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734-020-0020

Warrants for Parking and Turn Prohibitions

The State Traffic/Roadway Engineer (STRE) is delegated the authority to establish parking or turn prohibitions on state highways for state wide consistency. Region Traffic Engineers (RTE) are delegated the authority to establish parking or turn prohibitions on state highways within their respective Regions. RTE may consult with the STRE prior to establishing prohibitions. RTE will notify the STRE of the prohibitions.

(1) Parking prohibitions and turn prohibitions shall be warranted if:

(a) An engineering investigation indicates that such prohibitions will improve safe traffic operating conditions; or

(b) An engineering investigation indicates that such prohibitions are necessary to increase the capacity of the roadway or to otherwise expedite the movement of traffic.

[(2)] **(c)** The engineering investigation will include a review and analysis of the past accident history, a study of the traffic volumes, patterns and turning movements when appropriate. A field investigation of the physical conditions will be made when required.

(2) Parking prohibitions shall be warranted if an engineering investigation indicates that such parking prohibitions are necessary:

(a) to prevent the imminent damage to the facility. Where parked vehicles could damaged the pavement surface; or

(b) to prevent facility conflicts with maintenance; or

(c) for time limit restrictions or loading zones.

(3) Turn prohibitions shall be warranted if an engineering investigation indicates that such turn prohibitions are necessary for safety or operations.

Stat. Auth.: ORS 184 & ORS 810

Stats. Implemented: ORS 810.160 & ORS 810.210

The following five rules are repealed in their entirety.

734-020-0025

U-Turn Designation

[The Chief Engineer may, in his discretion, designate specific signalized intersections in which U-turns shall be permitted if the following criteria are met:

(1) The turning radii are adequate.

(2) The signal operation consists of three or more phases.

(3) A turning movement is possible with a reasonable degree of safety.

(4) A traffic engineering investigation shows a need for the U-turn movement.

Stat. Auth.: ORS 184 & ORS 810.130
Stats. Implemented: ORS 810.130(3)]

[Guidelines and Equipment Specifications for Portable Traffic Signals]

734-020-0032

Definitions

[(1) “Portable Traffic Signals” means any device that complies with the adopted guidelines for portable traffic signals.

(2) “User” means the agency, contractor, or utility that is physically responsible for the operation of the portable traffic signal.

(3) “Operator” means the individual employed by the user that will actually control the portable traffic signal.

(4) “Agency” means the governing institution which has authority over the effected roadway.

Stat. Auth.: ORS 184 & ORS 810.200
Stats. Implemented: ORS 810.200]

734-020-0034

Guidelines

[(1) Portable traffic signals shall only be used in accordance with the appropriate permit or contract specifications as issued by the governmental agency.

(2) The permit or contract specifications may specify the hours, days, and periods of operation.

(3) The permittee or contractor shall provide a traffic control plan showing the locations of all portable traffic signal equipment, as well as any other traffic control devices to be used in conjunction with the portable traffic signal, to the Project Manager for approval prior to obtaining the permit.

(4) The permittee or contractor shall maintain a daily log at the signal site which shall include, but is not limited to, hours of operation, type and time of any equipment malfunctions, and type and time of any accidents that may have occurred during the operation of the portable traffic signal. A copy of the completed log shall be presented to the agency upon completion of the project or as required by the Project Manager.

(5) Operators shall be properly instructed in the safe and efficient operation of the system by the manufacturer and so certified in writing to the Project Manager.

(6) Portable traffic signal equipment, as well as other traffic control devices used in conjunction with the project, shall conform to portable traffic signal equipment specifications, as published by the Oregon Department of Transportation, as well as applicable portions of the Manual on Uniform Traffic Control Devices.

(7) Portable traffic signals shall not be used at locations where the posted construction speed is in excess of 35 MPH.

(8) Portable traffic signals should not be used at locations where there is more than one travel lane in each direction. However, they may be permissible on divided four-lane roadways, two

lanes in each direction, if a separate set of signal heads is provided for each additional travel lane.

(9) The user may request specific signal phasing, as well as the length of amber and the minimum green and red periods. Final approval for timing will be given by the appropriate local agency or by the Department of Transportation's Region office, if the location is on the State Highway System. Signal timing will conform to the Manual on Uniform Traffic Control Devices. A preemption input that will terminate the existing green phase, provide a yellow clearance interval, and rest in an all red phase shall be available to the operator during emergency conditions.

