

Revision History

Revision Number	Revision Date	Revision Summary
1	11/18/2019	Documented created.
2	5/20/2020	<ul style="list-style-type: none">• Transition document information provided on information page.• Project Justification Statement added to report and reason for investigation removed.• Interim measure section added to existing conditions/field visits section.• Crash Diagrams will now be required in the report and not appendix.

Traffic Engineering Study
Location, County



- **Please use the most current version of the Traffic Engineering when submitting your report.** An up-to-date MS-Word template is available for download on the R.O.A.D.S. Manuals & Guides web page and/or may be provided by the Office of Traffic Operations for your use upon request.
- Instructions and/or required information to assist in completing the report are shown in *blue italics* for easy identification; and *all blue text* should be removed prior to report submission.
- Remember that the example report is a template and is intended to be flexible. If changes to the report are needed for a specific project, the engineer of record and Project Manager should exercise their judgment when making changes from the approved format.
- Documentation of QC/QA tasks being performed on the report should be provided when the Safety Screening Analysis is submitted.
- **Reports should be submitted in PDF format via email to: sharris@dot.ga.gov**
- Make sure all attachments, maps, layouts, etc. are clear and legible.
- Keep in mind that reports are printed for approval and filing. Standard page sizes should be utilized – e.g. **8 ½” x 11” (letter); 8 ½” x 14” (legal); and 11” x 17” (ledger/tabloid)**. Roll plots, full or half size plan prints should not be included in Concept Report. A PIOH PDF display (large format) can be submitted as a separate document with the concept report package as 'information only' for reviewers.
- **Transition cover page must be provided on a separate page and provided when the TE study is ready for transition.**
- Please provide any feedback or questions regarding the Safety Screening Analysis format to the **XXXXX**.

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

TRAFFIC ENGINEERING STUDY

Date (Month Year)

<p><i>Add a project location map image that is clear and legible which sufficiently locates the project.</i></p> <p><i>Please include the following information (this location map is typically utilized for the Location and Design Report as well):</i></p> <ul style="list-style-type: none">• <i>North arrow</i>• <i>Label the approximate project beginning and ending points along mainline (e.g. or identify intersection if safety/operational improvement, etc.)</i>• <i>Add roadway information if not clear on map and waterway name if relative</i>• <i>Map image should be sharp and clear.</i>	<p><i>Add a state location map sufficiently locates the county with Georgia.</i></p>
	<p><i>Add a county location map image that sufficiently locates the project area with the county.</i></p>

PRIMARY ROUTE: *Mainline*

SECONDARY ROUTE: *Side Street(s)*

GDOT DISTRICT: *Choose an item.*

CONGRESSIONAL DISTRICT: *Choose an item.*

COUNTY: *Choose an item.*

CITY: *City*

PREPARED BY: *GDOT or Consultant Name*



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Transition Document

- Study Request
- Reason for Investigation
- Project Location
- Existing Conditions/Field Visit
 - Existing Traffic Control/Geometry
 - Existing Safety Measures
 - Horizontal/Vertical Grades
 - Sight Distance/Vegetation Concerns.
 - Intersection Queuing and Delay
 - Adjacent Signalized Intersection
 - Pedestrian Movements/Accommodations
 - Other Modes of Transportation Present
 - Potential Environmental Impacts/Concerns
 - Lighting
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 - Other Projects in the Area
 - Interim Measures
- Crash Analysis
 - Existing Documented Safety Concerns
- Operational Analysis
 - Traffic Volume History
 - Capacity Analysis
 - Delay
 - Traffic Signal Warrant Analysis
 - Roundabout Evaluation
- Environmental Screening

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Potential Alternatives and Countermeasures
Intersection Control Evaluation (ICE) – Stage 1
Crash Reduction Factors
Intersection Control Evaluation (ICE) – Stage 2
Safety Impact of Potential Alternatives and Countermeasures
Operational Impact of Potential Alternatives and Countermeasures

Benefit Cost
Conclusion
Recommendations
Appendices

Appendix A: *Title*
Appendix B: *Title*
Appendix C: *Title*
Continue listing applicable appendices.

