project Location: 0
 Prepared by: 0
 Analyst: 0
 Date: 1/1/2020

ICE Version 2.0
Revised 7/10/2017

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record. Enter justification in the rightmost column.
 Note: Up to 5 alternatives may be selected and evaluated; use additional ICE Tool sheets when evaluating more than 5 alternatives.

Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)	1 Does alternative address the project need in a balanced manner and fit with the project?	2 Does alternative improve safety performance (e.g., crash rate, etc.)?	3 Does alternative improve travel time and/or delay?	4 Does alternative improve operational performance (e.g., queue length, etc.)?	5 Does alternative appear feasible given the site characteristics, constraints, conditions, etc.?	6 Does alternative appear feasible with respect to other project factors?	7 Overall feasible alternative for further evaluation in Stage 2?	Screening Decision Justification:
Unsignalized								
Conventional (Minor Stop)	No	No	No	No	No	No	No	
Conventional (All-Way Stop)	No	No	No	No	No	No	No	
Mini Roundabout	No	No	No	No	No	No	No	
Single Lane Roundabout	No	No	No	No	No	No	No	
Multilane Roundabout	No	No	No	No	No	No	No	
RCUT (unsignalized)	No	No	No	No	No	No	No	
R/RD w/downstream U-Turn	No	No	No	No	No	No	No	
Unsignalized High-T	No	No	No	No	No	No	No	
Offset-Tee Pair	No	No	No	No	No	No	No	
Other Unsignalized 1 (provide description):	No	No	No	No	No	No	No	
Other Unsignalized 2 (provide description):	No	No	No	No	No	No	No	
Signalized Intersections								
Traffic Signal	No	No	No	No	No	No	No	
Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	
RCUT (signalized)	No	No	No	No	No	No	No	
Diagonal Left Turn (DLT)	No	No	No	No	No	No	No	
Signalized High-T	No	No	No	No	No	No	No	
Left/Right (Any Corner)	No	No	No	No	No	No	No	
Quadrant Roadway (Any Corner)	No	No	No	No	No	No	No	
Overlapping Diamond (Ramp Terminal)	No	No	No	No	No	No	No	
Single Point Interchange (Ramp Terminal)	No	No	No	No	No	No	No	
Other Signalized 1 (provide description):	No	No	No	No	No	No	No	
Other Signalized 2 (provide description):	No	No	No	No	No	No	No	

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Report

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Georgia Department of Transportation

SAMPLE BLANK FULL STAGE 2 WORKSHEET

GDOT ICE STAGE 1: SCREENING DECISION RECORD

GDOT PI #: 0013332
 Project Location: SR 22 @ Fulton Mill Road
 Prepared by: Arcadis
 Analyst: J. Reid
 Date: 7/17/2017

ICE Version 2.0
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Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record. Enter justification in the rightmost column.
 Note: Up to 5 alternatives may be selected and evaluated; use additional ICE Tool sheets when evaluating more than 5 alternatives.

Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)	1 Does alternative address the project need in a balanced manner and fit with the project?	2 Does alternative improve safety performance (e.g., crash rate, etc.)?	3 Does alternative improve travel time and/or delay?	4 Does alternative improve operational performance (e.g., queue length, etc.)?	5 Does alternative appear feasible given the site characteristics, constraints, conditions, etc.?	6 Does alternative appear feasible with respect to other project factors?	7 Overall feasible alternative for further evaluation in Stage 2?	Screening Decision Justification:
Unsignalized								
Conventional (Minor Stop)	No	No	No	No	No	No	No	
Conventional (All-Way Stop)	No	No	No	No	No	No	No	
Mini Roundabout	No	No	No	No	No	No	No	
Single Lane Roundabout	No	No	No	No	No	No	No	
Multilane Roundabout	No	No	No	No	No	No	No	
RCUT (unsignalized)	No	No	No	No	No	No	No	
R/RD w/downstream U-Turn	No	No	No	No	No	No	No	
Unsignalized High-T	No	No	No	No	No	No	No	
Offset-Tee Pair	No	No	No	No	No	No	No	
Other Unsignalized 1 (provide description):	No	No	No	No	No	No	No	
Other Unsignalized 2 (provide description):	No	No	No	No	No	No	No	
Signalized Intersections								
Traffic Signal	No	No	No	No	No	No	No	
Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Report

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All project data carried into
Stage 1 worksheet

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ICE requires a **minimum of 2 and maximum of 5 alternatives** (avg number is 3); used 5 in example to illustrate many scenarios as possible

Justification in Note: Up to 5 alternatives evaluated; use additional sheets when evaluating more

Intersection Alternative

Conventional (Minor Stop)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constraints and location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative?
Conventional (All-Way Stop)							
Mini Roundabout							
Single Lane Roundabout							
Multilane Roundabout							
RCUT (unsignalized)							
R/R/O w/downstream							
Unsignalized High-T							
Offset-Tee Pair							
Other Unsignalized 1							
Other Unsignalized 2							
Traffic Signal							
Median U-Turn (Preferred)							

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Project Location: SR 22 @ Fulton Mill Road

Prepared by: Arcadis

Analyst: J. Reid

Date: 7/17/2017

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Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record. Enter justification in the rightmost column.

Note: Up to 5 alternatives may be selected and evaluated; use additional ICE Tool sheets when evaluating more than 5 alternatives

Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)

Conventional (Minor Stop)	No	No	No	No	No	No	No	
Conventional (All-Way Stop)	No	No	Yes	No	No	No	No	
Mini Roundabout	No	No	No	No	No	No	No	
Single Lane Roundabout	No	No	No	No	No	No	No	
Multilane Roundabout	No	No	No	No	No	No	No	
RCUT (unsignalized)	No	No	No	No	No	No	No	
R/R/O w/downstream U-Turn	No	No	No	No	No	No	No	
Unsignalized High-T	No	No	No	No	No	No	No	
Offset-Tee Pair	No	No	No	No	No	No	No	
Other Unsignalized 1 (provide description):	No	No	No	No	No	No	No	
Other Unsignalized 2 (provide description):	No	No	No	No	No	No	No	
Traffic Signal	No	No	No	No	No	No	No	
Median U-Turn (Preferred)	No	No	No	No	No	No	No	

Screening Decision Justification:

Drop down boxes to answer questions "Yes" or "No"

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Prepared by: Arcadis
Analyst: J. Reid
Date: 7/17/2017

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record. Enter justification in the rightmost column.
Note: Up to 5 alternatives may be selected and evaluated; use additional ICE Tool sheets when evaluating more than 5 alternatives.

Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)	1 Does alternative address the project need in a balanced manner and in suit with the project?	2 Does alternative improve safety performance in terms of reducing severe crashes?	3 Does alternative incorporate convenience and accessibility for pedestrians and for bicyclists?	4 Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5 Does alternative appear feasible given the site characteristics, constraints and local context?	6 Does alternative appear feasible with respect to other project factors?	7 Overall feasible alternative selected alternative for further evaluation in Stage 2?	Screening Decision Justification:
Conventional (Minor)								Existing Conditions
Conventional (All-Way)								AWIS not viable because of multi-lane approaches and wide median
Mini Roundabout								
Single Lane Roundabout	No	No	No	No	No	No	No	
Multilane Roundabout	No	No	No	No	No	No	No	
RCUT (unsignalized)	No	No	No	No	No	No	No	
RRO w/downstream U-Turn	No	No	No	No	No	No	No	
Unsignalized High-T	No	No	No	No	No	No	No	
Offset-Tee Pair	No	No	No	No	No	No	No	
Other Unsignalized 1 (provide description):	No	No	No	No	No	No	No	
Other Unsignalized 2 (provide description):	No	No	No	No	No	No	No	
Traffic Signal	No	No	No	No	No	No	No	
Median U-Turn (Indirect T all)	No	No	No	No	No	No	No	

Provide rationale for eliminating or carrying forward each control type

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Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record. Enter justification in the rightmost column.
Note: Up to 5 alternatives may be selected and evaluated; use additional ICE Tool sheets when evaluating more than 5 alternatives.

Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)	1 Does alternative address the project need in a balanced manner and in suit with the project?	2 Does alternative improve safety performance in terms of reducing severe crashes?	3 Does alternative incorporate convenience and accessibility for pedestrians and for bicyclists?	4 Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5 Does alternative appear feasible given the site characteristics, constraints and local context?	6 Does alternative appear feasible with respect to other project factors?	7 Overall feasible alternative selected alternative for further evaluation in Stage 2?	Screening Decision Justification:
Conventional (Minor Stop)	No	No	No	No	No	No	No	Existing Conditions
Conventional (All-Way Stop)	No	No	Yes	No	Yes	No	No	AWIS not viable because of multi-lane approaches and wide median
Mini Roundabout	No	Yes	Yes	No	Yes	No	No	Control not appropriate for high-speed, multi-lane roadway
Single Lane Roundabout	No	No	No	No	No	No	No	
Multilane Roundabout	No	No	No	No	No	No	No	
RCUT (unsignalized)	No	No	No	No	No	No	No	
RRO w/downstream U-Turn	No	No	No	No	No	No	No	
Unsignalized High-T	No	No	No	No	No	No	No	
Offset-Tee Pair	No	No	No	No	No	No	No	
Other Unsignalized 1 (provide description):	No	No	No	No	No	No	No	
Other Unsignalized 2 (provide description):	No	No	No	No	No	No	No	
Traffic Signal	No	No	No	No	No	No	No	
Median U-Turn (Indirect T all)	No	No	No	No	No	No	No	

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Note: Up to 5 alternatives may be selected and evaluated; use additional ICE Tool sheets when evaluating more than 5 alternatives.

Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)	1 Does alternative address the project need in a balanced manner and in suit with the project?	2 Does alternative improve safety performance in terms of reducing severe crashes?	3 Does alternative incorporate convenience and accessibility for pedestrians and for bicyclists?	4 Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5 Does alternative appear feasible given the site characteristics, constraints and local context?	6 Does alternative appear feasible with respect to other project factors?	7 Overall feasible alternative selected alternative for further evaluation in Stage 2?	Screening Decision Justification:
Conventional (Minor Stop)	No	No	No	No	No	No	No	Existing Conditions
Conventional (All-Way Stop)	No	No	Yes	No	Yes	No	No	AWS not viable because of multi-lane approaches and wide median
Mini Roundabout	No	Yes	Yes	No	Yes	No	No	Control not appropriate for high-speed, multi-lane roadway
Single Lane Roundabout	No	Yes	Yes	Yes	Yes	No	No	
	No	No	No	No	No	No	No	
	No	No	No	No	No	No	No	
Unsignalized High-T	No	No	No	No	No	No	No	
Offset-Tee Pair	No	No	No	No	No	No	No	
Other Unsignalized 1 (provide description):	No	No	No	No	No	No	No	
Other Unsignalized 2 (provide description):	No	No	No	No	No	No	No	
Traffic Signal	No	No	No	No	No	No	No	
Median U-Turn (Indirect T left)	No	No	No	No	No	No	No	

Based on first 6 questions, choose if alternative should be further analyzed

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Note: Up to 5 alternatives may be selected and evaluated; use additional ICE Tool sheets when evaluating more than 5 alternatives.

Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)	1 Does alternative address the project need in a balanced manner and in suit with the project?	2 Does alternative improve safety performance in terms of reducing severe crashes?	3 Does alternative incorporate convenience and accessibility for pedestrians and for bicyclists?	4 Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5 Does alternative appear feasible given the site characteristics, constraints and local context?	6 Does alternative appear feasible with respect to other project factors?	7 Overall feasible alternative selected alternative for further evaluation in Stage 2?	Screening Decision Justification:
Conventional (Minor Stop)	No	No	No	No	No	No	No	Existing Conditions
Conventional (All-Way Stop)	No	No	Yes	No	Yes	No	No	AWS not viable because of multi-lane approaches and wide median
Mini Roundabout	No	Yes	Yes	No	Yes	No	No	Control not appropriate for high-speed, multi-lane roadway
Single Lane Roundabout	No	Yes	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate
	No	No	No	No	No	No	No	
	No	No	No	No	No	No	No	
Unsignalized High-T	No	No	No	No	No	No	No	
Offset-Tee Pair	No	No	No	No	No	No	No	
Other Unsignalized 1 (provide description):	No	No	No	No	No	No	No	
Other Unsignalized 2 (provide description):	No	No	No	No	No	No	No	
Traffic Signal	No	No	No	No	No	No	No	
Median U-Turn (Indirect T left)	No	No	No	No	No	No	No	

"Yes" selects alternative for evaluation in Stage 2 and highlights row green

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Prepared by:		Arcadis								
Analyst:		J. Reid								
Date:		7/17/2017								
Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record. Enter justification in the rightmost column. Note: Up to 5 alternatives may be selected and evaluated; use additional ICE Tool sheets when evaluating more than 5 alternatives.		<p>1 Does alternative address the project need in a balanced manner and in such a way that the project?</p> <p>2 Does alternative improve safety performance in terms of reducing severe crashes?</p> <p>3 Does alternative incorporate convenience and accessibility for pedestrians and for bicyclists?</p> <p>4 Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?</p> <p>5 Does alternative appear feasible given the site characteristics, constraints and local context?</p> <p>6 Does alternative appear feasible with respect to other project factors?</p> <p>7 Overall feasible alternative selected alternative for further evaluation in Stage 2?</p>								
Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)		Screening Decision Justification:								
Unsignalized	Conventional (Minor Stop)	No	No	No	No	No	No	No	Existing Conditions	
	Conventional (All-Way Stop)	No	No	Yes	No	Yes	No	No	AWS not viable because of multi-lane approaches and wide median	
	Mini Roundabout	No	Yes	Yes	No	Yes	No	No	Control not appropriate for high-speed, multi-lane roadway	
	Single Lane Roundabout	No	Yes	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	Multilane Roundabout	Yes	Yes	No	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	RCUT (unsignalized)	No	No	No	No	No	No	No		
	RRO w/downstream U-Turn	No	No	No	No	No	No	No		
	Unsignalized High-T	No	No	No	No	No	No	No		
	Offset-Tee Par	No	No	No	No	No	No	No		
	Other Unsignalized 1 (provide description):	No	No	No	No	No	No	No		
Other Unsignalized 2 (provide description):	No	No	No	No	No	No	No			
Traffic Signal	No	No	No	No	No	No	No			
Median U-Turn (Indirect Left)		No	No	No	No	No	No	No		

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Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)		Screening Decision Justification:								
Unsignalized	Conventional (Minor Stop)	No	No	No	No	No	No	No	Existing Conditions	
	Conventional (All-Way Stop)	No	No	Yes	No	Yes	No	No	AWS not viable because of multi-lane approaches and wide median	
	Mini Roundabout	No	Yes	Yes	No	Yes	No	No	Control not appropriate for high-speed, multi-lane roadway	
	Single Lane Roundabout	No	Yes	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	Multilane Roundabout	Yes	Yes	No	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	RCUT (unsignalized)	No	Yes	No	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	RRO w/downstream U-Turn	No	No	No	No	No	No	No		
	Unsignalized High-T	No	No	No	No	No	No	No		
	Offset-Tee Par	No	No	No	No	No	No	No		
	Other Unsignalized 1 (provide description):	No	No	No	No	No	No	No		
Other Unsignalized 2 (provide description):	No	No	No	No	No	No	No			
Traffic Signal	No	No	No	No	No	No	No			
Median U-Turn (Indirect Left)		No	No	No	No	No	No	No		

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Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)		Screening Decision Justification:							
Unsignalized	Conventional (Minor Stop)	No	No	No	No	No	No	Existing Conditions	
	Conventional (All-Way Stop)	No	No	Yes	No	Yes	No	AWS not viable because of multi-lane approaches and wide median	
	Mini Roundabout	No	Yes	Yes	No	Yes	No	Control not appropriate for high-speed, multi-lane roadway	
	Single Lane Roundabout	No	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	Multilane Roundabout	Yes	Yes	No	Yes	Yes	Yes	Potential Solution to evaluate	
	RCUT (unsignalized)	No	Yes	No	Yes	Yes	Yes	Potential Solution to evaluate	
	RRO w/downstream U-Turn	No	Yes	Yes	No	Yes	No	Through traffic volumes too high	
	Unsignalized High-T	No	No	No	No	No	No	Not at T-intersection	
	Offset-Tee Pair	No	Yes	Yes	No	No	No	Significant impact to corner parcels due to skew	
	Other Unsignalized 1 (provide description):	No	No	No	No	No	No		
Other Unsignalized 2 (provide description):	No	No	No	No	No	No			
Traffic Signal	No	No	No	No	No	No	No		
Median U-Turn (Indirect Left)	No	No	No	No	No	No	No		

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Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)		Screening Decision Justification:							
Unsignalized	Conventional (Minor Stop)	No	No	No	No	No	No	Existing Conditions	
	Conventional (All-Way Stop)	No	No	Yes	No	Yes	No	AWS not viable because of multi-lane approaches and wide median	
	Mini Roundabout	No	Yes	Yes	No	Yes	No	Control not appropriate for high-speed, multi-lane roadway	
	Single Lane Roundabout	No	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	Multilane Roundabout	Yes	Yes	No	Yes	Yes	Yes	Potential Solution to evaluate	
	RCUT (unsignalized)	No	Yes	No	Yes	Yes	Yes	Potential Solution to evaluate	
	RRO w/downstream U-Turn	No	Yes	Yes	No	Yes	No	Through traffic volumes too high	
	Unsignalized High-T	No	No	No	No	No	No	Not at T-intersection	
	Offset-Tee Pair	No	Yes	Yes	No	No	No	Significant impact to corner parcels due to skew	
	Add LT Lanes on SR 22	No	No	No	No	No	No		
Other Unsignalized 2 (provide description):	No	No	No	No	No	No			
Traffic Signal	No	No	No	No	No	No	No		
Median U-Turn (Indirect Left)	No	No	No	No	No	No	No		

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Add alternative description for "non-standard" control type / geometric changes

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Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)										Screening Decision Justification:	
Unsignalized	Conventional (Minor Stop)	No	No	No	No	No	No	No	No	Existing Conditions	
	Conventional (All-Way Stop)	No	No	Yes	No	Yes	No	No	No	AWS not viable because of multi-lane approaches and wide median	
	Mini Roundabout	No	Yes	Yes	No	Yes	No	No	No	Control not appropriate for high-speed, multi-lane roadway	
	Single Lane Roundabout	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	Multilane Roundabout	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	RCUT (unsignalized)	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	RRO w/downstream U-Turn	No	Yes	Yes	No	Yes	No	No	No	Through traffic volumes too high	
	Unsignalized High-T	No	No	No	No	No	No	No	No	Not at T-intersection	
	Offset-Tree Pair	No	Yes	Yes	No	No	No	No	No	Significant impact to corner parcels due to skew	
	Add LT Lanes on SR 22	Yes	No	No	Yes	Yes	No	Yes	Yes	Potential Solution to evaluate	
Other Unsignalized 2 (provide description):		No	No	No	No	No	No	No	No		
Traffic Signal		No	No	No	No	No	No	No	No		
Median U-Turn (Indirect Left)		No	No	No	No	No	No	No	No		

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Analyst:		J. Reid									
Date:		7/17/2017									
Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record. Enter justification in the rightmost column. Note: Up to 5 alternatives may be selected and evaluated; use additional ICE Tool sheets when evaluating more than 5 alternatives.		<p>1 Does alternative address the project need in a balanced manner and in suit with the project?</p> <p>2 Does alternative improve safety performance in terms of reducing severe crashes?</p> <p>3 Does alternative incorporate convenience and accessibility for pedestrians and for bicyclists?</p> <p>4 Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?</p> <p>5 Does alternative appear feasible given the site characteristics, constraints and local context?</p> <p>6 Does alternative appear feasible with respect to other project factors?</p> <p>7 Overall feasible alternative selected alternative for further evaluation in Stage 2?</p>									
Intersection Alternative (see "Intersections" tab for a detailed description of each intersection type)										Screening Decision Justification:	
Unsignalized	Conventional (Minor Stop)	No	No	No	No	No	No	No	No	Existing Conditions	
	Conventional (All-Way Stop)	No	No	Yes	No	Yes	No	No	No	AWS not viable because of multi-lane approaches and wide median	
	Mini Roundabout	No	Yes	Yes	No	Yes	No	No	No	Control not appropriate for high-speed, multi-lane roadway	
	Single Lane Roundabout	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	Multilane Roundabout	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	RCUT (unsignalized)	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
	RRO w/downstream U-Turn	No	Yes	Yes	No	Yes	No	No	No	Through traffic volumes too high	
	Unsignalized High-T	No	No	No	No	No	No	No	No	Not at T-intersection	
	Offset-Tree Pair	No	Yes	Yes	No	No	No	No	No	Significant impact to corner parcels due to skew	
	Add LT Lanes on SR 22	Yes	No	No	Yes	Yes	No	Yes	Yes	Potential Solution to evaluate	
Other Unsignalized 2 (provide description):		No	No	No	No	No	No	No	No	N/A	
Traffic Signal		Yes	No	Yes	No	Yes	Yes	Yes	Yes	Potential Solution to evaluate	
Median U-Turn (Indirect Left)		No	No	No	No	No	No	No	No		



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Intersection Control Evaluation

ICE 2.0 TOOL – STAGE 2

SAMPLE BLANK FULL STAGE 2 WORKSHEET

GOOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

Project Information

GOOT P# (or NA): 0000000

County: 0

Project Location: 0

Existing Intersection Control:

GOOT District: 0000

Area Type: 0

Date: 1/10/2000

Agency/Tim: 0

Analyst: 0

Existing Conditions

Intersection meets Signal warrants?

Intersection meets EIRSC warrants?

Traffic Analysis Software

Existing PHH Intersection Delay*

Existing Intersection V/C ratio*

Design Year

Design Year Intersection Delay*

Design Year V/C Ratio*

* - round down 999th decimal

Crash Data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle			
Head-On			
Rear-End			
Side-swipe - same			
Side-swipe - opposite			
Other/Unknown			
TOTALS	0	0	0

Alternatives Analysis

Proposed Control Type/Improvement

Project Cost

Construction Cost

ROW Cost

Environmental Cost

Reimbursable Utility

Design & Contingency Cost

Cost Adjustment (justification req'd)

Total Cost

Traffic Operations

Design Yr Intersection Delay

Design Yr V/C Ratio

Traffic Analysis Software

Safety Analysis

Predefined CRF: PDO

Predefined CRF: Fatality

User Defined CRF: PDO

User Defined CRF: Fatality

User Defined CRF: Source (if applicable)

Environmental Impacts

Nature District/Property

Archaeology Resources

Gravestone

Stream

Underground Tank/Hazard

Park Land

Environmental Justice Community

Wooded Area

Wetland

Political Factors

Public Support

GOOT Support

Final ICE Stage 2 Score

Rank of Control Type Alternatives

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary)

Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
N/A	N/A			
Additional intersection type	Additional intersection type			
Construction Cost	Construction Cost			
ROW Cost	ROW Cost			
Environmental Cost	Environmental Cost			
Reimbursable Utility	Reimbursable Utility			
Design & Contingency Cost	Design & Contingency Cost			
Cost Adjustment (justification req'd)	Cost Adjustment (justification req'd)			
Total Cost	Total Cost			
Design Yr Intersection Delay	Design Yr Intersection Delay			
Design Yr V/C Ratio	Design Yr V/C Ratio			
Traffic Analysis Software	Traffic Analysis Software			
Predefined CRF: PDO	Predefined CRF: PDO			
Predefined CRF: Fatality	Predefined CRF: Fatality			
User Defined CRF: PDO	User Defined CRF: PDO			
User Defined CRF: Fatality	User Defined CRF: Fatality			
User Defined CRF: Source (if applicable)	User Defined CRF: Source (if applicable)			
Nature District/Property	Nature District/Property			
Archaeology Resources	Archaeology Resources			
Gravestone	Gravestone			
Stream	Stream			
Underground Tank/Hazard	Underground Tank/Hazard			
Park Land	Park Land			
Environmental Justice Community	Environmental Justice Community			
Wooded Area	Wooded Area			
Wetland	Wetland			
Public Support	Public Support			
GOOT Support	GOOT Support			
Final ICE Stage 2 Score	Final ICE Stage 2 Score			
Rank of Control Type Alternatives	Rank of Control Type Alternatives			

Note: If Environmental Impact Statement (EIS) is required, additional impact assessment documentation will be included with project design report.

