




PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING DIVISION

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TO: Public Works Department/Traffic Engineering Division Personnel

FROM: Scott Brunner, Director, Traffic Engineering Division  4-16-2018

DATE: April 16, 2018

SUBJECT: **Traffic Engineering Division Technical Policy Memo #TPM-18-001**
Use of Green Colored Bicycle Markings

EFFECTIVE: April 16, 2018
EXPIRES: December 31, 2020

PURPOSE

Broward County has a significant number of bicyclists using its streets, bike routes and paths, and wishes to enhance the safety and visibility of bike lanes with the use of green pavement and/or bike lane symbols and arrows with green background. The purpose of this memorandum is to establish County policy regarding the Federal Highway Administration's (FHWA's) issuance of Interim Approval to Broward County for the use of green colored pavement in bicycle lanes, extensions of bicycle lanes, and within other potential traffic conflict areas. "Interim Approval" by FHWA allows interim use, pending official FHWA rulemaking, of a new traffic control device, or allows a revision to the manner in which an existing traffic control device is used as described in the Manual on Uniform Traffic Control Devices (MUTCD).

BACKGROUND

On April 15, 2011, FHWA Associate Administration for Operations Jeffrey A. Lindley released an official memorandum authorizing "Interim Approval for Optional Use of Green Colored Pavement for Bike Lanes (IA-14)." This memorandum summarized FHWA's research findings, conclusions and conditions of Interim Approval utilizing green bike lanes and markings (Attachment 1). Broward County received FHWA Interim Approval for green colored bike lanes and bike markings with green background on September 4, 2013 (Attachment 2), and such approval extends to all municipalities for which Broward County has traffic control authority through an inter-local traffic services agreement.

In accordance with FHWA Interim Approval, Broward County has committed to the following requirements of the April 15, 2011 Memorandum:

- 1) Broward County agrees to comply with the technical conditions detailed in the memorandum.
- 2) Broward County agrees to maintain an inventory of all locations where green colored pavement is installed.

- 3) Per Section, 1A.10 of the 2009 MUTCD, Broward County agrees to restore the site of the Interim Approval to a condition that complies with the provisions of the Manual “within 3 months following the issuance of a Final Rule on this traffic control device.” Also, the County agrees to terminate the use of the device at any time it determines significant safety concerns are attributable to the device.

IMPLEMENTATION

Approved Green Bike Lane Applications Maintained by Broward County

The following types of green bike markings are approved for installation and will be maintained by Broward County on County jurisdictional roadways and on municipal jurisdictional roadways for which the local municipality has entered an inter-local traffic services agreement with the County:

1. Pre-formed thermoplastic bike lane markings consisting of white bike lane symbols and arrows on green background. The white and green thermoplastic colors must meet the requirements of the MUTCD. The markings shall consist of individual rectangular units that are heat-applied or epoxied to the asphalt. The preformed markings shall have a valid Florida Department of Transportation (FDOT) Approved Product List (APL) certification and must be pre-approved by the Traffic Engineering Division.
2. Pre-formed thermoplastic bike “sharrow” markings consisting of white bike lane symbols and chevrons on green background. The white and green thermoplastic colors must meet the requirements of the MUTCD. The markings shall consist of individual rectangular units that are heat-applied or epoxied to the asphalt. The preformed markings shall have a valid Florida Department of Transportation (FDOT) Approved Product List (APL) certification and must be pre-approved by the Traffic Engineering Division.
3. Pre-formed thermoplastic bike lane transition, crossover, and conflict area markings consisting of white markings on green background, or green areas supplementing other pre-existing pavement markings. The white and green thermoplastic colors must meet the requirements of the MUTCD. The markings shall consist of individual or connected polygonal units that are heat-applied or epoxied to the asphalt. The shape, pattern and dimensions are to be determined by the engineer based on actual conditions. The preformed marking material shall have a valid Florida Department of Transportation (FDOT) Approved Product List (APL) certification and must be pre-approved by the Traffic Engineering Division.