FIGURES *Include list of figures.*

No table of figures entries found.

TABLES *Include list of table*

No table of figures entries found.

Project Justification Statement: *The project justification shall clearly state and document the need of the project and objectives. This section shall describe the safety issue(s) and trends in a clear and concise way. This section should not mention countermeasures, that is for the alternative section.*

Study Request: *State who requested the evaluation.*

Project Location: *Describe the location of the intersection(s) or corridor. Include a clear image showing the geometry of the roadway(s) and the limits of the study. The image should include a north arrow, scale, roadway names and speed limits.*

Existing Conditions/Field Visit: *Provide information gathered during the field visit, including the date the visit was conducted. Describe site specific conditions/constraints and Include any pertinent images collected if any. Two site visits are required, one at the beginning of the study and another at the end. The second site visit is to confirm existing conditions have not changed during the study period.*

Description of Intersection(s) or roadway segment: *A brief general description of the project area as it currently exists such as: roadway classification(s), number of lanes, major intersections, substandard skew angles, structures, major utilities in project area, etc.*

Existing Traffic Control/Geometry: *Describe the existing traffic control and geometry of intersection(s) and or corridor(s).*

Existing Safety Measures: *Describe existing safety countermeasures performed in recent years and or observed during the field visit.*

Horizontal/Vertical Grades: *Describe the horizontal and vertical grades observed during the field visit.*

Sight Distance/Vegetation Concerns: *Describe the sight distance issues and roadside vegetation issues (if any). Include sight distance measurements if applicable.*

Intersection Queuing and Delay: *Describe intersection delay and queuing observed during the field visit. [ATSPM provide useful queuing information at signalized intersections.](#)*

Adjacent Signalized Intersection: *Include the intersection name of the adjacent signalized intersections and distance from the study location*

Pedestrian Movements/Accommodations: *Describe pedestrian movements and accommodations observed in the field visit.*

Other Modes of Transportation Present: *Describe other modes of transportation observed in the field.*

Potential Environmental Impacts/Concerns: *Describe potential environmental impacts and concerns observed during the field visit.*

Lighting: *Describe lighting conditions observed in the field.*

Parking: *Describe the availability of parking in the area.*

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Other Projects in the Area: *List projects in the area (i.e. GDOT, local agency and significant private development projects) that may impact or be impacted by this project; include PI numbers (if applicable), current project phase, and brief description. Explain any needed project coordination.*

Interim Measures: *Describe any plans for an interim measure. Document the support of interim measure with the local and/or District. This section needs to support the decision on why the interim measure is viable and why it is seen only as a short-term countermeasure. Documentation on agreements shall be placed in the appendix.*

Vehicle Speeds?

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Crash Analysis: *Perform crash analysis using the most recent five year for which crash data is available. Utilize available data sets including but not limited to Georgia Electronic Accident Reporting System (GEARS), Numetric, and County crash data.*

It is important to verify the location and turning movements of the documented collisions to ensure the predominant crash patterns are appropriately documented. All Injury/Fatal crash reports should be reviewed for accuracy. A sample of the property damage only crash reports should be reviewed for accuracy.

Include crash severity using the KABCO scale broken down by year and manner of collision. Include pertinent tables and figures (i.e. if crashes are occurring at a specific time of day include a chart of crashes by time of day). The purpose is to display important trends/identified safety issues. Lighting conditions must be broken out separately.

Data analysis in this section uses the historic crashes to compare with the expected crashes from the Highway Safety Manual (HSM).

Include a Crash Diagram in this section. There should be discussion to support the conclusions of the crash diagram.

Include information from Crash Screening, Time of Day, Fatal Crash Discussion Summary of crash analysis.

