MEMORANDUM

TO: All Users of the Delaware Manual on Uniform Traffic Control Devices

FROM: Peter Haag, P.E., PTOE
Chief of Traffic Engineering

DATE: January 10, 2022

SUBJECT: Interim Guidance; Part 3, Markings
Section 3A.06 Regarding Pavement Marking Widths

This Interim Guidance to the Delaware Manual on Uniform Traffic Control Devices (MUTCD) provides new guidance to adopt 6” wide normal and 12” wide pavement markings along state-maintained roadways.

Should you have questions concerning the information contained in this Interim Guidance, please contact my office at (302) 659-4060.

Revised Language

Section 3A.06 Functions, Widths, and Patterns of Longitudinal Pavement Markings

Revise the following language in Paragraphs 2B and 2C of section 3A.06 as shown below:

Guidance:

02B (DE Revision) A normal line along all state-maintained roadways should be 6 inches wide.

02C (DE Revision) A wide line along all state-maintained roadways should be 12 inches wide.
This Interim Guidance replaces the following figures within Part 3 of the Delaware MUTCD:

- Figure 3A-1A
- Figure 3A-1B
- Figure 3B-8
- Figure 3B-8A
- Figure 3B-9
- Figure 3B-9A
- Figure 3B-10
- Figure 3B-10A
- Figure 3B-11
- Figure 3B-11A
- Figure 3B-13
- Figure 3B-14
- Figure 3B-14A
- Figure 3B-14B
- Figure 3B-14C
- Figure 3C-1
- Figure 3C-3
- Figure 3C-4

Concurred By: Mark Luszcz
Deputy Director, Design
Figure 3A-1A. Black Contrast Marking Patterns on Interstates, Freeways or Expressways
(Delaware Revision)

Legend
→ Direction of Travel
w = width of black contrast border
1.5 in to 3.0 in based on application
x = width of broken line
y = width of edge line
z = width of dotted line
x, y, & z = 6 in or 12 in based on application
Figure 3A-1B. Black Contrast Marking Patterns on All Other Roads (Non-Interstates, Freeways or Expressways)  
(Delaware Revision)

*Legend*

- **w** = width of black contrast border
- 1.5 in to 3.0 in based on application
- **x** = width of broken line
- **y** = width of edge line
- **z** = width of dotted line
- **x**, **y**, & **z** = 6 in or 12 in based on application
Figure 3B-8. Examples of Dotted Line and Channelizing Line Applications for Exit Ramp Markings along Interstates, Freeways and Expressways (Sheet 1 of 2) (Delaware Revision)

A - Parallel deceleration lane

- Physical gore
- 12 in white chevron markings typically spaced at 50 ft in neutral area
- 12 in white channelizing lines
- 12 in solid white lane line
- 12 in dotted white lane line consisting of 3 ft line segments and 9 ft gaps

B - Tapered deceleration lane

- Physical gore
- Theoretical gore
- 12 in white chevron markings typically spaced at 50 ft in neutral area
- 12 in white channelizing lines
- Theoretical gore
- 12 in dotted white extension of right-hand edge line consisting of 3 ft line segments and 9 ft gaps

Legend

- Direction of travel
Figure 3B-8. Examples of Dotted Line and Channelizing Line Applications for Exit Ramp Markings along Interstates, Freeways and Expressways (Sheet 2 of 2) (Delaware Revision)

C – Parallel deceleration lane at a multi-lane exit ramp having an optional exit lane that also carries the through route

- 12 in solid white lane line
- 12 in white channelizing lines
- 12 in white chevron markings typically spaced at 50 ft in neutral area
- 12 in dotted white lane line consisting of 3 ft line segments and 9 ft gaps
- Physical gore
- 100 ft MIN.

