OREGON DEPARTMENT OF TRANSPORTATION

SPEED ZONE MANUAL

ODOT Traffic-Roadway Section
January 2014

PREFACE

The purpose of this manual is to provide guidance for completing speed zone investigations in Oregon.

The primary reason for establishing speed zones and speed limits is safety. In setting speeds, decision-makers attempt to strike an appropriate balance between travel time and risk for the specific highway section. The posted speed should inform motorists of maximum driving speeds that are considered reasonable and safe for a highway section under favorable conditions.

Safe and reasonable highway speeds are determined through an engineering study. The study is based upon nationally accepted standards that include a full review of roadway characteristics. These characteristics include traffic volumes, crash history, highway geometry, roadside culture and density, etc.

The principal factor used in establishing speed zones is the 85th percentile speed (the speed at or below which 85 percent of the vehicles are traveling). Most motorists drive in a reasonable and prudent manner, selecting their driving speeds so as to arrive at their destination safely. Regulatory signs are posted for those drivers who are unable to judge the capabilities of their vehicles (e.g., stopping, handling) or cannot anticipate roadway geometry and roadside conditions sufficiently to determine appropriate driving speeds. Studies suggest posting speeds near the 85th percentile speed minimizes crash occurrence and provides favorable driver compliance.

The availability of enforcement for traffic speeds is an important consideration in establishing a posted speed. Appropriate speed zones coupled with consistent enforcement increases the safe operation of traffic by discouraging high risk behavior.

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STATUTES THAT GUIDE THE ESTABLISHMENT OF SPEED ZONES

State statutes give road authorities the following standards for posting speeds.

Statutory speeds can be posted at the discretion of the road authority if a street or highway meets the definitions described under ORS 801.100 (Definitions) and the criteria as described under ORS 811.105, ORS 811.111 and ORS 810.200 (see also page 46):

15 mph – alleys; narrow residential roadways;
20 mph – business districts, school zones;
25 mph – residential districts, public parks, ocean shores;
55 mph – open rural highways, trucks on interstate highways;
65 mph – passenger vehicles, light trucks, motor homes and light duty commercial vehicles on interstate highways.

State statute also gives the Department of Transportation the authority to establish designated speeds, speeds other than statutory speeds on all public roadways in Oregon (see ORS 810.180). This manual outlines the process of designating speeds through establishing a speed zone. It requires that an engineering investigation be conducted to determine the appropriate speed.

If the roadway is a paved low volume road (less that 400 ADT) or unpaved road, the Department may delegate authority to the road authority to conduct speed zone investigations and set speeds on roadways under their jurisdiction (see ORS 810.180 (5) (f)). **For more information regarding speed zoning on paved low volume or unpaved roads see page 50.**

In 2011, a new state statute was established that gives road authorities the authority to establish by ordinance a designated speed for a highway under their jurisdiction that is five miles per hour lower than the statutory speed if it meets set criteria (see ORS 810.180(10)).

OREGON ADMINISTRATIVE RULES THAT GUIDE THE ESTABLISHMENT OF SPEED ZONES

Oregon Administrative Rules (OAR) 734-020-0014, -0015, -0016, -0017 and -0018 describe the requirements for setting designated speeds through the speed zoning rules, processes and definitions (for non-interstate roadways). A copy of these OARs can be found in Appendix H.

SPEED ZONING GUIDELINES

The following guidelines provide a consistent basis for the application of engineering principles for setting designated speeds by means of speed zoning.

1. Speed zones shall only be established on the basis of an engineering study (required by statute). An engineering study should be conducted whenever there is a change in the roadway that would affect the prevailing speed. Such changes would include roadway reconstruction, changes in roadside development, or significant changes in traffic volumes.

2. The engineering study must include a statistical analysis of the speed distribution of free-flowing vehicles on the subject roadway. The speed limit within a speed zone should be set at the nearest 5 MPH increment to the 85th percentile speed. An existing designated speed zone may, at the discretion of the State Traffic Engineer, be extended or shortened up to 500 feet without obtaining a spot speed check within that section.

3. The engineering study will consider other factors such as:

   - Geometric features

     Geometric features include vertical and horizontal alignments and available sight distance. The appropriate warning sign with speed advisory plaques should be used rather than lower speed limits to indicate appropriate speeds for curves and hills.

   - Pedestrian and bicycle movements

     When determining the appropriate speed, pedestrian and bicycle movements should be taken in to consideration. The type of accommodations for non-motor traffic, such as sidewalks and separated cycling paths versus shoulder use, should be considered if there is consistent pedestrian or cyclist traffic.

   - Type and density of adjacent land use

     It is desirable that features such as roadside development (business, residential, rural, etc.) within each speed zone be consistent, as comparable sections tend to encourage similar operating speeds. It is not always practical to subdivide a roadway section into homogenous speed zones because it could result in a number of short sections with various speed limits. The section length used for speed zoning should be at least ¼ of a mile in length, except transition speed zones may be a minimum of 1000 feet in length.

   - Enforcement

     Signing alone is of little benefit accomplishing a change in travel speeds. Even if most drivers believe the limits are reasonable and comply with them, enforcement is essential to ensure conformity of the remaining drivers. Setting speed zones too low makes enforcement difficult and expensive. The deterrence effects of enforcement are temporary and must be reinforced often.

   - Crash history

     A crash analysis should be conducted as a routine part of speed zone investigations. Speed zoning is not usually an appropriate counter measure to address high crash situations. The

analysis should identify high crash characteristics and problem locations. The crash history is relevant to the speed zone if the crashes are spread out along a section, rather than concentrated around a single feature such as a severe curve or intersection. The road authority should conduct a separate field review to identify possible causes and develop recommendations for improvements for singular crash locations.

- Public testimony

  The road authority may consider public testimony before establishing a speed zone. Extenuating circumstances or other issues may be revealed beyond the speed zone investigation.

- Traffic Volumes

  Traffic volumes are a key factor affecting drivers' choice of speeds and the determination of appropriate speed limits. On two lane rural highways, which have a more limited capacity and more restricted geometric design features, travel speeds tend to deteriorate more rapidly with increasing traffic volumes.

- Accesses

  Numerous accesses which are typically found in urban or community settings can increase the potential of vehicle conflicts.

4. Speed zones are not a tool to warn motorists of hazardous conditions. If a hazardous condition is found to exist within a road segment under study, this condition should be corrected or an appropriate warning sign with an advisory speed rider should be posted.

5. Enforcement of speed limits within speed zones should be uniform. Efforts should be made to coordinate the implementation of speed zones with the enforcement policies of the governing enforcement agency.

SPEED ZONE INVESTIGATION

This section discusses the necessary information to investigate, analyze and complete a speed zone investigation. Information collection includes research and field investigations. There is a detailed discussion of how to report results. Following these procedures and standards closely is required for acceptance of the report by the State Traffic Engineer. The documentation as described is necessary to prove in court that the speed was rightly determined.

PRELIMINARY REQUIREMENTS

Before a speed zone investigation can begin there must be a written request from all road jurisdictions involved in ownership, maintenance and enforcement in the section of road to be investigated. This is the authorization to perform the work on that road. If a city or county is investigating a road under its own jurisdiction, concurrence is needed from any other agency that shares jurisdiction of the section of road investigated.

For an investigation on a city street, county road, or state highway within a city there should be a "Speed Zone Request" form (See Appendix A.) This form gives all required information about the roadway, and it shows what the roadway authority (both engineering and enforcement) think the speed zone should be and why. When an agency conducts its own investigation, the information requested on this form is part of the submittal to the State Traffic Engineer for speed zone approval.

The initial request may also be in the form of a letter, memo or email acknowledging a phone request. Written request(s) and concurrence from each affected road authority are needed before work can begin. The request should contain at least the section of road to be investigated, the reason for the investigation and a recommended speed. If the roadway to be investigated is under the authority of more than one jurisdiction, the agency requesting the investigation needs to provide ODOT with the location of the political (e.g., city limits line) and maintenance boundaries. If any of these items are missing, they need to be established by correspondence with the Region office or road authority. Documentation of the correspondence must be included with the report transmittal letter.

RESEARCH INVESTIGATION

Research and compile the following before performing the field investigation:

- Established speed zones
- The most recent investigation
- Correct mileposts (if on State highway)
- Current map
- Crash data
- Average Daily Traffic (ADT)

Established speed zones

Obtain current speed zone orders from ODOT Region or headquarters Traffic offices.

- Determine both former and current names for the investigated roadway and former and current road authorities.
- Be certain to have all active orders that cover part of or are contiguous with the roadway section to be investigated.

- If an order is found and the ordered speed is posted, consider the speed "established". If no order is found but a speed is posted, determine if it fits one of the statutory speeds defined in ORS Chapter 811.105 or ORS 811.111. If no statutory speed applies, consider the speed "unestablished". It may be necessary for the local road authority to remove or cover existing signs before completing the investigation. This decision will depend on factors such as the length of time the unestablished speeds have been posted and design speeds on a new road.

- A designated speed established in a speed zone order supersedes the statutory speed except for school speed zones that would otherwise apply, until or unless the speed zone order is rescinded. A road authority may request to rescind an established speed zone order if the road authority has determined that the statutory speed is more appropriate for the roadway and the roadway meets the statutory definition of the proposed statutory speed. When a speed zone order has been formally rescinded, the road authority may post the statutory speed.

Remember that city limits are subject to change and road names can change along a corridor, as when the road changes from one jurisdiction to another. Historically, separate orders were written for each road authority. Keep this in mind when reviewing the existing orders to determine that all pertinent orders have been considered.

When the existing speed zone order references are no longer used or otherwise no longer relevant, the descriptions should be corrected. Some older speed zone orders refer to city limits as speed zone boundaries, requiring a change in the description of that speed zone. Other changes may be needed as well, such as street name changes, new streets closer to the beginning/end of the speed zone than the street referenced, or a roadside change that requires the sign to be relocated. In order to write a new description, the location will have to be verified in the field. Determine where the location should be from known streets at the time of the original speed zone order and map plus other historical documents if necessary, in order to prepare for the field work. (See Appendix E for more information.)

Previous Investigations

Obtain a copy of the most recent investigation from the ODOT Region or headquarters Traffic offices.

Determining Mileposts on State Highways

There are different data sources to determine the milepoints to use for the maps and speed zone descriptions, and the info obtained from the different sources can vary. The TransViewer Highway Reports (formerly ITIS) provides milepoints of features related to the highway system. The milepoint information in the Highway Reports is generated from engineering stationing on construction plans. The data is then verified/augmented in the field using a distance measuring instrument. Data gathered in the field is accurate to +/- .03 mile (about 150 feet). (Hint: If a feature has an engineering station, the milepoint came from construction plans.) With office corrections over the years for roadway alignment changes, these distances can be even longer. This is hard to determine in the field, and TransViewer is still the main choice, as many features surveyed in the field will have corresponding milepoints assigned to them in TransViewer. The data in GIS has often been corrected to be able to scale it with other types of data than linear data. Eventually this information may be the main source, but as of now, it should be used as an alternative to help sort out discrepancies when there is conflicting milepoint information.

When possible, use TransViewer Highway Reports bridge milepoints for tying field work to TransViewer Highway Reports. These are the most likely to be surveyed milepoints. Otherwise use a major right-angle intersection centerline. If neither opportunity is available, reconcile to the intersection that has the most agreement on milepoint assignment from TransViewer, GIS and/or the Microstation map.

The Microstation maps derived from aerial surveys have been corrected for both vertical and horizontal coordinates. However, it doesn't have all the features mileposted or available to scale off the map. Be

aware of the possible discrepancies between the electronic maps and the straight-line data in TransViewer. Reconcile straight-line data, and your field data, to the map by keeping distances proportionately correct per the field logs.

Current Map

- Copy the most current map of the report area, showing connecting roadways and enough vicinity to readily identify the area on a city or county map. When the total speed zoning extends for longer than can be shown on an 11" x 17" map at a reasonable scale, show all investigated sections and speed zoning between and at each end of the investigated sections as a minimum.
- Show current jurisdictional boundaries, including whether the boundary runs along either side of the road or along centerline, or crosses the road.
- Using a large map sheet and scale will be helpful in the research and field phases, and in adding all of the data required for the report copy.
- Electronic copies of the map may be submitted with the report. Contact Traffic-Roadway Section to be sure of compatibility.

Crash Data

- Order crash data for the requested section, on both a manual listing and "PRC" listing, from the ODOT Crash Analysis and Reporting Unit.
- Crash data for each investigated section always includes at least 3 full calendar years of recorded crashes. Any partial year data for the current year from Crash Analysis and Reporting Unit can be included.
- For additional data if needed, use the Crash Data Request form (**Figure 15** in Appendix B). Since a speed zone investigation considers crash rates in the recommended sections including intersections, request that intersection crashes not be broken out. The exception to this is that intersections which begin/end a section are not included. Request that these crashes be excluded from the listing. Attaching a map to the crash listing request with the begin and end points labeled may help the Crash Analysis and Reporting Unit process the request faster. Refer to the Crash Summary section of this manual for summary directions.
- It is helpful to solicit crash records from the road authority as well. It is usually the city police or county sheriff's offices that have this information. This can add valuable insight, especially if safety is cited in the speed zone review request as part of the speed zoning review need.

For a complete discussion of Crash Data Requests, refer to Appendix B, Crash Data Request Information.

Average Daily Traffic

- The average daily traffic (ADT) for state highways will be supplied by Region.
- For city streets and county roads, the local jurisdiction must supply the traffic volumes.
- If the agency has no volume count within two or three years of the desired year, ask the agency to give an estimated ADT or call the ODOT Systems Monitoring Unit. Note the estimated ADT as "XXX (estimated)".
- A two or three year old ADT may be "updated" using a rule-of-thumb of 2-5% growth per year.

FIELD INVESTIGATION

Perform a field investigation and compile the following information:

- Roadway Data
- Photographs
- Spot Speed Data

Appendix C contains a Speed Zone Field Investigations Checklist

Roadway Data

1. Drive the roadway length noting topography, traffic flow, comfortable speeds and general road and traffic conditions. Note conditions in high crash sections separately.

2. For state highways, milepost the investigated section using the same direction as the established mileposts. For local roadways, milepost the investigated portion starting at the end closest to the city center or city limits, or the first boundary in the order listed by the road authority if not close to a city. The milepost numbering does not have to coincide with the local milepost system. In most cases, it is easiest to begin with milepoint zero.

3. Verify speed zone boundaries, including any needed changes. See Appendix E for a full discussion of making changes to speed zone boundaries, including where the speed is not being investigated.

4. Document the following in a milepoint log:

Alignment

- Horizontal alignment, noting:
  - number of horizontal curves: a method to decide if a section of road is on a curve in the field is to sight ahead, establishing a straight line of sight along the fog line or center line. If the road does not follow the line of sight, call it a curve.
  - safe speed on curve, noting:
    - if needed signing is in place, and
    - need for curve signing including ball bank tests or other accepted measures for safe speed if a curve is questionable, or if the advisory speed is questionable.
- Vertical alignment, noting:
  - number of curves
  - order of sag and crest curves or
  - consistency of grade.
- Sight distances, noting:
  - locations with substandard stopping sight distance for intersections and major commercial driveways, and
  - where needed advance signing does not exist.

Roadside Conditions

- Note sections where driving requirements differ significantly due to
  - roadside development
  - traffic volumes and movements.

- On-street parking sections.
- Bike/Pedestrian facilities as established by pavement markings and signing.
- The centerline of driveways unless there are too many to note practically. If there are numerous accesses, use comments such as “Avg. 50 feet apart left" or "15 left/14 right" with begin and end milepoints. For very long sections (over a mile) with consistently dense accesses, note “numerous” with begin and end milepoints. (NOTE: It’s very rare when at least a count isn’t very doable. Where it’s reasonable, a count should be done.)
- Signs:
  - location (offset, R/L ahead on line),
  - legend, and
  - sizing if nonstandard or oversized sign.

Roadway Characteristics

- Intersections:
  - type (number of legs),
  - milepoint of centerline,
  - alignment (left/right),
  - traffic controls and
  - intersecting street surfacing
- Typical sections:
  - Shoulder to shoulder or back of sidewalks (Do not include sidewalks if separated by planting or other area)
  - Note median, roadway and shoulder width extremes in each investigated section.
  - Note range of widths
    - of shoulders (by type),
    - bike lanes,
    - travel lanes,
    - medians (by type)
    - islands
    - channelization, and
    - sidewalks
- Railroad crossings.