(10) Minimum sight distances shall be maintained as specified in the Manual on Uniform Traffic Control Devices. At locations where only minimum sight distances can be obtained and where varying queue sizes are anticipated, the user shall also furnish a queue flagger who shall maintain direct communication with the operator.

(11) Portable traffic signal controllers and related control equipment shall be certified as having passed the Oregon Department of Transportation laboratory tests. Successfully tested controllers and related control equipment will be assigned permanent certification tags.

(12) The user shall either remove or cover all signal indications and related traffic signs when not in use.

(13) All radio equipment used as part of a portable traffic signal shall meet Federal Communications Commission regulations.

(14) Failure to comply with any of the specifications shall be justification for requiring an alternative type of traffic control.

Stat. Auth.: ORS 184 & ORS 487

Stats. Implemented: ORS 810.200 & ORS 810.210]

[Multiple Right or Left Turns at Highway Intersections]

734-020-0135

General Policy

[The Oregon Transportation Commission has delegated the authority to the Chief Engineer to designate intersections on the State Highway System to and from which multiple right or left turns may safely be accomplished and where vehicle capacity dictates this traffic engineering feature for the convenience of the motoring public.

Stat. Auth.: ORS 184, ORS 366 & ORS 810

Stats. Implemented: ORS 810.200]

734-020-0140

Criteria for Multiple Left or Right Turn Movements

[(1) Multiple left or right turns will only be authorized on the basis of an engineering study to review any accident or safety problems that might result. The study may include the following items:

- (a) *The engineering study may include a capacity analysis. The analysis must clearly demonstrate an improved level of service with multiple turning movements and/or with other considerations not to lower the level of service;*
 - (b) *Delay and backup of traffic in the approach under consideration will be a factor in the engineering study to implement the multiple turn treatment;*
 - (c) *The multiple-turn engineering study may involve turns from the local agency street or roadway system at the approaches to the State Highway System;*
 - (d) *The engineering study will consider truck or other wide turning path vehicles and adequate multiple turning lane widths; and*
 - (e) *A part of every study will consider special striping or raised pavement markers to delineate the multiple turning movement and advance signing as required.*
- (2) *The Traffic Engineer will maintain a file on all new approved locations.*
- (3) *Proposed locations involving traffic on side streets at the approach to the State Highway System will have as a part of the file a written notification of intent to the local agency.*

*Stat. Auth.: ORS 184, ORS 366 & ORS 810
 Stats. Implemented: ORS 810.200]*

Traffic Signals [Approval Process]

734-020-0400

Purpose

The purpose of OAR 734-020-0400 through 734-020-0500 is to establish the **approval** process [for consideration and approval] for installation, **modification, or removal** of traffic signals **under the authority of the Oregon Department of Transportation**. [Additional details for approval and installation of traffic signals can be found in the 1999 Oregon Highway Plan and the Manual on Uniform Traffic Control Devices, adopted under OAR 734-020-0005.]

*Stat. Auth.: ORS 184.616, 184.619, 366.205 & 810.200
 Stats. Implemented: ORS 810.200 & 810.210*

734-020-0420

Definitions

For the purposes of OAR 734-020-0400 through 734-020-0500, the following definitions apply:

- (1) “Approach” means all lanes of traffic moving toward an intersection or a mid-block location from one direction.
- (2) “MUTCD” means the Manual on Uniform Traffic Control Devices as adopted by OAR 734-020-0005.
- (3) “Private **approach** [road] “ means a **private** roadway or [driveway] connection **that is legally constructed and recognized by the Department in accordance with OAR 734-051**. [serving one or more properties that does not provide connectivity to the local road system. Any roadway that prohibits public use by rule, code, or physical obstruction, such as a gate, shall be considered a private road. Prohibition of large vehicles or weight restrictions for vehicles

greater than 30,000 pounds gross vehicle weight (GVW) are not considered restrictions for public use.]

(4) “Public road” means a public roadway, **or similar facility under the jurisdiction of a public entity and open to public travel.** [*connection serving multiple properties, which is owned and operated by a public entity, and provides connectivity to the local road system*]

(5) “Roadway improvement project” means a major construction, reconstruction or realignment of a section of state highway, **which during construction will significantly disrupt the normal flow of traffic on, or entering the facility from intersecting public roads.**]

(6) “State Highway System” means the group of roads and highways, **so** designated [*as such*] by law or by the Oregon Transportation Commission pursuant to ORS 366.220 [*and includes both primary and secondary state highways*].