Pre-formed Bike Symbol
On Green Background



Pre-formed “Sharrow”
On Green Background



Pre-Formed “Crossover”

Conditionally Approved Green Bike Lane Applications that May be Maintained by Local Municipalities

In addition to the types of markings described in the previous section, the following types of green bike markings are conditionally approved for installation by local municipalities, subject to a written agreement in which the local municipality agrees to perpetually maintain the markings at its own cost. The following will not be installed and maintained by Broward County unless the local municipality enters into a maintenance and compensation agreement with the County:

1. Continuous designated green bike lanes consisting of white bike lane symbols on a continuous green painted asphalt surface. The green paint and paint color must meet the requirements of the MUTCD, and shall have an FDOT APL product approval. The paint shall include anti-skid additives, such as sharp silica or calcined bauxite, to be introduced into the paint at a mixture rate determined by the engineer and acceptable to the County. The paint may also include retroreflective additives such as glass spheres, also to be introduced into the paint at a mixture rate determined by the engineer and acceptable to the County. The white bike logos and arrows installed within the continuous green bike lane shall be retroreflective thermoplastic, including pre-formed retroreflective markings. The preformed markings shall have a valid Florida Department of Transportation (FDOT) Approved Product List (APL) certification and must be pre-approved by the Traffic Engineering Division.
2. Continuous designated green bike lanes consisting of white bike lane symbols on a continuous green bike lane surfaced with a durable liquid pavement marking (DLPM), consisting of either epoxy or Methyl Methacrylate (MMA). The green DLPM must meet the requirements of the MUTCD, and shall have an FDOT APL product approval. The DLPM mixture must be skid-resistant and can be retroreflective as determined by the engineer, and approved by the County. The white bike logos and arrows installed within the continuous green bike lane shall be retroreflective thermoplastic, including pre-formed retroreflective markings suitable for application to the DLPM. The preformed markings shall have a valid Florida Department of Transportation (FDOT) Approved Product List (APL) certification and must be pre-approved by the Traffic Engineering Division.
3. Continuous designated green bike lanes consisting of white bike lane symbols on a continuous pre-formed green thermoplastic bike lane surface. The white and green thermoplastic colors must meet the requirements of the MUTCD. The markings shall consist of assembled units that are heat-applied or epoxied to the asphalt. The preformed markings shall have a valid Florida Department of Transportation (FDOT) Approved Product List (APL) certification and must be pre-approved by the Traffic Engineering Division.
4. Continuous designated green bike lanes consisting of white bike lane symbols on a continuous green-colored ("embedded") asphalt composition. Colored asphalt is composed of the same material as standard asphalt, but has a colored pigment added. The colored asphalt may be installed as a thin layer over conventional asphalt to reduce cost. The colored asphalt pigments must comply with the MUTCD. The white bike logos and arrows installed within the continuous green bike lane shall be retroreflective thermoplastic, including pre-formed retroreflective markings. The preformed markings shall have a valid Florida Department of Transportation (FDOT) Approved Product List (APL) certification and must be pre-approved by the Traffic Engineering Division.



Continuous Green Bike Lane
(Two-Part Textured/Reflective Surface)
[Maintained by Municipality]



Continuous Green Bike Lane @ Cross-Street
(Two-Part Textured/Reflective Surface)
[Maintained by Municipality]

5. Green bike boxes and other designated bike travel areas or conflict areas. The local municipality may install and perpetually maintain green-colored bike boxes or other designated green-colored bike travel areas or conflict areas utilizing any of the above methods, subject to the design being pre-approved by the Traffic Engineering Division.

Bike Lane Signage Maintained by Broward County

Broward County will maintain appropriate MUTCD-compliant bike lane signage on all County jurisdictional roadways, and on municipal jurisdictional roadways for which the local municipality has entered an inter-local traffic services agreement with the County, subject to plans approval by the Traffic Engineering Division. Municipalities may install and maintain bike safety educational signs subject to plans approval by the Traffic Engineering Division and a written agreement in which the local municipality agrees to perpetually maintain the signs at its own cost.

EFFECTIVE DATE

This policy shall be in effect through December 31, 2020, unless superseded by an updated technical policy memorandum.

APPROVED



Scott Brunner, P.E.
Division Director



Date

- C. Andrew Sebo, Acting Assistant Director, Traffic Engineering Division
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