

## **734-020-0018**

### **Establishment of Variable Speed Zones**

#### (1) Purpose:

(a) This rule is adopted for the purpose of the Department and other road authorities establishing variable speed zones on public roads under ORS 810.180. A variable speed zone may be established on a section of highway when an engineering study determines that a range of speeds in response to recurring conditions provides for better traffic safety and operation than a single set speed.

(b) A variable speed zone is established by a written order or rule defining the criteria, boundaries and procedures for speed changes in a designated manner over a given range of speeds at minimum specified intervals. At a particular time and place, the applicable speed zone reflects some of the same factors a prudent driver also considers. Examples include the effects of congestion, road conditions, reduced visibility or weather conditions. Improving the consistency between a responsible driver's speed selection and the speed zone can keep traffic moving smoothly and improve safety. An engineering study is required.

(c) This rule applies to all public roads except where the Department has delegated its authority to establish designated speeds on low volume or unpaved roads under ORS 810.180(5) (f). The delegation of authority for low volume roads and unpaved roads is covered in OAR 734-020-0016 and OAR 734-020-0017.

(2) The State Traffic Engineer may apply this rule to establish a limited number of Variable Speed Zone pilot projects around the state. The State Traffic Engineer, subject to the following limitation, will decide the appropriate number of pilot projects to test the criteria and procedures in this rule. There may be pilot projects for a particular recurring condition such as congestion, road conditions, reduced visibility or weather conditions.

(a) An evaluation of each pilot project Variable Speed Zone will be completed by the State Traffic Engineer after two years from the start of operation of that pilot project until each pilot project has been evaluated for an identified recurring condition under Section (1).

(b) The Speed Zone Review Panel will review the evaluations for each identified recurring condition. The Speed Zone Review Panel will make a recommendation to the State Traffic Engineer to continue the evaluation period, terminate the evaluation, amend this rule to revise the criteria and procedures or remove the pilot project requirement.

(c) The State Traffic Engineer will consider the recommendation of the Speed Zone Review Panel and decide whether to continue the evaluation period, terminate the evaluation, amend this rule to review the criteria and procedures or remove the pilot project requirement.

(d) The State Traffic Engineer may continue the established pilot projects pending further evaluation, Speed Zone Review Panel review and final decision on establishing Variable Speed Zones.

(3) Definitions: the following definitions apply to this rule in addition to the speed zone definitions in OAR 734-20-0010 and 734-020-0014,

(a) "Algorithm" means the method or procedure by which the optimum speed is determined based on road, traffic or weather conditions.

(b) "Maximum Speed" means the maximum designated speed or statutory speed that may be posted in the variable speed zone, typically when conditions such as congestion, road conditions, reduced visibility or weather conditions are not present to support a reduced variable speed. A maximum designated speed is determined per OAR 734-020-0010, 734-020-0015 or 734-020-

0016. A maximum statutory speed is established as a speed limit under ORS 811.111 or basic speed rule under 811.105.

(c) "Speed Change Interval" means the magnitude of allowed change in miles-per-hour when the posted speed is changed in response to conditions.

(d) "Speed Change Record" is the long term storage of each activated change including the reason or condition, in the posted speed at each variable speed sign in a manner such that the posted speed at a given location and time within a variable speed zone can be determined and reported.

(e) "Transportation Operations Center" (also called a Traffic Management Center or Traffic Management Operations Center) means the facility through which the road, traffic and/or weather conditions are monitored and collected, processed, distributed and communicated to the variable speed signs.

(f) "Variable Speed Zone" means a designated speed that changes based on congestion, road conditions, reduced visibility or weather conditions.

(4) Establishing a Variable Speed Zone on Interstate Highways: the following procedures apply when the Department of Transportation proposes establishing a variable speed zone on any section of interstate highway under ORS 810.180:

(a) The Department may establish variable speed zones on a section of interstate highway based on an engineering study of the characteristics such as congestion, road conditions, reduced visibility or weather conditions. For each section of interstate highway under consideration the Department will prepare an engineering study that will include all of the following:

(A) The Maximum speed.