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Existing Documented Safety Concerns: *Identify trends documented by the collected crash data. Explicitly state any maneuvers with a documented safety issues. The purpose is to clearly define the existing crash issues and to set the stage for the proposed alternatives being considered. Detail on crash history should make it clear that a safety issue exists, and that an alternative to the existing conditions that proposes to mitigate the documented issue(s) should be installed.*

Operational Analysis: *Provide a brief summary of the findings below. Documentation of all operational analysis completed should be included in the appendices.*

Traffic Volume History: *State when counts were collected if applicable. State the general project location volumes. Use available resources to obtain/predict movements including but not limited to: GDOT Traffic Analysis and Data Application (TADA), GDOT Automated Traffic Signal Performance Measures (ATSPM).*

Capacity Analysis: *Outline the acceptable annual average daily traffic (AADT) for the study area and then compare it to the volumes collected as part of the study.*

Delay: *Conduct delay analysis for the existing conditions of the study location and summarize the results for LOS, V/C ratio, and delay for the AM and PM peak periods.*

Traffic Signal Warrant Analysis: *Conduct a signal warrant analysis using the 8, 4 and peak hour warrants listed in the MUTCD and summarize/describe the findings.*

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Roundabout Evaluation: (if applicable) Conduct an evaluation to determine if a roundabout is feasible at the given location and summarize/describe the findings.

ENVIRONMENTAL SCREENING: Describe potential environmental concerns identified in a conducted screening. The environmental screening should be included in the appendices.

POTENTIAL ALTERNATIVES AND COUNTERMEASURES: Provide a brief summary of the findings below.

Intersection Control Evaluation (ICE) – Stage 1: Use the latest version of the GDOT Intersection Control Evaluation (ICE) tool to conduct an intersection control evaluation. The ICE report should be included in the appendices. Provide an overview of the ICE – Stage 1 screening phase. State why/why not possible alternatives were selected.

Crash Reduction Factors: Clearly show the applicable crash reduction factors for each alternative including the pertinent source information. Any assumptions should be clearly stated.

Intersection Control Evaluation (ICE) – Stage 2: Use the latest version of the GDOT Intersection Control Evaluation (ICE) tool to conduct an intersection control evaluation. The ICE report should be included in the appendices. Provide an overview of the ICE – Stage 2 analysis phase. State any assumptions made. Clearly state the results of ICE – Stage 2, including alternative scores. Documentation of local community support should be included in the appendices.

Safety Impact of Potential Alternatives and Countermeasures: While the suggested countermeasures are proven safety treatments that have been shown in prior research to reduce traffic crashes, not all treatments may be feasible or cost-effective at this location based upon further study. Summarize the estimated impacts on expected annual crash frequencies for all alternatives. Compare and contrast the evaluated alternatives clearly identifying why the preferred alternative was chosen and providing supporting documentation.

Operational Impact of Potential Alternatives and Countermeasures: Provide an operational analysis of the implementation of the alternatives and countermeasures. Summarize the results comparing the existing conditions to all alternatives evaluated.

BENEFIT COST: Provide the predicted benefit cost for all alternatives evaluated, clearly identifying the preferred alternative. Provide explanation and assumptions as needed. Cost estimates and B/C calculations should be included in the appendices.

CONCLUSION: Summarize the information provided in the study. Describe analysis, decisions, and assumptions to document why the preferred alternative was chosen.

RECOMMENDATIONS: The proposed alternative is described. If different delivery mechanisms are anticipated, they are discussed/shown here. Also, reference to the alternative sketch in the appendix is provided.

RECOMMENDED BY: _____ **DATE** _____

Name: *Consultant Project Manager Name*
Consultant Project Manager

Traffic Engineering Study
Location, County



RECOMMENDED BY: _____ **DATE** _____

Samuel Harris, PE
State Safety Engineer

RECOMMENDED BY: _____ **DATE** _____

Name: *District Traffic Engineer Name*
District Traffic Engineer