Photographs

The photographs are intended to document the descriptions of the roadway and major factors considered in the recommendation for the report. Digital photographs are preferred, although photographic prints are acceptable. Instant type photos are not acceptable, as they are too bulky for the files and don't last as long.

Follow these guidelines when taking photographs:

Choosing photo locations

- Choose photo locations to show
  - roadway character

- roadside culture, signs (including the posted speed signs) and
- features referenced in the Speed Zone Report and Transmittal letter

- Photographs should represent each section but are not required to overlap (unless an overlap is necessary to show sign messages or other specific details about the roadway).
- Space photo locations up to 1/4 mile apart while still showing roadway characteristics important to the report recommendations. Spacing may be greater than 1/4 mile if there is no change in the roadway or the roadside culture, and the section is longer than 1 mile. However, it's best not to skimp on photos; it's better to have too many than too few.
- Include photos showing both current speed zones and any expected speed zone changes.
- Include photos of the beginning and end of the investigated section. For these photos, stand outside the investigated section so that the existing speed signs and intersections are in the photos.
- For intersections, choose a photo location inside the section and far enough away from the intersection to show all approaches and close enough to show roadside features and traffic control detail.

Taking photographs

- Take photographs from the roadway centerline. Use a two person crew and/or medians and crosswalk areas if necessary for safety when traffic volumes are high.
- Take one photograph ahead on line and one photograph back on line from every photo location. If the first photo shows the back of a sign or an intersection, the second photo of the pair should be taken from a point on the other side of the sign or intersection, so that an overlap is created and the message/details can be seen.
- If sight distance is restricted where public roadways intersect the investigated roadway, take photos from those intersections to show the sight distance.

Recording the photographs

- Number the photographs consecutively in milepoint order. (There will usually be two numbers per milepoint)
- Log the photographs using consistently odd numbers for one of the directions and even numbers for the other direction.
- Record the direction of view and milepoint or distance from the nearest intersection or permanent landmark for each photograph. The location of the photograph given in the report will be the distance from the nearest intersection.

Spot Speed Check

Spot speed checks provide information on current traffic conditions and driving decisions. Only free flow vehicles are counted as making independent choices. This means only one vehicle in a queue is recorded. A queue is when there is less than a 4 second gap between vehicles.

Every investigated section in the Speed Zone Report must have at least one spot speed check for each existing posted speed. An investigated section is determined by the recommended speed zoning.

Minimum spot speed check requirements:

- Every 1/2 mile with a minimum of two spot speed checks per mile.
  - When driving conditions remain virtually unchanged, the interval can be lengthened to 1 mile, or longer for a very long (>3 miles) investigated portion.

- When there is a definite change over 1/4 mile in roadside culture or roadway cross section suggesting a change in driving speed.
- For each existing speed zone in the investigated section. If you are considering splitting an existing speed zone, take a spot speed check in each section of the split.
- An existing designated speed zone may, at the discretion of the State Traffic Engineer, be extended or shortened up to 500 feet without obtaining a spot speed check within that section.

Choosing spot speed locations

- Tangent sections away from controlled intersections are preferable.
- Do not take spot speeds on curves or near stopped or signalized intersections.
  - If the section is mostly curves, take spot speeds from a representative location.
  - If the section has closely spaced controlled intersections, try to gain a mid-block location, or split the directions into separate locations for optimum free flow data.
- Locations should be chosen with the request information in mind. They should be designed to answer the road authority's concerns. This may mean checking:
  - close to speed zone changes,
  - near a particular development or
  - taking more checks than the minimum requirement.
  - Attention paid to good judgment in the choice of spot speed checks will eliminate most additional field trips needed to collect appropriate data.

Recording spot speed checks

- Fill out the heading on the Spot Speed Survey form (**Figure 17** in Appendix D).
- The listing of the city or county name should be the road authority for that section.
  - Only use city names listed in the "Oregon Bluebook" (incorporated cites), otherwise use the county name. Note the names of unincorporated communities in parentheses if they are within the investigated section.
  - On state highways, use the official highway name, route number, and milepoint.
- Enter the street or road name used by the road authority for a city street or county road. If the road carries 2 names, as can be the case with state highways, list the name on the street signs with the alternate name in parentheses.
- Label each column with the traffic direction at the top.
- Enter the posted speed for the section investigated. If no speed is posted, enter "None (XX mph Stat.)" and use the appropriate statutory speed (ORS 811.105 or ORS 811.111).
- Send a copy of the speed check data with the report to the State Traffic Engineer.
  - Electronic data must be supported with a hard copy of the raw data (See Note below)
- Record the time in hours and minutes. Note the time the spot speed check began and the time completed. If the count is interrupted for any reason, record each count period.

  NOTE: Electronic traffic counters may be used if they can distinguish and analyze headway to count only free flow vehicles as defined above, and if they can tally speeds in 1 mile per hour increments. If an electronic counter is used, the report from the automated analysis must include all of the following, or analysis will have to be completed manually for submittal:

- 85^{th} percentile speed
- 10 mile per hour pace limits
- Percent of traffic in the 10 mile per hour pace
- Posted speed
- Percent of traffic exceeding the posted speed
- Maximum speed, per direction and combined
- Line or data point chart showing total vehicles tallied per speed (MPH) in 1 mile increments vs. percentage of total vehicles counted (percentile). The chart must be scaled to read percentile accurately for any speed.

Spot speed check operations

- Take checks
  - in normal weather,
  - during regular daylight hours and
  - at free flow rather than peak traffic periods.
  - Do not record speeds of passing vehicles.
  - Record trucks or other commercial vehicle speeds separately.
- Count at least 75 vehicles in each direction.
- Spend no longer than 3 hours on a spot speed check even if less than 75 vehicles per direction are counted in that time.
  - Observation time on low volume roads (less than 400 Average Daily Traffic) may be limited to one hour providing less than 8 <u>total</u> countable vehicles are counted in one hour.
- Tally pedestrians and bicycles traveling along the roadside.
  - Count separately for each direction.
  - Do not include pedestrian or bicycle cross-traffic.
  - If the pedestrians and cyclists are predominantly children or youth, note that in the report.

Once the analysis is done for the initial field work it may indicate that an appropriate speed zone recommendation needs additional spot speed data to meet the above spot speed check requirements. Additional spot speed checks must then be taken to complete the work. Experience with speed zone investigations will minimize this additional field work.

SPEED ZONE REPORT SUBMITTALS

A Speed Zone Report includes the investigation data summary and resulting recommendation. One is written for every speed zone request and submitted to the State Traffic Engineer. All of the following is submitted with the Speed Zone Report to complete the report of investigation:

- 1 copy of the transmittal letter
- 1 copy of all correspondence
- 1 copy of the supporting data from the field investigation
- Completed Speed Zone Reports: one copy for each jurisdiction, one for Region files and one for Traffic-Roadway Section files.

TRANSMITTAL LETTER

The transmittal letter discusses each segment of roadway investigated as well as special circumstances not listed in the Speed Zone Report. Information from phone conversations pertinent to the investigation and/or recommendations should also be included. Include a discussion of any needed speed zone boundary changes both those that were investigated and those that were not. If a needed change was not verified in the field, state that the change should be included in the next investigation and detail what change is needed.

For each investigated segment, the transmittal letter presents results, reasons for recommendation and other considerations. **Figure 1** is an example transmittal letter.

If the Region office determines a full investigation is not warranted, a memo to the State Traffic Engineer should be submitted for Traffic-Roadway records. A response to the local jurisdiction will be sent under the State Traffic Engineer's signature.

CORRESPONDENCE

The correspondence as a minimum includes the request letter and the acknowledgment letter stating agreement to perform the speed zone investigation. Any additional related correspondence should be included.

SUPPORTING DATA

Include

- 1 copy of the raw data sheet for each Spot Speed check
- PRC crash data received from the Crash Analysis and Reporting Unit
- Milepoint log
- Investigation diary of any unusual circumstances, conversations, time in the field, etc.

EXAMPLE

I N T E R O F F I C E M E M O

TECHNICAL SERVICES
Traffic-Roadway Section
Office Phone: (503) 986-3609
Fax Number: (503) 986-3749

DATE: June 20, 2012

TO: Bob Pappe, PE, PLS
State Traffic / Roadway Engineer

File Code: TRA 7-2

FROM: John Doe
Region Traffic Investigator

SUBJECT: Speed Zone Recommendation
Powerline Road
Columbia River Hwy (US730) to Radar Road
City of Umatilla / Umatilla County

A speed zone investigation had been conducted at the subject location and report attached for your review and approval. The investigation was conducted in response to a request from Larry Clucas, City Administrator for the City of Umatilla with concurrence from Hal Phillips, Roadmaster for Umatilla County. The City has requested ODOT establish a 25 mph speed zone from the Columbia River Hwy (US 730) to Pine Tree Avenue and a 35 mph speed zone from Pine Tree Avenue to Radar Road.

Section A, from the Columbia River Highway to 0.14 mile south of Pine Street is of residential culture with moderate density. The roadway is typically 20 feet wide with single 10 foot travel lanes. There were no reported crashes in the three-year crash study period. The spot speed data yields an average 85% speed of 39 mph. Pace limits were from 31-40 mph with 78% of the vehicles in pace. After consideration of the 85th percentile speed and crash history, I recommend retaining existing 35 mph speed zoning.

Section B, from 0.14 mile south of Pine Street to Radar Road is of rural culture with sparse density. This section has two intersecting streets that will eventually be used to serve residential areas. The roadway is typically 20 feet wide with single 10 foot travel lanes. There was one reported crash in the three-year crash study period. The spot speed data yields an average 85% speed of 53 mph. Pace limits were from 44-53 mph with 62% of the vehicles in pace. After consideration of the 85th percentile speed, crash history and need for a transition speed zone, I recommend establishing a 45 mph speed zone.

If you concur with this recommendation, please note your concurrence on the attached report.

JD/cwc

Figure 1

SPEED ZONE REPORT

The Speed Zone Report is considered a legal document proving the current speed zone was properly determined. The original is kept on file in the Traffic-Roadway Section, with copies kept in the Region office and in each pertinent jurisdiction.

Each Speed Zone Report must closely adhere to the criteria as described in this manual. The report includes in the order of presentation:

- Report Outline,
- Map,
- Photograph page(s),
- Crash Summary(s) and
- Spot Speed Summary(s).

Report Outline

The Report Outline consists of the following nine components:

- Report heading
- Recommendation
- Sections
- Historical background,
- Data Summaries
  - Investigation Data
  - Roadway Data
  - Crash Data
  - Spot Speed Data
- Factors influencing the recommendation

The Report Outline should be complete and accurate and follow the standard format. See **Figure 2** for the two page standard outline format. **Figure 3** is a three page completed Speed Zone Report and **Figure 4** shows the standard outline format for roadways with multiple names.

TEMPLATE

OREGON DEPARTMENT OF TRANSPORTATION
Report of Speed Zone Investigation
Road name
Begin Point of Speed Zoning/Investigation to End Point of Speed Zoning/Investigation
Roadway Authority and Interested Jurisdiction Name(s)
Report date

Recommendation: (Disposition of current speed zone orders and investigated sections)

Section:

				Existing	Recommended
Investigated/Not Investigated					
Section	From:	Begin point by road or feature name w/ distance & direction	MP (state hwy)	Posted speed (MPH)	Recommended Speed (MPH)
	To:	End point by road or feature name w/ distance & direction	MP (state hwy)	Posted speed (MPH)	Recommended Speed (MPH)

1/ Except that in the following sections, the designated speed shall be 20 mph as per provisions of ORS 811.111: **(This exception applies to state highways only)**

From: Begin point by road or feature name w/ distance & direction

To: End point by road or feature name w/ distance & direction

Historical Background:

Investigation Requested by: Name, title, Jurisdiction

Requested Speed: (MPH) (If more than one section investigated, list by section)

Previous Action: Existing Speed Zone Orders

Investigation:	Section/Part of Sec.
Section Length	0.00 miles/ #ft<550'
85% Speed	MPH
(Last full year) Crash Rate*	Acc/MVM
(Same yr above) Average Daily Traffic	Nearest 50 veh/day
Culture Type and Density	(See description)
Horizontal Alignment	(See description)
Vertical Alignment	(See description)
Curve Signs & Speed Riders	(See description)
Existing Posted Speed	MPH
Recommended Speed	MPH

*Crashes per Million Vehicle Miles

Figure 2

Roadway Data:	Section/Part of Sec.
Surface	type
Width	Nearest ft.
Lanes	#travel, note median
Parking	(See description)
Shoulders	(See description)
Intersecting Streets	# Exclude ends
Paved	# side streets
Stopped	# side streets
Signalized	# side streets
Bicycles / Pedestrians	# peds / # bikes

Crash Data:	
Study Period	Last 3 full yrs min.
Total Crashes	# for study period
Injuries	# for study period
Fatalities	# for study period
(Last full yr.) Crashes	#
(Last full yr.) Crash Rate (R)	Acc./MVM
(Last full yr.)State Rate (r) 1/	From Rate Table
Deviation (R-r)	R-r, if <0, =0

Spot Speed Data:	
85% Speed	Avg. for Section
Pace Limits 2/	Avg. for Section
% in Pace	Avg. for Section
Maximum Speed	High for Section
Posted Speed	List all for Section
% Exceeding Posted Speed	List Avg. %/Each posted speed
Computed Speed 3/	85% (local)/85%-(R-r) (State hwy.)
Recommended Speed	MPH

1/ No comparable State rate available.(local road)/Functional Class, Hwy. Type, Urban/Rural (State Highway)
2/ Ten mile-per-hour range containing the largest number of sample vehicles.
3/ 85% speed minus deviation.

Factors Influencing Recommendation:
List all deciding factors from above lists

Figure 2 (**Template -**page 2)

EXAMPLE

OREGON DEPARTMENT OF TRANSPORTATION
Report of Speed Zone Investigation
Umatilla – Stanfield Highway (US 395)
100 feet north of George Road (MP 9.98) to 400 feet south of eastbound I-84 On Ramp (MP 2C12.73)
City of Stanfield / ODOT
June 27, 2011

Recommendation: Rescind Speed Zone Order by Delegated Authority No. 1327D and OTC Order No. 1197 both dated August 28, 1998 and establish the following speed zoning:

Section:

				Existing	Recommended
Investigated					
A	From:	100' N of George Road	MP 9.98	45 MPH	45 MPH 2/
	To:	Arborvitae Lane	MP 10.20		
A	From:	Arborvitae Lane	MP 10.20	45 MPH	45 MPH 3/
	To:	100' N of Birch Street	MP 10.46		
Not Investigated					
B	From:	100' N of Birch Street	MP 10.46	30 MPH	30 MPH 3/ 1/
	To:	Dunne Street	MP 11.40		
B	From:	Dunne Street	MP 11.40	30 MPH	30 MPH 2/
	To:	350 feet south of Dunne Street	MP 11.46		
C	From:	350 feet south of Dunne Street	MP 11.46	45 MPH	45 MPH 2/
	To:	0.12 mile south of Dunne Street	MP 11.52		
C	From:	0.12 mile south of Dunne Street	MP 11.52	45 MPH	45 MPH 3/
	To:	0.32 mile south of Irwin Road	MP 12.44		
C	From:	0.32 mile south of Irwin Road	MP 12.44	45 MPH	45 MPH 2/
	To:	400' S of eastbound I-84 on-ramp	MP 2C12.73		

1/ Except that in the following sections, the designated speed shall be 20 mph as per provisions of ORS 811.111: **(This exception applies to state highways only)**

From: 200 feet north of Harding Avenue (MP 10.73) To: 200 feet south of Harding Avenue (MP 10.81)
From: 25 feet south of Wood Avenue (MP 10.98) To: 25 feet north of Furnish Avenue (MP 11.07)

2/ ODOT – Road Authority
3/ City of Stanfield - Interested Jurisdiction

Historical Background:

Investigation Requested by: Chief Robert Akers, Stanfield Police Department

Requested Speed: 30 MPH

Previous Action: Speed Zone Order by Delegated Authority No. 1327D and OTC Order No. 1197 both dated August 28, 1998.