(B) Crash patterns in the section of highway under consideration by time of day, day of week, season of year or other period exhibiting recurring crash patterns.

(C) Law enforcement consultation and input.

(D) Traffic characteristics by time of day, day of week, season of year or other periods where recurring congestion levels and reduced average speeds occur, such as hourly congestion levels and calculated eighty-fifth percentile speeds (85% speeds).

(E) Type and frequency of adverse road conditions, including weather, environment, and visibility.

(b) The Department will prepare a written analysis and recommendation of the boundaries and algorithms for the variable speed zone. The recommendation will include:

(A) Locations of each sign,

(B) Set of algorithms,

(C) The speed change intervals,

(D) The means, responsibilities and procedures for changing posted speed and

(E) The means, responsibilities and procedures for keeping the speed change records.

(c) If appropriate, the Department will institute rulemaking to make changes to the interstate speed designations which are included in OAR 734-020-0019.

(d) The speed change record must be retained and maintained for at least 3 years.

(e) The speed zone becomes enforceable when variable speed signs are installed and operated.

(5) Establishing a Variable Speed Zone on rural state highways except unpaved roads: the following apply when the Department of Transportation proposes to establish variable speed zones on sections of state highway outside city limits:

(a) The Department may establish variable speed zones on a section of rural state highway based on an engineering study of the characteristics such as congestion, road conditions, reduced

visibility or other weather conditions. For each section of rural state highway under consideration the Department will prepare an engineering study that will include all of the following:

- (A) The Maximum speed.
  - (B) Crash patterns in the section of highway under consideration by time of day, day of week, season of year or other period exhibiting recurring crash patterns.
  - (C) Law enforcement consultation and input.
  - (D) Traffic characteristics by time of day, day of week or season of year or other periods where recurring congestion levels and reduced speeds occur, such as hourly congestion levels and calculated eighty-fifth percentile speeds (85% speeds).
  - (E) Type and frequency of adverse road conditions, including weather, environment, and visibility.
- (b) The Department will prepare a written analysis and recommendation of the boundaries and algorithms for the variable speed zone. The recommendation will include all of the following:
- (A) Locations of each sign,
  - (B) Set of algorithms,
  - (C) The speed change intervals,
  - (D) The means, responsibilities and procedures for changing posted speed and
  - (E) The means, responsibilities and procedures for keeping the speed change records.
- (c) A written variable speed zone order must be issued by the department to establish a variable speed zone.
- (d) The original written variable speed zone order must be retained in the Department of Transportation's records for each speed zone issued.
- (e) The speed change record must be retained and maintained for at least 3 years.
- (f) The speed zone becomes enforceable when variable speed signs are installed and operated.
- (6) Establishing a Variable Speed Zone on state highways inside city limits, city streets, county roads and any other rural public roads except unpaved public roads: the following procedures apply when the applicable Road Authority proposes to establish variable speed zones on sections of state highways inside city limits, city streets, county roads and any other rural public roads except unpaved public roads:
- (a) The road authority must make a recommendation to the State Traffic Engineer to establish a variable speed zone. The recommendation will include all of the information required in this section including the engineering study.
  - (b) The Department may establish variable speed zones on a section of state highways inside city limits, city streets, county roads and any other rural public roads except unpaved public roads based on an engineering study of the characteristics such as congestion, road conditions, reduced visibility or other weather conditions. For each section of public road under consideration an engineering study must be completed that will include all of the following:
    - (A) The Maximum speed.
    - (B) Crash patterns in the section of highway under consideration by time of day, day of week or season of year or other period exhibiting recurring crash patterns.
    - (C) Law enforcement consultation and input.
    - (D) Traffic characteristics by time of day, day of week or season of year or other periods where recurring congestion levels and reduced average speeds occur, such as hourly congestion levels and calculated eighty-fifth percentile speeds (85% speeds).

