



Florida Department of Transportation

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TRAFFIC ENGINEERING AND OPERATIONS BULLETIN 22-03

DATE: November 1, 2022

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

FROM: Dan Hurtado, Chief Engineer

DocuSigned by:
Dan Hurtado
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COPIES: Will Watts, Trey Tillander, Michael Shepard, Lora Hollingsworth, Jennifer Marshall, State Traffic Engineering and Operations Office

SUBJECT: **Manual on Intersection Control Evaluation (ICE)**

This bulletin announces the release of the **2023 Manual on Intersection Control Evaluation (ICE)**, which is available on the State Traffic Engineering and Operations website:

<https://www.fdot.gov/traffic/TrafficServices/Intersection-Operations.shtm>

SUMMARY OF REVISIONS

• Chapter 1 Adoption Procedure

- **Entire Chapter:** Updated section numbering and made editorial changes.
- **Section 1.6 - Registration:** Added website link to the Department's Contract Management webpage.
- **Section 1.8 – Training:** Added new information about the Computer Based Training (CBT) opportunity on ICE.
- **Section 1.9 – Forms Access:** Renamed the Section from “Forms” to “Forms Access”. Updated the ICE Form number consistent with the Form Number in the Procedural Document Library. Added the website link to the State Traffic Engineering and Operations Office from where ICE Forms can be downloaded.

• Chapter 2 Intersection Control Evaluation

- **Entire Chapter:** Made editorial changes and updated references to the 2022 FDOT Design Manual (FDM).
- **Section 2.3 - Applicability:** Added further discussion on the use of ICE for ramp terminal intersections.
- **Section 2.4 – Conducting an ICE:** Added further discussion on the application of Stage 3: Detailed Control Strategy Assessment.
- **Section 2.5 – ICE Procedure:** Added language on the expansion of CAP-X for enhanced pedestrian and bicycle operational analysis. Added and modified language to

provide further clarification of analysis procedure for Stages 1, 2, and 3. Modified Figures 2 and 3 to add YES box between Steps 1.5A and 1.6A and Steps 2.3A and 2.4A, respectively.

- **Section 2.6 – Tools and Resources:** Updated the description and website links of useful tools and resources for ICE in Table 6.

- **Appendix A Intersection Type References**

- Made editorial changes and updated the list of tools required for Stage 1 and 2 operational analyses in Tables A1 and A2.
- Added Bowtie intersection to Table A1.

- **Appendix B FDOT ICE Forms**

- Made editorial changes and updated references to the 2022 FDM.
- Added information on the addition of the Bowtie intersection to ICE. CAP-X, SPICE, and FDOT ICE tools have been modified to include the Bowtie and Thru-Cut (unsignalized) intersections for analysis.
- Updated Stage 1 ICE Form by adding Bowtie and Thru-Cut (Unsignalized) intersections for At-Grade Intersection.
- Modified Stage 1 ICE Form with pedestrian and bicycle accommodations for expanded CAP-X tool outputs.
- Updated and restructured the description of the user input variables for Stages 1, 2, and 3 of the ICE Form.
- Rescinded the Tables for level of pedestrian activity and level of bicycle activity.

- **Appendix C Analysis Considerations**

- Made editorial changes and updated references to the 2022 FDM.
- Added clarification in Tables C1 and C2 regarding the presence of median opening for two-stage crossing and median for pedestrian refuge for Safe System analysis.
- Added new discussion on pedestrian and bicycle evaluation for the Multimodal Ped and Multimodal Bike tabs in the modified CAP-X tool.
- Added graphics of default pedestrian crosswalk locations and layout used in Cap-X analysis for all intersection control strategies in ICE.

COMMENTARY

The revisions and additions to the ICE Manual and Forms in this bulletin will advance intersection safety and mobility throughout the State. All revisions in this bulletin will ensure accurate and consistent implementation with no shift of risk issues.

IMPLEMENTATION

These changes are effective on projects beginning design on or after January 1, 2023, and on projects currently in the design phase where implementation will not adversely impact production schedules.

CONTACT

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