Figure 3

Investigation:

	Section A Investigated	Section B&C Not Investigated
Section Length	0.48 mile	
85% Speed	52 MPH	
2012 Crash Rate*	0.92	
2012 Average Daily Traffic	12,400	
Culture Type and Density	Sparse Residential / Business	
Horizontal Alignment	Tangent	
Vertical Alignment	Level	
Curve Signs & Speed Riders	None	
Existing Posted Speed	45 MPH	
Recommended Speed	45 MPH	

*Crashes per Million Vehicle Miles

Roadway Data:

Surface	Bituminous
Width	62’ (fog line-fog line)
Lanes	4 (w/center turn lane)
Parking	Not Prohibited
Shoulders	8’ paved / 9’ gravel
Intersecting Streets	1
Paved	1
Stopped	0
Signalized	0
Bicycles / Pedestrians	5/0

Crash Data:

Study Period	01/01/10-12/31/12
Total Crashes	4
Injuries	2
Fatalities	0
2012 Crashes	2
2012 Crash Rate (R)	0.92
2012 State Rate (r) 1/	3.50
Deviation (R-r)	0.00

Figure 3 (EXAMPLE - page 2)

Spot Speed Data:

	Section A Investigated	Section B&C Not Investigated
85% Speed	52 MPH	
Pace Limits 2/	41-50 MPH	
% in Pace	75%	
Maximum Speed	61 MPH	
Posted Speed	45 MPH	
% Exceeding Posted Speed	59%	
Computed Speed 3/	52 MPH	
Recommended Speed	45 MPH	

1/ Primary, Urban, Non-freeway
2/ Ten mile-per-hour range containing the largest number of sample vehicles.
3/ 85% speed minus deviation.

Factors Influencing Recommendation:
85th Percentile Speed, Pace Limits, Crash History

Figure 3 (EXAMPLE - page 3)

Report Heading:

The heading consists of the following six lines:

1	**OREGON DEPARTMENT OF TRANSPORTATION**
2	Report of Speed Zone Investigation
3	name of highway, street or road
4	Description of beginning and ending points
5	City and/or county jurisdiction and/or ODOT
6	Date

Lines 1 and 2

Lines 1 and 2 should remain the same for most reports. When the investigation was completed under the direction of a road authority other than ODOT, the road authority or consultant should use their own official designation on Line 1.

Line 3

This line gives all pertinent names for the road investigated. On state highways, use the official highway name and route number. Abbreviate the route number (US XX) or (OR XX) and milepoint (MP) and abbreviate other words only as necessary to fit the report format. The route number can be added in parentheses.

For county roads or city streets that are not state highways, use the name preferred by the responsible jurisdiction. If a roadway has two names then show both. When the report recommends to "Retain" the present order, use the name of the street or road shown on the order. If the current name is different, add it in parentheses.

Line 4

The report includes the investigated section of road along with all orders contiguous along the road including the investigated section. This line lists the beginning and end of the current speed zoning together with the investigation. In most cases one or both endpoints will be outside of the investigated section.

All investigated sections, the orders contiguous with the investigated sections and with each other are included within the end points listed here. These end points are described by distance and direction from the nearest intersection. (e.g., 450 ft. east of Current Road). If you are changing this description due to road changes and not due to the speed investigation, the change must have been verified in the field. See Appendix E for the full discussion on making description changes.

On state highways, list the begin and end points beginning with the lowest milepoint. For local roads list the begin and end points moving from the city center toward city limits into the county.

When to use Milepoints

- If the report begins and/or ends on a state highway, spur or connection, use milepoints in addition to the distance from the nearest cross street.
- Do not use milepoints for city streets or county roads.
- If the report of a city street or a county road begins and/or ends at a state highway, use the highway name and route number, but not the milepoint, in the description.

Line 5

This line includes all roadway jurisdictions involved in the investigated sections and the current speed zone orders. Interested jurisdiction (more than one road authority shares responsibility for a single section of road – see glossary) must include active responsibilities such as right of way or maintenance authority. The Oregon Transportation Commission (OTC), through ODOT, has sole speed zoning jurisdiction for rural state highways.

Use the following format for line 5, adding the number of road authorities necessary:

ROAD CATEGORY	Line 5
City street or State highway in the city	City of XX
State highway outside city	ODOT
State highway in & out of city	City of XX & ODOT
County road in county	XX County
Road in city and county	City of XX & XX County
Interested jurisdictions	RoadAuthority1/RoadAuthority2

Line 6

This line establishes the reporting date. Line 6 should have the month, day and year the report is completed by the investigator.

Recommendation:

This statement gives the recommended disposition of existing orders and any new speed zoning. It must include the disposition of all orders in the speed zone report. Recommendations are written in the following formats, combining formats as needed to include all existing orders and changes:

a) "Retain Order[1] No. XXXX dated XXX:"
This recommendation is used only when the entire order(s) is being retained with no changes, including school zone or boundary name changes.

b) "Rescind Order[1] No. XXXX dated XXX and establish the following speed zoning:"
Use this wording when changing the designated speed of a speed zone, adding to or dropping sections of speed zones, or changing school zones or speed zone boundary road names. If the changes are housekeeping items and the speed zoning is to remain the same, put a footnote below the section stating the reason for the new order. See Appendix E for housekeeping procedures.

c) "Establish the following speed zoning:"
Use alone only when the present speed is statutory or basic rule. An unestablished posted speed is considered to be statutory or basic rule unless covered by an existing order.

d) "Retain the existing speed:"
Use when there is no established order and the recommendation is to retain the statutory speed.

[1] Use the same labeling (i.e., Order, Resolution, Speed Zone Rule, etc.) as the original document.

Section Descriptions:

This part provides the descriptions to identify both the existing and recommended speed zoning on the road along with any road name and jurisdictional changes. This information is used to write the speed zone orders and to document the current conditions. It is organized as follows and generally in the same order:

- investigated or not investigated
- road name (if more than one),
- direction of travel (if divided roadway or couplet),
- recommended speed sections and
- road authority and interested jurisdiction.

Note that no one of the above factors is exclusive of the others, except that division by road authority and interested jurisdiction is always described within each recommended speed section.

If you are changing a description because of road or roadside changes and not as part of the speed investigation, the new description must be verified in the field. See Appendix E for a full discussion of making description changes.

Investigated or Not Investigated

The heading NOT INVESTIGATED, placed at the left margin, covers all the sections or portions of sections excluded from investigated lengths of road. Every investigated/not investigated portion is listed separately in order from begin point of the report to the end point.

For not investigated sections on local roads, list the sections as described on the most current speed zone order. If there is more than one road authority or interested jurisdiction, add the footnote: *Jurisdictional boundaries may have changed from what is shown in the not investigated sections.*

For not investigated sections on state highways, list the sections and mileposts as described on the most current order. However, if corrections were made in the investigated section(s) that impact the descriptions and mileposts in the not investigated section(s), the not investigated section(s) are to be corrected also. Update the jurisdictional boundaries when there is an annexation notice for that section.

Road Names and Direction of Travel

If there is more than one road name or divided roadway by direction of travel, the descriptions need to show how the speed zones relate to each road. The road names and/or direction of travel are listed in order from begin point for the report to end point, underlined and centered, with the relevant speed zone segments listed below each name. For a couplet or other divided road, the main direction by increasing milepoint or distance from city center is listed first with the opposing direction next and then any following speed zoning on undivided sections.

Recommended Speed Zone Sections

The roads are divided into sections by the recommended speeds. Sections are defined as one recommended speed zone. Divide the report into more than one section only if the recommended speed changes.

Consider sign placement when determining the speed zone termini. Questions to consider: Can a sign physically be placed at this location? Should the lower speed encompass a bridge or an intersection? Name the termini so that the sign is placed in the correct spot for the area. Normally, speed zones should not be changed at an intersection, but on one side or the other of the intersection.

Each speed zone section should be at least 1/4 mile long. Transition speed zones can be a minimum of 1000 feet long. However, the Region Traffic Manager may exercise engineering judgment and recommend establishment of a speed zone less than one-quarter mile in length. This may be exercised only when the speed zone begins and ends at an intersecting street. Ramps can be speed zoned separate from their associated roadway if the ramp is at least ¼ mile in length. However, most ramps operate under the “Basic Rule”.

Label each section with a letter (except if there is only one recommended speed, no section letter is used). Place the section letter at the left margin. If there are separate descriptions by road name, direction of travel, or road authority which continue the recommended speed, each segment will be labeled with the same letter.

Road Authority

Each section may be further divided into segments. The segments describe a portion of the section with a unique road authority and/or interested jurisdiction, following in order of increasing milepoints or distance from city center. A footnote is added for each section designating the road authority and/or interested jurisdiction. See Appendix G for examples of jurisdiction footnotes. Footnote 1 is always reserved for school zones, unless there are none. Note: These footnotes and jurisdictional breaks are only shown on speed zone orders for state highways, not shown on local road orders.

Describing Sections/Segments

- Only use distances from the nearest intersection or physical feature such as a river or bridge for referencing the begin and end points.
  - Do not use political boundaries, such as city limits, which are more likely to change. List county or city limits only as a reference, placing them in parentheses. If the existing order has city limits as a section description, plan to do the research and field verification to establish a current description according to these guidelines.
  - Do not use land divisions such as Section or Township
  - Do not reference buildings or other roadside development facilities. In very rural areas, these may be described in the transmittal letter or other notes for description purposes.
  - Do not reference any signing, including mileposts.
- Follow these rules when listing distances:
  - List distances from 50 feet (0.01 mile) up to and including 500 feet (0.09 mile) in increments of 50 feet.
  - List distances of more than 500 feet (0. 10 mile) as miles and hundredths of a mile.
- Place footnote numbers at the right margin of the "Recommended" column across from the recommended speed.
  - On state highways with school speed zones, always use footnote 1 to refer to the school speed zone. It is not necessary to show school speed zones on local roadways. Local roadways and state highways that do not have school speed zones may start with footnote 1 to indicate the road authority of each segment.
  - Use footnotes to list the road authority and interested jurisdiction (if any) for each segment
  - Use footnotes to include milepoint equations on state highways
  - Footnotes references are listed at the bottom of the Section Descriptions
  - Use the same boundary description conventions for describing school zone boundaries as for section and segment boundaries
  - If the recommendation is to rescind an existing order and establish a new order for housekeeping reasons (no changes to the speed zoning), use a footnote to explain the purpose of the new order.

Listing Existing & Recommended Speeds

- All speeds listed will include the units label (mph).
- Existing speeds shown are the *legal* current speeds. Posted speeds not established by order or statute are listed in parentheses beside the legal current speed, and noted as unestablished or if legal speed is not posted, place speed and order # in parentheses.
- The legal speeds not posted or where there is no order for the posted speed are the appropriate statutory speed.
- There can be more than one existing speed for each recommended speed zone. List all the existing speeds in a segment side by side separated by '/' , e.g., 45/55 MPH.
- Check to be sure there is at least one spot speed check in each existing speed portion of each section. There does not have to be a separate spot speed check for each segment.
- Each section has one recommended speed. This is listed for each segment within that section.

TEMPLATE

Outline of Section Description Format

Section Investigated			Existing	Recommended
		On Road One		
A	From:	Beginning Road	XX mph	YY mph 2/
	To:	Next Road		
	From:	Next Road	XX mph/YY mph	YY mph 3/
	To:	150 ft. E of Third Street		
Not Investigated				
B	From:	150 ft. E of Third Street	AA mph	AA mph 2/
	To:	New 4th Avenue		
		On New 4th Avenue		
	From:	Road One	AA mph	AA mph 2/
	To:	500 ft. N of Throughway Avenue		
	From:	500 ft. N of Throughway Avenue	AA mph	AA mph 3/
	To:	150 ft. N of Industrial Road		
C	From:	150 ft. N of Industrial Road	BB mph	BB mph 4/
	To:	100' S of Transition Street		
Investigated				
D	From:	100' S of Transition Street	XX mph (stat)	YY mph 1/ 4/
	To:	End Road		

1/ Except that in the following sections, the designated speed shall be 20 mph as per provisions of ORS 811.111: (state highways only)

2/ City One – Road Authority
3/ City One – Road Authority and County - Interested Jurisdiction
4/ County – Road Authority

Figure 4

Historical Background:

Investigation Requests:

Include the source of each and all requests. Written requests for roads other than a rural state highway should come from one of the following:

- City, for city streets and state highways within the city.
- County, for county roads.
- All relevant agencies for multiple jurisdictions. A written request from one jurisdiction with written concurrence from the other jurisdiction(s) is acceptable.

Each request should include the begin and end points for the investigation and a requested speed. When the request is not clear, a Traffic-Roadway Section employee should seek written clarification from the requestor. A notation may be made on the original request in lieu of a second letter.

On rural state highways, private citizens as well as public officials may submit a written request for an investigation.

The letter of request author(s) name, title and agency is listed here. The list includes the agency making the original request and the source of concurrence from each concurring agency.

When a citizen is the requestor, include his/her name and address on the report. If there is a petition, include only the name(s) of the person(s) submitting the petition.

Requested Speed:

A requested speed is required. List the requested speed(s) by section(s), as necessary.

Previous Action:

There are three ways to note a previous action:

- "None" indicates that no order exists on the entire length of road described in the report.
- “Established…” indicates that a current order exists. Include the order number and date of the order.
- “Rescinded…” indicates that an order was previously rescinded on this portion of road and no new order was issued.

Investigation Data Summary:

A column is created for each section. One column is for one section, except that uninvestigated sections can be grouped together, as there will be no data in that column. Columns for investigated sections cannot be grouped.

Account for each section by including column(s) with a “Not Investigated Sections _,_,_" in each investigation data summary category for sections not investigated or with a column headed by "Section _".

Investigation

The Investigation component summarizes information from Roadway Data, Crash Data and Spot Speed Data along with basic information for each section. This information gives an overview of traffic conditions, putting together the traffic volumes, road alignment, crash history and prevailing speeds.

Section Length:

Give the section length in miles and hundredths of miles. A section less than 1/4 mile is footnoted with an explanation in the reference note of the reason for the short section.

Valid reasons for speed zone recommendations of less that 1/4 mile are

- an extension of an existing speed zone which will then total more than 1/4 mile,
- a transition zone at least 1,000 feet long with at least a 10 mile per hour difference at each end,
- or a unique situation which must have been approved by the ODOT Region Traffic Manager.

Note that if speed zone changes will result in an existing speed zone reduced to less than ¼ mile, a decision must be made to either include it, keep as a transition speed if practical and 1,000 feet minimum length, or to add it onto an adjacent speed zone that is not changing. The last option will require a spot speed check in the orphan short section. A spot speed check will also be needed for the first option if the roadside culture or roadway characteristics are different than the area proposed for a new speed zone. An existing designated speed zone may, at the discretion of the State Traffic Engineer, be extended or shortened up to 500 feet without obtaining a spot speed check within that section. A "housekeeping" type report will be required (1st page of report and a map, see Appendix E). If the last investigation in the area was more than a decade ago, the STE may require a full investigation.

85% Speed:

Use the 85% Speed from the Spot Speed Data component. If less than 8 total vehicles in one hour or 25 total vehicles in three hours were counted, enter a footnote stating "Insufficient ADT for a valid speed check" rather than the 85% speed.

On roads with less than 400 ADT, speed zone orders are not issued by the state. In these instances, ODOT may delegate authority for speed zoning to the local road authority. (For more information, see the section on speed zoning Low Volume Roads in this Manual.)

(year) Crash Rate:

Use the year and calculated rate from the Crash Data component.

(year) Average Daily Traffic (ADT):

Fill in the leading blank using the same year as the Crash Rate.

The ADT for state highways will be supplied by the Region office. If additional data is needed, it is available from the Systems Monitoring Unit, Transportation Data Section.

For city streets and county roads, call the local jurisdiction for traffic volumes. If the agency has no volume count within two or three years of the desired year, ask the agency to give an estimated ADT or call the Systems Monitoring Unit.

Note an estimated ADT as "XXX (estimated)". A two or three year old ADT may be "updated" using a rule-of-thumb of 2-5% growth per year. The rate of growth should be supplied by the road authority or, alternately, by ODOT's Traffic Planning & Analysis Unit (TPAU). The rate of growth can be applied to bring an ADT forward in time or to take it back in time. Use the latest measured ADT and adjust to your crash year.

Culture & Density:

This is to provide information on the extent and character of roadside development. It refers to development with direct access including pedestrian access. Use the following terms, listing density first and then culture type:

Density		**Culture Type**
Sparse	**Choose one from each column**	Rural - mostly agricultural or open undeveloped land.
Light		Residential - mainly land used for dwellings, parks, etc.
Moderate		Business - mainly buildings used for commercial or professional business.
Heavy		Industrial - industry and heavy truck traffic.

Changes in speed zoning should generally fit with a definite change in culture, development density or if the road characteristics change while roadside development remains the same.

See the Glossary, ORS 801.170 and ORS 801.430 for further definitions and descriptions of culture type.

Horizontal Alignment:

The horizontal alignment is for the entire section including the end intersections. Record as either "Tangent" or report the number of curves. Turns or sharp curves are called curves for the purposes of the report.

