



Purpose

Notify Region staff of the new GSPs and Standard Plan for implementing Variable Speed Limit Reductions on projects using short-term lane reductions.

Guidance

Regions are encouraged to consider inclusion of Radar Speed Display Signs (RSDS) on upcoming projects that include short term temporary lane restrictions that reduce traffic to *one lane*. RSDS's are not effective at regulating speed for multiple lanes of traffic.

A General Special Provision (GSP) and pay item have been created for a "per hour" pay item for the RSDS. This is the same method of payment as the other trailer mounted work zone electronic sign items (PCMS and Sequential Arrow Signs). A typical traffic control plan was added to the plan sheet library for speed limit reduction and RSDS signing:

http://www.wsdot.wa.gov/Design/Standards/PlanSheet/TC_1_19.htm

Background

The Washington Asphalt Paving Association and WSDOT collaborate regularly to identify strategies that improve worker safety, focusing on situations when positive barrier is not a practical safety option. Variable speed reductions, using Radar Speed Display Signs (RSDS), were tested on recent paving projects and found to effectively reduce vehicle speeds when passing active work areas.

RSDS's, or "Speed Trailers," have been around for many years but not commonly used on WSDOT highway projects. The variable speed reductions are implemented by covering existing speed limit signs and temporarily mounting regulatory speed limit signs during active lane closure operations. The temporary speed limit signs are mounted with an electronic board displaying the speed of the vehicle passing by. They are most effective for short duration lane closures, and when located close to the active work area.

Implementation Plan

A new set of GSPs in Division 1-10, along with a Standard Drawing, are available for use as of January 2018.

Updates will be made to the Construction Manual and the Traffic Manual supplementing the use of variable speed reductions and RSDS's.



Washington State
Department of Transportation

CONSTRUCTION BULLETIN

State Construction Office
Engineering and Regional Operations

Radar Speed Display Signs
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1 1-10.3.GR1
2 **Traffic Control Labor, Procedures and Devices**

3
4 1-10.3(3).GR1
5 **Traffic Control Devices**

6
7 1-10.3(3).INST1.GR1
8 Section 1-10.3(3) is supplemented with the following:

9
10 1-10.3(3).OPT2.GR1
11 **(January 2, 2018)**
12 **Radar Speed Display Sign**
13 Where shown on an approved traffic control plan or where ordered by the Engineer,
14 the Contractor shall provide, operate, and maintain radar speed display signs
15 (RSDS). A RSDS shall be placed with a minimum of 4 ft. of lateral clearance to
16 edge of a travelled lane and be delineated by channelization devices. The
17 Contractor shall remove the RSDS from the clear zone when not in use unless
18 protected by barrier or guardrail.

19
20 1-10.3(3)(9-35.8).GR1
21 **Vacant**
22 Section 9-35.8 is revised to read:

23
24 1-10.3(3)(9-35.8).OPT1.GR1
25 **(January 2, 2018)**
26 **Radar Speed Display Sign**
27 Radar Speed Display Signs (RSDS) shall consist of a fully self-contained see-
28 through orange trailer with power supply and an LED speed indicator display with a
29 one-direction radar. Above or below the display shall be the message "YOUR
30 SPEED" or "YOUR SPEED IS" in letters of 5 to 8 inches in height. The lowest
31 portion of the display shall be a minimum 5 ft. above the roadway and a standard
32 36"x48" black on white speed limit sign (R2-1) shall be mounted above the speed
33 display.

34
35 The radar speed measurement shall provide a minimum detection distance of 1000
36 ft. and have an accuracy of +/- 1 mile per hour. The radar shall be mount so
37 detection will function when located behind concrete barrier.

38
39 The numeric speed display range shall be 0 to 99 MPH with numerals of 18 inches
40 in height minimum, amber in color with a black background with automatic dimming
41 for nighttime operations.

42
43 The speed indicator display shall be equipped with a violation alert that flashes the
44 displayed detected speed when the work zone posted speed limit is exceeded. The
45 speed indicator shall have a maximum speed cutoff. Detected speeds more than 25
46 MPH over the posted speed shall not be displayed and speeds under 25 MPH shall
47 not be displayed.
48

1 1-10.4.GR1

2 **Measurement**

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4 1-10.4(2).GR1

5 ***Item Bids With Lump Sum for Incidentals***

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7 1-10.4(2).INST1.GR1

8 Section 1-10.4(2) is supplemented with the following:

9

10 1-10.4(2).OPT3.GR1

11 (January 2, 2018)

12 "Radar Speed Display Sign" will be measured by the hour for the time that each
13 sign is operating as shown on an approved Traffic Control Plan.

14

15 1-10.4(2).INST2.GR1

16 The sixth bullet of the third paragraph in Section 1-10.4(2) is revised to read:

17

18 1-10.4(2).OPT4.GR1

19 (January 2, 2018)

- 20 • Relocation of Portable Changeable Message Signs or Radar Speed Display
21 Signs within the project limits.

22

23 1-10.5.GR1

24 **Payment**

25

26 1-10.5(2).GR1

27 ***Item Bids with Lump Sum for Incidentals***

28

29 1-10.5(2).INST1.GR1

30 Section 1-10.5(2) is supplemented with the following:

31

32 1-10.5(2).OPT2.GR1

33 (January 2, 2018)

34 "Radar Speed Display Sign", per hour.

35 The unit Contract price, when applied to the number of units measured for this item
36 in accordance with Section 1-10.4(2), shall be full compensation for all costs
37 incurred by the Contractor in performing the Work for procuring all radar speed
38 display signs required for the project and for transporting these signs to and from
39 the project.