Note: Stage 2 score is not given between 0% - 7% if signal or RTT is selected as control type but respective impacts are not met.

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GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD
ICE Version 2.0
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Project Information
 GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis

Existing Intersection Control: **Conventional (Minor Stop)**

Existing Conditions
 Intersection meets Signal warrants?
 Intersection meets AWSC warrants?
 Traffic Analysis Software
 Existing Pk Hr Intersection Delay*
 Existing Intersection V/C ratio*
 Design Year
 Design Year Intersection Delay*
 Design Year V/C Ratio*
 * = worst case AMPM results

Crash Type
 Sideswipe - same
 Sideswipe - opposite
 Not Collision w/ Motor Veh
 TOTALS: 0 0 0

Five alternatives auto-populate

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout	#N/A	#N/A	#N/A	#N/A	Traffic Signal
Additional description here					
ROW Cost	\$0	\$0	\$0	\$0	\$38,636
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	#N/A	#N/A	#N/A	#N/A	\$0
Design & Contingency Cost	\$0	\$0	\$0	\$0	\$0
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	#N/A	#N/A	#N/A	#N/A	\$38,636
Traffic Operations					
Design Yr Intersection Delay					
Design Yr V/C Ratio					
Traffic Analysis Software					
Safety Analysis					
Predefined CRF: PDO	#N/A	#N/A	#N/A	0%	#N/A
Predefined CRF: Fatal/Inj	#N/A	#N/A	#N/A	0%	#N/A
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

Choose existing intersection control; important determinant for several factors

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Project Information
 GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Intersection Control: **Conventional (Minor Stop)**

Existing Conditions
 Intersection meets Signal warrants?
 Intersection meets AWSC warrants?
 Traffic Analysis Software
 Existing Pk Hr Intersection Delay*
 Existing Intersection V/C ratio*
 Design Year
 Design Year Intersection Delay*
 Design Year V/C Ratio*
 * = worst case AMPM results

Crash Type
 Head-On
 Rear End
 Sideswipe - same
 Sideswipe - opposite
 Not Collision w/ Motor Veh
 TOTALS: 0 0 0

Determine if safety-funded or non-safety funded project

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout	#N/A	#N/A	#N/A	#N/A	Traffic Signal
Additional description here					
Construction Cost	\$0	\$0	\$0	\$0	\$38,636
ROW Cost	\$0	\$0	\$0	\$0	\$0
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	#N/A	#N/A	#N/A	#N/A	\$0
Design & Contingency Cost	\$0	\$0	\$0	\$0	\$0
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	#N/A	#N/A	#N/A	#N/A	\$38,636
Traffic Operations					
Design Yr Intersection Delay					
Design Yr V/C Ratio					
Traffic Analysis Software					
Safety Analysis					
Predefined CRF: PDO	#N/A	#N/A	#N/A	0%	#N/A
Predefined CRF: Fatal/Inj	#N/A	#N/A	#N/A	0%	#N/A
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

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Project Information
 GDOT PI # (or N/A) 0013332 GDOT District: 3 - Thomaston Date: 7/17/2017
 County: Bibb Area Type: Rural Agency/Firm: Arcadis
 Project Location: SR 22 @ Fulton Mill Road Analyst: J. Reid
 Existing Intersection Control: Conventional (Minor Stop) Type of Analysis: Conventional Non-Safety Funded Project

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AWSC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Hr Intersection Delay*
 Existing Intersection V/C ratio*
 Design Year
 Design Year Intersection Delay*
 Design Year V/C Ratio*
 * = worst case AMPM results

Crash Data
 Crash Severity
 Injuries Fatalities
 Side-swipe - opposite Not Collision w/ Motor Veh
 TOTALS: 0 0 0

Alternatives Analysis
 Proposed Control Type/Improvement

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout	#N/A	#N/A	#N/A	#N/A	#N/A
Multilane Roundabout	#N/A	#N/A	#N/A	#N/A	#N/A
RCUT (unsignalized)	#N/A	#N/A	#N/A	#N/A	#N/A
Add LT Lanes on SR 22	#N/A	#N/A	#N/A	#N/A	#N/A
Traffic Signal	#N/A	#N/A	#N/A	#N/A	#N/A
Construction Cost	\$0	\$0	\$0	\$0	\$38,636
ROW Cost	\$0	\$0	\$0	\$0	\$0
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	\$0	\$0	\$0	\$0	\$0
Design & Contingency Cost	\$0	\$0	\$0	\$0	\$0
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	\$0	\$0	\$0	\$0	\$38,636
Traffic Operations					
Design Yr Intersection Delay					
Design Yr V/C Ratio					
Traffic Analysis Software					
Safety Analysis					
Predefined CRF: PDO	#N/A	#N/A	#N/A	0%	#N/A
Predefined CRF: Fatal/Inj	#N/A	#N/A	#N/A	0%	#N/A
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

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 GDOT PI # (or N/A) 0013332 GDOT District: 3 - Thomaston Date: 7/17/2017
 County: Bibb Area Type: Rural Agency/Firm: Arcadis
 Project Location: SR 22 @ Fulton Mill Road Analyst: J. Reid
 Existing Intersection Control: Conventional (Minor Stop) Type of Analysis: Conventional Non-Safety Funded Project

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AWSC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Hr Intersection Delay*
 Existing Intersection V/C ratio*
 Design Year
 Design Year Intersection Delay*
 Design Year V/C Ratio*
 * = worst case AMPM results

Crash Data
 Crash Data: 3 most recent years of Crash Severity
 Injuries Fatalities
 Side-swipe - opposite Not Collision w/ Motor Veh
 TOTALS: 0 0 0

Alternatives Analysis
 Proposed Control Type/Improvement

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout	#N/A	#N/A	#N/A	#N/A	#N/A
Multilane Roundabout	#N/A	#N/A	#N/A	#N/A	#N/A
RCUT (unsignalized)	#N/A	#N/A	#N/A	#N/A	#N/A
Add LT Lanes on SR 22	#N/A	#N/A	#N/A	#N/A	#N/A
Traffic Signal	#N/A	#N/A	#N/A	#N/A	#N/A
Construction Cost	\$0	\$0	\$0	\$0	\$38,636
ROW Cost	\$0	\$0	\$0	\$0	\$0
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	\$0	\$0	\$0	\$0	\$0
Design & Contingency Cost	\$0	\$0	\$0	\$0	\$0
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	\$0	\$0	\$0	\$0	\$38,636
Traffic Operations					
Design Yr Intersection Delay					
Design Yr V/C Ratio					
Traffic Analysis Software					
Safety Analysis					
Predefined CRF: PDO	#N/A	#N/A	#N/A	0%	#N/A
Predefined CRF: Fatal/Inj	#N/A	#N/A	#N/A	0%	#N/A
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

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 GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions

Intersection meets Signal warrants?	Yes
Intersection meets AWSC warrants?	Yes
Traffic Analysis Software	Synchro 8
Existing Pk Hr Intersection Delay*	20.6 sec
Existing Intersection V/C ratio*	0.76
Design Year	
Design Year Intersection Delay*	
Design Year V/C Ratio*	

* = worst case AMPM results

Alternatives Analysis

Proposed Control Type/Improvement: Alternative 1

	Single Lane Roundabout	Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Project Cost					
Construction Cost	#N/A	#N/A	#N/A	#N/A	\$38,636
ROW Cost	\$0	\$0	\$0	\$0	\$0
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	#N/A	#N/A	#N/A	#N/A	\$0
Design & Contingency Cost	\$0	\$0	\$0	\$0	\$0
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	#N/A	#N/A	#N/A	#N/A	\$38,636
Traffic Operations					
Design Yr Intersection Delay					
Design Yr V/C Ratio					
Traffic Analysis Software					
Safety Analysis					
Predefined CRF: PDO	#N/A	#N/A	#N/A	0%	#N/A
Predefined CRF: Fatal/Inj	#N/A	#N/A	#N/A	0%	#N/A
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

Input "worse case" operational analysis results for BASE (external operational analysis required; "Worse Case" = delay and V/C during worst one-hour operational period (typically AM or PM peak))

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Project Information
 GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions

Intersection meets Signal warrants?	Yes
Intersection meets AWSC warrants?	Yes
Traffic Analysis Software	Synchro 8
Existing Pk Hr Intersection Delay*	20.6 sec
Existing Intersection V/C ratio*	0.76
Design Year	2037
Design Year Intersection Delay*	74.5 sec
Design Year V/C Ratio*	1.15

* = worst case AMPM results

Alternatives Analysis

Proposed Control Type/Improvement: Alternative 1

	Single Lane Roundabout	Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Project Cost					
Construction Cost	#N/A	#N/A	#N/A	#N/A	\$38,636
ROW Cost	\$0	\$0	\$0	\$0	\$0
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	#N/A	#N/A	#N/A	#N/A	\$0
Design & Contingency Cost	\$0	\$0	\$0	\$0	\$0
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	#N/A	#N/A	#N/A	#N/A	\$38,636
Traffic Operations					
Design Yr Intersection Delay					
Design Yr V/C Ratio					
Traffic Analysis Software					
Safety Analysis					
Predefined CRF: PDO	#N/A	#N/A	#N/A	0%	#N/A
Predefined CRF: Fatal/Inj	#N/A	#N/A	#N/A	0%	#N/A
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

Crash Data: 3 most recent years of intersection crash data

Crash Severity	Crash Data		
	PDO	Injuries	Fatalities

Input "worse case" operational analysis results for FORECAST no-build conditions (external operational analysis required)

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GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD ICE Version 2.0 Revised 7/10/2017

Project Information
 GDOT PI # (or N/A) 0013332 GDOT District: 3 - Thomaston Date: 7/17/2017
 County: Bibb Area Type: Rural Agency/Firm: Arcadis
 Project Location: SR 22 @ Fulton Mill Road Analyst: J. Reid
 Existing Intersection Control: Conventional (Minor Stop) Type of Analysis: Conventional Non-Safety Funded Project

Existing Conditions
 Intersection:
 Traffic Analysis:
 Existing Pk Hr Intersection Delay:
 Design Year:
 Design Year V/C Ratio: 1.15
 * = worst case AMPM results

Crash Data
 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision with Motor Veh	3	3	0
TOTALS	37	16	3

Alternatives Analysis

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement	Single Lane Roundabout	Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Project Cost					
Construction Cost	#N/A	#N/A	#N/A	#N/A	\$38,636
ROW Cost	\$0	\$0	\$0	\$0	\$0
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	#N/A	#N/A	#N/A	#N/A	\$0
Design & Contingency Cost	\$0	\$0	\$0	\$0	\$0
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	#N/A	#N/A	#N/A	#N/A	\$38,636
Traffic Operations					
Design Yr Intersection Delay					
Design Yr V/C Ratio					
Traffic Analysis Software					
Safety Analysis					
Predefined CRF: PDO	71%	63%	44%	0%	44%
Predefined CRF: Fatal/Inj	87%	63%	44%	0%	40%
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

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GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD ICE Version 2.0 Revised 7/10/2017

Project Information
 GDOT PI # (or N/A) 0013332 GDOT District: 3 - Thomaston Date: 7/17/2017
 County: Bibb Area Type: Rural Agency/Firm: Arcadis
 Project Location: SR 22 @ Fulton Mill Road Analyst: J. Reid
 Existing Intersection Control: Conventional (Minor Stop) Type of Analysis: Conventional Non-Safety Funded Project

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AISC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Hr Intersection Delay* 20.6 sec
 Existing Intersection V/C ratio* 0.76
 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data
 3 most recent years of intersection crash data



Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision with Motor Veh	3	3	0
TOTALS	37	16	3

Alternatives Analysis

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement	Single Lane Roundabout	Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Project Cost					
Construction Cost	#N/A	#N/A	#N/A	#N/A	\$38,636
ROW Cost	\$0	\$0	\$0	\$0	\$0
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	#N/A	#N/A	#N/A	#N/A	\$0
Design & Contingency Cost	\$0	\$0	\$0	\$0	\$0
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	#N/A	#N/A	#N/A	#N/A	\$38,636