Vertical Alignment:

The vertical alignment is also for the entire section including the end intersections. It is a description of the general vertical alignment. Enter either "Level", "Mostly level", "Mildly undulating", "Undulating", or "Steady grade". Alternatively, an undulating alignment can be described with the numbers of sag and crest curves.

Curve Signs & Speed Riders:

On state highways, curve signs and speed riders are considered together, and curves are to be ball bank tested by the speed zone investigator or other ODOT investigator. On local roadways, the ball bank testing on curves is the responsibility of the local agency. The entries in this section for local roadway speed zone investigations will refer to the curve signs, not to the speed riders. Follow the MUTCD as to whether a speed rider is appropriate.

For state highways, designate the curve signing as one of the following:

- "In Place"
  - Use if there are curves and the curve warning sign and speed rider signing is appropriate.
- "Partially Posted"
  - Use if there are curves and one or more, but not all, is not appropriately signed.
  - Note safe speeds, extent of posting and needed action by using a footnote.
- "None"
  - Use if there are no curves.
  - Use if there are curves (described in the horizontal alignment) but no required curve signing.
  - Note any needed actions and the safe speeds by using a footnote.

For local roadways, designate the curve signing as one of the following:

- "In Place"
  - Use if there are curves and curve warning signs in place.
- "Partially Posted"
  - Use if there are curves and one or more, but not all, is not appropriately signed.
  - Note any recommended action by using a footnote.
- "None"

- Use if there are no curves.
- Use if there are curves (described in the horizontal alignment) but no curve signing.
- Note any recommended actions by using a footnote.

Existing Posted Speed:

Enter the posted speed from the Spot Speed Data component. If the posted speed cannot be found on a current speed zone order, show the posted speed as XX mph (unestablished). If there is no posted speed, enter "None (XX mph Stat.)".

Recommended Speed:

Enter the recommended speed from the Spot Speed Data component section.

Roadway Data:

This section describes the traffic and physical driving conditions.

Surface:

This refers to the surfacing material. Most cases will be either AC (asphalt) or PCC (concrete). If a bridge surface is different than the roadway surface, enter the bridge surfaces separately from the roadway surface: e.g., AC (PCC on bridge).

If there is a non-hard surface portion, this portion will not be investigated by the state. The road authority would have to request delegated authority to conduct the speed zone investigation.

Width:

This is an indication of any travel lane restrictions. Enter the width in feet across all travel lanes and enter the basis of the width measurement. Travel lanes are the portions of road normally used for travel, excluding shoulders or parking areas*. The width does include bike lanes, channelization, median and continuous left-turn lanes. The width limits are determined by one of the following, depending on what's there:

- fog line to fog line, or
- curb to curb, or
- if none of the above exist, pavement edge to pavement edge.

* If it is a curbed section and has a paved parking area within the curbs, include the parking area in the width measurement. Put an explanation of what is included in the width under "Lanes" (bike lanes, parking area, channelization, etc.). If it is not a curbed section, count any parking area under "Shoulders".

When the width varies over a substantial portion of the section, show the widths as a range from narrowest to widest (e.g., 24-36 ft.).

Lanes:

This gives more detail to understand the travel environment by section. This portion should contain all the information about the uses of the traveled width.

Enter the number of through travel lanes. Note the existence and widths of a painted or curbed median, channelization, continuous left turn lane or other feature between travel lanes. Also note the existence, width and location of bicycle lanes. When adequate space is lacking for a full description, use footnotes.

Note bicycle lanes when the pavement is marked with an 8-inch white stripe, a bicycle legend and a direction arrow. Green and white “Bike Route”' signs denote a bicycle route not a bicycle lane.

Parking:

This section gives information about the restrictions on travel by parking maneuvers and parked vehicles.

Wording should follow the guidelines below:

- "Prohibited":
  - Use when there are red and white regulatory signs throughout the entire section on both sides of the road stating “NO PARKING”.
- "None”:
  - Use when parking is prohibited by statute (ORS 811.550) in a signed and striped bicycle lane or when the shoulder has insufficient width to park out of the travel lane.
  - Use this designation when the conditions prohibiting parking exist throughout the entire section on both sides.
- "Partially Prohibited":
  - Use when there are “NO PARKING” signs for a portion of the road or for one side of the road. The sign(s) must be red and white regulatory signs rather than green and white restrictive signs.
  - Use if the roadway conditions prohibit parking for part of the section.
- "Not Prohibited":
  - Use when no signs or conditions prohibit parking anywhere in the section.
- "No Truck Parking":
  - Use when truck parking and/or oversized vehicle parking is fully or partly prohibited by regulatory signing.

Shoulders:

Shoulders refer to the part of the road outside the travel lanes. (Bike lanes are included in the lane Width field, so bike lanes are not included in the Shoulders field.) The shoulder is measured from the edge of travel lane to the break-over for the ditch, cut bank, or other obstruction such as barrier or sidewalk.

Enter each shoulder width and type(s) in that order. There can be more than one type of surfacing for a section of road, either side by side or along the road. List all relevant types with widths for that type in the section. State if any type is only partial for the length of the section. If widths vary for a type, enter a range from least to greatest width. Enter shoulder types as:

- "None"
  - This means there is less than 1 foot of shoulder
  - Footnote to describe roadside, e.g., curb and gutter, guardrail, cut bank, tree line
- “Paved”
  - Paved refers only to a traversable hard surface such as AC

- "Unpaved improved"
  - Gravel or
  - Oil treated and compacted dirt
- "Unimproved"
  - Grass or other small vegetation
  - Untreated, loose dirt

Intersecting Streets:

This data informs of the frequency of cross traffic movements within the section. Enter the total number of intersections. Do not count the intersections that begin or end a section. Footnote the number of railroad crossings. Do not include alleys or separated lanes from a single cross street or ramp terminal (slip lane). A roundabout is a single intersection.

Paved & Stopped:

The data helps clarify driver expectations concerning cross traffic. Count all paved and stop controlled intersecting streets. There must be a STOP sign installed on the cross street to be counted as stop controlled. Do not count intersections here which have all-way stop control or for which the investigated road has a stop. Note that a roundabout is normally yield controlled and should not be included here.

Signalized:

This data is about operation of stop control of the investigated street. List the number of fully signalized intersections and footnote each of the following:

- All-way stop control
- A stop control on the investigated street, with a through cross street or railroad track
- Red or yellow flashing beacons on the investigated street

Pedestrians/bicycles:

This information informs of the extent and character of non-motorized road users. Use data from the spot speed tally and list the total numbers of pedestrians and cyclists. If a large majority of the pedestrians and cyclists come from one direction, put that information on the report.

Crash Data:

The crash data used here is from the state crash data system, even though it may differ from locally recorded crashes. The reason for this is statewide consistency in the data. If there is a difference between state and local information, this should be discussed in the transmittal letter.

Study Period:

The study period includes the three most recent complete calendar years plus the partial data available for the current year.

If the road is recently physically altered through reconstruction, realignment or new construction, the crash data before the construction may be invalid depending on how much the roadway was changed. Crash data from the period of construction should not be used. If the roadway had changed significantly due to the construction improvement, the study period will be the available data beginning one month after the road was back under normal traffic. If this is less than three years, it must be footnoted as to the cause for the lack of data.

Total Crashes:

Use data from "Motor Vehicle Crash Listing Summary" (**Figure 16** in Appendix B). This is the total of reported incidents and not the total vehicles involved, for the full study period. Do not include local crash data not reported on the Listing Summary.

Total Injuries:

Use data from "Motor Vehicle Crash Listing Summary". This is the total number of injured persons including injuries of all types for the full study period.

Total Fatalities:

Use data from "Motor Vehicle Crash Listing Summary". Include total number of persons killed for the full study period.

(year) Crashes:

For the year, enter the most recent year for which a *complete* year of crash data and volume data is available. For state highways, use the most recent year of complete data where a *state rate is available*. The most desirable is the latest completed calendar year. If the volume data or state rate isn't provided for the most recent year of crash data, it may be available from the ODOT Systems Monitoring Unit Transportation Data Section.

(year) Crash Rate (R)
:
Fill in the (year) blank with the same year as for Crashes above. Calculate the crash rate to two decimal places using the formula below. When the crash rate is zero, enter a single 0.

$$\text{Crash Rate (R)} = \frac{(c)(1{,}000{,}000)}{(L)(365)(V)}$$

where:

c = number of crashes given above in (year) Crashes

L = length of section in miles, to the nearest hundredth of a mile.

V = Average Daily Traffic (ADT) count for the same year as the crash statistics

R = Crash Rate in Crashes per million vehicles

(year) State Rate (r):

This data is for comparison of the investigated section crash rate to state average rate for similar facilities. A state rate exists only for state highways and is available from the Region Traffic office.

Fill in the leading blank with the same year as Crashes and Crash Rate above.

For city streets and county roads dash through the column, rather than show “0” or "N/A".

Footnote 1/ for Investigation Summary Data is always used for this item.

- For state highways, list the highway type under Footnote 1/. Use the category from which the state rate was taken.
- For local roads, use the following standard wording in footnote 1/: “No comparable state rate available”.

Deviation (R-r = Crash Rate Deviation):

This is the comparison between the crash rate specific to the investigated section and the state averages. It applies only on state highways because the comparison data is available only on state highways.

Deviation = R - r where: R = Crash Rate from above r = State Rate from above

When the Crash Rate (R) exceeds the State Rate (r), list the deviation (R-r) to two decimal places. When the deviation equals zero or a negative number, show the deviation as a single “0".

For city streets and county roads, dash through the column rather than show “0” or "N/A".

Spot Speed Data:

The information from analysis of the spot speed data is reported here. **Figure 18** in Appendix D shows a complete Spot Speed Summary with all of the analysis results.

If the ADT for a section is less than 400, do not enter the spot speed data. Instead use a footnote and the comment "Insufficient ADT for a valid speed check.”

85% Speed:

If there is a single speed check for a section, list the 85th percentile speed of the combined total vehicles in both travel directions.

If there are several speed checks in a section, average the “Combined” 85th percentile speeds and round to the nearest whole number.

Pace Limits:

This always includes a standard footnote, Footnote 2/ (see below), explaining what a pace limit is.

If there is a single speed check for a section, take the pace limits directly from the analysis.

If there are several speed checks for a section, average by averaging the lower limits for combined total vehicles, rounding to the nearest whole number for the lower limit. Then add 9 mph to obtain the upper limit.

Percent in Pace:

When there is only one speed check in a section, take the percent in pace directly from the analysis.

When there is more than one speed check in a single existing speed zone, average percent in pace and round to the nearest whole number.

Maximum Speed:

List the highest recorded speed in each section.

Posted Speed:

List all the posted speeds for each section.

If no speed is posted enter “None” and the appropriate statutory speed in parentheses.

Percent Exceeding Posted Speed:

If there is a single posted speed for a section, use the percent exceeding from the results of the combined total vehicles analysis.

If there are several posted speeds in a section, give the percent exceeding for each posted speed. There should be at least one spot speed check in each existing speed portion.

If there is more than one spot speed check per posted speed, average the percent exceeding per posted speed and round to the nearest whole number.

If no speed is posted, enter percent exceeding statutory speed with the statutory speed listed.

Computed Speed:

On state highways, calculate the computed speed by subtracting the Crash Rate Deviation (R-r) from the 85% speed listed above.

Because there is no deviation for city streets and county roads, use the 85% speed listed above as the computed speed.

Recommended Speed:

Base the recommended speed on the computed speed above, weighing in the roadway characteristics, roadside development demands and crash history when rounding to the optimum 5 mile per hour increment.

The recommended speed for rural state highways may vary from the computed speed by a maximum of 5 mph. OAR 734-020-0015 (revised June 2007) contains an exception to this rule. If certain specific criteria are met, the recommended speed may vary by a maximum of 10 mph below the computed speed.

The recommended speed for city streets, county roads and state highways within city limits with ADT greater than 400 vehicles per day may vary from the computed speed by a maximum of 10 mph (OAR 734-020-0015).

Standard Footnotes for Roadway Data, Crash Data, Spot Speed Data:

1/ On state highways, list the highway type used to get the state crash rate from Table IV. List each highway type separately by section letter. On city streets and county roads, this should always read "No comparable state rate available."

2/ Ten mile per hour range containing the largest number of sampled vehicles. (This footnote remains the same for all reports.)

3/ 85% speed minus Crash Rate Deviation (R-r). (This footnote remains the same for all reports.)

4/ Additional footnotes may be used when describing roadway data such as medians and bicycle lanes or when crash data is limited by roadway construction. For sections that have a crash rate and are less than ¼ mile in length, footnote the length to highlight that the crash rate may be misleadingly high.

Factors influencing Recommendation:

This is a summary of all major factors in the recommended speed decision. List factors by name from the Spot Speed Data, Roadway Data, and Crash Data. List any other factors not listed in the report succinctly. Further explain the influences on the recommendation in the transmittal letter.

If there is more than one section, list factors by section letter. For example:

Section A: 85% speed, pace limits, roadside culture;

Section B: 85% speed, crash rate.

MAP

The map graphically represents the speed zone report and is included with each report. The map should clearly show:

- Locale and orientation,
- Location,
- Highway or Street name (Route number if appropriate),
- Jurisdictional boundaries,
- Begin and end points,
- Investigated/not investigated sections,
- Existing and recommended speed zones,
- Photo directions and locations by number,
- Spot speed check locations and 85% speeds.

All street names and names of other features such as bridges or creeks referenced in the report and correspondence must be shown on the map. Maps should be developed from the newest county or city base maps available at the time of the investigation.

Submit the map electronically. **Figure 5** is a completed map showing the following elements:

- Scale
- Title and Color Chart
- Legend
- North Arrow
- Brackets
- Labels
- Colors
- Date

Scale and Accuracy:

Use white paper in standard sizes. Letter size sheets are preferred, although up to 11" x 17" sheets may be used if necessary for a legible map. For very long speed zones, more than one map sheet may be used.

Make the map large enough to show clearly all necessary detail including street and highway names. The scale should be accurate enough to measure off distances and maintain less than a 200 foot electronic placement error.
Map corrections will be requested when placement errors exceed the above tolerances for the following elements:

- Jurisdictional boundaries
- Lines separating investigated speed zone sections
- Photo locations
- Spot speed locations

Map corrections will also be requested when photo locations, spot speed locations or section boundary lines are shown on the wrong side of an intersecting street, bridge or other described physical feature. Locations and lines should be shown in the correct relation to existing physical features.

In uninvestigated sections, jurisdictional boundaries, streets, bridges or other features do not need to be corrected or verified for location or accuracy on the map.

Title:

The title shows the locality, road name and date. If the street is entirely a city street, only the city is named in the title. If there is an interested jurisdiction, or the speed zones continue in both city and county, or more jurisdictions, then all jurisdictions are named in the title. On rural state highways, show the county name(s) in the title.

Color Chart:

Show the full range of speeds in the speed color chart but color only the existing and recommended speeds from the Speed Zone Report Outline.

North Arrow:

Provide a North Arrow.

Brackets:

The brackets indicate the begin and end points given in the Speed Zone Report. There will be a set of brackets both above and below the roadway to delineate the Recommended and Existing illustrations.

Brackets further divide the Recommended length into Sections corresponding to the recommended speeds in the report.

The Sections may be further divided by half brackets into "Investigated" and "Not Investigated" portions.

Place begin and end milepoints on the Recommended and Section end brackets if the roadway is a state highway, spur or connection.

Labels:

The many labels must be designed so each set is distinct, level of importance is maintained, and they are readily understood.

Labeling the Speed Sections

Label the Recommended and Existing total lengths as "**RECOMMENDED**" and **"EXISTING**" in a font at least 4 points larger than other labeling.

Label the Recommended speed sections as "Section A", "Section B", and so on to correspond to the sections in the report. The font should be the next in importance to the Recommended/Existing labels.

Label the uninvestigated sections and parts of sections with "Not Investigated" in a bold font large enough to distinguish from original map names.

Place a "No Change" label in a normal font 2 points smaller underneath the "Not Investigated" labels. The same "No Change" tag is placed in portions of a Section which were investigated and the recommendation is no change.

Labeling Photograph Locations

Indicate photograph locations using a circled number with an arrow showing direction of sight. Use a normal or bold font a little smaller than the "No Change" label as necessary to clearly stand out from the map.

Place the labels as close to perpendicular to the photo location on the road as possible where they don't obscure street or other important feature names. Leave space between the road and the photo labels for clearing the color bar showing the recommended or existing speeds.

