



## Florida Department of Transportation

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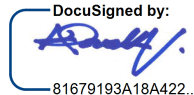
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### **TRAFFIC ENGINEERING AND OPERATIONS BULLETIN 24-02**

DATE: November 15, 2024

TO: District Traffic Operations Engineers, District Design Engineers, District Safety Engineers/Administrators, District Program Management Administrators, District Planning and Environmental Management Administrators

FROM: Rudy Powell, Jr., P.E.  
Chief Engineer of Operations



COPIES: Will Watts, Dan Hurtado, Lora Hollingsworth, Jennifer Marshall, Jennifer Fortunas, Daniel Strickland, Derwood Sheppard, State Traffic Engineering and Operations Office

SUBJECT: **2025 Updates on FDOT's Intersection Control Evaluation (ICE) Manual and Tools**

This bulletin announces the release of FDOT's *2025 Manual on Intersection Control Evaluation (ICE)* with updates to the *ICE Form* and the supplementary analysis tools, including *FDOT Capacity Analysis for Planning of Junctions (CAP-X) Tool*, *FDOT Safety Performance for Intersection Control Evaluation (SPICE) Tool*, and *FDOT Economic Analysis Tool for ICE*. The manual, forms, and tools are available on the State Traffic Engineering and Operations website at: <https://www.fdot.gov/traffic/trafficservices/intersection-control-evaluation>.

### **SUMMARY OF REVISIONS**

The Summary of Revisions highlight major changes only, as below.

#### ***Manual on Intersection Control Evaluation:***

- Editorial changes are made to the entire manual.
- Section 1.3 — References: Reference to Rule 14-96 is added.
- Section 1.6 — Revisions and Updates: Additional information is provided on the revision and update process to the ICE Manual and the associated software tools for ICE. Registration information for ICE users is now moved under this Section.
- Section 1.7 — Training: A link to the previous FDOT ICE training materials is added.
- Section 2.1 — Background and Purpose: New paragraphs are added with additional background on ICE and benefits of conducting an ICE.

- Section 2.4 — Conducting an ICE: Four subsections are added to better organize the content as some content from other sections and the appendix are relocated here. The subsections are:
  - Section 2.4.1 — ICE Stages
  - Section 2.4.2 — ICE Form
  - Section 2.4.3 — Analytical Tools for Conducting an ICE: “FDOT ICE Tool” is renamed to “FDOT Economic Analysis Tool for ICE”.
  - Section 2.4.4 — Considerations for Control Strategy Evaluation: Additional guidance is provided on factors that should be considered while evaluating intersection control strategies.
- Section 2.5 — ICE Stage Activities: Clarification is provided on ICE guidelines for PD&E studies in Section 2.5.1 – Stage 1 Steps and Section 2.5.2 – Stage 2 Steps.
- Appendix A — Intersection Control Strategy Descriptions: References to Manual on Uniform Traffic Control Devices (MUTCD) Sections and Chapters are updated to reflect information presented in the current edition of the MUTCD. Appendix A is reformatted and rewritten with descriptions of at-grade and ramp terminal intersections as a one-/two-pager and a new section with information on intersection control practices and supporting resources.
- Appendix B — FDOT ICE Forms: Images and text are updated corresponding to changes in the ICE Form.
- Appendix C — Evaluation of Pedestrian and Bicycle Accommodations: Items are organized under added subsections.
- Appendix D — Safety Evaluation Methods - Sources and Assumptions: In addition to existing information on assumptions for the Safe System for Intersections (SSI) method, sources of the crash prediction methods used in the FDOT SPICE Tool are provided.
- Appendix E: Removed from the 2025 ICE Manual.

***ICE Form:***

- The input on Funding Source is moved to the “Stage 2” worksheet.
- Route # and Milepost in each corresponding worksheet is renamed to Roadway ID and Milepoint, respectively.
- Reference to the “CAR System” is changed to “Signal Four Analytics” for crash data.
- “Project Determination” is renamed to “Recommendation” and moved from the Resolution Section to the Control Strategy Evaluation Section. “Project Determination” is to be filled by the Engineer of Record conducting the ICE study.
- The Resolution Section has now checkboxes for the District Traffic Operations Engineer and the District Design Engineer to either “Accept” or “Reject” the recommendation and separate comment boxes.

***FDOT Capacity Analysis for Planning of Junctions (CAP-X) Tool — Version January 2025:***

- Procedure to analyze multimodal ped and multimodal bike accommodations is added for the following intersection control strategies:
  - All at-grade three-legged intersections
  - Diamond Stop Control

- Signalized Tight Diamond
- Roundabout (1-lane)
- Roundabout (2-lane)
- Half Diamond Signalized with northbound or eastbound ramps
- Half Diamond Signalized with southbound or westbound ramps
- Two Quadrant Partial Cloverleaf A Signalized
- Four Quadrant Partial Cloverleaf B Signalized
- Traffic Signal (Alternative) is added in the list of intersection control strategies to select and analyze traffic signal with a different lane configuration.
- Formulas with the XLOOKUP function are replaced with VLOOKUP and HLOOKUP functions to support older versions of Microsoft Excel spreadsheet.
- The “Conventional Shared RT-LT” worksheet is removed.
- Lane configuration input cells for roundabout ramp terminal intersections are updated.
- Errors in the formulas for quadrant roadway intersections are fixed.
- A new worksheet called “Intersection Mapping” is added to compare the equivalents of each intersection control strategy across all the other associated tools.
- Several functionalities are added to aid users’ inputs.

***FDOT Safety Performance for ICE (SPICE) Tool — Version 5.2.0:***

- The SSI procedure is added for several ramp terminal intersections as follows:
  - Half Diamond Signalized
  - Four Quadrant Partial Cloverleaf A Signalized
  - Four Quadrant Partial Cloverleaf B Signalized
  - Two Quadrant Partial Cloverleaf A Signalized
  - Two Quadrant Partial Cloverleaf B Signalized
- Notes on Annual Average Daily Traffic (AADT) limits are corrected for ramp terminal intersections.
- Definitions for roundabout input variables are added in the “Definitions” worksheet.
- A new worksheet called “Intersection Mapping” is added to compare the equivalents of each intersection control strategy across all the other associated tools.

***FDOT Economic Analysis Tool for ICE — Version 3.0:***

- The tool is renamed so from “FDOT ICE Tool”.
- Source year of the Crash Cost in the “CostParameters” worksheet is updated.
- A new worksheet called “Intersection Mapping” is added to compare the equivalents of each intersection control strategy across all the other associated tools.

**COMMENTARY**

All revisions in this bulletin ensure accurate and consistent implementation.

## **IMPLEMENTATION**

These changes are effective on projects beginning design on or after January 1, 2025, and on projects currently in the design phase where implementation will not adversely impact production schedules.

## **CONTACT**

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