- (E) Type and frequency of adverse road conditions, including weather, environment, and visibility.
  - (c) The road authority, or the Department on state highways, will submit an engineering study to the State Traffic Engineer, which includes the analysis and recommendation of the boundaries and algorithms for the variable speed zone. The recommendation will include all of the following:
    - (A) Locations of each sign,
    - (B) Set of algorithms,
    - (C) The speed change intervals,
    - (D) The means, responsibilities and procedures for changing posted speed and
    - (E) The means, responsibilities and procedures for keeping the speed change records.
  - (d) A written variable speed zone order must be issued by the department to establish a variable speed zone.
  - (e) The original written variable speed zone order must be retained in the Department of Transportation's records for each speed zone issued.
  - (f) The speed change record must be retained and maintained for at least 3 years.
  - (g) The speed zone becomes enforceable when variable speed signs are installed and operated.
- Stat. Auth.: ORS 184.616, 810.180 & Ch. 819, OL 2003  
 Stats. Implemented: ORS 810.180 & Ch. 819, OL 2003

**734-020-0019**

**Locations and Criteria of Variable Interstate Speed Limits**

- (1) All locations of mainline interstate highways have speed limits set in OAR 734-020-0011 or a maximum speed limit of 65 MPH per ORS 811.111(1)(a). The speed limit for vehicles listed in 811.111(1)(b) is 55 mph unless a lower speed is posted under sections (2 and 3 ) of this rule or in section (2) of OAR 734-020-0011.
- (2) Under the provisions of ORS 810.180(3), variable speed limits on the following sections of interstate highways are established as follows for all vehicles except as provided in section (1) of this rule:
  - (a) I-5 Southbound, MP 301.36 – MP 298.90: The following sections each may have different speed limits based on the criteria in section (3) of this rule:
    - (A) Morrison Bridge to Madison Avenue, MP 301.36 – MP 300.79
    - (B) Madison Avenue to Marquam Bridge, MP 300.79 – MP 300.26
    - (C) Marquam Bridge to Ross Island Bridge, MP 300.26 – MP 299.75
    - (D) Ross Island Bridge to SW Hood Avenue, MP 299.75 – MP 299.36
    - (E) SW Hood Avenue to SW Corbett Avenue, MP 299.36 – MP 298.80
  - (b) I-405 Southbound, MP 1.45 – MP 0.00: The following sections each may have different speed limits based on the criteria in section (3) of this rule:
    - (A) Between SW Montgomery Street and SW 12th Avenue structures to SW Broadway structure, MP 1.45 – MP 1.12
    - (B) SW Broadway structure to between SW 4th Avenue and SW 1st Avenue structures, MP 1.12 – MP 0.80
    - (C) Between SW 4th Avenue and SW 1st Avenue structures to the Ross Island Bridge, MP 0.80 – MP 0.40
    - (D) Ross Island Bridge to the juncture with I-5 southbound, MP 0.40 – MP 0.00.
- (3) Criteria for Changing Speeds.
  - (a) Normal automated variable speed limits:

- (A) The minimum traffic volume for variable speed limit system operation shall be greater than 1,200 vehicles per hour in any lane.
- (B) Speed limits between subsequent highway sections shall not be reduced by more than 10 MPH.
- (C) The speed limit shall be lowered in 5 MPH increments.
- (D) The speed limit shall not be changed more than once within a 5 minute period.
- (E) The minimum variable speed limit shall not be less than 30 MPH.
- (F) The variable posted speed limit shall be within 10 MPH below the 85<sup>th</sup> percentile speed and posted in accordance with the following Table:

VARIABLE POSTED SPEED TABLE

85 <sup>TH</sup> percentile speed (MPH)	Posted Speed (MPH)
➤ 55	50
➤ 50-54	45
➤ 40-49	40
➤ 30-39	35
➤ Less than 30	30

(b) During periods of crashes and other traffic lane blockage incidents the Transportation Operations Center may establish variable speed limits other than the normal automated variable speed limits in accordance with the following:

- (A) The speed increment of 5 MPH for changing the speed under normal conditions may be system overridden.
- (B) The minimum traffic volume criteria may be system overridden.
- (C) The minimum 5 minute period for changing speeds may be system overridden and the posted speed changed immediately to the minimum of 30 MPH.

Stat. Auth.: ORS 184.616, 184.619, 810.180 & 811.111

Stat. Implemented: ORS 810.180 & 811.111