Draw a single solid line from the photograph label to the roadway photo location. If both of the photos in a pair were not taken from the same location, and the photos were taken more than 200 feet apart, then two lines are to be placed on the map, showing both locations. If the distance was less than 200 feet, then just one line can be placed on the map indicating the location where the first photo was taken.

Photo labels can be placed on either side of the road as necessary to avoid conflicting with other labeling. It is easier for the reader if the photo labels are all on one side.

Labeling the Spot Speed Checks

The Spot Speed Check locations are labeled with the circled 85% speed results. The labels are large with a font similar to the "No Change" label fonts.

Place the labels away from the roadway, above the photo labels. Draw a single solid line to the spot speed location on the roadway.

Colors**:**

Using the colors shown below, indicate Existing and Recommended speed zones with a color bar following the horizontal alignment of the road and with a width of about 1/4 inch (4-6 mm).

Color only the boxes in the legend that correspond to the speeds listed as Existing and Recommended.

On the Existing side, color the existing ordered and statutory speed zones. Do not color the zones as posted if different from the order or unestablished in a statutory speed zone.

Color only the Speed Sections or parts of Sections with changes on the Recommended side.

Indicate school zones by adding a color bar the length of the school zone to the *outside* of the Existing or Recommended color bar (state highways only).

Color the roadway outside the beginning and end of the reported section on the Existing side showing the entering and exiting designated speeds.

MPH	COLOR	MICROSTATION COLOR NO. *
20	Green	2 or 35
25	Sky Blue	7 or 242
30	Sienna Brown	6 or 92
35	Carmine Red	3 or 155
40	Violet	5 or 197
45	Olive Green	39 or 81
50	Indigo Blue	14 or 52
55	Orange	24

* Suggested color numbers from Bentley Microstation software (using the color chart version that is attached to ODOT's GIS system maps).

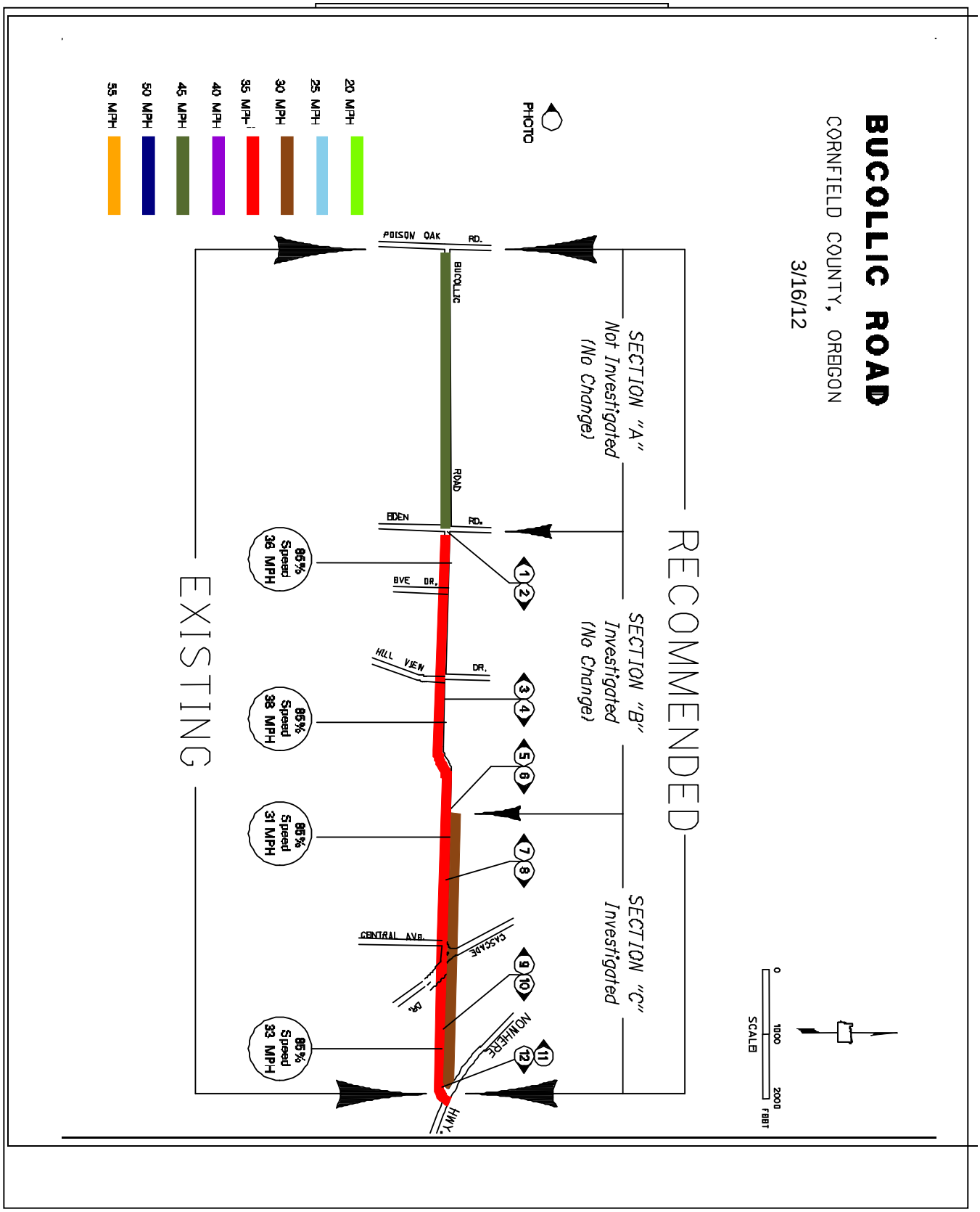
BUCOLLIC ROAD
CORNFIELD COUNTY, OREGON
3/16/12
20 MPH
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
PHOTO
POISON OAK RD.
BUCOLLIC ROAD
EDEN RD.
BVE DR.
HILL VIEW DR.
CENTRAL AVE.
EXISTING
RECOMMENDED
SECTION "A"
Not Investigated
(No Change)
SECTION "B"
Investigated
(No Change)
SECTION "C"
Investigated
EASTSIDE
NORTHERN
HWY.
85% Speed 36 MPH
85% Speed 38 MPH
85% Speed 31 MPH
85% Speed 33 MPH
1
2
3
4
5
6
7
8
9
10
11
12
0
1000
2000
SCALE
FEET

Figure 5

PHOTOGRAPH PAGE

The photograph page shows:

- highway or roadway name,
- jurisdiction,
- date,
- individual photographs with
  - numbers,
  - direction and
  - location.

If the road changes names, list all relevant names in the title and add "on xxx Street" to the photograph description.

Include one complete set of photographs for each report.

Number the photographs consecutively beginning with number 1 at the beginning of the first investigated section.

Place the following legend above or below the photographs on each photo page

TYPICAL VIEWS
Name of the highway, street or road
City of XX and/or XX County and/or ODOT
Date

List below the legend by the photograph number, the direction the photograph looks and photograph location.
Use the following notation:

Example: (Photo #) 1. Looking (direction) from (location)

Use the ***nearest*** cross street, creek, or other unmovable landmark to describe photograph locations.

Use directions matching the general direction of the roadway unless long segments change direction.
Figure 6 shows completed Photograph Pagefor digital photographs.

CRASH SUMMARY

There is a Crash Summary for each portion of the road which was investigated. One Crash Summary is required for each Speed Section. If two non-contiguous portions of a Speed Section were investigated, the portions will be separated on the same Crash Summary form and listed by end point descriptions as described in the Sections part of the Recommendation Report.

The crash summary clearly shows the following:

- highway or roadway name,
- investigated section description,
- crash summary dates,
- number of crashes by type,

- number of fatalities,
- number of injuries
- number of PDO crashes (not vehicles).

Include at least one “Crash Listing & Summary” with each report. See **Figure 16** in Appendix B for a complete crash summary.

Fill out the heading on "Crash Listing & Summary” according to the information listed in the Recommendation Report Outline heading.

List the route number of state highways using “US” or “OR”. If there are two routes on the same highway, use the “US” designation rather than the “OR” designation. On state highways, fill in the milepoint blanks with the begin and end milepoints.

The study period includes the three most recent complete calendar years and the current partial year of data. The study periods must be the same for all Sections in one investigation report.

More than one investigated section may be summarized on one form if there is room to do so neatly. Label each Section summary with the Section letter and begin and end descriptions, including milepoints if on a state highway.

If there are no crashes recorded for a Section, only the Total box needs to be filled out (with '0').

SPOT SPEED SUMMARY

The Spot Speed Summary shows the roadway information, summary of the collected data and statistical analysis of one spot speed check. It includes a graph of Speed (MPH) vs. Percentile of Total Vehicles.

If the investigated length is divided into sections, label each Spot Speed Summary with the appropriate section letter in the space above the graph itself.

The graph can be a line graph, or preferably a point by point graph. It needs to be scaled so that information other than that labeled can accurately be measured off of it.

Figure 18 in Appendix D shows a completed Spot Speed Summary.

There is a software program available from ODOT which accepts the raw speed check data and produces the analysis and graph. Instructions for the Spot Speed Summary computer program are included in Appendix D.

Typical Views
Umatilla-Stanfield Hwy (US 395)
City of Stanfield/ODOT
June 11, 2001

1. Looking north from 150 feet north of Rosalynn Drive.

2. Looking south from 150 feet north of Rosalynn Drive.

Figure 6: **A digital photograph page**

SCHOOL SPEED ZONES

School Speed Zones are speed limits set in statute and, although they are statutory speeds, require the signs to be posted to be enforceable as a speed limit. There are two categories of school zones in statute (ORS 801.462), (1) those zones which are adjacent to school grounds and (2) crosswalks not adjacent to school grounds.

For school speed zones adjacent to school grounds, the speed may be in effect from 7 am to 5 pm or when lights flash. For those crosswalks away from school grounds, the speed zone may be in effect when children are present or when lights flash. See the *Guide to School Area Safety* for further recommendations for signing school speed limits in Oregon.

Local Roadways

Establishing school speed zones on local roadways is the responsibility of the road authority. ODOT no longer shows school speed zones on the speed zone orders for local roadways. ODOT has developed a *Guide to School Area Safety* to assist the road authority in making school speed zone decisions. The Guide can be found on the ODOT Traffic-Roadway Section website at: http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/docs/pdf/guide_to_school_area_safety.pdf.

State Highways within existing speed zones

Establishing or removing school speed zones on state highways within city limits requires concurrence from the State (as the Road Authority); however, the investigator shall obtain the city's and school district's opinions and include that input in the letter of recommendation that is sent to the State Traffic Engineer. Input can be sought from city engineering staff, public works or the police department. Communicating a description of the new school speed zone termini via email is acceptable to ODOT. The requests are typically made by the school district, law enforcement or city engineering staff.

On state highways outside city limits, the request usually comes from the school district through the District Manager. Include a copy of the school's Safe Route to School Plan in the request if it is available (see the *Guide to School Area Safety*).

The complete report consists of:

- The original correspondence requesting the establishment or removal of a school speed zone
- The investigator's letter of recommendation stating the reason for establishing or removing the school speed zone and the input received from the city or school district
- Report outline that includes the report heading, recommendation, section and historical background
- Map showing the existing speed zoning and the proposed or existing school speed zone boundaries
- Photographs in each direction at the beginning and end of the proposed or existing school speed zone
- Safe Route to School Plan (if available from the school)

Once the investigation has been completed, a copy of the report is submitted to the Traffic-Roadway Section for review and approval. For state highways covered by speed zone orders, it is necessary to include any school speed zone in the speed zone order. If the recommendation in the report is approved, the Traffic-Roadway Section will produce an updated speed zone order that includes a new school speed zone or reflects the removal of an unnecessary school speed zone.

State Highways within statutory speed areas

In statutory speed areas, it is not necessary to obtain the State Traffic Engineer's approval. The signs can be posted with approval by the Region Traffic Engineer. However, it still requires an engineering study to determine the limits of the school speed zone boundary. On roadways where the speed is posted 45 mph or above, school speed zones should be implemented only after all other options for transporting children to school safely has been tried (see the *Guide to School Area Safety*).

The complete report consists of:

- The original correspondence requesting the school speed zone
- Investigator's letter of recommendation stating the reason for establishing the school speed zone
- Map showing the location of the school speed zone

A copy of the investigation shall be retained at the region traffic office. A record of the school speed zone can be kept on record in the Traffic-Roadway Section files. See **Figure 7.**

TEMPLATE

Date	Region	District	Jurisdiction(s)	

School Speed Zone Record

On State Highway System in Statutory Speed Area

The Region Traffic Engineer under delegated authority from the State Traffic Engineer, has determined that a school speed limit of 20 MPH is appropriate on certain section(s) of the highway named below:

Highway Name _____

Highway Number _____ Route Number _____

More specifically, school speed zoning, with the appropriate traffic control devices, shall be placed on the following roadway segment(s) of said highway in compliance with provisions of Subsection 1e of ORS 811.111:

LOCATION OF TERMINI

From (Description)	MP	To (Description)	MP

Region Traffic Engineer **Date**

Figure 7

STATUTORY SPEEDS

Statutory speeds are based on the concept that uniform categories of highways can operate safely at certain preset maximum speeds under ideal conditions. Whether the speed is posted or not, when encountering potentially hazardous conditions such as poor weather or heavy traffic, drivers should adjust their speed in accordance with the basic speed rule.

Oregon State Law gives motorists the following statutory speed standards:

15 mph – alleys; narrow residential roadways;
20 mph – business districts, school zones;
25 mph – residential districts, public parks, ocean shores;
55 mph – open and rural highways and trucks on interstate highways; and
65 mph – autos on interstate highways.

Statutory speeds may be posted by the road authority. However, ODOT must post statutory speeds on state highways. Definitions for statutory speeds i.e., residence districts, business districts, etc. can be found in the Oregon Vehicle Code and in the Glossary of this Manual. Alleys, public parks and ocean shores may be posted by the road authority without an engineering investigation.

In 2011, the Oregon Legislature approved that a road authority may establish by ordinance a designated speed for a roadway under their jurisdiction 5 mph lower than the statutory speed (see 810.180(10)). Certain criteria must be met: (1) the roadway is located within a residence district, (2) has an average volume of fewer than 2,000 motor vehicles per day, (3) more than 85 percent of which are traveling less than 30 miles per hour; and (4) there is a traffic control device on the roadway that indicates the presence of pedestrians or bicyclists.

A road authority must be careful when posting residence districts. Residence district statutory speeds do not apply to major through roads. Although a section of roadway might meet the legal definition, it still may be necessary for ODOT to conduct an engineering study. The following criteria apply when posting residence districts:

<u>Residence districts within an incorporated city (except state highways):</u>

- Residence district statutory 25 MPH may be posted by the road authority on a collector or local functional classification roadway.
- Residence district statutory 25 MPH may not be posted on arterial functional classification roadways. Arterial roadways require an engineering study to determine the appropriate speed.
- If there is an existing speed zone order that covers the subject roadway, the road authority must send a written request to the State Traffic Engineer requesting that ODOT rescind the order so the roadway can operate under a statutory speed.

<u>Residence districts outside of an incorporated city (except state highways):</u>

- Residence district statutory 25 MPH may be posted by the road authority on local functional classification roadways.
- Residence district statutory 25 MPH may not be posted on arterial or collector functional classification roadways. Arterial and collector roadways require an engineering study to determine the appropriate speed.
- If there is an existing speed zone order that covers the subject roadway, the road authority must send a written request to the State Traffic Engineer requesting that ODOT rescind the order so the roadway can operate under a statutory speed.

<u>Residence districts on state highways:</u>

Since most state highways are classified as arterials or major collectors, an engineering study will be required to determine the appropriate speed. Once the study has been completed, the recommendation should be forwarded to the State Traffic Engineer for review and approval.

Business districts not on state highways:

The road authority may post business districts on their roadways, but the roadside development must meet the definition of a business district found in ORS 801.170. However, a road authority must be careful when posting business districts; there could be situations where establishing a 20 mph speed zone may be inappropriate. See discussion below for considerations.

Business districts on state highways:

The roadside development must meet the definition of a business district found in ORS 801.170. There are numerous sections of state highway that technically meet the definition of a business district. However, there could be situations where establishing a 20 mph speed zone may be inappropriate. **Figure 8** shows locations where a business district could be considered and where it should be discouraged. The following factors should be taken into consideration when determining the recommended speed:

- Composition of roadside development in the area
- Number of lanes in each direction
- Traffic volumes and congestion
- Lane width
- Parking – Parallel or diagonal
- Pedestrian and bicycle movements
- Marked crosswalks
- Presence of curb extensions or bulb-outs
- Proximity of business frontage to the highway
- Eighty-fifth percentile speed

The investigation will consist of the following information:

- Letter from requestor
- Transmittal memo from Region Traffic
- First page of report (Recommendation through Historical Background)
- Map
- Photos

Once this investigation has been completed, forward the report to the State Traffic Engineer for review and approval.