Cost development aid using "CostEstimate" worksheet

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Intersection Control Evaluation

ICE 2.0 TOOL – COST WORKSHEET

ICE Version 2.0
 Revised 7/10/2017

Project Information

Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017

GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis

Existing Intersection Control: Conventional Analyst: J. Reid

Type of Analysis: Conventional Action: **East/West**

Select direction of Major Street

North/South

West/East

SB Fulton Mill Road

Existing Conditions	EB SR 22						SB Fulton Mill Road					
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width*	0	0	0	0	0	0	0	0	0	0	0	0
Bay Length**	0'		0'	0'	0'	0'	0'		0'	0'	0'	0'
Median Width	0'						0'					
Right-of-Way	0'						0'					

Proposed Conditions	Single Lane Roundabout	Multiple Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1300'	750'	50'
Limit of CST Impact (Cross ST)	500'	600'	500'	10'	50'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFB/Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalk (L.F.)	0'	0'	0'	0'	0'
New/Replace Cross Drains (L.F.)	0	0	0	0	0
New/Replace Guardrail (L.F.)	0	0	0	0	0
Retaining Wall (L.F.)	0	0	0	0	0
Bridge Widening/Replace (right)	0	0	0	0	0
Add ROW/Shoulder/Upgrade	\$0	\$0	\$0	\$0	\$0
Total Costs	N/A	N/A	N/A	N/A	\$15,908

Impacts

Topography:

Traffic Mgmt Plan:

Utilities:

Intersections

Signal Poles:

Flashing Beacons?:

Design Vehicle:

*Unsignalized intersections only

Roundabouts

Inscribed DA - Mini: 70

Inscribed DA - Single: 150

Inscribed DA - Multi: 200

Circulating Lane Width: 15

Cost Multipliers

Grading Complete: #N/A

Traffic Control: #N/A

Reimbursable Utility: #N/A

Preliminary Engineering:

Project Contingency:

ROW Costs

ROW (ac)	Urban	Rural
ROW multiplier	1.6	1.4

Add LT Lanes on SR 22	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width*	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Bay Length**	0'		0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Median Width	0'			0'			0'			0'		

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Project Information

Existing

Enter existing number and width of lanes, turn bays and lengths, median widths (if present) and ROW for each approach

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		0'			0'			0'			0'	
Right-of-Way												

Proposed Conditions	Single Lane Roundabout	Multiple Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1300'	750'	50'
Limit of CST Impact (Cross ST)	500'	600'	500'	10'	50'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	M/I & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalk (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement	0	0	0	0	0
Add ROW/Easement/Acquisition	\$0	\$0	\$0	\$0	\$0
Total Costs	N/A	N/A	N/A	N/A	\$15,909

Impacts	Cost Multipliers
Topography	Grading Complete #N/A
Traffic Mgmt Plan	Traffic Control #N/A
Utilities	Reimbursable Utility #N/A
	Preliminary Engineering
	Project Contingency

Intersections	ROW Costs
Signal Poles	Urban Rural
Flashing Beacons**	ROW (ac)
Design Vehicle	ROW multiplier 1.6 1.4
*Ungraveled Intersections Only	

Roundabouts
Inscribed DIA - Mini
Inscribed DIA - Single
Inscribed DIA - Multi
Circulating Lane Width

Add LT Lanes on SR 22	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width*	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Bay Length**	0'		0'	0'		0'	0'		0'	0'		0'
Median Width		0'			0'			0'			0'	

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Project Information

Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017

GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis

Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid

Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions

Enter median widths (if any) and right-of-way

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'	
Right-of-Way												

Proposed Conditions	Single Lane Roundabout	Multiple Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1300'	750'	50'
Limit of CST Impact (Cross ST)	500'	600'	500'	10'	50'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	M/I & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalk (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement	0	0	0	0	0
Add ROW/Easement/Acquisition	\$0	\$0	\$0	\$0	\$0
Total Costs	N/A	N/A	N/A	N/A	\$15,909

Impacts	Cost Multipliers
Topography	Grading Complete #N/A
Traffic Mgmt Plan	Traffic Control #N/A
Utilities	Reimbursable Utility #N/A
	Preliminary Engineering
	Project Contingency

Intersections	ROW Costs
Signal Poles	Urban Rural
Flashing Beacons**	ROW (ac)
Design Vehicle	ROW multiplier 1.6 1.4
*Ungraveled Intersections Only	

Roundabouts
Inscribed DIA - Mini
Inscribed DIA - Single
Inscribed DIA - Multi
Circulating Lane Width

Add LT Lanes on SR 22	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width*	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Bay Length**	0'		0'	0'		0'	0'		0'	0'		0'
Median Width		0'			0'			0'			0'	

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Project Information
 Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
 GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'	
Right-of-Way	110'						50'					

Select general intersection topography (level, rolling or steep grade)

Impacts
 Topography: ☒ Rolling
 Mound Plan: ☐ Level
 Utilities: ☒ Buried
 Steep Grades: ☐ Steep Grades

Cost Multipliers
 Grading Complete: #N/A
 Traffic Control: #N/A
 Reimbursable Utility: #N/A
 Preliminary Engineering: #N/A
 Project Contingency: #N/A

Intersections
 Signal Poles: ☐
 Flashing Beacons?: ☐
 Design Vehicle: ☐
 *Unsignalized Intersections Only

Roundabouts
 Inscribed DIA - Mini: 70
 Inscribed DIA - Single: 150
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 15

ROW Costs
 Urban: 1.6
 Rural: 1.4
 ROW multiplier: 1.6 1.4

	EB SR 22	WB SR 22	NB Fulton Mill Road	SB Fulton Mill Road
Total Costs	#N/A	#N/A	#N/A	\$15,909

Add LT Lanes on SR 22

	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width*	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Bay Length**	0'		0'	0'		0'	0'		0'	0'		0'
Median Width		0'			0'			0'			0'	

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 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'	
Right-of-Way	110'						50'					

Select construction traffic control plan (most applicable to roundabouts)

Impacts
 Topography: ☐ Rolling
 Mound Plan: ☒ Maintain Traffic
 Utilities: ☒ Maintain Traffic
 Close Intersection: ☐ Close Intersection

Cost Multipliers
 Grading Complete: #N/A
 Traffic Control: #N/A
 Reimbursable Utility: #N/A
 Preliminary Engineering: #N/A
 Project Contingency: #N/A

Intersections
 Signal Poles: ☐
 Flashing Beacons?: ☐
 Design Vehicle: ☐
 *Unsignalized Intersections Only

Roundabouts
 Inscribed DIA - Mini: 70
 Inscribed DIA - Single: 150
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 15

ROW Costs
 Urban: 1.6
 Rural: 1.4
 ROW multiplier: 1.6 1.4

	EB SR 22	WB SR 22	NB Fulton Mill Road	SB Fulton Mill Road
Total Costs	#N/A	#N/A	#N/A	\$15,909

Add LT Lanes on SR 22

	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width*	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Bay Length**	0'		0'	0'		0'	0'		0'	0'		0'
Median Width		0'			0'			0'			0'	

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GDOT ICE TOOL: COST ESTIMATING AID ICE Version 2.0 Revised 7/10/2017

Project Information
 Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
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 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width			40'			40'			0'			0'	
Right-of-Way		110'						50'					

Proposed Conditions

	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	440'	150'
Limit of CST Impact (Cross ST)	500'	600'	560'	440'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalk (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement (sqft)	0	0	0	0	0
Add ROW/Easement/Acquisition	\$0	\$0	\$0	\$0	\$0
Total Costs	\$566,984	\$989,199	\$301,871	\$207,514	\$38,636

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal
 Intersections: None/Minimal
 Signal Poles: Moderate
 Flashing Beacons*: Significant
 Design Vehicle: 10
 Roundabouts: 70
 Inscribed DIA - Mini: 150
 Inscribed DIA - Single: 200
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 15

Cost Multipliers
 Grading Complete: 20%
 Traffic Control: 20%
 Reimbursable Utility: 2%
 Preliminary Engineering
 Project Contingency

ROW Costs
 ROW (ac)
 ROW multiplier: 1.6 Urban, 1.4 Rural

Add LT Lanes on SR 22

		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0'	12	12	0'	12	0'	0'	12	12	0'	12	0'
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width			40'			40'			0'			0'	

Select level of expected utility impacts

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GDOT ICE TOOL: COST ESTIMATING AID ICE Version 2.0 Revised 7/10/2017

Project Information
 Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
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 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width			40'			40'			0'			0'	
Right-of-Way		110'						50'					

Proposed Conditions

	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	440'	150'
Limit of CST Impact (Cross ST)	500'	600'	560'	440'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalk (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement (sqft)	0	0	0	0	0
Add ROW/Easement/Acquisition	\$0	\$0	\$0	\$0	\$0
Total Costs	\$566,984	\$989,199	\$301,871	\$207,514	\$38,636

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal
 Intersections: None/Minimal
 Signal Poles: Moderate
 Flashing Beacons*: Significant
 Design Vehicle: 10
 Roundabouts: 70
 Inscribed DIA - Mini: 150
 Inscribed DIA - Single: 200
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 15

Cost Multipliers
 Grading Complete: 20%
 Traffic Control: 20%
 Reimbursable Utility: 2%
 Preliminary Engineering
 Project Contingency

ROW Costs
 ROW (ac)
 ROW multiplier: 1.6 Urban, 1.4 Rural

Add LT Lanes on SR 22

		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0'	12	12	0'	12	0'	0'	12	12	0'	12	0'
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width			40'			40'			0'			0'	

Select type of signal pole

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GDOT Georgia Department of Transportation

GDOT ICE TOOL: COST ESTIMATING AID ICE Version 2.0 Revised 7/10/2017

Project Information
 Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
 GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width	40'			40'			0'			0'		
Right-of-Way	110'						50'					

Proposed Conditions

	Single Lane Roundabout	Multilane Roundabout	RO/T (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	440'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	440'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	M/I & Overlay
# of Driveway(s) Impacted	0	0	0	0	0

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal

Cost Multipliers
 Grading Complete: 20%
 Traffic Control: 20%
 Reimbursable Utility: 2%
 Preliminary Engineering
 Project Contingency

Intersections
 Signal Poles: Mast Arm
 Flashing Beacons?: No
 Design Vehicle: WB-67
 Unsignalized: Yes

Roundabouts
 Inscribed DIA - Mini: 70
 Inscribed DIA - Single: 150
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 15

ROW Costs
 Urban: 1.6
 Rural: 1.4
 ROW multiplier: 1.6 1.4

Total Costs
 \$566,984 \$999,199 \$301,871 \$207,514 \$38,636

Add LT Lanes on SR 22

	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0'	12	12	0'	12	0'	0'	12	12	0'	12	0'
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width	40'			40'			0'			0'		

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GDOT Georgia Department of Transportation

GDOT ICE TOOL: COST ESTIMATING AID ICE Version 2.0 Revised 7/10/2017

Project Information
 Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
 GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width	40'			40'			0'			0'		
Right-of-Way	110'						50'					

Proposed Conditions

	Single Lane Roundabout	Multilane Roundabout	RO/T (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	440'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	440'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	M/I & Overlay
# of Driveway(s) Impacted	0	0	0	0	0

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal

Cost Multipliers
 Grading Complete: 20%
 Traffic Control: 20%
 Reimbursable Utility: 2%
 Preliminary Engineering
 Project Contingency

Intersections
 Signal Poles: Mast Arm
 Flashing Beacons?: No
 Design Vehicle: WB-67
 Unsignalized: Yes

Roundabouts
 Inscribed DIA - Mini: 70
 Inscribed DIA - Single: 150
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 15

ROW Costs
 Urban: 1.6
 Rural: 1.4
 ROW multiplier: 1.6 1.4

Total Costs
 \$566,984 \$999,199 \$301,871 \$207,514 \$38,636

Add LT Lanes on SR 22

	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0'	12	12	0'	12	0'	0'	12	12	0'	12	0'
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width	40'			40'			0'			0'		

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GDOT Georgia Department of Transportation

