

## **325 GRADE AND HILL SIGNING**

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### **325.1 USE OF HILL AND GRADE SIGNING**

Hill signs and plaques should be used in advance of downgrades in accordance with the Warning Signs chapter of the MUTCD. These signs may also be installed for steeper grades or where crash experience, field observations, or engineering judgment indicate a need.

If a hill has varying grades or downgrades with interruptions, engineering judgment should be used to determine the percent of grade and length of grade to be displayed to drivers.

Hill signs should display the same percent of grade as the advance warning signs for that segment of downgrade.

### **325.2 ADVANCE SIGNING**

In advance of a downgrade, a W7-1a hill (with percent grade) sign and a W16-102P advance distance plaque should be used. These signs should be placed approximately 3/4 mile for non-freeways and two miles for freeways in advance of the beginning of the downgrade. The sign should display the appropriate grade. A second advance warning sign may also be installed. On divided highways, the signs should be placed on both the left and right-hand sides of the roadway.

### **325.3 GRADE SIGNING**

At the beginning of a downgrade, a W7-1a hill (with percent grade) sign and a W16-104P next distance plaque should be used. On divided highways, the signs should be placed on both the left and right-hand sides of the roadway.

On longer grades, the use of hill signs with next distance plaques at periodic intervals of approximately one to two mile spacing should be considered.

### **325.4 SUPPLEMENTAL SIGNING**

A Trucks Use Lower Gear or advisory speed plaque may be used with hill signs as a supplemental installation where conditions justify special emphasis.

In locations with brake check areas at the beginning of a downgrade, the following sign sequence is generally used:

- 1 mile in advance: Brake Check Area 1 Mile (D5-13) sign (optional)
- 0.75 mile in advance: W7-1a hill (with percent grade) sign and W16-102P 3/4 Mile Ahead plaque
- 0.5 mile in advance: Brake Check Area 1/2 Mile (D5-13) sign
- 0.3 mile in advance: Trucks Vehicles With Trailers Use Brake Check Area 1/4 Mile (W7-102) sign
- 0.15 mile in advance: Trucks Vehicles Pulling Trailers Use Lower Gears (W7-101) sign
- At start of taper for brake check area: Brake Check Area (D5-14AZ) sign