See photos next page

Location where a business district could be considered
US 20 – City of Sisters

Location where a business district should be discouraged
US 101 – City of Brookings

Figure 8

TEMPORARY SPEED ZONES ON NEW OR REBUILT ROADWAYS

Local Roadways

When a new or rebuilt road nears completion, the road authority under 810.180(8) can issue a temporary speed zone order if the new section has continuous restrictions on the travel speed. To satisfy the intent of the statute, the order should be established citing the revised road conditions that make the speed changes necessary. The temporary order must have a specified end date, and an investigation for establishing a permanent speed completed before that period ends. This should take place within six months after the road is opened to traffic.

The new permanent speed will have to be established by ODOT after a complete speed zone investigation under ORS 810.180(5) and OAR 734-20-0015 once the rebuilt road section is under traffic.

The road authority should provide ODOT with a copy of any temporary speed zone order. The road authority shall also notify ODOT, in writing, about the timing of the project completion so the investigation can be scheduled quickly for permanent speed zoning.

To provide consistency for all temporary speed zone signing, the road authority should follow the criteria (see criteria below) adopted by ODOT when establishing speed zones on new roadways. This section does not apply to construction speed zones.

State Highways

Temporary speed zones on new/rebuilt state highways may be established after a modified investigation has been conducted. This investigation should take place after the road nears completion. The modified investigation is based on the following criteria.

Criteria

- Discuss the proposed roadway with the local agency and enforcement personnel to obtain their recommendation
- Review the roadside culture
- Determine how the roadway will be used and what classification it will have.
- Review adjacent roadways' use and speed zoning to ensure consistency with similar roadways in the area.
- Consider estimated pedestrian and bicycle use.
- Design Speed
- Use engineering judgment.

Based upon the above criteria, a recommendation with a complete explanation of how the recommendation was determined is submitted to the State Traffic Engineer for temporary speed zoning.

After the road has been opened for a period of time, a standard speed zone investigation shall be conducted to determine the permanent speed zone. This should take place within six months after the road has been opened to traffic.

For both local roadways and state highways, all temporary speed zones, including construction speed zones, temporarily supersede any permanent designated speed zone or statutory speed for the specified time that the order states or until the temporary or construction speed is no longer necessary and the posted temporary speed signs are removed from the project.

CONSTRUCTION SPEED ZONES

Local Roadways

The road authority may establish construction speed zones per provisions of ORS 810.180 (8). Any limitations or restriction imposed under this section shall be imposed by a speed zone order. On sections of roads with an existing speed zone order, the road authority should provide ODOT a copy of the speed zone order once a construction speed zone has been established. Once the roadway nears completion, the road authority may establish a temporary speed zone until permanent speed zoning can be established. (See Temporary Speed Zones on New Roadways.) To provide consistency for all construction speed zone signing, the local road authority should follow the criteria adopted by ODOT when establishing construction speed zones.

State Highways

The Traffic Control Plan Designer, Region Project Manager or Region Traffic Manager/Engineer usually initiates requests for construction speed zones. A completed *Work Zone Speed Reduction Request Form* which can be found on the Traffic-Roadway Section website at http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/pages/publications_traffic.aspx#work_zone_related along with a copy of the Traffic Control Plan should be submitted with the request.

Criteria

In general, construction speed zone reductions are not warranted under the following conditions.

- Activities which are more than ten feet from the edge of the traveled way
- Activities which require an intermittent or moving operation on the shoulder

A National Cooperative Highway Research Program (NCHRP) study provides conditions under which temporary speed zones may be warranted. Below are a combination of ODOT and NCHRP conditions which are considered when evaluating requests for temporary reduced speed zones.

- A high crash rate within the work zone.
- Workers present for extended periods within 10 feet of the traveled way unprotected by barriers.
- Traffic control devices encroaching on a lane open to traffic or within a closed lane but within 2 feet of the edge of the open lane that can't be moved to a safer location.
- Barrier or pavement edge drop-off within 2 feet of the traveled way.
- Horizontal Curvature with a safe speed of 10 or more mph lower than the posted speed.
- Reduced design speed for detour or transitions (radius of curvature, super-elevation and sight distance) when the distance between restrictions is less than ¼ mile.
- Lane width reductions of 1 foot or more with a resulting lane width less than 10 feet on most roads or 11 feet on freeways.
- Lane closures with barrier and less than 2 feet of shoulder on each side.
- Unusual conditions which are hard to sign or otherwise communicate to travelers effectively.

If above or similar factors do not exist, a speed zone reduction should not be requested. Reducing speed zones under lesser conditions promotes disregard for future speed reductions. Additionally, temporary speed zone reductions should be covered at night and on weekends, or when the work zone is not active. Exceptions to any of the above statements may apply under special circumstances. On a divided

highway, a construction speed may be established in one direction only if work is not being done in other direction.

For both local roadways and state highways, all temporary speed zones, including construction speed zones, temporarily supersede any permanent designated speed zone or statutory speed for the specified time that the order states or until the temporary or construction speed is no longer necessary and the posted temporary speed signs are removed from the project.

ESTABLISHING SPEED ZONES ON PUBLIC PAVED LOW VOLUME ROADS AND ON PUBLIC UNPAVED ROADS

Requesting Delegated Authority

A city, county or other agency (such as the Bureau of Land Management) may request delegated authority from the Oregon Department of Transportation to conduct speed zone investigations and establish speed zones on low volume public paved roads (less than 400 average daily traffic). The road authority may also request delegated authority to conduct speed zone investigations on public unpaved roads.

On paved low volume roads, the road authority shall make written application to the State Traffic Engineer requesting delegated authority to determine and establish speed zones for roads under their jurisdiction. (If there is another agency involved as an interested jurisdiction, the road authority needs to obtain the interested jurisdiction's concurrence that an investigation is needed.) It is not necessary to request delegated authority for each individual roadway. Blanket authority can be granted to the road authority. See **Figure 9** ***(Sample letter requesting delegated authority low volume paved roads).***

On public unpaved roads, the road authority shall make written application to the State Traffic Engineer requesting delegated authority to conduct a speed zone investigation on an unpaved road under their jurisdiction. Blanket authority will not be granted on public unpaved roads. The road authority must make the request on a case by case basis. See **Figure 10** ***(Sample letter requesting delegated authority unpaved road).*** Establishment of speed zones on unpaved roads is contingent upon approval by the State Traffic Engineer.

Guidance for Establishing Speed Zones on Unpaved Roads

Establishing speed zones on unpaved roads is generally discouraged. The danger with establishing a specific speed zone is that a "Speed Zone" sign creates an expectation by the driver that the roadway is safe to drive at the posted speed.

Unpaved roadway conditions can change rapidly depending on weather, season, traffic volumes and amount of road maintenance. Establishing the appropriate speed limit for all conditions is difficult, if not impossible, especially when the roadway condition may change rapidly. Oregon's basic rule speed law requires drivers to adopt a reasonable and prudent speed. The driver should be using their visual observation of the roadway conditions, rather than a speed zone sign to determine the safe speed to drive a road.

There are other factors that reduce the effectiveness or necessity for setting speeds on unpaved roads. Enforcement is usually minimal on unpaved roads so there would be poor compliance with speed zoning without enforcement commitment. Risks of vehicle conflict are very low on these roads because most are used by travelers who are familiar with the roads and their condition.

Procedure for Establishing Speed Zones on Public Paved Low Volume Roads & Public Unpaved Roads

Step 1: Delegated Authority

- The agency with road authority will request delegated authority as outlined above.

Step 2: Investigation

- A Report of Speed Zone Investigation will be made for determining the recommended speed(s) for the proposed speed zones(s). The report shall include the following information and procedures:
  - Report outline: See **Figure 11** ***(Sample report for single segment speed zones)***
    See **Figure 12** ***(Sample report for multi segment speed zones)***

- Map showing location of speed zone: See **Figure 13** ***(Sample map for single segment speed zones)*** See **Figure 14** ***(Sample map for multi-segment speed zones)***
- Photograph Page(s) (Optional)
- A primary factor in determining the recommended speed shall be the 85th percentile speed.
- The 85th percentile speed shall be determined from a spot speed sample taken at a location which is representative of normal, unrestricted traffic flow on the roadway. The vehicle involved in taking the spot speed sample should be unmarked and kept as inconspicuous as possible so as not to prejudice the sample.
- A standard spot speed sample is 75 vehicles in each direction. Spend no longer than 3 hours on a speed check even if less than 75 vehicles are counted in that time. The minimum acceptable spot speed sample is a total of 25 vehicles in both directions when the standard sample cannot be achieved.
- On unpaved roads spot speed samples shall be taken within one week after the roadway has been graded. If the minimum sample is unattainable, no speed zone will be established.
- The section length used for speed zoning shall be at least one-quarter mile long.
- The recommended speed shall not be reduced more than 10 mph below the 85th percentile speed.
- Transition speed zones should have at least 10 mph difference from the adjoining speed zones.
- Posted speeds shall be in 5 mph increments.

Step 3: Recommendation

- Optional factors* that are further explained on Pages 2 and 3 of this Manual should be taken into consideration when determining a reasonable, prudent speed zone:
  - Geometric features
  - Pedestrian and bicycle movements
  - Kind and amount of adjacent land use
  - Enforcement
  - Crash history
  - Public testimony
  - Accesses
  - Volumes

* The above factors may be included in the Report of Speed Zone Investigation but are not required.

Step 4: Speed Zone Order

- Speed zones other than statutory speeds shall be established by written order stating the designated speed and boundaries for that speed zone. If there is an interested jurisdiction, both that agency and the road authority must agree to the speed zone.
  - Boundaries shall be designated by cardinal direction and distance from the nearest named, permanent physical feature, typically a road, bridge or waterway.
  - Once the speed has been determined for a public paved low volume road, mail a copy of the report and written order to the State Traffic Engineer. The report and order will not be reviewed for content or accuracy; this responsibility falls under the road authority.
  - Once the speed zone investigation has been completed on a public unpaved road, mail a copy of the transmittal letter and report to the State Traffic Engineer for review and approval.

See OAR 734-20-0016 and OAR 734-20-0017 for further information regarding establishment of speed zones on Public Paved Low Volume Roads and/or Public Unpaved Roads.

April 30, 2012

State Traffic Engineer
Oregon Department of Transportation
Traffic-Roadway Section
4040 Fairview Industrial Drive SE, MS#5
Salem, OR 97302-1142

The XXX County Department of Public Works is requesting delegated authority to conduct speed zone investigations and establish speed zones on public paved low volume roads (less than 400 ADT).

It is understood XXX County will conduct the investigations in accordance with the Oregon Department of Transportation Speed Zone Manual. It is also understood XXX County will submit a copy of the completed investigation and a copy of the written order to Department once the speed zone is established.

If you have any further questions, please call me at (541) 000-0000.

County Roadmaster

Figure 9

April 30, 2012

State Traffic Engineer
Oregon Department of Transportation
Traffic-Roadway Section
4040 Fairview Industrial Drive SE, MS#5
Salem, OR 97302-1142

The XXX County Department of Public Works is requesting delegated authority to conduct a speed zone investigation on XXX road, which is an unpaved road. The reason for this request is XXX.

It is understood XXX County will:

- Conduct the investigation in accordance with the Oregon Department of Transportation Speed Zone Manual.
- Submit a copy of the completed investigation to the Department for review and approval.
- Grade the subject roadway a minimum of every six months when open to normal traffic.

Enclosed is the evidence of crash history that supports this speed zone request and written commitment from law enforcement that the subject roadway will be part of routine patrols.

If you have any further questions, please call me at (541) 000-0000.

County Roadmaster

Figure 10

MALHEUR COUNTY PUBLIC WORKS
Report of Speed Zone Investigation
Hyline Road
Douglas Road to Grove Road
Malheur County
September 23, 2012

Recommendation: Establish the following speed zoning:

			Existing	Recommended
Investigated				
From:	Douglas Road	MP	55 MPH	45 MPH
To:	Grove Road	MP		

Investigation:

85% Speed	47 MPH
Section Length	0.31 mile

***Road characteristics, shoulder conditions, grade, alignment and sight distance:**

Horizontal Alignment	0 curves
Vertical Alignment	Level
Curve Signs & Speed Riders	None
Surface	Bituminous
Width	22 feet
Lanes	2
Shoulders	1-2' gravel
Intersecting Streets	6

***Pace Speed** 38-47 MPH

***Roadside development and environment:**

Culture type and density Sparse/residential

***Parking practices and pedestrian activity:**

Parking	None
Pedestrian/Bicycles	0/2

***Reported crash experience:**

Study Period	01/01/2009 - 12/31/2011
Total Crashes	2
Injuries	1
Fatalities	0

* **Optional**

Figure 11

MALHEUR COUNTY PUBLIC WORKS
Report of Speed Zone Investigation
Hyline Road
Douglas Road to Juniper Road
Malheur County
September 23, 2012

Recommendation: Establish the following speed zoning:

Section: Investigated				Existing	Recommended
A	From:	Douglas Road	MP	55 MPH	45 MPH
	To:	Grove Road	MP		
B	From:	Grove Road	MP	55 MPH	35 MPH
	To:	Juniper Road	MP		

Investigation:	Section A	Section B
85% Speed	47 MPH	36 MPH
Section Length	0.31 mile	0.38 mile

***Road characteristics, shoulder Conditions, grade, alignment and sight distance:**		
Horizontal Alignment	0 curves	2 curves
Vertical Alignment	Level	Level
Curve Signs & Speed Riders	None	None 1/
Surface	Bituminous	Bituminous
Width	22 feet	22 feet
Lanes	2	2
Shoulders	1-2' gravel	1-2' gravel
Intersecting Streets	1	3
***Pace speed:**	38-47 MPH	26-35 MPH
***Roadside development and environment:**		
Culture type and density	Sparse/residential	Sparse/residential
***Parking practices and pedestrian activity:**		
Parking	None	None
Pedestrian/Bicycles	0/2	None
***Reported crash experience:**		
Study Period	01/01/2009 - 12/31/2011	01/01/2009 - 12/31/2011
Total Crashes	2	1
Injuries	1	0
Fatalities	0	0

1/ Recommend that the County ball-bank test the curves and post the appropriate speed riders.