GDOT ICE TOOL: COST ESTIMATING AID ICE Version 2.0 Revised 7/10/2017

Project Information
 Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
 GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'	
Right-of-Way	110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	440'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	440'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalk (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement	0	0	0	0	0
Add ROW/Easement/Acquisition	\$0	\$0	\$0	\$0	\$0
Total Costs	\$566,984	\$959,199	\$301,871	\$207,514	\$38,636

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	440'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	440'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalk (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement	0	0	0	0	0
Add ROW/Easement/Acquisition	\$0	\$0	\$0	\$0	\$0
Total Costs	\$566,984	\$959,199	\$301,871	\$207,514	\$38,636

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal

Intersections
 Signal Poles: Mast Arm
 Flashing Beacons?: No
 Design Vehicle: WB-67
 *Unsignalized Intersections Only

Roundabouts
 Inscribed DIA - Mini: 70
 Inscribed DIA - Single: 140
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 15

Cost Multipliers
 Grading Complete: 20%
 Traffic Control: 20%
 Reimbursable Utility: 2%
 Preliminary Engineering: 12%
 Project Contingency: 20%

ROW Costs
 Urban: 1.6
 Rural: 1.4

Select diameter and circulating lane width for roundabout types

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GDOT Georgia Department of Transportation

GDOT ICE TOOL: COST ESTIMATING AID ICE Version 2.0 Revised 7/10/2017

Project Information
 Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
 GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'	
Right-of-Way	110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	440'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	440'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalk (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement	0	0	0	0	0
Add ROW/Easement/Acquisition	\$0	\$0	\$0	\$0	\$0
Total Costs	\$566,984	\$959,199	\$301,871	\$207,514	\$38,636

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	440'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	440'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalk (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement	0	0	0	0	0
Add ROW/Easement/Acquisition	\$0	\$0	\$0	\$0	\$0
Total Costs	\$566,984	\$959,199	\$301,871	\$207,514	\$38,636

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal

Intersections
 Signal Poles: Mast Arm
 Flashing Beacons?: No
 Design Vehicle: WB-67
 *Unsignalized Intersections Only

Roundabouts
 Inscribed DIA - Mini: 70
 Inscribed DIA - Single: 140
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 15

Cost Multipliers
 Grading Complete: 20%
 Traffic Control: 20%
 Reimbursable Utility: 2%
 Engineering: 12%
 Project Contingency: 20%

ROW Costs
 Urban: 1.6
 Rural: 1.4

Input PE and Contingency %

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Georgia Department of Transportation

GDOT ICE TOOL: COST ESTIMATING AID
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Project Information
Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'		
Right-of-Way		110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	810'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	450'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPHB Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0	0	0	0	0
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement	0	0	0	0	0
Add ROW/Easement/Acquisition	0	0	0	0	0
Total Costs	\$875,128	\$1,627,648	\$996,987	\$619,282	\$51,000

Impacts
Topography: Rolling
Traffic Mgmt Plan: Maintain Traffic
Utilities: None/Minimal

Cost Multipliers
Grading Complete: 20%
Traffic Control: 20%
Reimbursable Utility: 2%
Preliminary Engineering: 12%
Project Contingency: 20%

Intersections
Inscribed DA - Multi: 200
Circulating Lane Width: 15

ROW Costs
Urban: \$350,000
Rural: \$275,000
multiplier: 1.6 1.4

Add LT Lanes on SR 22

EB SR 22		WB SR 22		NB Fulton Mill Road		SB Fulton Mill Road		
Left Turn	Thru	Left Turn	Thru	Left Turn	Thru	Left Turn	Thru	
Number of Lanes	0	2	1	0	2	0	2	
Lane Width*	0'	12	12	0'	12	0'	12	
Bay Length**	0'		250'	0'		0'	250'	
Median Width	40'		40'		0'		0'	

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Project Information
Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
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Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'		
Right-of-Way		110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	810'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	450'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	0	0	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPHB Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0	0	0	0	0
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement	0	0	0	0	0
Add ROW/Easement/Acquisition	0	0	0	0	0
Total Costs	\$875,128	\$1,627,648	\$996,987	\$619,282	\$51,000

Design Vehicle: WB-67
*Ungraveled Intersections Only

Roundabouts
Inscribed DA - Mini: 70
Inscribed DA - Single: 140
Inscribed DA - Multi: 200
Circulating Lane Width: 15

ROW Costs
Urban: \$350,000
Rural: \$275,000
multiplier: 1.6 1.4

Add LT Lanes on SR 22

EB SR 22		WB SR 22		NB Fulton Mill Road		SB Fulton Mill Road		
Left Turn	Thru	Left Turn	Thru	Left Turn	Thru	Left Turn	Thru	
Number of Lanes	0	2	1	0	2	0	2	
Lane Width*	0'	12	12	0'	12	0'	12	
Bay Length**	0'		250'	0'		0'	250'	
Median Width	40'		40'		0'		0'	

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GOOT
Georgia Department of Transportation

GOOT ICE TOOL: COST ESTIMATING AID
ICE Version 2.0
Revised 7/10/2017

Project Information
Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width			40'			40'			0'			0'	
Right-of-Way		110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	810'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	450'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	MMA Overlay
# of Driveway(s) Impacted	2	2	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0	0	0	0	0
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement (sqft)	0	0	0	0	0
Add ROW/Easement/Acquisition	0	0	0	0	0
Total Costs	\$875,128	\$1,627,648	\$996,987	\$619,282	\$51,000

Impacts
Topography: Rolling
Traffic Mgmt Plan: Maintain Traffic
Signal Poles: Mast Arm
Flashing Beacons?: No
Design Vehicle: WB-67
*Ungraveled Intersections Only

Cost Multipliers
Grading Complete: 20%
Traffic Control: 20%
Reimbursable Utility: 2%

ROW Costs
ROW (ac): Urban \$350,000 Rural \$275,000
ROW multiplier: 1.6 1.4

Roundabouts
Inscribed DIA - Mini: 70
Inscribed DIA - Single: 140
Inscribed DIA - Multi: 200
Circulating Lane Width: 16

Add LT Lanes on SR 22

EB SR 22		WB SR 22		NB Fulton Mill Road		SB Fulton Mill Road	
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0
Lane Width*		0'	12	12	0'	12	12
Bay Length**		0'		250'	0'		250'
Median Width			40'			40'	

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GOOT
Georgia Department of Transportation

GOOT ICE TOOL: COST ESTIMATING AID
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Project Information
Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width			40'			40'			0'			0'	
Right-of-Way		110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	810'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	450'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	MMA Overlay
# of Driveway(s) Impacted	2	2	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	4	4	4	2	2
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0	0	0	0	0
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement (sqft)	0	0	0	0	0
Add ROW/Easement/Acquisition	0	0	0	0	0
Total Costs	\$875,128	\$1,627,648	\$996,987	\$619,282	\$51,000

Impacts
Topography: Rolling
Traffic Mgmt Plan: Maintain Traffic
Utilities: None/Minimal
Flashing Beacons?: No
Design Vehicle: WB-67
*Ungraveled Intersections Only

Cost Multipliers
Grading Complete: 20%
Traffic Control: 20%
Reimbursable Utility: 2%

ROW Costs
ROW (ac): Urban \$350,000 Rural \$275,000
ROW multiplier: 1.6 1.4

Roundabouts
Inscribed DIA - Mini: 70
Inscribed DIA - Single: 140
Inscribed DIA - Multi: 200
Circulating Lane Width: 16

Add LT Lanes on SR 22

EB SR 22		WB SR 22		NB Fulton Mill Road		SB Fulton Mill Road	
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0
Lane Width*		0'	12	12	0'	12	12
Bay Length**		0'		250'	0'		250'
Median Width			40'			40'	

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GDOT Georgia Department of Transportation

GDOT ICE TOOL: COST ESTIMATING AID ICE Version 2.0 Revised 7/10/2017

Project Information
 Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
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 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'	
Right-of-Way	110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	810'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	450'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	2	2	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	4	4	4	2	2
RFBPHB Ped Crossings (ea)	0	8	0	0	0
New/Replace Sidewalk (LF)	0	0	0	0	0
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	0	0	0
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement (sqft)	0	0	0	0	0
Add ROW/Easement/Acquisition	0	0	0	0	0
Total Costs	\$875,128	\$1,627,648	\$996,987	\$619,282	\$51,000

Cost Multipliers	Grading Complete	Traffic Control	Reimbursable Utility	Preliminary Engineering
	20%	20%	2%	12%
				20%

ROW Costs	Urban	Rural
	\$0.000	\$275.000
ROW multiplier	1.6	1.4

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal

Intersections
 Signal Poles: Mast Arm

Roundabouts
 Inscribed DIA - Mini: 70
 Inscribed DIA - Single: 140
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 16

Add LT Lanes on SR 22

	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0'	12'	12'	0'	12'	0'	0'	12'	12'	0'	12'	0'
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'	

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GDOT Georgia Department of Transportation

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 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'	
Right-of-Way	110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	810'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	450'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	2	2	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	4	4	4	2	2
RFBPHB Ped Crossings (ea)	0	8	0	0	0
New/Replace Sidewalk (LF)	0	0	0	0	0
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	150	150	150
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement (sqft)	0	0	0	0	0
Add ROW/Easement/Acquisition	0	0	0	0	0
Total Costs	\$875,128	\$1,627,648	\$996,987	\$619,282	\$51,000

Cost Multipliers	Grading Complete	Traffic Control	Reimbursable Utility	Preliminary Engineering
	20%	20%	2%	12%
				20%

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal

Intersections
 Signal Poles: Mast Arm

Roundabouts
 Inscribed DIA - Mini: 70
 Inscribed DIA - Single: 140
 Inscribed DIA - Multi: 200
 Circulating Lane Width: 16

Add LT Lanes on SR 22

	EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*	0'	12'	12'	0'	12'	0'	0'	12'	12'	0'	12'	0'
Bay Length**	0'		250'	0'		0'	0'		250'	0'		0'
Median Width		40'			40'			0'			0'	

Introduction | Instructions | Intersections | Stage1 | Stage2 | Waiver | Environmental | **CostEstimate**

GDOT Georgia Department of Transportation

GDOT ICE TOOL: COST ESTIMATING AID ICE Version 2.0 Revised 7/10/2017

Project Information
 Location: SR 22 @ Fulton Mill Road County: Bibb Date: 7/17/2017
 GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width			40'			40'			0'			0'	
Right-of-Way		110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	810'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	450'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	2	2	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	4	4	4	2	2
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0	0	0	0	0
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	150	150	150
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement (ea)	0	0	0	0	0
Add ROW/Easement/Acquirement	0	50,000	0	0	0
Total Costs	\$1,000,240	\$1,943,165	\$1,086,182	\$689,317	\$104,130

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal

Intersections
 Signal Poles: Mast Arm
 Flashing Beacons?: No
 Design Vehicle: WB-67
 *Unsignalized Intersections Only

Roundabouts
 Inscribed: No
 Circulating: No

Cost Multipliers
 Grading Complete: 20%
 Traffic Control: 20%
 Reimbursable Utility: 2%
 Preliminary Engineering: 12%
 Project Contingency: 20%

ROW Costs
 ROW (ac): Urban \$350,000 Rural \$275,000
 ROW multiplier: 1.6 1.4

Additional ROW, easement or demolition costs

Add LT Lanes on SR 22		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0'	12	12	0'	12	0'	0'	12	12	0'	12	0'
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width			40'			40'			0'			0'	

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GDOT Georgia Department of Transportation

GDOT ICE TOOL: COST ESTIMATING AID ICE Version 2.0 Revised 7/10/2017

Project Information
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 GDOT PI # (or N/A): 0013332 Area Type: Rural Agency/Firm: Arcadis
 Existing Intersection Control: Conventional (Minor Stop) GDOT District: 3 - Thomaston Analyst: J. Reid
 Type of Analysis: Conventional Non-Safety Funded Project Major Street Direction: East/West

Existing Conditions		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		0	2	1	0	2	0	0	2	1	0	2	0
Lane Width*		0	12	12	0	12	0	0	12	12	0	12	0
Bay Length**		0'		250'	0'		0'	0'		250'	0'		0'
Median Width			40'			40'			0'			0'	
Right-of-Way		110'						50'					