Legend
- Direction of travel
Figure 3B-8A. Examples of Dotted Line and Channelizing Line Applications for Exit Ramp Markings along All Other Roads (Non-Interstates, Freeways and Expressways) (Sheet 1 of 2) (Delaware Revision)
Figure 3B-8A. Examples of Dotted Line and Channelizing Line Applications for Exit Ramp Markings along All Other Roads (Non-Interstates, Freeways and Expressways) (Sheet 2 of 2) (Delaware Revision)

C – Parallel deceleration lane at a multi-lane exit ramp having an optional exit lane that also carries the through route

- 12 in solid white lane line
- 12 in white channelizing lines
- 12 in white chevron markings typically spaced at 25 ft in neutral area
- 12 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps
- 12 in solid white lane line
- 100 ft MIN.
Figure 3B-9. Examples of Dotted Line and Channelizing Line Applications for Entrance Ramp Markings along Interstates, Freeways and Expressways (Delaware Revision)

A - Parallel acceleration lane

B - Tapered acceleration lane

Legend

Direction of travel

A = Length of acceleration lane plus taper

12 in dotted white lane line, consisting of 3 ft line segments and 9 ft gaps, for at least half the length of the full-width acceleration lane plus taper

12 in solid white lane line; 100 ft MIN.

Theoretical gore

Neutral area

Physical gore

Full lane width

Theoretical gore

Physical gore

12 in white channelizing lines

Edge of through lane

12 in white line; 100 ft MIN.
Figure 3B-9A. Examples of Dotted Line and Channelizing Line Applications for Entrance Ramp Markings along All Other Roads (Non-Interstates, Freeways and Expressways) (Delaware Revision)

A - Parallel acceleration lane

- 12 in solid white lane line; 100 ft MIN.
- 12 in dotted white lane line, consisting of 2 ft line segments and 6 ft gaps, for at least half the length of the full-width acceleration lane plus taper

B - Tapered acceleration lane

- Full lane width
- Theoretical gore
- Neutral area
- 12 in white channelizing lines
- Physical gore
- Edge of through lane

Legend
- Direction of travel

A = Length of acceleration lane plus taper
Figure 3B-9B. Example of Channelizing Line Application for Added Lane Entrance Ramp
(Delaware Revision)

Legend

↑ Direction of travel

12 in solid white lane line

100 ft MIN.

Theoretical gore

Physical gore

12 in white channelizing lines
Figure 3B-10. Examples of Applications of Interstate, Freeway and Expressway Lane-Drop Markings (Sheet 1 of 5)

(Delaware Revision)

A – Lane drop at a single lane exit ramp

12 in white channelizing lines

12 in solid white lane line

12 in dotted white lane line consisting of 3 ft line segments and 9 ft gaps

Exit Ramp

Physical gore

Theoretical gore

12 in white chevron markings typically spaced at 50 ft intervals in neutral area

MIN. - 1/2 mile
MAX. - First lane drop/assignment sign

Optional speed measurement marking

Legend

→ Direction of travel
Figure 3B-10. Examples of Applications of Interstate, Freeway and Expressway Lane-Drop Markings (Sheet 2 of 5)  
(Delaware Revision)

B – Lane drop at a multi-lane exit ramp having an optional exit lane that also carries the through route

- 12 in solid white lane line
- 12 in white chevron markings typically spaced at 50 ft intervals in neutral area
- 12 in white channelizing lines
- 12 in solid white lane line
- 12 in dotted white lane line consisting of 3 ft line segments and 9 ft gaps

Legend

- Direction of travel

MIN. - 1/2 mile
MAX. - First lane drop/assignment sign

100 ft MIN.
Figure 3B-10. Examples of Applications of Interstate, Freeway and Expressway Lane-Drop Markings (Sheet 3 of 5)
(Delaware Revision)

C – Two-lane lane drop at an exit ramp

Legend

- 12 in white chevron markings typically spaced at 50 ft intervals in neutral area
- Theoretical gore
- Physical gore
- 12 in solid white lane line
- 300 ft MIN.
- 100 ft MIN.
- 12 in white channelizing lines
- 12 in dotted white lane line consisting of 3 ft line segments and 9 ft gaps
- MIN. - 1/2 mile
- MAX. - First lane drop/assignment sign