(7) “Traffic signal” **means any highway traffic signal by which traffic is alternately directed to stop and permitted to proceed.** [*has the same meaning as “traffic control signal” as defined in OAR 734-020-0310.*]

(8) “Engineering study” is a documented comprehensive analysis and evaluation of available pertinent information, and the application of appropriate principles, standards, guidance, and practices as contained in the MUTCD and other sources, for the purposes of deciding upon the applicability, design, operation, or installation of a traffic control device.

Stat. Auth.: ORS 184.616, 184.619, 366.205 & 810.200

Stats. Implemented: ORS 810.200 & 810.210

734-020-0430

Traffic Signal Approval [*List*]

(1) No traffic signal shall be designed for, or constructed on, the State Highway System, regardless of the funding source, without the prior approval of the State Traffic/**Roadway** Engineer (**STRE**).

(2) **Regardless of any ODOT approved documents, such as land use documents, transportation system plans, corridor plans or other agreements a traffic signal shall not be designed or constructed unless first approved by the STRE.** [*Documents or plans, including land use plans, corridor plans, or construction documents which have been approved by ODOT and which identify new traffic signals must still receive approval by the State Traffic Engineer prior to traffic signal design or construction.*]

(3) **An engineering study is required for approval. The study shall indicate the need for the traffic signal and demonstrate that the installation of a traffic signal would improve the overall safety and operation of the intersection.** [*The State Traffic Engineer shall maintain a list of locations on State Highways for which approval has been obtained for the installation and operation of a traffic signal. The inclusion of a location on the Traffic Signal Approval List does not assure the eventual design, installation, or operation of a traffic signal, but does eliminate the need for additional investigation should construction of the signal be advanced. All of the following apply to listed intersections:]*

[(a)] **(4) Intersections shall meet MUTCD traffic signal warrants, unless the STRE finds special conditions documented in the engineering study where no existing warrant is**

applicable. [(unless subject to the conditions of OAR 734-020-0490) which shall be indicated for each listed intersection;]

(5) Traffic signal warrants should be met within three years after construction when a traffic signal is constructed as part of a roadway improvement project.

[(b)] **(6) Traffic signal warrants should be met on day of opening to accommodate additional traffic from a public or private development. The traffic signal shall not be turned-on more than one month in advance of day of opening.** [Each ODOT Region shall determine the order in which traffic signals will be installed; and]

[(c)] **(7) If traffic signal is not advanced to construction within five years the STRE traffic signal approval is automatically rescinded.** [after placement on the Traffic Signal Approval List, the location shall be removed from the list until such time that ODOT Region staff review the intersection to determine if the traffic signal warrants and other criteria are still satisfied and submit a request to the State Traffic Engineer to reinstate the location on the list.]

(8) For private approaches, assess the ability of the existing, planned, and proposed public roads to accommodate the traffic at another location.

(9) The STRE traffic signal approval does not assure the eventual design, installation, or operation of a traffic signal.

Stat. Auth.: ORS 184.616, 184.619, 366.205 & 810.200

Stats. Implemented: ORS 810.200 & 810.210

The following three rules are repealed in their entirety.

734-020-0440

Application Procedure for Installation of Traffic Signals on State Highways at Public Roads

[(1) An applicant requesting the approval for installation of a traffic signal on a State Highway at its intersection with a public road shall submit to the State Traffic Engineer the following:

(a) A letter of concurrence signed by the Region Traffic Engineer which documents discussions with, and support of, affected local agencies; and

(b) A traffic engineering investigation with considerations as established in OAR 734-020-0460. The traffic engineering investigation shall:

(A) Clearly indicate the need for a traffic signal; and

(B) Provide documentation of traffic volumes and appropriate signal warrant satisfaction.

(2) The documentation submitted shall clearly indicate compliance with the requirements of OAR 734-020-0470.

(3) A traffic signal progression analysis as established in OAR 734-020-0480 is required if the proposed location is within 1/2 mile of an existing or possible future traffic signal.

(4) Upon approval of the request:

(a) The named intersection shall be added to the Traffic Signal Approval List; and

(b) The applicant and appropriate local road authorities shall receive a letter of approval signed by the State Traffic Engineer.

