



Florida Department of Transportation

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ANANTH PRASAD
SECRETARY

ESTIMATES BULLETIN 14-07

DATE: December 17, 2014

TO: District Design Engineers, District Estimates Engineers

FROM: Phillip "Greg" Davis, PE, State Estimates Engineer

A handwritten signature in blue ink that reads "Phillip G. Davis".

COPIES TO: Trey Tillander, David Sadler, Duane Brautigam, Mark Wilson, Tim Lattner, Fred Heery, Daniel Scheer, Rudy Powell, Michael Shepard, Stefanie Maxwell, Karen Byram, Gevin McDaniel, Chester Henson, Scott Farash, Deanna Carroll

SUBJECT: Route Shield Pavement Markings

BACKGROUND

Route Shield pavement markings are available for use in accordance with the **Manual on Uniform Traffic Control Devices (MUTCD)**, Section 3B, and the FDOT's **Traffic Engineering Manual (TEM)**, Section 4.2. They are applied as preformed thermoplastic, in accordance with the Department's **Standard Specifications for Road and Bridge Construction**, Section 711.

The TEM contains the following concerning route shield pavement markings:

"Except where overhead signing normally would be required but installation is impractical or impossible, such as imposing on navigable airspace, in-pavement markings shall not be used as a substitute for vertical sign installation.."

Route shield pavement markings are justified for each of the following conditions:

- (a) Increased crash history where high traffic volumes worsen complex lane assignments such as lane drops, double lane exits with optional lanes, gores where crash cushions are hit frequently, and unusual geometries.
- (b) Underutilization of the optional lane or excess lane where changing maneuvers could cause congestion in an area not expected from volume/capacity analyses.
- (c) Complicated lane assignments and alignment shifts.
- (d) Where an overhead sign structure is not practical, and the turn-lane from an arterial to the on-ramp of a limited access facility may appear to provide access to establishments in the vicinity.

Route shield pavement markings are to be installed for optimum visibility.

- (a) Place after at least one overhead guide sign for the interchange.
- (b) Place far enough upstream of the decision point to allow motorist to safely change lanes.
- (c) Do not install under or immediately adjacent to overpasses as they can cast shadows on the shields. Note that placement on downhill slopes may reduce their effectiveness.
- (d) Place no more than two sets of markings (shield, with arrow or message) before the gore or decision point.
- (e) Install them within 1 mile in advance, taking into consideration existing signs and other traffic control devices.

Route shield pavement markings shall be installed as follows:

- (a) All Route shields shall be preformed thermoplastic.
- (b) All Route shield pavement markings shall be 15 feet in length.
- (c) US Route shields shall have contrast for both asphalt and concrete pavement.
- (d) Align the symbol in the center of the lane.
- (e) Arrows or messages (TO, LEFT, RIGHT, NORTH, SOUTH), may be used to supplement route shields and shall **follow** the route shield.
- (f) Use an 80 foot gap between markings. However cardinal directions (if used) may be 40 foot from a route shield marking.

Refer to the Section 3B.20 of the MUTCD for additional details.

Maintenance of Traffic: Route shield pavement markings may be used for Maintenance of Traffic, in accordance with Section 4.2 of the Traffic Engineering Manual.

Final Surface Pavement Markings: Include pay items for preformed thermoplastic route shield pavement markings, regardless of whether other thermoplastic markings are included in the contract.

Maintenance Contracts: Route shield pavement markings may be used in accordance with Section 4.2 of the Traffic Engineering Manual.

IMPLEMENTATION

For projects let July 2015, or earlier if changes do not affect production, update the plans to use pay item 711-14-660 for all route shield pavement markings. Ensure that the route shield pavement markings are used in accordance with the TEM requirements above.

711-14-660 Thermoplastic Pavement Markings, Preformed, Multi-color for Route Shield/Logo, Message, per Each

Note: Arrows or messages (NORTH, SOUTH, TO, LEFT, etc.) will continue to be paid with the following pay item for standard white thermoplastic.

711-11-160 Thermoplastic Pavement Markings, Standard, White, Message, per Each

711-11-170 Thermoplastic Pavement Markings, Standard, White, Arrow, per Each

Plans: For applicable projects, update the plans, tabulation sheets/Plan Summary Boxes, and Proposal Summary of Quantities (Transport report).

Traffic Engineering Manual (TEM): Revisions will be posted at <http://www.dot.state.fl.us/trafficoperations/Operations/Studies/TEM/TEM.shtm>

Plans Preparation Manual (PPM): Volume 1, Sections 7.6 and 10.10.3 of the 2015 PPM will be updated to include a reference to the TEM.

Specifications: No specification changes are required.

Basis of Estimates (BOE): The BOE will be updated to clarify the use of the above pay items.

CONTACTS

For questions on the use of route shield pavement markings, please contact the individuals listed below:

Traffic Operations: Angela Wilhelm, Angela.Wilhelm@dot.state.fl.us or 850-410-5417

Estimates: Melissa Hollis, Melissa.Hollis@dot.state.fl.us or 850-414-4182

Roadway Design: Chester Henson, Chester.Henson@dot.state.fl.us or 850-414-4117

Construction: Stefanie Maxwell, Stefanie.Maxwell@dot.state.fl.us or 850-414-4314.