Proposed Conditions	Single Lane Roundabout	Multilane Roundabout	RO/T (ungraveled)	Add LT Lanes on SR 22	Traffic Signal
Limit of CST Impact (Major ST)	500'	600'	1400'	810'	150'
Limit of CST Impact (Cross ST)	500'	600'	500'	450'	110'
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	Mill & Overlay
# of Driveway(s) Impacted	2	2	0	0	0
New/Replace Signal Poles (ea)	0	0	0	0	0
Lighting Poles (ea)	4	4	4	2	2
RFBPH Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0	0	0	0	0
New/Replace Cross Drains (LF)	0	0	0	0	0
New/Replace Guardrail (LF)	0	0	150	150	150
Retaining Wall (LF)	0	0	0	0	0
Bridge Widening/Replacement (ea)	0	0	0	0	0
Add ROW/Easement/Acquirement	0	50,000	0	0	0
Total Costs	\$1,000,240	\$1,943,165	\$1,086,182	\$689,317	\$104,130

Impacts
 Topography: Rolling
 Traffic Mgmt Plan: Maintain Traffic
 Utilities: None/Minimal

Intersections
 Signal Poles: Mast Arm
 Flashing Beacons?: No
 Design Vehicle: WB-67
 *Unsignalized Intersections Only

Roundabouts
 Inscribed: No
 Circulating: No

Cost Multipliers
 Grading Complete: 20%
 Traffic Control: 20%
 Reimbursable Utility: 2%
 Preliminary Engineering: 12%
 Project Contingency: 20%

ROW Costs
 ROW (ac): Urban \$350,000 Rural \$275,000
 ROW multiplier: 1.6 1.4

Use table(s) to input non-standard alternative geometric changes

Add LT Lanes on SR 22		EB SR 22			WB SR 22			NB Fulton Mill Road			SB Fulton Mill Road		
Movement		Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes		1	2	1	1	2	0	0	2	1	0	2	0
Lane Width*		12	12	12	12	12	0	0	12	12	0	12	0
Bay Length**		250'		250'	250'		0	0		250'	0		0
Median Width			40'			40'			0'			0'	

Add geometry change for addition of LT lanes on SR 22

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Understand pavement area assumptions to determine if proposed and default pavement areas are vastly different

	Pavement, sqft		Major ST CST Limits, ft		Minor ST CST Limits, ft		Pavement Area Assumptions:
	Default	Override*	Default	Override*	Default	Override*	
Conventional (All-Way Stop)	12,000	0	150	0	110	0	No new pavement or overlay assumed
Mini Roundabout	13,115	0	200	0	200	0	Pavement and island/apron/median elements calculated based on diameter and circulating road width inputs
Single Lane Roundabout	27,536	0	500	0	500	0	Pavement and island/apron/median elements calculated based on diameter and circulating road width inputs
Multilane Roundabout	58,490	0	600	0	600	0	Pavement and island/apron/median elements calculated based on diameter and circulating road width inputs
RCUT (unsignalized)	10,508	0	1,400	0	560	0	Assumes LT lanes (4) & loons based on median width & design vehicle (no other new pavement assumed)
RRO widowsstream U-Turn	908	0	1,400	0	560	0	Assumes LT lanes (2) & loons based on median width & design vehicle (no other new pavement assumed)
Unsignalized High-T	12,000	0	800	0	310	0	Assumes additional lane and median for 800' across T-intersection (no other new pavement assumed)
Offset-Tee Pair	10,000	0	300	0	560	0	Assumes additional lane (500') and median between intersections (no other new pavement assumed)
Add LT Lanes on SR 22	12,480	0	440	0	440	0	Use "Other Control / Geometry Change" table to calculate roadway impacts or use estimate and input "User Override" via
Other Unsignalized 2 (provide description)	#N/A	0	440	0	440	0	Use "Other Control / Geometry Change" table to calculate roadway impacts or use estimate and input "User Override" via
Traffic Signal	12,000	0	150	0	110	0	No new pavement or overlay assumed
Median U-Turn (Indirect Left)	10,508	0	1,400	0	560	0	Assumes LT lanes (4) & loons based on median width & design vehicle (no other new pavement assumed)
RCUT (signalized)	10,508	0	1,400	0	560	0	Assumes LT lanes (4) & loons based on median width & design vehicle (no other new pavement assumed)
Displaced Left Turn (CFL)	96,000	0	2,600	0	560	0	Assumes dual LT lanes and dual contraflow lanes on major street only (no other new pavement assumed)
Signalized High-T	16,000	0	900	0	310	0	Assumes additional lane and median for 800' across T-intersection (no other new pavement assumed)
Jughandle (Any Corner)	18,800	0	1,300	0	860	0	Assumes Type A jughandle, adding 2 ramps from major street & turn lane improvements at cross street intersection
Quadrant Roadway (Any Corner)	52,200	0	1,300	0	1,260	0	Assumes new roadway in one quadrant (750' length) & intersection turn lane improvements at new intersections
Diverging Diamond (Ramp Terminates)	18,000	0	1,600	0	1,660	0	Assumes new crossover intersections and resurfacing, no bridge widening assumed (add widening sqft in proposed con
Single Point Interchange (Ramp Terminates)	50,500	0	1,900	0	1,060	0	Assumes new SPUI w/ dual turn lanes on all approaches, no bridge widening assumed (add bridge sqft in proposed con
Other Signalized 1 (provide description)	#N/A	0	440	0	440	0	Use "Other Control / Geometry Change" table to calculate roadway impacts or use estimate and input "User Override" via
Other Signalized 1 (provide description)	#N/A	0	440	0	440	0	Use "Other Control / Geometry Change" table to calculate roadway impacts or use estimate and input "User Override" via

* Estimate and input "Override" value if proposed roadway area is vastly different from default value



User overrides for pavement area and Major/Minor street CST limits

Introduction | Instructions | Intersections | Stage1 | Stage2 | Waiver | Environmental | **CostEstimate**

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Georgia Department of Transportation

Table on costing spreadsheet showing pay items and how alternative cost are calculated; user cannot edit but there is opportunity to adjust or replace costs in Stage 2 worksheet

Item	Pay Item	Unit	Cost	Conventional (All-Way Stop)		Mini Roundabout		Single Lane Roundabout		Multilane Roundabout		RCUT (Unsignalized)		RRO Widowsstream U-Turn		Unsignalized High-T		Offset-Tee Pair		Add LT Lanes on SR 22		Other Unsignalized 2		Traffic Signal	
				Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
New Construction (Street & Pavement)	\$450,000	\$7,500/sqft																							
Resurface (All-Way Stop)	\$120,000	\$1,000/sqft																							
Offset-Tee Pair (Signalized)	\$100,000	\$10,000/sqft																							
Roundabout (Signalized)	\$100,000	\$10,000/sqft																							
Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																							
Roundabout (Signalized)	\$100,000	\$10,000/sqft																							
Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																							
Roundabout (Signalized)	\$100,000	\$10,000/sqft																							
Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																							
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Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																							
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Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																							
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Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																							
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Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																							
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Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																							
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Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																							
Roundabout (Signalized)	\$100,000	\$10,000/sqft																							
Roundabout (Unsignalized)	\$100,000	\$10,000/sqft																			</				

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.0
Revised 7/10/2017

Project Information

GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)

GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Type of Analysis: Conventional Non-Safety Funded Project

Existing Conditions

Intersection meets Signal warrants?	Yes
Intersection meets AISC warrants?	Yes
Traffic Analysis Software	Synchro 8
Existing Pk Hr Intersection Delay*	20.6 sec
Existing Intersection V/C ratio*	0.76
Design Year	2037
Design Year Intersection Delay*	74.5 sec
Design Year V/C Ratio*	1.15

* = word case AMFM results

Crash Data: 5 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collided with Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis

Proposed Control Type/Improvement

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout					
Multilane Roundabout					
RCUT (unsignalized)					
Add LT Lanes on SR 22					
Traffic Signal					

Project Cost

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Construction Cost	\$649,844	\$1,138,578	\$418,813	\$554,623	\$78,886
ROW Cost	\$203,106	\$548,510	\$565,657	\$0	\$0
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	\$8,665	\$15,181	\$5,083	\$7,923	\$0
Design & Contingency Cost	\$138,633	\$242,897	\$95,729	\$126,771	\$25,244
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	\$1,000,248	\$1,943,165	\$1,086,182	\$689,317	\$104,130

Safety Analysis

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Predefined CRF: PDO	71%	63%	44%	0%	44%
Predefined CRF: Fatal/Inj	87%	63%	44%	0%	40%
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

Final costs from costing worksheet are auto-populated in Stage 2 worksheet

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Intersection Control Evaluation

STAGE 2: OPERATIONS & SAFETY

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GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD
ICE Version 2.0
Revised 7/10/2017

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 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AWSC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Ht Intersection Delay* 20.6 sec
 Existing Intersection V/C ratio* 0.76
 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data:
 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis
 Proposed Control Type/Improvement: Single Lane Roundabout

Project Cost	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Construction Cost	\$649,844				
ROW Cost	\$203,106				
Environmental Cost	\$0				
Reimbursable Utility	\$8,665				
Design & Contingency Cost	\$138,633				
Cost Adjustment (justification req'd)	0%				
Total Cost	\$1,000,248				

Traffic Operations	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Design Yr Intersection Delay	21.0	11.8	40.8	26.0	15.5
Design Yr V/C Ratio	0.55	0.45	0.45	0.65	0.48
Traffic Analysis Software					

Safety Analysis	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Predefined CRF: PDO	71%	63%	44%	0%	44%
Predefined CRF: Fatal/Inj	87%	63%	44%	0%	40%
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

Input "worse case" design year operational analysis (delay and V/C) results for each alternative and software analysis tool used

Introduction | Instructions | Intersections | Stage1 | **Stage2** | Waiver | Environmental | CostEstimate

GDOT
Georgia Department of Transportation

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD
ICE Version 2.0
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 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AWSC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Ht Intersection Delay* 20.6 sec
 Existing Intersection V/C ratio* 0.76
 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data:
 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis
 Proposed Control Type/Improvement: Single Lane Roundabout

Project Cost	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Construction Cost	\$649,844	\$1,138,578	\$418,813	\$554,623	\$78,886
ROW Cost	\$203,106	\$546,510	\$565,657	\$0	\$0
Environmental Cost	\$0	\$0	\$0	\$0	\$0
Reimbursable Utility	\$8,665	\$15,181	\$5,983	\$7,923	\$0
Design & Contingency Cost	\$138,633	\$242,897	\$95,729	\$126,771	\$25,244
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	\$1,000,248	\$1,943,165	\$1,086,182	\$689,317	\$104,130

Traffic Operations	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Design Yr Intersection Delay	21.0	11.8	40.8	26.0	15.5
Design Yr V/C Ratio	0.55	0.45	0.45	0.65	0.48
Traffic Analysis Software	GDOT RND Tool 4.1	GDOT RND Tool 4.1	Synchro 8	Synchro 8	Synchro 8

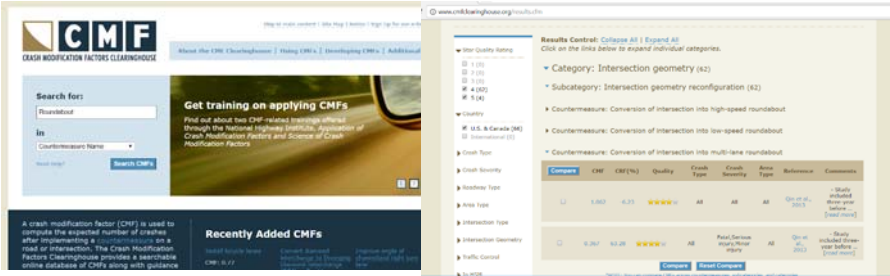
Safety Analysis	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Predefined CRF: PDO					
Predefined CRF: Fatal/Inj					
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

Select analysis tool used for each alternative evaluation

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Safety Determination Using CMFs

- Safety benefit by change of intersection control determined using FHWA's CMF Clearinghouse (www.cmfclearinghouse.org)
 - CMFs (Crash Modification Factor) used to compute the expected number of crashes after implementing a given improvement
 - CRFs (Crash Reduction Factors) estimates % reduction in crashes
- Many CMFs predefined based on existing/proposed control; others users may have to find or develop (and document)



The screenshot shows the CMF Clearinghouse website. On the left, there's a search bar with 'Roundabout' entered. The main content area displays search results for 'Roundabout', including a table with columns for 'Crash Type', 'Crash Severity', 'Area Type', 'Reference', and 'Comments'. The table lists various crash types like 'Side-Swipe - same', 'Side-Swipe - opposite', and 'Rear-End' with their respective CMF values and references.