Direction of travel
Figure 3B-10. Examples of Applications of Interstate, Freeway and Expressway Lane-Drop Markings (Sheet 4 of 5)

(Delaware Revision)

D - Route split with dedicated lanes

Legend

Direction of travel

Physical gore

12 in white chevron markings typically spaced at 50 ft intervals in neutral area

Theoretical gore

12 in solid white lane line

12 in white channelizing lines

12 in dotted white lane line consisting of 3 ft line segments and 9 ft gaps

MIN. - 1/2 mile
MAX. - First lane drop/assignment sign

300 ft MIN.
Figure 3B-10. Examples of Applications of Interstate, Freeway and Expressway Lane-Drop Markings (Sheet 5 of 5)  
(Delaware Revision)

E – Auxiliary lane, such as at a cloverleaf interchange

Legend

→ Direction of travel

12 in white channelizing lines

12 in dotted white lane line, consisting of 3 ft line segments and 9 ft gaps, for full length of auxiliary lane between the upstream and downstream ends of the wide solid white lane lines

12 in solid white lane line; 100 ft MIN.

12 in white chevron markings typically spaced at 50 ft intervals in neutral area

12 in solid white lane line; 100 ft MIN.

Theoretical gore

Physical gore

Neutral area

Physical gore

Theoretical gore

Legend

→ Direction of travel
Figure 3B-10A. Examples of Applications of Lane-Drop Markings along All Other Roads (Non-Interstates, Freeways and Expressways) (Sheet 1 of 5)  
(Delaware Revision)

A – Lane drop at a single lane exit ramp

12 in white channelizing lines

12 in solid white lane line

12 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps

Optional speed measurement marking

Exit Ramp

Physical gore

Theoretical gore

MIN. - 1/2 mile
MAX. - First lane drop/assignment sign

300 ft MIN.

Legend

→ Direction of travel

MIN. - 1/2 mile
MAX. - First lane drop/assignment sign
Figure 3B-10A. Examples of Applications of Lane-Drop Markings along All Other Roads (Non-Interstates, Freeways and Expressways) (Sheet 2 of 5) (Delaware Revision)

B – Lane drop at a multi-lane exit ramp having an optional exit lane that also carries the through route.

Legend

- Direction of travel

12 in solid white lane line

12 in white channelizing lines

Physical gore

12 in white chevron markings typically spaced at 25 ft intervals in neutral area

12 in solid white lane line

MIN. - 1/2 mile
MAX. - First lane drop/assignment sign

12 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps

MIN. - 100 ft

Legend

- Direction of travel

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Figure 3B-10A. Examples of Applications of Lane-Drop Markings along All Other Roads (Non-Interstates, Freeways and Expressways) (Sheet 3 of 5)

(Delaware Revision)

C – Two-lane lane drop at an exit ramp

Legend

- Direction of travel
- 12 in white chevron markings typically spaced at 25 ft intervals in neutral area
- 12 in solid white lane line
- 12 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps
- Theoretical gore
- Physical gore

MIN. - 1/2 mile
MAX. - First lane drop/assignment sign

100 ft MIN.
300 ft MIN.
Figure 3B-10A. Examples of Applications of Lane-Drop Markings along All Other Roads (Non-Interstates, Freeways and Expressways) (Sheet 4 of 5)

(Delaware Revision)

D – Route split with dedicated lanes

- 12 in white channelizing lines
- 12 in solid white lane line
- 12 in white chevron markings typically spaced at 25 ft intervals in neutral area
- Physical gore
- Theoretical gore
- 300 ft MIN.
- MIN. - 1/2 mile
- MAX. - First lane drop/assignment sign
- 12 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps

Legend
- ➔ Direction of travel
**Figure 3B-10A. Examples of Applications of Lane-Drop Markings along All Other Roads (Non-Interstates, Freeways and Expressways) (Sheet 5 of 5)**

(DeLaure Revision)

**E - Auxiliary lane, such as at a cloverleaf interchange**

Legend

- Direction of travel

12 in solid white lane line; 100 ft MIN.

