

Installation of a Dynamic Speed Display Sign (DSDS) For Municipalities

Technical Requirements:

DSDS must meet the following specifications and documentation to that effect must be supplied to NDDOT District as outlined in the Application Process below:

1. Installation of any DSDS shall be a stand-alone structure located at a minimum of 100' from the transition speed limit sign. A Speed Limit sign (standard or school speed zone) shall be installed above the DSDS.
2. The minimum height from the bottom of the signs to the edge of the driving lane shall be 5' if no parking or pedestrian traffic is present. If pedestrian traffic or parking is present or if it is in a 4-lane section of roadway, the minimum height shall be 7'. The sign should face oncoming traffic at an appropriate angle for the radar to be picked up by passing motorists (specified by the manufacturer).
3. Installation is restricted to one DSDS in each direction for the area being addressed.
4. The DSDS static sheeting shall include the legend "YOUR SPEED" centered on the sign. The legend and background shall match the regulatory sign it is paired with. The static sheeting for the speed limit (R2-1) shall be white with a black legend. For school speed limit assemblies (R2-1 with S4-3), the static sheeting shall be fluorescent yellow-green with black legend.



5. The changeable message display shall have a black background with an amber (yellow) illuminated legend.
6. The changeable display shall be programmed to read "XX" or have no display when the vehicle speed exceeds 15 MPH over the posted speed.
7. When activated, the DSDS shall give drivers immediate feedback on their individual driving speed when the posted speed is exceeded. The flash rate shall be between 50 & 60 cycles per minute.
8. The installation shall **not** interfere with the visibility and general effectiveness of any other signs in the area. A minimum distance of 300' of clear sight distance should be

- maintained. Consideration should be given to existing road geometry, topography and roadside vegetation.
9. When installed in association with school speed zones, the DSDS shall operate only when the school speed zone is in effect. (Generally, the DSDS will operate only on days that schools are in session, for thirty minutes before and thirty minutes after the time in which the school day begins; and thirty minutes before and thirty minutes after the time in which the school day ends). Use of DSDS in conjunction with school speed zones “when children are present” is not allowed.
 10. Information shall be supplied to the District that documents that the DSDS and sign support assembly and installation meet the requirements for crash-worthiness as defined in the National Cooperative Highway Research Program (NCHRP) Report 350. DSDS shall be mounted to a breakaway support that meets NDDOT specifications.
 11. The DSDS shall be constructed of materials that withstand extreme temperatures and are vandalism resistant. Lenses shall be shatter proof plexi-glass with water tight seals and a locked access to the interior electronics.
 12. All elements of the DSDS shall conform to the guidance and standards as outlined in the latest edition of the MUTCD adopted by the NDDOT.
 13. Identification and contact information for the municipality in which it is installed shall be displayed on the case of the DSDS.

Municipal Responsibility:

Municipalities shall be responsible for all costs of the installation, maintenance, and removal of the DSDS located within the state’s highway right-of-way (ROW).

Municipalities shall be responsible for ongoing electric costs and all maintenance of the DSDS, including annual maintenance and replacement if damaged. The municipalities are responsible to contact OneCall and submit a copy of the diagram or plan including connections to power poles and their location to them.

Permits and Maintenance Agreement:

Access permits for work performed by non-NDDOT personnel in the ROW, must be obtained with a Utility Occupancy Application and Permit for the installation of permanent post mounted DSDS.

Information can be found on the NDDOT website under NDDOT, click on Business, Signing and Utilities, then Utility Occupancy Application and Permit Information or access the site by clicking on the link below:

<http://www.dot.nd.gov/divisions/design/utilitypermits.htm>

Application Process:

Requests from the governing bodies of municipalities shall include the following information:

1. Cover letter addressed to the NDDOT District requesting permission for installation of the DSDS.
2. Submission of a Utilities Occupancy Application and Permit.
3. A scaled drawing that shows the existing regulatory speed signs and their legends; the location and legend of other nearby signs, and adjacent features (sidewalks, driveways, existing street lighting, traffic signals, adjacent land uses). The sketch or plan must either be at a specific scale or include measured distances between pertinent features.
4. A diagram or plan indicating how the DSDS will be powered (solar or hard-wired, including connections to power poles and their location).

Maintenance and Evaluation of Permanent Signs:

The requesting agency shall have the DSDS calibrated once a year at a minimum and submit the results to the District. Calibration obtained by comparing the output reading with a Highway Patrol radar gun is acceptable.

Removal of Permanent Signs:

The NDDOT reserves the right to remove any non-compliant DSDS if they are determined not in conformance with the statutory requirements and conditions set forth in the Utility Occupancy Application Permit at the expense of the municipality.

If the governing body of a municipality no longer desires the DSDS, or the NDDOT District Engineer determines that the DSDS are no longer warranted, the municipality is responsible for all costs associated with the removal or restoration of the State Highway ROW to the satisfaction of the NDDOT.