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

Project Information: GDOT PI # (or NA) 0013332, County: Bibb, Project Location: SR 22 @ Fulton Mill Road, Existing Intersection Control: Conventional (Minor Stop), Type of Analysis: Conventional Non-Safety Funded Project, Date: 7/17/2017, Agency/Firm: Arcadis, Analyst: J. Reid.

Crash Data:	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement	Single Lane Roundabout	Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Construction Cost	\$649,844	\$1,136,578	\$418,813	\$554,623	\$78,896
ROW Cost	\$203,106	\$548,510	\$585,657	\$0	\$0
Environmental Cost					
Reimbursable Utility					
Design & Contingency Cost					
Cost Adjustment (justification)					
Total Cost					

Known CMF values auto-populate; if shown as zero (no safety benefit, user can best define using FHWA clearinghouse or other known studies (include justification))

Safety Analysis	GDOT RND Tool 4.1	GDOT RND Tool 4.1	Synchro 8	Synchro 8	Synchro 8
Predefined CRF: PDO	71%	63%	44%	0%	44%
Predefined CRF: Fatal/Inj	87%	63%	44%	0%	40%
User Defined CRF: PDO				25%	
User Defined CRF: Fatal/Inj				30%	
User Defined CRF Source (if applicable)				CMF Clearinghouse #s: 4703 / 4704	

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Intersection Control Evaluation

ICE 2.0 TOOL – ENVIRONMENTAL / POLITICAL DATA

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

Project Information

GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)

GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

ICE Version 2.0
 Revised 7/10/2017

Type of Analysis: Conventional Non-Safety Funded Project

Existing Conditions

Intersection meets Signal warrants?	Yes
Intersection meets AASD warrants?	Yes
Traffic Analysis Software	Synchro 8
Existing Pk Hr Intersection Delay*	20.6 sec
Existing Intersection V/C ratio*	0.76
Design Year	2037
Design Year Intersection Delay*	74.5 sec
Design Year V/C Ratio*	1.15

* = worst case AMPM results

Crash Data:

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis

Proposed Control Type/Improvement: Single Lane Roundabout

Environmental Impacts¹

	Alternative 1	Alternative 2
Historic District/Property	None	None
Archaeology Resources	None	Minimal
Graveyard	None	Minimal
Stream	None	Adverse
Underground Tank/Hazmat	None	None
Park Land	None	None
Environmental Justice Community	None	None
Wooded Area	None	None
Wetland	None	None

Note: If environmental impact is graded Adverse, provide justification impact worst possible project delivery using "Environmental" worksheet.
 Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project context report.

Political Factors

	Alternative 1	Alternative 2
Public Support	Neutral	Neutral
GDOT Support	Neutral	Neutral

Final ICE Stage 2 Score

	Alternative 1	Alternative 2
Final ICE Stage 2 Score	6.2	4.0
Rank of Control Type Alternatives	1	4

Note: Stage 2 score is not given (shown as "-") if signal or AASD is selected as control type but respective warrants are not met.

Provide additional comments and/or:

Historic, Archeology Resource & Graveyard impacts are quantified as "None", "Minimal" or "Adverse"

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GDOT Georgia Department of Transportation

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.0
Revised 7/10/2017

Project Information
 GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions

Intersection meets Signal warrants?	Yes
Intersection meets AWSC warrants?	Yes
Traffic Analysis Software	Synchro 8
Existing Pk Hr Intersection Delay*	20.6 sec
Existing Intersection V/C ratio*	0.78
Design Year	2037
Design Year Intersection Delay*	74.5 sec
Design Year V/C Ratio*	1.15

* = worst case AMPM results

Crash Data: 5 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Side-swipe - same	0	0	0
Side-swipe - opposite	1	0	0
Not Collision w/ Motor Veh	9	3	0
TOTALS:	37	16	3

Alternatives

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed	about	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal	
Env	None	Adverse	None	None	None
Ha	None	Adverse	None	None	None
Ac	None	Adverse	None	None	None
St	None	Adverse	None	None	None
Un	None	Adverse	None	None	None
Pa	None	Adverse	None	None	None
En	None	Adverse	None	None	None
Vi	None	Adverse	None	None	None
Wa	None	Adverse	None	None	None

Notes: If environmental impact highlighted **Adverse**, provide justification impact won't preclude project delivery using "Environmental" worksheet.
 Environmental impacts are only preliminary estimates. Detailed environmental impact documentation will be included with project concept report.

Any "Adverse" impacts are highlighted red, & justification that this impact will not make project infeasible is required (use form on ENV tab)

Adverse impacts must be documented in "Environmental" worksheet

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GDOT Georgia Department of Transportation

ICE ENVIRONMENTAL FACTORS

ICE Version 2.0
Revised 7/10/2017

Project Information
 GDOT District: 3 - Thomaston
 Requested By: District Engineer
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 Date: 7/17/2017
 Area Type: Rural
 Prepared By: Arcadis
 Analyst: J. Reid

Environmental Factors
 In the box below, document any "Adverse" environmental factors for any alternative considered. Include a plan and costs for mitigation that retains the proposed intersection type as a viable alternative. Include in ICE documentation package only if one or more alternatives have adverse impacts.

Proposed Intersection Control #1: Single Lane Roundabout
 None

Proposed Intersection Control #2: Multilane Roundabout
 None

Proposed Intersection Control #3: RCUT (unsignalized)
 Cultural resource mitigation expected to be cleared by the State Historic Preservation Office for small portion impacting the site; roadway design may be altered to bypass impact altogether

Add explanation of impact for each **Adverse** impact for each alternative (if any)

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GDOT Georgia Department of Transportation

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD ICE Version 2.0 Revised 7/10/2017

Project Information
 GDOT PI # (or N/A) 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AISC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Hr Intersection Delay* 20.6 sec
 Existing Intersection V/C ratio* 0.76
 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data: 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis
 Proposed Control Type/Improvement

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout		Multilane Roundabout			Traffic Signal
Environmental Impacts ¹					
Historic District/Property	None	None			None
Archaeology Resources	None	Minimal			None
Graveyard	None	None			None
Stream	None	Perpendicular			None
Underground Tank/Hazmat	None	None			None
Park Land	None	Longitudinal			None
Environmental Justice Community	None	None			None
Wooded Area	None	None			None
Wetland	None	None			None
Political Factors					
Public Support	Neutral	Neutral	Neutral	Neutral	Neutral
GDOT Support	Neutral	Neutral	Neutral	Neutral	Neutral
Final ICE Stage 2 Score	6.2	4.0	4.3	3.0	5.0
Rank of Control Type Alternatives	1	4	3	5	2

Note: If environmental impact highlighted **Adverse**, provide justification impact won't jeopardize project delivery using "Environmental" worksheet.
 Environmental impacts are only preliminary estimates. Detailed environmental impact documentation will be included with project context report.

Note: Stage 2 score is not given (shown as "-") if signal or AISC is selected as control type but respective warrants are not met.

Provide additional comments and/or

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GDOT Georgia Department of Transportation

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD ICE Version 2.0 Revised 7/10/2017

Project Information
 GDOT PI # (or N/A) 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AISC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Hr Intersection Delay* 20.6 sec
 Existing Intersection V/C ratio* 0.76
 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data: 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis
 Proposed Control Type/Improvement

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout		Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Environmental Impacts ¹					
Historic District/Property	None	None	None	None	None
Archaeology Resources	None	Minimal	Adverse	None	None
Graveyard	None	None	None	None	None
Stream	None	Perpendicular	None	None	None
Underground Tank/Hazmat	None	None	None	None	None
Park Land	None	None	None	None	None
Environmental Justice Community	None	None	None	None	None
Wooded Area	None	None	Yes		
Wetland	None	None	None		
Political Factors					
Public Support	Neutral	Neutral	Neutral	Neutral	Neutral
GDOT Support	Neutral	Neutral	Neutral	Neutral	Neutral
Final ICE Stage 2 Score	6.2	4.0	4.3	3.0	5.0
Rank of Control Type Alternatives	1	4	3	5	2

Note: If environmental impact highlighted **Adverse**, provide justification impact won't jeopardize project delivery using "Environmental" worksheet.
 Environmental impacts are only preliminary estimates. Detailed environmental impact documentation will be included with project context report.

Note: Stage 2 score is not given (shown as "-") if signal or AISC is selected as control type but respective warrants are not met.

Provide additional comments and/or

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Georgia Department of Transportation

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD
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Project Information
 GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AWSC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Hr Intersection Delay* 20.6 sec
 Existing Intersection V/C ratio* 0.76
 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data: 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision with Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis
 Proposed Control Type/Improvement

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout		Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Historic District/Property	None	None	None	None	None
Archaeology Resources	None	Minimal	Adverse	None	None
Graveyard	None	None	None	None	None
Stream	None	Perpendicular	None	None	None
Underground Tank/Hazmat	None	None	None	None	None
Park Land	None	None	None	None	None
Environmental Justice Community	None	None	None	None	None
Wooded Area	None	None	Yes	None	None
Wetland	None	None	None	None	None

Political Factors
 Public Support: Negative
 GDOT Support: Supportive

Final ICE Stage 2 Score
 Rank of Control Type Alternatives: 1
 Provide additional comments and/or

Political support for a project alternative is rated by both local jurisdiction and GDOT as support being "Strong", "Supportive", "Neutral", "Negative" or "Opposition"

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Georgia Department of Transportation

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD
ICE Version 2.0
Revised 7/10/2017

Project Information
 GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AWSC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Hr Intersection Delay* 20.6 sec
 Existing Intersection V/C ratio* 0.76
 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data: 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision with Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis
 Proposed Control Type/Improvement

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout		Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Historic District/Property	None	None	None	None	None
Archaeology Resources	None	Minimal	Adverse	None	None
Graveyard	None	None	None	None	None
Stream	None	Perpendicular	None	None	None
Underground Tank/Hazmat	None	None	None	None	None
Park Land	None	None	None	None	None
Environmental Justice Community	None	None	None	None	None
Wooded Area	None	None	Yes	None	None
Wetland	None	None	None	None	None

Political Factors
 Public Support: Neutral
 GDOT Support: Supportive

Final ICE Stage 2 Score
 Rank of Control Type Alternatives: 1

Note: Stage 2 score is not given (shown as "-") if signal or AWSC is selected as control type but respective warrants are not met

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GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD ICE Version 2.0 Revised 7/10/2017

Project Information
 GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? No
 Intersection meets AISC warrants? Yes
 Traffic Analysis Software: Synchro 8
 Existing Pk Ht Intersection Delay*: 20.6 sec
 Existing Intersection V/C ratio*: 0.76
 Design Year: 2037
 Design Year Intersection Delay*: 74.5 sec
 Design Year V/C Ratio*: 1.15
 * = worst case AMPM results

Crash Data: 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis
 Proposed Control Type/Improvement: Single Lane Roundabout

	Alternative 1 Single Lane Roundabout <small>Additional description here</small>	Alternative 2 Multilane Roundabout <small>Additional description here</small>	Alternative 3 RCUT (unsignalized) <small>Additional description here</small>	Alternative 4 Add LT Lanes on SR 22 <small>Additional description here</small>	Alternative 5 Traffic Signal <small>Additional description here</small>
Project Cost					
Construction Cost	\$649,844	\$1,178,578	\$466,813	\$554,623	\$78,886
ROW Cost	\$203,106	\$548,510	\$565,657	\$0	\$0
Environmental Cost	\$0	\$80,000	\$120,000	\$0	\$0
Reimbursable Utility	\$8,665	\$16,781	\$8,383	\$7,923	\$0
Design & Contingency Cost	\$138,633	\$269,497	\$134,129	\$126,771	\$25,244
Cost Adjustment (justification req'd)	0%	0%	0%	0%	0%
Total Cost	\$1,000,248	\$2,090,365	\$1,294,982	\$689,317	\$104,130