***Optional**

Figure 12

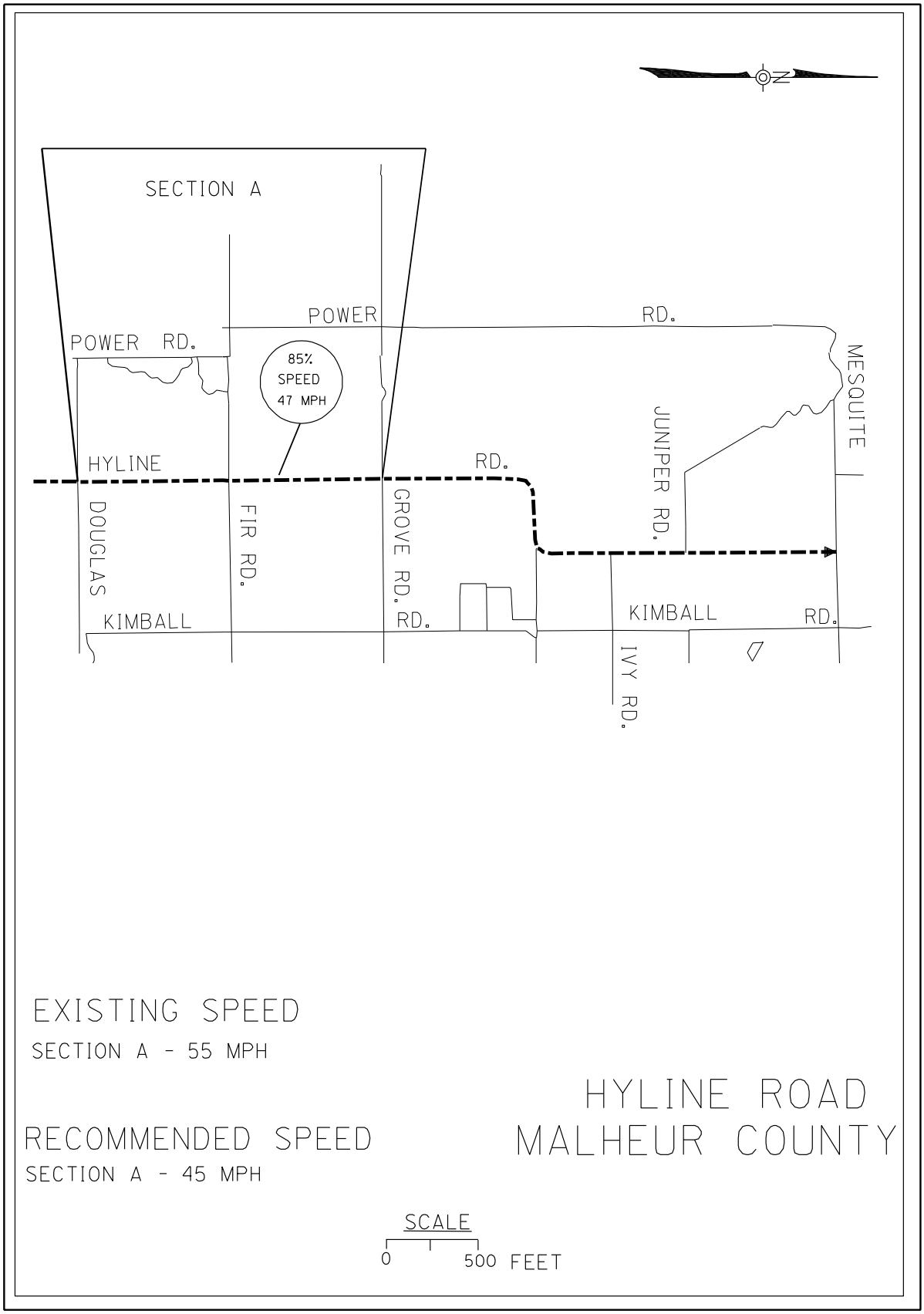
SECTION A
POWER RD.
POWER RD.
85%
SPEED
47 MPH
HYLINE RD.
MESQUITE
JUNIPER RD.
DOUGLAS
FIR RD.
GROVE RD.
KIMBALL RD.
KIMBALL RD.
IVY RD.
EXISTING SPEED
SECTION A - 55 MPH
RECOMMENDED SPEED
SECTION A - 45 MPH
HYLINE ROAD
MALHEUR COUNTY
SCALE
0
500 FEET

Figure 13

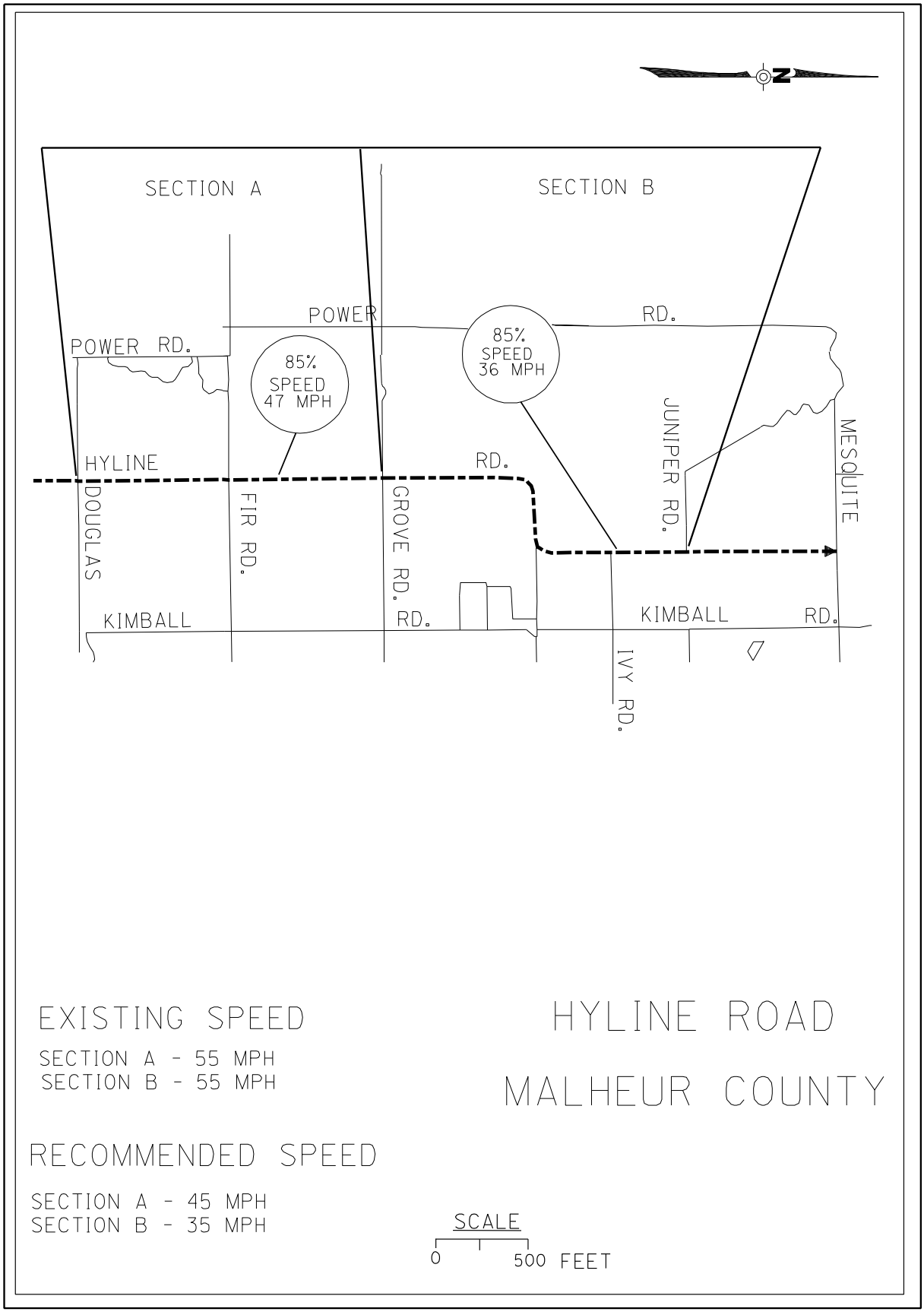
SECTION A
SECTION B
POWER RD.
POWER RD.
85% SPEED 47 MPH
85% SPEED 36 MPH
HYLINE RD.
DOUGLAS
FIR RD.
GROVE RD.
JUNIPER RD.
MESQUITE
KIMBALL RD.
KIMBALL RD.
IVY RD.
EXISTING SPEED
SECTION A - 55 MPH
SECTION B - 55 MPH
HYLINE ROAD
MALHEUR COUNTY
RECOMMENDED SPEED
SECTION A - 45 MPH
SECTION B - 35 MPH
SCALE
0
500 FEET

Figure 14

EMERGENCY SPEED ZONES

Emergency speed zones may be established once an agency has declared an emergency due to natural or other disasters. Emergency speed zones are restricted to a period not to exceed 120 days. An engineering investigation must be completed and a temporary or permanent speed established by written order to maintain a change in speed after 120 days.

The speed zone shall have full force and effect of law as long as needed (up to 120 days) to insure safe traffic conditions in the area.

After a temporary speed zone has been established on a specific section of roadway where the speed of traffic is connected with or contributes to the relief of a problem, a field investigation shall be initiated. The findings of the investigation shall be utilized to provide basis for termination of the emergency speed zone by the end of the 120-day limit or the Department's decision to make the temporary action permanent.

In the event that the investigation is not completed by the end of the 120 day period, the temporary speed zone shall terminate and the previously posted speed shall be reestablished by the appropriate agency.

Local Roadways

An emergency speed zone may be established by a local agency having road authority. If the emergency speed zone is established on a local agency's facility as a temporary route of a state highway, state forces and state materials may accomplish speed zone signing. The emergency speed zone shall be removed when the condition necessitating the designation has been removed or corrected.

State Highways

Emergency speed zones on state highways shall be established at such levels that the State Traffic Engineer deems prudent. The emergency speed zone shall be removed when the condition necessitating the designation has been removed or corrected. To provide consistency and to determine reasonable and prudent emergency speed zones on state highways, the Department has adopted the criteria listed below.

The State Traffic Engineer will consider the following criteria when approving an emergency speed zone on a state highway:

- Traffic volumes
- Condition of the roadway
- Weather
- Any other conditions which should be considered to insure that traffic passes through the area safely

VARIABLE SPEED ZONES

Variable speed zones can be established by the road authority in order to reduce congestion and enhance the safety of the motoring public by slowing traffic for congestion management, construction and maintenance work, incident management, emergencies, adverse weather conditions, and other unusual situations.

A variable speed zoning system typically includes detectors to identify current volumes and speeds; software that uses an algorithm to determine the optimal speed zones during a variety of traffic conditions; variable speed signs; and advance warning signs to alert drivers to the variable speed zone location. A variable speed zone system will reduce speeds as needed based on current traffic volumes and 85th percentile speeds, but may be based on other safety and operational conditions, such as incidents or adverse weather conditions.

Variable Speed Zone System Criteria and Process:

(a) The safety and operational problems that prompt the need for a variable speed zone system.

(b) The system employed to enact the variable speeds must be fully described and approved by the State Traffic Engineer prior to the design and implementation of the variable speed zone.

(c) The system that will trigger the change in posted speed will use current traffic volumes, current 85th percentile speeds, incident detection and/or adverse condition detection.

(d) The traffic volumes and 85th percentile speed data will be obtained from detectors in real-time and will be based on small time periods (typically 15 minutes or less).

(e) The variable speed control software will be configured to comply with requirements for each individual location and identified applicable standards and procedures for the increase or decrease of posted speeds.

(f) Posted speed should not be modified more than once within 15 minutes.

(g) Speed signs shall display speeds only in increments of 5 mph.

(h) Volume and speed should be selected from the detector with the highest volume and lowest speed.

(i) Unless the highway has more than two lanes in each direction and is separated by a wide median or positive barrier, variable speed signs shall display the same speed for all lanes of traffic at the same location.

(j) The variable speed zone order will not exceed the maximum speed determined by the standard speed zoning investigation criteria described in OAR 734-020-0015 or, for interstate highways, OARs 734-020-0010 and 734-020-0011.

(k) The variable speed zone becomes enforceable when appropriate signs are posted and operational on the portion of the highway where the variable speed zone is imposed.

See OAR 734-20-0018 for further information regarding establishment of variable speed zones on all Public Roads.

APPENDIX A: Speed Zone Request Form

Oregon Department of Transportation

Speed Zone Request

To request a Speed Zone Investigation by ODOT personnel, City or County Engineering Department staff should complete this form and send it - with a map of the roadway - to:

State Traffic Engineer
Oregon Department of Transportation,
Traffic-Roadway Section4040 Fairview Industrial Dr. SE
Salem, OR 97302-1142

1. AGENCY NAME	2. DATE
3. CONTACT NAME AND TITLE	4. TELEPHONE NUMBER
5. E-MAIL ADDRESS	6. FAX NUMBER
7. ADDRESS (POSTAL)	
8. NAME OF ROADWAY	
9. **FROM**	10. **TO**
11. REQUESTED SPEED - MPH / 12. EXISTING POSTED SPEED - MPH	13. EXISTING SPEEDS OF ROADWAY ABUTTING THIS SECTION — 14a. ENTERING - MPH: / 14b. EXITING - MPH:
15. AVERAGE DAILY TRAFFIC VOLUME	16. ROADWAY CLASSIFICATION: ☐ LOCAL ☐ COLLECTOR ☐ ARTERIAL

17. Speed recommendation from City or County Engineering Department (***required per ORS 810.180***): _____ MPH
18. Reasons for this recommendation:

19. Are curves in this section of roadway signed appropriately? ☐ YES ☐ NO
20. Is the recommended speed consistent with the speeds of similar roadways in the surrounding area? ☐ YES ☐ NO

21. Speed Recommendation from enforcement: _____ MPH
22. Reasons for this recommendation:

23. Are there special plans to enforce the proposed speed zoning? (explain):

24. Speed Recommendation from local residents: _____ MPH
25. Reasons for this recommendation:

26. If more than one jurisdiction is involved, describe below (or furnish a map showing) where the city limits lines cross the roadway and where maintenance jurisdictional boundaries change. If there is more than one jurisdiction involved, this information must be furnished before the speed zone investigation can be done.

If you have questions on speed zones, contact the ODOT Traffic-Roadway Section in Salem at 986-3609, FAX 986-3749 or your local ODOT Region Traffic Office (see reverse for addresses).

(Blank Example Request -Page 1)

Oregon Department of Transportation

Speed Zone Request

To request a Speed Zone Investigation by ODOT personnel, City or County Engineering Department staff should complete this form and send it - with a map of the roadway - to:

State Traffic Engineer
Oregon Department of Transportation, Traffic-Roadway Section
4040 Fairview Industrial Dr. SE
Salem, OR 97302-1142

1. AGENCY NAME **City of Millersburg**	2. DATE **03/18/12**
3. CONTACT NAME AND TITLE **Barbara Castillo, City Recorder**	4. TELEPHONE NUMBER **541-928-4523**
5. E-MAIL ADDRESS **bcastillo@ci.millersburg.or.us**	6. FAX NUMBER **541-928-4524**
7. ADDRESS (POSTAL) **4222 Old Salem Road NE Millersburg, OR 97321**	
8. NAME OF ROADWAY **Millersburg Drive, NE**	
9. **FROM** **Morningstar Road**	10. **TO** **1.30 mile east of Morningstar Road (RR Xing)**
11. REQUESTED **40 MPH** / 12. EXISTING POSTED SPEED - **None**	13. EXISTING SPEEDS OF ROADWAY ABUTTING THIS SECTION 14a. ENTERING - MPH: **55** / 14b. EXITING - MPH: **55**
15. AVERAGE DAILY TRAFFIC VOLUME **600**	16. ROADWAY CLASSIFICATION: ☐ LOCAL ☐ COLLECTOR ☒ ARTERIAL

17. Speed recommendation from City or County Engineering Department (***required per ORS 810.180***): **40** MPH

18. Reasons for this recommendation:
This is a rural residential area. There are 51 homes in a 1.24-mile stretch of road with many children living in the area. People are driving way too fast through this area.

19. Are curves in this section of roadway signed appropriately? ☒ YES ☐ NO

20. Is the recommended speed consistent with the speeds of similar roadways in the surrounding area? ☒ YES ☐ NO

21. Speed Recommendation from enforcement: **40** MPH

22. Reasons for this recommendation:
Safety

23. Are there special plans to enforce the proposed speed zoning? (explain):
Posted speed limit signs and extra police patrols

24. Speed Recommendation from local residents: **40** MPH

25. Reasons for this recommendation:
Safety issues. There are many people out walking, biking, etc. along Millersburg Drive. The density is too high for 55 MPH.

26. If more than one jurisdiction is involved, describe below (or furnish a map showing) where the city limits lines cross the roadway and where maintenance jurisdictional boundaries change. If there is more than one jurisdiction involved, this information must be furnished before the speed zone investigation can be done.

If you have questions on speed zones, contact the ODOT Traffic-Roadway Section in Salem at 986-3609, FAX 986-3749 or your local ODOT Region Traffic Office (see reverse for addresses).

(Filled In Example Request -Page 1)

When should speed zone investigations be requested? When traffic patterns have changed, development has occurred, crashes have increased, or requests have been received from a number of area residents or businesses.

Oregon law gives the State Department of Transportation the authority to establish speed zones on all roadways in Oregon. It also states that an engineering investigation will be done to determine what the appropriate speed should be (ORS 810.180).

The local roadway authority (the city or county) should perform a field review to determine the most reasonable beginning and ending points for the proposed speed zoning. Then the local roadway authority needs to complete this form and submit it to ODOT to request an investigation. If more than one jurisdiction is involved in the request, ODOT needs documentation from each that they both concur. This form facilitates the request by providing ODOT with the pertinent local information needed to complete the investigation.

