Florida Department of Transportation

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TRAFFIC ENGINEERING AND OPERATIONS MEMORANDUM 16-01
OFFICE OF DESIGN MEMORANDUM 16-01

DATE: December 27, 2016

TO: District Directors of Transportation Operations, District Directors of Transportation Development, District Design Engineers, District Construction Engineers, District Maintenance Engineers, District Consultant Project Manager Engineers, District Roadway Design Engineers, District Traffic Operations Engineers, District Program Management Engineers

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SUBJECT: **Express Lane Marker Spacing for Buffer – Separated Projects**

This memorandum introduces a spacing requirement for express lane markers for buffer – separated projects.

REQUIREMENTS

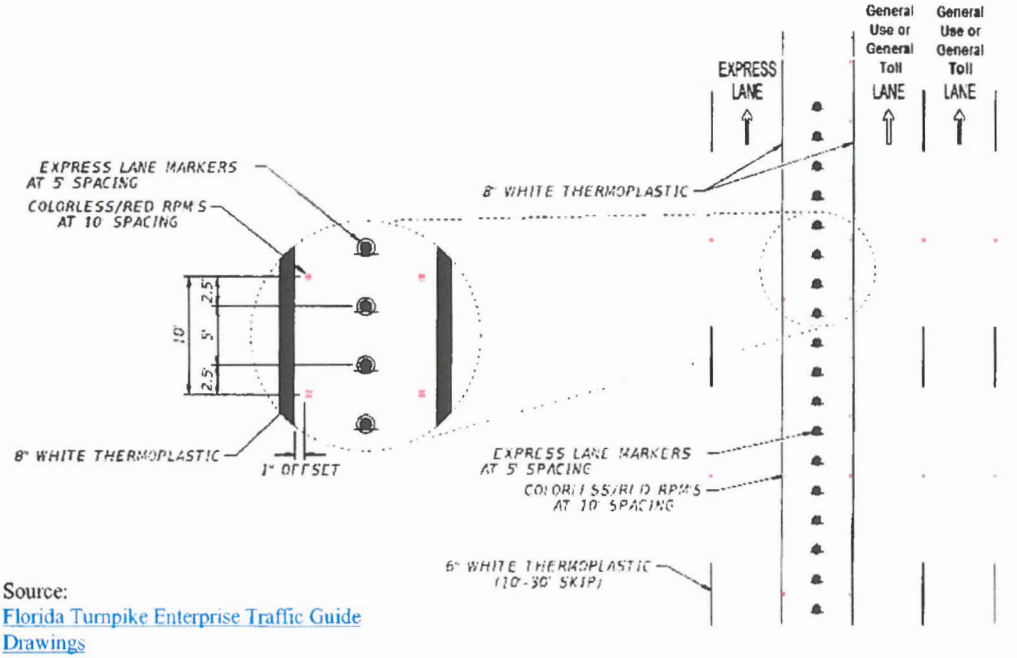
When designing express lanes, they must be separated from the general use lanes or the general toll lanes. Express Lanes will be either barrier-separated (preferred) or buffer-separated with express lane markers. Standard Specifications for the express lane markers used in this application have not been developed. Therefore, Developmental Specification 993 shall be used and included in the contract to define requirements for height, retro-reflectivity, and mounting technique.

Color and spacing will be specified in the plans. The District Traffic Operations Engineer must be consulted on the color and spacing of the express lane markers during the design phase.

When express lane markers are used, they must be spaced at a maximum of five feet. If through operational and safety analysis, the engineer of record or the district wishes to increase the maximum allowable spacing, a Design Variation request must be submitted and approved by the Chief Engineer.

BACKGROUND

The buffer-separated design uses a combination of pavement markers and markings with a series of express lane markers to separate the express lanes from the general use lanes or general toll lanes. Express lane markers with pavement markers and markings are more effective than pavement markers and markings alone to provide visual separation, maintain lane positions, and discourage crossover access movements. When 95 Express, Phase I, opened to traffic in 2008 the express lane markers were spaced at 20 feet and immediately there was observed behavior of motorists making illegal movements by crossing between or over the express lane markers during periods of heavy congestion causing serious safety concerns. These movements have since been deemed "lane diving". In response to the lane diving, the express lane markers spacing was reduced from 20 feet to 10 feet. The 10-foot spacing has remained in operation for over eight years, yet "lane diving" behavior has continued to increase over time. In response, express lane markers are being installed along 95 Express, Phase I, to test a reduced spacing of five feet. Data will be collected and a before-and-after study will be performed to determine if the reduced spacing helps alleviate the lane diving behavior. When designing the buffer-separated with express lane markers separation, unless a Design Variation is approved, a **spacing of five feet** must be used until the results of the before-and-after study can be assessed. See the following illustration showing a typical preferred configuration.



Source:
Florida Turnpike Enterprise Traffic Guide Drawings

IMPLEMENTATION

The implementation of the above requirements is effective for all express lane projects using the separation of buffer-separated with express lane markers that let March 2017 and later and at the discretion of the district for projects currently in the construction phase where implementation will not adversely impact the construction schedule, or project cost.

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