12 in dotted white lane line, consisting of 2 ft line segments and 6 ft gaps, for full length of auxiliary lane between the upstream and downstream ends of the wide solid white lane lines

12 in solid white lane line; 100 ft MIN.

12 in white channelizing lines

Physical gore

Theoretical gore

Neutral area

Physical gore

12 in white channelizing lines

12 in white chevron markings typically spaced at 25 ft intervals in neutral area

12 in white channelizing lines typically spaced at 25 ft intervals in neutral area

12 in solid white lane line; 100 ft MIN.
Figure 3B-11. Examples of Applications of Conventional Road Auxiliary Lane and Lane-Drop Markings (Sheet 1 of 5) (Delaware Revision)

A – Right-turn lane drop at an intersection
(Posted or 85th-percentile speed < 35 MPH)

- 6 in solid white lane line (signalized intersections only) equal to 0.5 L if L < 300 ft; MAX. - 150 ft
- 6 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps
- 6 in solid white lane line
- 6 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps
- 6 in broken white lane line consisting of 10 ft line segments and 30 ft gaps

* Omit downstream left-turn lane arrow if L < 200 ft; lane arrows should not be installed on top of loop detectors
** Install additional left-turn lane arrow at 0.5 L if L > 500 ft

- 12 in solid white lane line
- 6 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps
- 0.5 L
- L - full-width turn lane
- Taper
- 50 ft
- 40 ft to 90 ft
- 30 ft
- 40 ft to 90 ft
- 40 ft to 90 ft
- 40 ft to 90 ft
- 40 ft to 90 ft
- 210 ft to 410 ft
Figure 3B-11. Examples of Applications of Conventional Road Auxiliary Lane and Lane-Drop Markings (Sheet 2 of 5)

( Delaware Revision) 

B – Right-turn lane drop at an intersection
(Posted or 85th-percentile speed ≥ 35 MPH)

- 6 in solid white lane line (signalized intersections only) equal to 0.5 L if L < 300 ft; MAX. = 150 ft
- 6 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps
- 6 in solid white lane line
- 6 in solid white lane line
- 6 in solid white lane line
- 6 in broken white lane line consisting of 10 ft line segments and 30 ft gaps
- 6 in broken white lane line consisting of 10 ft line segments and 30 ft gaps

- **Omit downstream left-turn lane arrow if L < 200 ft; lane arrows should not be installed on top of loop detectors**
- **Install additional left-turn lane arrow at 0.5 L if L > 500 ft**

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Figure 3B-11. Examples of Applications of Conventional Road Auxiliary Lane and Lane-Drop Markings (Sheet 3 of 5) (Delaware Revision)

C – Auxiliary lane between intersections

Posted or 85th-percentile speed < 35 MPH

- 12 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps
- 12 in solid white lane line; 100 ft MIN.

Posted or 85th-percentile speed > 35 MPH

- 12 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps
- 12 in solid white lane line; 100 ft MIN.
Figure 3B-11. Examples of Applications of Conventional Road Auxiliary Lane and Lane-Drop Markings
(Sheet 4 of 5)

(Delaware Revision)

D – Exclusive turn lanes at an intersection

- Omit downstream left-turn (or right-turn) lane arrow if L_L < 200 ft (or L_R < 200 ft);
  lane arrows should not be installed on top of loop detectors

- Install additional left-turn (or right-turn) lane arrow at 0.5 L_L (or 0.5 L_R) if
  L_L > 500 ft (or L_R > 500 ft)

6 in solid white lane line (signalized intersections only)
equal to 0.5 L_R if L_R > L_L
or equal to 0.5 L_L if L_L > L_R;
MAX. - 150 ft

Omit downstream left-turn (or right-turn)
lane arrow if L_L < 200 ft (or L_R < 200 ft);
lane arrows should not be installed on
top of loop detectors

Install additional left-turn (or right-turn)
lane arrow at 0.5 L_L (or 0.5 L_R) if
L_L > 500 ft (or L_R > 500 ft)