FINAL COSTS INCLUDING ALL FACTORS

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Project Information
 GDOT PI # (or N/A): 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? No
 Intersection meets AISC warrants? Yes
 Traffic Analysis Software: Synchro 8
 Existing Pk Ht Intersection Delay*: 20.6 sec
 Existing Intersection V/C ratio*: 0.76
 Design Year: 2037
 Design Year Intersection Delay*: 74.5 sec
 Design Year V/C Ratio*: 1.15
 * = worst case AMPM results

Crash Data: 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis
 Proposed Control Type/Improvement: Single Lane Roundabout

	Alternative 1 Single Lane Roundabout <small>Additional description here</small>	Alternative 2 Multilane Roundabout <small>Additional description here</small>	Alternative 3 RCUT (unsignalized) <small>Additional description here</small>	Alternative 4 Add LT Lanes on SR 22 <small>Additional description here</small>	Alternative 5 Traffic Signal <small>Additional description here</small>
Project Cost					
Construction Cost	\$649,844	\$1,178,578	\$466,813	\$554,623	\$78,886
ROW Cost	\$203,106	\$548,510	\$565,657	\$0	\$0
Environmental Cost	\$0	\$80,000	\$120,000	\$0	\$0
Reimbursable Utility	\$8,665	\$16,781	\$8,383	\$7,923	\$0
Design & Contingency Cost	\$138,633	\$269,497	\$134,129	\$126,771	\$25,244
Cost Adjustment (justification req'd)	10%	0%	0%	0%	0%
Total Cost	\$1,100,273	\$2,090,365	\$1,294,982	\$689,317	\$104,130

Traffic Operations

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Design Yr Intersection Delay	21.0	11.8	40.8	26.0	15.5
Design Yr V/C Ratio	0.55	0.45	0.45	0.65	0.48
Traffic Analysis Software	GDOT RND Tool 4.1	GDOT RND Tool 4.1	Synchro 8	Synchro 8	Synchro 8

Safety Analysis

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Predefined CRF: PDO	71%	63%	44%	0%	44%
Predefined CRF: Fatal/Inj	87%	83%	44%	0%	40%
User Defined CRF: PDO				25%	
User Defined CRF: Fatal/Inj				30%	
User Defined CRF Source				CMF Clearinghouse #s	

Estimate 10% lower than expectations

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GDOT Georgia Department of Transportation

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD ICE Version 2.0 Revised 7/10/2017

Project Information
 GDOT PI # (or N/A) 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? No
 Intersection meets AWSC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Ht Intersection Delay* 20.6 sec
 Existing Intersection V/C ratio* 0.76
 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data: 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement					
Project Cost					
Construction Cost					
ROW Cost					
Environmental Cost					
Reimbursable Utility					
Design & Contingency Cost					
Cost Adjustment (justification req'd)					
Total Cost					
Traffic Operations					
Design Yr Intersection Delay					
Design Yr V/C Ratio					
Traffic Analysis Software					
Safety Analysis					
Predefined CRF: PDO					
Predefined CRF: Fatal/Inj					
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source					

Crash Data: 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement					
Project Cost					
Construction Cost					
ROW Cost					
Environmental Cost					
Reimbursable Utility					
Design & Contingency Cost					
Cost Adjustment (justification req'd)					
Total Cost					
Traffic Operations					
Design Yr Intersection Delay					
Design Yr V/C Ratio					
Traffic Analysis Software					
Safety Analysis					
Predefined CRF: PDO					
Predefined CRF: Fatal/Inj					
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
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Design & Contingency Cost					
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Total Cost					
Traffic Operations					
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Project Cost					
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Design & Contingency Cost					
Cost Adjustment (justification req'd)					
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Traffic Operations					
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Traffic Analysis Software					
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Predefined CRF: PDO					
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User Defined CRF: PDO					
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Crash Data: 3 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same			

GDOT Georgia Department of Transportation

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD ICE Version 2.0 Revised 7/10/2017

Project Information
 GDOT PI # (or N/A) 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
 Agency/Firm: Arcadis
 Analyst: J. Reid

Existing Conditions
 Intersection meets Signal warrants? Yes
 Intersection meets AWSC warrants? Yes
 Traffic Analysis Software Synchro 8
 Existing Pk Hr Intersection Delay* 20.6 sec
 Existing Intersection V/C ratio* 0.76
 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data: 5 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3

Alternatives Analysis
 Proposed Control Type/Improvement

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout		Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Environmental Impacts ¹					
Historic District/Property	None	None	None	None	None
Archaeology Resources	None	Minimal	Adverse	None	None
Graveyard	None	None	None	None	None
Stream	None	Perpendicular	None	None	None
Underground Tank/Hazmat	None	None	None	None	None
Park Land	None	None	None	None	None
Environmental Justice Community	None	None	None	None	None
	None	None	Yes	None	None
	None	None	None	None	None
Final ICE Stage 2 Score	8.0	5.8	4.9	5.6	7.1
Rank of Control Type Alternatives	1	3	5	4	2

Final ICE score recommends roundabout for this location

Introduction | **Instructions** | **Intersections** | **Stage1** | **Stage2** | **Waiver** | **Environmental** | **CostEstimate**

GDOT Georgia Department of Transportation

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD ICE Version 2.0 Revised 7/10/2017

Project Information
 GDOT PI # (or N/A) 0013332
 County: Bibb
 Project Location: SR 22 @ Fulton Mill Road
 Existing Intersection Control: Conventional (Minor Stop)
 GDOT District: 3 - Thomaston
 Area Type: Rural
 Date: 7/17/2017
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Existing Conditions
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 Traffic Analysis Software Synchro 8
 Existing Pk Hr Intersection Delay* 20.6 sec
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 Design Year 2037
 Design Year Intersection Delay* 74.5 sec
 Design Year V/C Ratio* 1.15
 * = worst case AMPM results

Crash Data: 5 most recent years of intersection crash data

Crash Type	Crash Severity		
	PDO	Injuries	Fatalities
Angle	7	8	1
Head-On	1	0	2
Rear End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/ Motor Veh	3	3	0
TOTALS:	37	16	3



Alternatives Analysis
 Proposed Control Type/Improvement

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout		Multilane Roundabout	RCUT (unsignalized)	Add LT Lanes on SR 22	Traffic Signal
Environmental Impacts ¹					
Historic District/Property	None	None	None	None	None
Archaeology Resources	None	Minimal	Adverse	None	None
Graveyard	None	None	None	None	None
Stream	None	Perpendicular	None	None	None
Underground Tank/Hazmat	None	None	None	None	None
Park Land	None	None	None	None	None
Environmental Justice Community	None	None	None	None	None
Wooded Area	None	None	Yes	None	None
Wetland	None	None	None	None	None
Final ICE Stage 2 Score	8.0	5.8	4.9	5.6	-
Rank of Control Type Alternatives	1	2	3	4	-

What if signal warrants are not met?


Score is not given for signalized alternative not meeting warrants

Introduction | **Instructions** | **Intersections** | **Stage1** | **Stage2** | **Waiver** | **Environmental** | **CostEstimate**

Intersection Control Evaluation

ICE 2.0 TOOL – ICE WAIVER FORM



Waiver Eligible

In certain circumstances the ICE requirement may be waived based on appropriate evidence presented with written request

- Proposed improvements don't substantially alter intersection character
- Considered minor in nature
- Intersection is along a divided, multilane roadway and will be limited to a closed median with right-in/right-out access only
- Intersection is along an undivided, two-lane roadway that will not be widened and:
 - Low risk in terms of exposure (less than 1,000 vehicles entering per day).
 - Latest 5 years of crash history is not indicative of a crash problem
 - No undesirable geometric features
 - Proposed changes will not adversely affect safety

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Georgia Department of Transportation

GDOT INTERSECTION CONTROL EVALUATION (ICE) WAIVER FORM
ICE Version 2.0
Revised 7/19/2017

Waiver Request - Level 2
In certain circumstances where an ICE would otherwise be required, an ICE may be waived based on appropriate evidence presented with a written request. Scenarios in which an ICE waiver request may be considered include:

- Proposed improvements do not substantially alter the character of the intersection, and are considered minor in nature, such as extending existing turn lanes) or modifying signal phasing at an existing traffic signal
- The intersection is along a divided, multi-lane roadway and will be limited to a closed median with only right-in/right-out access that will operate acceptably; or
- The intersection is along an undivided, two-lane roadway that will not be widened and meets the following criteria:
 - Low risk in terms of exposure (total intersection entering volume less than 1,000 vehicles/day)
 - Latest 5 years of crash history is not indicative of a crash problem (no discernible crash patterns coupled with low crash frequency and severity)
 - Layout has no unusual or undesirable geometric features (such as restricted sight distance)
 - The proposed changes are not expected to adversely affect safety

ICE waiver forms with supporting documentation should be submitted for approval to the Chief Engineer / District Engineer (or delegate). Any questions regarding the waiver process may be routed to the State Traffic Engineer.

Project Information: Location: SR 22 @ Fulton Mill Road Date: 7/17/2017
Requested By: District Engineer Area Type: Rural
County: Bibb Prepared By: Arcadis
ODOT District: 3 - Thomson Analyst: J. Reid
Existing Intersection Control: Conventional (All-Way Stop) Waiver Request Type: Add/Extend Turn Lane

Required Existing Condition Data

Intersection meets signal warrants?	Yes
Intersection meets AASPC warrants?	Yes
Avg Daily Traffic (Major Street)	8,400
Avg Daily Traffic (Minor Street)	2,400
Analysis Year	2017
No-Build Peak Hour Intersection Delay*	20.6 sec
No-Build Intersection V/C ratio*	0.76
Build Peak Hour Intersection Delay*	74.5 sec
Build Intersection V/C ratio*	1.16

* = word peak hour analysis results

Crash Data (Required)

3 most recent years of intersection crash data	Crash Severity		
	PDO	Injures	Fatalities
Angle	7	3	1
Head-On	1	0	2
Rear-End	25	5	0
Sideswipe - same	0	0	0
Sideswipe - opposite	1	0	0
Not Collision w/Motor Veh	3	3	0
TOTALS	37	16	3

Add Existing / Build operational results

Description of Work / Justification for Waiver (Required):

Introduction | Instructions | Intersections | Stage1 | Stage2 | **Waiver** | Environmental | CostEstimate

Georgia Department of Transportation

GDOT INTERSECTION CONTROL EVALUATION (ICE) WAIVER FORM
ICE Version 2.0
Revised 7/19/2017

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Required Existing Condition Data

Intersection meets signal warrants?	Yes
Intersection meets AASPC warrants?	Yes
Avg Daily Traffic (Major Street)	8,400
Avg Daily Traffic (Minor Street)	2,400
Analysis Year	2017
No-Build Peak Hour Intersection Delay*	20.6 sec
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Build Peak Hour Intersection Delay*	74.5 sec
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* = word peak hour analysis results

Optional Traffic Analysis Data

Analysis Year	2017
No-Build Peak Hour Intersection Delay*	20.6 sec
No-Build Intersection V/C ratio*	0.76
Build Peak Hour Intersection Delay*	74.5 sec
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Crash Data (Required)

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Describe justification for Waiver request

Description of Work / Justification for Waiver (Required):
Low cost project to add left turn lanes at intersection with existing ROW and inside existing median, no negative traffic or environmental impacts


Introduction | Instructions | Intersections | Stage1 | Stage2 | **Waiver** | Environmental | CostEstimate



Now What?

- After July 1, 2017 Official ICE Policy approval and guidance:
 - Always start with most recent tool version on website
 - Workshop presentation and video tutorial will be posted
 - Submit: **Introduction, Stage 1** and **Stage 2** one-page summaries with TE's and/or CR's (total of 3 pages plus Environmental form if used); OR one- page waver request
- Check website for version updates (ver2.1 Fall 2017)
 - More predetermined CMF's and costing tool updates
 - More control types (diamond interchange)
 - Predictive safety factors for new intersections
- Provide Feedback on the Tool – Please!
 - Provide feedback from use of Tool on projects of differing intersection control, geometry etc. to incorporate needed changes in future versions



Questions





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