ORIGINATION FORM
Proposed Revisions to the Specifications

(Please provide all information - incomplete forms will be returned)

Date: May 8, 2020

Office: Traffic Engineering and Ope

Originator: Derek Vollmer

Specification Section: 654

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Article/Subarticle: 654-2.4

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****Will the proposed revision require changes to:**

Publication	Yes	No	Office Staff Contacted and date contacted
Standard Plans Index	○	◉	Rick/Cheryl 5/6/20
Traffic Engineering Manual	◉	○	Javier Ponce 5/6/20
FDOT Design Manual	○	◉	Bobby Bull 5/6/20
Construction Project Administration Manual	○	◉	Scott Arnold 5/6/20
Basis of Estimate/Pay Items	○	◉	Missy Hollis 5/6/20
Structures Design Guidelines	○	◉	Ben Goldsberry 5/6/20
Approved Product List	◉	○	Karen Byram 5/6/20
Materials Manual	○	◉	Susan Musselman 5/6/20

**This section must be completed prior to processing proposed revisions.

Will this revision necessitate any of the following:

Design Bulletin ☐ **Construction Bulletin** ☐ **Estimates Bulletin** ☐ **Materials Bulletin** ☐

Are all references to external publications current? **Yes** ◉ **No** ○

If not, what references need to be updated? (Please include changes in the redline document.)

Why does the existing language need to be changed?

Expand the capabilities of the midblock crosswalk enhancement assemblies for accessible features.

Summary of the changes:

Added 654-2.4 Optional Audible Feature describing the general components. Partial requirements were also taken from FHWA Interim Approval 21.

Are these changes applicable to all Department jobs? **Yes** ◉ **No** ○

If not, what are the restrictions?

Contact the State Specifications Office for assistance in completing this form.

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M E M O R A N D U M

DATE: May 28, 2020

TO: Specification Review Distribution List

FROM: Daniel Strickland, P.E., State Specifications Engineer

SUBJECT: Proposed Specification: **6540202 Midblock Crosswalk Enhancement Assemblies.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

This change was proposed by Derek Vollmer by the Traffic Engineering and Operations Office to expand the capabilities of the midblock crosswalk enhancement assemblies for accessible features.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or online at http://fdotewp1.dot.state.fl.us/programmanagement/development/industryreview.aspx . Comments received after **June 25, 2020**, may not be considered. Your input is encouraged.

DS/rf

Attachment

MIDBLOCK CROSSWALK ENHANCEMENT ASSEMBLIES
(REV 5-21-20)

SUBARTICLE 654-2.2 is expanded by the following:

654-2.2 Rectangular Rapid Flashing Beacon (RRFB): RRFB must include two rapidly and alternately flashed rectangular yellow indications having LED-array based pulsing light sources. Each rectangular yellow indication must be a minimum of five inches wide by two inches high. RRFB installations shall comply with the use and technical conditions of FHWA MUTCD Interim Approval 21 – Rectangular Rapid-Flashing Beacons at Crosswalks. The two RRFB indications shall be aligned horizontally, with the longer dimension horizontal and with a minimum space between the two indications of approximately 7 inches measured from inside edge of one indication to inside edge of the other indication.

654-2.2.1 RRFB Sign Assemblies: RRFB assemblies must be used to supplement W11-2 (Pedestrian), S1-1 (School), or W11-15 (Trail) crossing warning sign and includes a diagonal downward arrow (W16-7p) plaque and a single column ground sign post. Use attachment hardware in accordance with Standard Plans, Index 700-010.

Optional mast arm and pole installation may be used if shown in the Plans. Follow the manufacturer's specifications on the number of RRFB units that are connected to the timer's output driver. Mast arm mounted RRFB assemblies include a W11-2 or S1-1 sign and attachment hardware. Pole mounted RRFB assemblies include a W16-7p sign and attachment hardware. Use attachment hardware in accordance with Section 659.

The outside edges of the RRFB indications, including any housings, shall not project beyond the outside edges of the W11-2, S1-1, or W11-15 sign.

654-2.2.2 Beacon Flashing Requirements: The light intensity of the yellow indications shall meet the minimum specifications of Society of Automotive Engineers (SAE) standard J595 for Class 1 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated January 2005. Ensure RRFB assemblies are capable of automatically dimming to reduce brightness of the LEDs at nighttime.

The flash rate of each individual yellow indication, as applied over the full on-off sequence of a flashing period of the indication, shall not be between 5 and 30 flashes per second. When activated, the two yellow indications in each RRFB shall have a flash rate of 75 flash cycles per minute using the following sequence: left side beacon on for 50 milliseconds (msec), both beacons off for 50 msec, right side beacon on for 50 msec, both beacons off for 50 msec, left side beacon on for 50 msec, both beacons off for 50 msec, right side beacon on for 50 msec, both beacons off for 50 msec, both beacons on for 50 msec, both beacons off for 50 msec, both beacons on for 50 msec, both beacons off for 250 msec.

654-2.2.3 RRFB Operation: RRFB shall be normally dark, initiate operation only upon pedestrian actuation via a pedestrian pushbutton, and cease operation at a predetermined time after the pedestrian actuation or, with passive detection, after the pedestrian clears the crosswalk. The duration of the predetermined period shall be programmable and capable of matching the pedestrian clearance time for pedestrian signals as determined by MUTCD procedures. The timer that controls flashing must automatically reset each time a pedestrian call is received.

All RRFBs associated with a single crosswalk (including those with an overhead or advance crossing sign, if used) shall simultaneously commence operation of their alternating rapid flashing indications and shall cease operation simultaneously.

RRFBs must include an instruction sign with the legend PUSH BUTTON TO TURN ON WARNING LIGHTS mounted adjacent to or integral with each pedestrian pushbutton.

A confirmation light directed at and visible to pedestrians in the crosswalk must be installed integral to the RRFB to give confirmation that the RRFB is in operation.

654-2.2.4 Accessible Pedestrian Pushbutton: If an accessible pedestrian pushbutton is shown in the Plans, the assembly must contain a speaker, audio amplifier, and noise monitoring microphone for auto volume control.

The accessible pedestrian pushbutton detector must meet 665-2.2 for the locator tone feature. The pushbutton must not include a vibrotactile indication or percussive indications. The audible message must be programmable.