6 in solid white lane lines consisting of 2 ft line segments and 6 ft gaps

6 in broken white lane line consisting of 10 ft line segments and 30 ft gaps

Taper
Figure 3B-11. Examples of Applications of Conventional Road Auxiliary Lane and Lane-Drop Markings

(Sheet 5 of 5)

(Delaware Revision)

E – Two left-turn lanes at an intersection

- **Omit downstream left-turn (or right-turn) lane arrow if \( L_L < 200 \) ft (or \( L_R < 200 \) ft); lane arrows should not be installed on top of loop detectors**

- **Install additional left-turn (or right-turn) lane arrow at 0.5 \( L_L \) (or 0.5 \( L_R \)) if \( L_L > 500 \) ft (or \( L_R > 500 \) ft)
Figure 3B-11A. Example of Auxiliary Lane Lines - Bypass Lane (Delaware Revision)

Legend

- Direction of travel

Note: Refer to the DelDOT Standards and Regulations for Subdivision Streets and State Highway Access for specific storage and taper lengths.

- 6 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps
- 6 in solid white lane line
- 6 in dotted white lane line consisting of 2 ft line segments and 6 ft gaps

Departure taper:
- 25 ft

Storage length:
- 30 ft

Approach taper:

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Figure 3B-13. Examples of Line Extensions through Intersections (Sheet 1 of 2)  
(Delaware Revision)

A - Typical pavement markings with offset lane lines continued through the intersection and crosswalk lines and stop lines

Legend

→ Direction of travel

6 in dotted white lane line extensions consisting of 2 ft line segments and 6 ft gaps

B - Typical pavement markings with double-turn lanes, lane-use turn arrows, and crosswalk lines, stop lines, and line extensions into intersection for double turns

6 in dotted white lane line extensions consisting of 2 ft line segments and 6 ft gaps
Figure 3B-13. Examples of Line Extensions through Intersections (Sheet 2 of 2) (Delaware Revision)

C - Typical dotted line markings to extend lane line markings into the intersection

D - Typical dotted line markings to extend center line and lane line markings into the intersection
Figure 3B-14. Examples of Applications of Lane-Reduction Transition Markings
(Delaware Revision)

Notes:
1. See Section 3F.04 for delineator spacing
2. \( L = WS \) for speeds of 45 mph or greater and \( L = WS^2/60 \) for speeds of less than 45 mph, where:
   \[ L = \text{Length of taper in feet} \]
   \[ S = \text{Posted, 85th-percentile, or statutory speed in mph} \]
   \[ W = \text{Offset in feet} \]
3. \( d \) = Advance warning distance (see Section 2C.05)
4. Dotted 6 in lane line markings consisting of 2 ft line segments and 6 ft gaps should be installed between the first Lane Ends sign and the beginning of the transition taper
Figure 3B-14A. Example of Lane Reduction Markings for Interstates, Freeways or Expressways (45 MPH or greater)

(Delaware Revision)

Legend

\[ \text{Figure 3B-14A. Example of Lane Reduction Markings for Interstates, Freeways or Expressways (45 MPH or greater) (Delaware Revision)} \]

\[ \text{Legend} \]

\[ \uparrow \text{Direction of travel} \]

\[ \text{Warning Sign} \]

\[ L = \text{TAPER LENGTH}=\text{WS} \]

\[ S = \text{85th PERCENTILE SPEED} \]

\[ W = \text{LANE WIDTH IN FEET} \]

Warning Sign Spacing \( (d) \)

(See Section 2C.05)

<table>
<thead>
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<th>d</th>
</tr>
</thead>
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<td>45</td>
<td>550 ft</td>
</tr>
<tr>
<td>50</td>
<td>625 ft</td>
</tr>
<tr>
<td>55</td>
<td>700 ft</td>
</tr>
<tr>
<td>60</td>
<td>775 ft</td>
</tr>
<tr>
<td>65</td>
<td>850 ft</td>
</tr>
</tbody>
</table>