*Stat. Auth.: ORS 184.616, ORS 184.619, ORS 366.205 & ORS 810.200
Stats. Implemented: ORS 810.200 & ORS 810.210]*

734-020-0450

Application Procedure for Installation of Traffic Signals on State Highways at Private Roads

[(1) An applicant requesting the approval for installation of a traffic signal on a State Highway at its intersection with a private road shall submit to the ODOT District Manager the following:

- (a) An application form as required by the OAR Chapter 734 division covering access control for state highways; and*
- (b) A Transportation Impact Study (TIS), as described below, that complies with the special permit provisions of the ODOT permit to construct an approach. The TIS shall:*
 - (A) Clearly indicate the need for a traffic signal;*
 - (B) Assess the ability of the existing, planned, and proposed public roads to accommodate the traffic at another location;*
 - (C) Describe in detail how a specific development will affect study area transportation systems; and*
 - (D) Provide documentation on traffic volumes and appropriate signal warrant satisfaction.*
- (2) The documentation submitted shall clearly indicate compliance with the following conditions:*
 - (a) Design geometry of the private road is consistent with that of public road intersections including curbs, appropriate land widths, pavement markings and vertical alignment;*
 - (b) An adequate approach throat length is provided on the private road to assure that the movement of vehicles entering the site is not impeded by on-site conditions; and*
 - (c) The requirements of OAR 734-020-0460 and 734-020-0470 have been satisfied.*
- (3) A traffic signal progression analysis as established in OAR 734-020-0480 is required if the proposed location is within 1/2 mile of an existing or possible future traffic signal.*
- (4) Upon approval of the request:*
 - (a) The named intersection shall be added to the Traffic Signal Approval List; and*
 - (b) The applicant shall receive a letter of approval signed by the State Traffic Engineer.*

*Stat. Auth.: ORS 184.616, ORS 184.619, ORS 366.205 & ORS 810.200
Stats. Implemented: ORS 810.200 & ORS 810.210]*

734-020-0460

Consideration for Approval of a Traffic Signal Installation

[The following conditions shall be considered by ODOT for approval of a proposed traffic signal installation:

(1) A traffic signal shall not be installed unless one or more of the warrants identified in the MUTCD are met or will be met consistent with the requirements of OAR 734-020-0490. The satisfaction of a warrant or warrants, however, is not in itself justification for a traffic signal.

(2) Information to determine the need for a traffic signal shall be obtained by means of comprehensive investigation of traffic conditions and physical characteristics of the proposed traffic signal location and compared with the requirements set forth in the traffic signal warrants and appropriate highway design standards.

(3) The traffic engineering investigation shall indicate the installation of a traffic signal would improve the overall safety and operation of the intersection.

(4) Other roadway factors to be considered include, but are not limited to speed, type of highway, grades, sight distance, existing level of service, conflicting accesses, alternate accesses, and effect on existing or future traffic signal systems.

(5) The placement of traffic signals shall conform to the requirements of the 1999 Oregon Highway Plan.

Stat. Auth.: ORS 184.616, 184.619, 366.205 & 810.200

Stats. Implemented: ORS 810.200 & 810.210]

734-020-0470

Traffic Signal Spacing Requirement

*[(1)] The desirable spacing of signalized intersections on statewide and regional highways is 1/2 mile. The **STRE** [State Traffic Engineer] may approve the installation of a traffic signal at locations where 1/2-mile spacing is inappropriate or infeasible due to:*

*[(a)] **(1)** Topography;*

*[(b)] **(2)** Existing or proposed road layout;*

[(c)] Requirements of a traffic signal system as determined by OAR 734-020-0480;]

*[(d)] **(3)** Identified traffic crash pattern;*

*[(e)] **(4)** Unique physical constraints; **or***

*[(f)] **(5)** Existing or proposed land use patterns[; or]*

[(g)] Requirements to achieve specific objectives for highway segment designations as recited in the 1999 Oregon Highway Plan.

(2) Signal spacing concerns may be remedied in any of the following ways:

(a) A proposed private road that may otherwise be considered for the installation of a traffic signal as provided in OAR 734-020-0450 may be replaced by an on-site route that directs traffic to or from a nearby public road;

(b) A private road that is being considered for traffic signal installation as provided in OAR 734-020-0450 may be required to connect to the existing or planned local road system to allow use by surrounding properties;

(c) An existing or proposed intersection may be relocated; or

(d) A shared private road may be required to serve the needs of multiple properties.]

Stat. Auth.: ORS 184.616, 184.619, 366.205 & 810.200
Stats. Implemented: ORS 810.200 & 810.210

734-020-0480

Traffic Signal Progression Analysis **for Traffic Signal Approval**

(1) A traffic signal progression analysis is required for both existing and future conditions when a proposed traffic signal location is within one half mile of any existing or proposed new traffic signal. The STRE may require traffic signal progression analysis for spacing greater than one half mile.

