

UNIT 2 - APPLICATIONS OF PAVEMENT AND CURB MARKINGS

ASSIGNMENT

Read and study part IIIB of the MUTCD and the North Carolina Supplement to the MUTCD. Answer review questions. Take and pass the written test.

KEY POINTS

A centerline separates traffic traveling in opposite directions (it need not be at the geometrical center of the pavement). Centerlines provide important guidance to drivers and they should be used on most paved roads.

GS # 136-30.1 (Center line and pavement edge line markings) - (a) The Department of Transportation shall mark with center lines and edge lines all interstate and primary roads and all paved secondary roads having an average traffic volume of 100 vehicles per day or more, and which are traffic service roads forming a connecting link in the State highway system. The Department of Transportation shall not be required to mark with center and edge lines local subdivision roads, loop roads, dead-end roads of less than one mile in length or roads the major purpose of which is to serve the abutting property, nor shall the Department of Transportation be required to mark with edge lines those roads on which curbing has been installed or which are less than 16 feet in width. (b) Whenever the Department of Transportation shall construct a new paved road, relocate an existing paved road, resurface an existing paved road, or pave an existing road under the provisions of subsection (a) hereof is required to be marked with lines, the Department of Transportation shall, within 30 days from the completion of the construction, resurfacing or paving, mark the said road with the lines required in subsection (a) hereof.

Lane lines separate lanes of traffic traveling in the same direction. They shall be used on all interstate highways and they should be used on all other multi-lane highways.

A normal solid white line may be used as the lane line in critical areas, such as tunnels, bridges, and interchange areas, where it is advisable to discourage lane changing. A solid white line may be used to separate through traffic lanes from special secondary lanes, such as uphill truck lanes, left or right turn lanes, and transit bus lanes. A double solid white line shall be used when lane changing is prohibited.

Where centerlines are installed, no passing zones shall be established at vertical and horizontal curves and on two and three lane highways where an engineering study indicates passing must be prohibited because of inadequate sight distances or other special conditions.

Where the distance between successive no passing zones is less than 400 feet, the appropriate no passing marking (one direction or two direction) should connect the zones.

Edge lines have a unique value as a visual reference for guiding drivers during adverse weather and visibility conditions. They also may be used where edge delineation is desirable to reduce driving on paved shoulders or refuge areas of lesser structural strength than the adjacent pavement. Edge lines shall not be continued through intersections and should not be broken for driveways.

Edge lines shall be white except that on the left edge of each roadway of divided highways and one-way highways in the direction of travel, they shall be yellow.

A dotted white line (mini-skip) may be used to extend pavement markings through interchange or intersection areas as necessary to provide better guidance for vehicles.

Lane reduction markings shall be used to guide traffic at points where the pavement width changes to a lesser number of through lanes. Lane lines should be discontinued $\frac{1}{4}$ of the distance between the pavement width transition sign and the point of convergence.

A channelizing line may be used to form traffic islands where travel in the same direction is permitted on both sides. It shall be a wide or double solid white line.

Two double solid yellow lines shall be used to form continuous median islands where these islands separate travel in opposite directions.

Channelizing lines at exit ramps provide a neutral area which reduces the probability of collision with the curb nose and also directs exiting traffic at the proper angle for smooth divergence into the ramp.

Pavement markings shall be used to guide traffic on the approach to fixed obstructions within a paved roadway. The markings must be designed to guide traffic away from the obstruction.

Stop lines (bars) should be used in both rural and urban areas where it is important to indicate the point a vehicle is required to stop in compliance with a *Stop* sign, traffic signal, or other legal requirement. They are solid white lines, normally 12 to 24 inches wide, extending across all approach lanes.

Crosswalk markings primarily guide pedestrians in the proper paths and they warn drivers of a pedestrian crossing point. Crosswalk lines shall be solid white lines with a minimum width of six inches spaced not less than six feet apart.

Parking space markings shall be white.

Word and symbol markings on the pavement may be used for the purpose of guiding, warning, or regulating traffic. They should be limited to not more than a total of three lines of information, and they shall be white in color.

A speed measurement marking is a transverse marking placed on the roadway for the purpose of assisting in the enforcement of speed regulations. If used, they shall be white in color and they shall not be greater than 24 inches wide.

REVIEW QUESTIONS

- 1) What does a centerline separate?

- 2) Are centerlines recommended on two-lane paved highways with a width of 16 feet or more in rural areas with prevailing speeds greater than 35 mph?

YES NO

- 3) What do lane lines separate?

- 4) What type of line is used to discourage lane changing?

- 5) A double solid white line shall be used when lane changing is prohibited.

TRUE FALSE

- 6) What should occur where the distance between successive no passing zones is less than 400 feet?

- 7) Should edge lines be continued through intersections and should they be broken for driveways?

YES NO

- 8) Edge lines shall be _____ in color except that on the left edge of each roadway of divided highways and one-way highways in the direction of travel, they shall be _____ in color.

- 9) What is the purpose of a channelizing (gore) line at exit ramps?

- 10) What type of line is used to form continuous median islands where these islands separate travel in opposite directions?

_____ lines

11) Stop lines (bars) are used where it is important to indicate the point a vehicle is required to stop.

TRUE FALSE

12) According to the MUTCD, a crosswalk line has a minimum width of _____ inches and is spaced not less than _____ feet apart.

13) Parking space markings shall be yellow in color.

TRUE FALSE

14) According to the MUTCD, speed measurement markings shall not be used under any circumstances.

TRUE FALSE

15) On what page of the MUTCD are the warrants for no passing zones at curves found?

ANSWERS TO REVIEW QUESTIONS

- 1) Traffic traveling in opposite directions (*Page 3B-1 of the MUTCD*)
- 2) Yes (*Page 3B-1 of the MUTCD*)
- 3) Traffic traveling in the same direction (*Page 3B-1 of the MUTCD*)
- 4) Solid white line (*Page 3B-2 of the MUTCD*)
- 5) True (*Page 3B-2 of the MUTCD*)
- 6) The appropriate no passing marking (one direction or two direction) should connect the zones (*Page 3B-8 of the MUTCD*)
- 7) No (*Page 3B-11 of the MUTCD*)
- 8) White, yellow (*Page 3B-11 of the MUTCD*)
- 9) To provide a neutral area to reduce the probability of a collision with the curb nose and it also directs exiting traffic at the proper angle for smooth divergence into the ramp (*Page 3B-14 of the MUTCD*)
- 10) Two double solid yellow (*Page 3B-14 of the MUTCD*)
- 11) True (*Page 3B-22 of the MUTCD*)
- 12) Six inches, six feet (*Page 3B-23 of the MUTCD*)
- 13) False (*Page 3B-23 of the MUTCD*)
- 14) False (*Page 3B-31 of the MUTCD*)
- 15) 3B-8