Dotted 6 in lane line markings consisting of 3 ft line segments and 9 ft gaps
Figure 3B-14B. Example of Lane Reduction Beyond Intersection Marking Application along All Other Roads (Non-Interstates, Freeways or Expressways) (45 MPH or greater)

(Delaware Revision)

Legend

↑ Direction of travel

\[ L = \text{TAPER LENGTH} = \text{WS} \]
\[ S = 85\text{th PERCENTILE SPEED} \]
\[ W = \text{LANE WIDTH IN FEET} \]

Warning Sign Spacing (d)
(See Section 2C.05)

<table>
<thead>
<tr>
<th>S</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>550 ft</td>
</tr>
<tr>
<td>50</td>
<td>625 ft</td>
</tr>
<tr>
<td>55</td>
<td>700 ft</td>
</tr>
<tr>
<td>60</td>
<td>775 ft</td>
</tr>
<tr>
<td>65</td>
<td>850 ft</td>
</tr>
</tbody>
</table>

Dotted 6 in line lane markings consisting of 2 ft line segments and 6 ft gaps
Figure 3B-14C. Example of Lane Reduction Beyond Intersection Marking Application along All Other Roads (Non-Interstates, Freeways or Expressways) (less than 45 MPH)
(Delaware Revision)

Legend

\[ L = \text{TAPER LENGTH } \frac{W_{50}}{60} \]
\[ S = 85\text{th PERCENTILE SPEED} \]
\[ W = \text{LANE WIDTH IN FEET} \]

Direction of travel

Warning Sign Spacing (d) (See Section 2C.05)

<table>
<thead>
<tr>
<th>S</th>
<th>d</th>
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</thead>
<tbody>
<tr>
<td>25</td>
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<tr>
<td>30</td>
<td>325 ft</td>
</tr>
<tr>
<td>35</td>
<td>400 ft</td>
</tr>
<tr>
<td>40</td>
<td>475 ft</td>
</tr>
</tbody>
</table>

Dotted 6 in lane line marking consisting of 2 ft line segments and 6 ft gaps
Section 3C.07 Markings for Other Circular Intersections

Support:
01 Other circular intersections include, but are not limited to, rotaries, traffic circles, and residential traffic calming designs.

Option:
02 The markings shown in this Chapter may be used at other circular intersections if engineering judgment indicates that their presence will benefit drivers, pedestrians, or other road users.

Figure 3C-1. Example of Markings for Approach and Circulatory Roadways at a Roundabout
(Delaware Revision)
Figure 3C-3. Example of Markings for a One-Lane Roundabout
(Delaware Revision)

- Splitter island mountable or painted yellow
- Central island might also be mountable or painted yellow
- Splitter island formed by two sets of double yellow lines
- 12 in dotted white extension of circulatory roadway edge line consisting of 2 ft line segments and 2 ft gaps

★ Yield lines should be installed a minimum of 4 ft in advance of the nearest edge of the circulatory roadway
Figure 3C-4. Example of Markings for a Two-Lane Roundabout with One- and Two-Lane Approaches (Sheet 1 of 2)

(Delaware Revision)

A – Unextended central island

- 20 ft MIN.
- 6 in dotted white lane line consisting of 2 ft line segments and 2 ft gaps
- 12 in dotted white extension of circulatory roadway edge line consisting of 2 ft line segments and 2 ft gaps

Yield lines should be installed a minimum of 4 ft in advance of the nearest edge of the circulatory roadway
Figure 3C-4. Example of Markings for a Two-Lane Roundabout with One- and Two-Lane Approaches (Sheet 2 of 2) (Delaware Revision)

B – Central island extended by pavement markings

Yellow edge line and diagonal yellow crosshatch markings

6 in dotted white lane line consisting of 2 ft line segments and 2 ft gaps

C – Central island extended by a truck apron

Truck apron

12 in dotted white extension of circulatory roadway edge line consisting of 2 ft line segments and 2 ft gaps

12 in dotted white lane line consisting of 2 ft line segments and 2 ft gaps

Yield lines should be installed a minimum of 4 ft in advance of the nearest edge of the circulatory roadway