[(1)] **(2) A traffic signal progression analysis for all new or modified approaches [revised] at traffic signals [systems] on state highways may be required for both existing and future conditions. [shall be performed using methods, models, computer software, data sources, roadway segment length, and assumptions approved by the State Traffic Engineer or designated representative. The roadway segment analyzed, to the extent possible, shall include all traffic signals in the existing or future traffic signal system. The progression analysis shall:**

(a) Demonstrate acceptable existing and future traffic signal system operation that may include the morning peak, evening peak, midday period, and other appropriate time period during any day of the week, for cycle lengths and travel speeds approved by the State Traffic Engineer or designated representative;

(b) Provide for a progressed traffic band speed no more than 5 mph below the existing posted speed for both directions of travel during the off-peak periods, no more than 10 mph below the existing posted speed during peak periods. Approval by the State Traffic Engineer or designated representative shall be required where speeds deviate more than the above;

(c) Demonstrate sufficient vehicle storage is available at all locations within the traffic signal system without encroaching on the functional boundaries of adjacent lanes and signalized intersections. The functional boundary of an intersection shall be determined using procedures specified by the ODOT Access Management Unit;

(d) Provide a common cycle length with adequate pedestrian crossing times at all signalized intersections; and

(e) Provide a progression bandwidth as large as that required, or as presently exists, for through traffic on the state highway at the most critical intersection within the roadway segment. The most critical intersection is the intersection carrying the highest through volume per lane on the state highway.

(2) The traffic signal progression analysis shall be supplemented by a traffic engineering report that also considers highway capacity and safety of the roadway segment under consideration. Traffic volumes, intersection geometry and lane balance considered at all locations shall be appropriate for present and future conditions. Present and future conditions are usually considered to include the year of completion and 15 to 20 years in the future. ORS]

Stat. Auth.: ORS 184.616, 184.619, 366.205 & 810.200
Stats. Implemented: ORS 810.200 & 810.210

NEW RULE

734-020-0485

Design Standards for Installation or Modification of a Traffic Signal

The following design standards apply to new, replaced, or significantly modified signal installations:

- (1) The traffic signal design plans shall conform to the conditions listed in the STRE traffic signal approval.
- (2) All approaches to a traffic signal controlled intersection shall be signalized.
- (3) Design geometry of a private approach shall be consistent with that of public road intersections including curbs, appropriate lane widths, pavement markings, and vertical alignment.

Stat. Auth.: ORS 184.616, 184.619 & 810.200

Stats. Implemented: ORS 810.200 & 810.210

This rule is repealed in its entirety.

734-020-0490

Conditions of Approval

[The following conditions apply when installation of a traffic signal has been approved:]

- (1) A traffic signal warrant shall be met within three years after construction when a traffic signal is constructed as part of a roadway improvement project.*
- (2) A traffic signal warrant shall be met within one month after the traffic signal is put into operation when a traffic signal is being constructed to accommodate additional traffic from a public or private development. If it is projected that a warrant will be met at a later time, operation of the traffic signal should be correspondingly delayed.*
- (3) All approaches to a traffic signal controlled intersection must be signalized, unless a traffic engineering investigation shows that signalizing a minor public or private road is not justified.*

Stat. Auth.: ORS 184.616, ORS 184.619, ORS 366.205 & ORS 810.200

Stats. Implemented: ORS 810.200 & ORS 810.210]

734-020-0500

Removal of Traffic Signals

*[The Department may remove a] An existing traffic signal **may be removed** if MUTCD traffic [volume] **signal** warrants are no longer met or a proposed change in geometry or traffic flow pattern will eliminate the **need for the traffic signal.** [existing warrant.] **No traffic signal shall be removed from the State Highway System without prior approval of the STRE.** [The State Traffic Engineer shall approve all such removals on State Highways and provide public notice when:] **A traffic control engineering study is required for approval, which shall include all of the following:***

- (1) A comprehensive investigation of traffic and safety conditions.**

(2) Assessment of needs of the local community.

(3) Public opinion considerations.

[(1) Supported by a comprehensive investigation of traffic conditions;

(2) The needs of local agencies affected by the removal are addressed; and

(3) Public opinion is considered.]

Stat. Auth.: ORS 184.616, 184.619, 366.205 & 810.200

Stats. Implemented: ORS 810.200 & 810.210