Further speed zoning information may be obtained from your local ODOT Region Traffic Office at the address below:

Region 1
123 NW Flanders
Portland, OR 97209-4012
Tele: (503) 731-8200
FAX: (503) 731-8259

Region 2
Region 2 Tech Center
455 Airport Rd SE, Bldg A
Salem, OR 97301-4989
Tele: (503) 986-2990
FAX: (503) 986-2839

Region 3
3500 NW Stewart Parkway
Roseburg, OR 97470-1687
Tele: (541) 774-6335
FAX: (541) 957-3547

Region 4
63055 N. Hwy 97
PO Box 5309
Bend, OR 97708-5309
Tele: (541) 388-6189
FAX: (541) 388-6231

Region 5
3012 Island Avenue
La Grande, OR 97850-9497
Tele: (541) 963-3177
FAX (541) 963-9079

(EXAMPLE REQUEST -Page 2)

APPENDIX B: Crash Data Request Information

The following crash data products are available by contacting:

Crash Analysis and Reporting Unit
Mill Creek Office Park
555 13th St.
Salem, OR 97310

COLLISION DIAGRAMS: This is a schematic representation of all crashes occurring on a simple plan view at a given location. Date, time, environmental conditions, vehicle directions and injuries are included. End intersection and side street information are included. A PRC that goes with a collision diagram will include end intersections and side street information.

MANUAL LISTINGS: Motor Vehicle Crash Listing. Summarizes crashes by year by type. The requested area is put as one lump sum unless you specify breaks. Breaks do not have to be at an intersection.

PRC: County Roads or Urban Continuous Crash Listings. This is the original crash listing but, as many listings now exist, it is called the PRC. This listing gives the most information. Included with the PRC is a summary. You receive information on crash location, date, event cause, type of crash, road characteristics, vehicle type and direction; also the participants' ages, sex, license and injuries.

3R: Crash Characteristics Summary. This program reports on crashes in three different ways. The first report is the crash characteristics summary and reports on the characteristics of the crashes on each location that has had a crash. The second report is the collision type summary and reports on the collision types on each location that has had a crash. The third report is the single crash characteristics list and reports on several characteristics of each individual crash. This report is available only for system crashes.

BY YEAR: Crash Summary By Year. This listing gives a crash count by year of intersection and non-intersection crashes by type for a stretch of roadway. This report is available only for state system crashes.

SUMMARY: Crash Summary by year and type. This program summarizes crashes by year and type of crash. Gives a count on class of crash, people killed and injured, trucks involved, surface condition, day or night, intersection, and off roadway crashes. Special summaries or counts of specific interest can be generated as needed.

VDL: Vehicle Directional Listing. This program lists crashes by highway and milepost. Gives date, time, light, surface, character of road, collision type with object struck, persons injured by severity of injury, vehicle types and direction of travel of the first three vehicles and the total number of any additional vehicles involved in the crash. This report is available only for state system crashes.

LISTINGS: This information concerns all listings:

- End intersections and side street information are not included except when a single intersection is requested. If end intersections are included in the request you will receive intersection crashes coded to that highway only.
- When highways are requested by mile points, they will be run without verification.
- Intersection crashes are those crashes coded within the center of the highway or those turning on or off the roadway.
- All intersection crashes are coded to the lowest street number.
- When two highways are involved they are coded to the highway of greater importance which is usually the lowest numbered one.
- Only mainline crashes are included on listings so when needing connections, frontage roads, or spurs please specify what is needed.

DATA EXTRACT: Raw crash data for use with another program.

CRASH DATA REQUEST FORM

Oregon Department of Transportation
Transportation Development Branch
Mill Creek Office Park
555 13th Street NE, Suite 2
Salem, OR 97301-4178
Crash Analysis and Reporting Unit

Requested By _____ Date _____
_____ Phone _____
_____ Project EA _____
_____ Date Wanted _____
_____

Collision Diagram _____ Period: From _____ To _____

Listings: Manual _____ PRC _____ County_____

BYYR _____ 3R _____ City_____ UA _____

Summary_____ VDL _____

Data Extract _____

Roadway Name	Hwy./Route	From	To
_____	_____|_____	_____	_____
_____	_____|_____	_____	_____
_____	_____|_____	_____	_____

Special Instructions:

Job Nos. _____ Date Received _____/_____

No. of Crashes _____ Completed _____/_____

Time Spent on Project _____ Mailed _____/_____

9/91

Figure 15

EXAMPLE

MOTOR VEHICLE CRASH LISTING

City _____
County JACKSON
Street ROGUE RIVER HWY
Hwy. No. 60 Rt. No. 99
From (MP) 20.19
To (MP) 23.26
Fr. 1/08 To 12-10

	COLLISION TYPE											CLASSIF.			
	Angle	Head-on	Rear-end	Sideswipe Meeting	Sideswipe Overtaking	Turning	Parking	Non-Collision	Fixed-Object	Pedestrian	Backing	Miscellaneous	ALL COLLISIONS	Fatal	Non-Fatal Injury	Prop. Damage Only	Persons Killed	Persons Injured
Section A: 2008											1		1			1		
MP 20.19 to 2009						1		1					2		1	1		1
MP 22.40 2010								1					1			1		
Total						1		2			1		4		1	3		1
Section B: 2008						2							2	1		1	1	1
MP 22.40 to 2009								1					1		1			1
MP 23.26 2010						1	1						2			2		
Total						3	1	1					5	1	1	3	1	2
Total 2008						2					1		3	1	2	2	1	1
2009						1		2					3			1		2
2010						1	1	1					3			3		
Grand Total						4	1	3			1		9	1	2	6	1	3

Figure 16

APPENDIX C: Speed Zone Field Investigation Checklist

Have before starting field investigation:

Request: - from local jurisdiction
- from local agency or private citizen (on rural state highways)

Approval: - from State Traffic Engineer or Region Traffic Engineer

Compile before heading into the field:

- All relevant established speed zones on the road being investigated.
- Previous investigations of the requested area.
- Up-to-date map showing all road connections and jurisdiction changes.
- Crash history if possible (3 year minimum). Identify types of crashes, locations, problem areas, severity.

Field Review:

Calibrate the distance meter, preferably for 1 mile, in feet. Be sure to use a surveyed set of marks.

Drive through:

1) Note topography, culture, high crash areas, traffic flow, and comfortable speeds.
2) Document the following
    - Number of horizontal curves: on state highways, ball bank if not signed or advisory speed is questionable
    - Vertical alignment
    - Sight distances less than adequate if no advance signing
    - Other areas where driving requirements are different than majority of the roadway
    - Parking prohibitions
    - Bicycle/Pedestrian facilities

Milepoint log: Milepost and describe all accesses, traffic control and driver information:

- Use centerline of intersections noting intersection type and alignment (lt./rt.), type of stop or signal, surface type of intersecting street.
- Use centerline of driveways. If there are too many to note practically, note 'avg. 100 feet left" or "numerous" if at very irregular intervals, with begin/end milepoints.
- Log all traffic signs: location, logo, condition and sizing (if nonstandard or oversize).

  NOTE: The point is to document driving conditions, conflicts, instructions and information.

Typical Sections:

- Take shoulder-to-shoulder sections along the length of the investigation.

- Determine where the roadway/shoulder width extremes are in each investigated portion and take the sections at these locations.
- Record the widths, at right angles to centerline, of each: shoulder (including gutters), bike lane, travel lane median, island, etc.

Photos:

- Take both road ahead and road back at reasonable intervals to establish the character of the road and roadside culture, and to pick up any signing or features to be noted in the report text. Intervals should generally be 1/4 mile minimum. Photos should be taken on both sides of a speed zone boundary and show the speed signs in the shots. Photos should be taken from centerline, if safe to do so, or from the outside of a curve. It's helpful to show the existing posted speed and warning signs in the photos. If one of the pair of photos shows the back side of signs or one side of an intersection, it is a good idea to move to the other side of the sign or intersection for the second shot in order to show the message on the sign and the details of the intersection.
- If sight distance is restricted where public roadways intersect the investigated roadway, take photos at those intersections to show the sight distance.
- Keep a log listing each photo by number and photo location (distance from nearest cross street and/or milepoint).
- Keep numbering of photos in the report consistent for ease of understanding. For instance, all odd numbered photos face north and even numbered photos face south.
- Photos should be numbered and listed on the map and photo pages in the same direction as you list the speed zones.

Spot speed checks: See both the report and spot speed guidelines.

Plan your parking places and radar cone (laser gun) direction from the drive-through data. Try to park in an inconspicuous area, and avoid signalized and stopped intersection vicinities.

Record speeds on free flow vehicles only; single vehicles, the first vehicle in a pod, etc. Do not record speeds of passing vehicles -- the radar reading is not reliable. Also record the number of pedestrians and bicycles. Commercial vehicle speeds should be recorded separately, and included in the report only if a significant (>=20%) traffic source, specifically named in complaint or disproportionately represented in the crash data.

Checks should normally be taken every 1/2 mile. Take them closer together if there is a definite change for over 1/4 mile in driving conditions such as roadside culture, road cross section, etc., such that speeds could be expected to change. Checks can be taken farther apart if driving conditions remain virtually the same.

Curves are not speed checked. It is safest to allow the curves themselves to be the deciding factor for the driver. Curves should be signed if the safe speed around the curve is 10 or more mph less than the posted speed (55 mph statutory if not posted).

When the road alignment is all curves and a speed can be maintained which is the safe driving speed through the curves, it can be recommended. Caution should be observed in deciding this recommendation. If there are curves with safe speeds below the recommendation, particularly if they are without warning signing, it is better not to post a speed which drivers then may expect to be able to maintain.

To get reliable data, spot speed checks should be taken in normal weather, at free flow periods rather than "rush hours". Be sure to record the weather conditions and beginning/ending times for each speed check.

Reporting

Cover letter: The submittal letter should describe any features affecting your recommendations that are not specifically stated in the report data.

Reporting: Writing the report is covered in the report guidelines.

Documents that should always be included are:

1) Report
2) Map
3) Photo pages
4) Crash data
5) Spot speed check graph(s)

In addition, always send in copies of:

- Correspondence
- Electronic map
- Spot speed check raw data sheets
- Copies of the existing orders you used
- Crash data computer run, and
- Milepoint logs

APPENDIX D: Guidelines for Spot Speed Survey Reports

1) All names and directions are to be spelled out in full, unless they are too long to fit in the blank. Only standard English abbreviations are to be used.

2) When indicating the direction of traffic, use the general run of the entire road rather than try to indicate the orientation of each section.

3) Milepoints are to be listed only for state highways, and always should be indicated under “Location” on state highways.

4) City and/or county information is filled in only when involved in the jurisdiction of the section you are investigating.

5) For "Location" information, always give a measured distance from the nearest cross street or permanent feature, such as a creek, that can be located on existing maps of the area. Don't use political boundaries (e.g., city limits), buildings, fences, sign, pullout areas, driveways, etc.

6) At least 75 vehicles each way are necessary for a statistically valid speed check. However, 3 hours is the maximum time you should spend in one location. Lower counts can be used on some low volume roads. For approval to do this, call the Traffic-Roadway Sections’ Traffic Engineering Services Unit. Low volume cutoff is 25 vehicles in three hours or 8 total vehicles in one hour.

7) Speed checks are to be taken every 1/2 mile through the investigated section(s). Speed checks may be spaced up to 1 mile or further if there is no change in the roadway or roadside culture.

8) Trucks/Commercial vehicle counts are not included in the report unless those vehicles constitute a significant traffic source (>=20% of traffic), are specifically named in the request for investigation, or are disproportionately represented in the crash data.

OREGON STATE DEPARTMENT OF TRANSPORTATION
Traffic Engineering Section
SPOT SPEED SURVEY

City: _____ Route: _____ Hwy #: _____ MP: _____

Date: _____ Day: _____ Time: _____

Weather: _____ Sign Speed: _____ Observer: _____

Location Description: _____

Remarks: _____ Pavement Width _____ ft. _____

_____ Shoulder Width _____ ft. _____

Bicycles:_____ _____ ft. _____

Pedestrians_____

MPH	Passenger Cars						Trucks						Bus	
	Bound	Tot.	%	Bound	Tot.	%	Bound	Tot.	%	Bound	Tot.	%	Bd	Bd
70 +				70 +			70 +			70 +				
69				69			69			69				
68				68			68			68				
67				67			67			67				
66				66			66			66				
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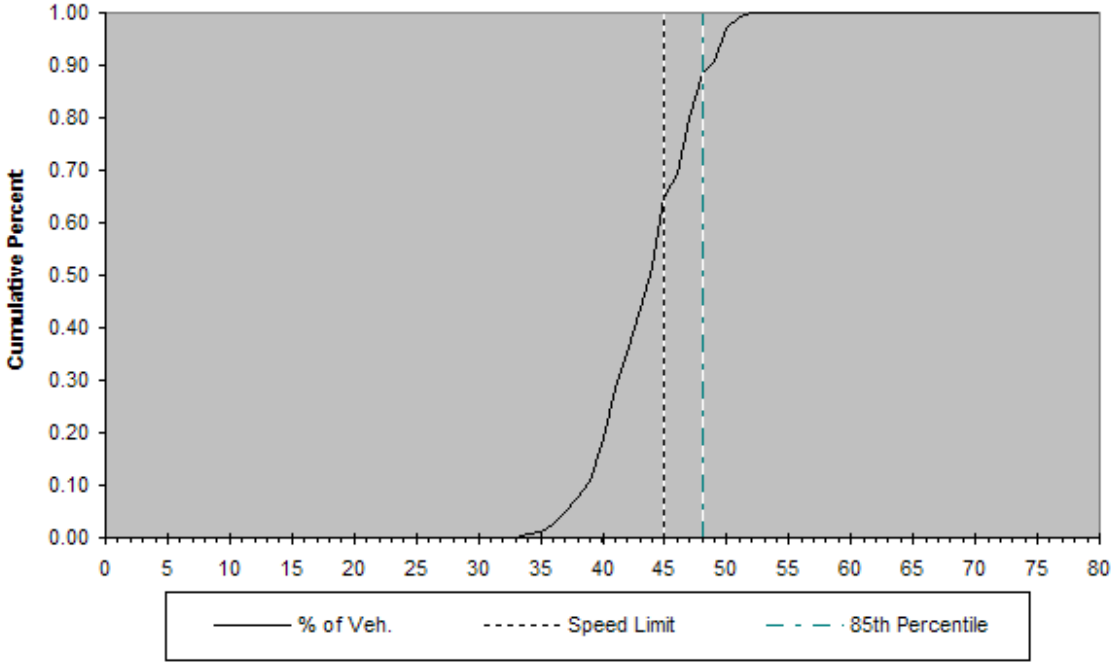
21				21			21			21				
20				20			20			20				
19-				19-			19-			19-				

Figure 17

Example: Spot Speed Check Summary

Roadway:	Rogue Valley Highway (OR 99)	Date:	8/4/2012
City:	Ashland	Time:	2:27 pm - 3:22 pm
County:	Jackson		
Location:	50 feet north	Weather:	Overcast
	Central Oregon & Pacific RXR overcrossing		
	MP 17.76	Direction of Travel:	Combined



	MPH N	Averaged	MPH S
# of Vehicles	82	165	83
85th % Speed	48	48	48
Pace Limits	40 - 49	40 - 49	39 - 48
% In Pace	80%	81%	82%
Mean Speed	44.59	44.05	43.52
Median Speed	45	44	43
Std. Dev.	3.73	3.81	3.82
Max Speed	52	52	51
Posted Speed	45	45	45
% Exceeding Posted	39%	35%	31%

Figure 18

APPENDIX E: Procedure for ”Housekeeping” Changes

Existing speed zone orders may need to have the information on the order, other than the designated speed, updated. These updates are called “housekeeping” changes. The reasons for these include:

- Speed zone boundary description corrections. If the current description only refers to a milepoint, city or other jurisdictional limit, or a building or other structure, that description will need to be rewritten to reference a distance from a fixed feature such as a street or bridge.
- Street name changes.
- New streets such that the existing reference street is no longer the closest street.
- Realignment of the existing road or an existing intersection such that the position of the described boundary point is no longer at the same place in the main road.

When housekeeping corrections are made, an abbreviated report (completed through “Previous Action”), a map and a cover memo are required. The cover memo should explain the housekeeping nature of the change, how the updated information was determined, and that the criteria for a full investigation was not met (see below). (If Region staff prepare a housekeeping report, the map may be created in the Traffic-Roadway Section.) As a courtesy, Region should contact the local agency so there is no confusion when they receive the new order. The cover letter sent to the local agency with the new order will explain the housekeeping nature of the changes made.

Procedures for Changing a Boundary or Street Name

To update the speed zone boundary reference (for instance, finding a description to fit an old city limit), research the position on the roadway of that old boundary by the closest side street existing at the time of the old speed zone order and distance from that side street. You may need to contact the local agency to find the historical information and/or interpret from right-of-way descriptions. The new description will have to be verified in the field by measuring the location and then determining the current closest side street and distance. Write the new description in the speed zone report.

For street name changes, note the change on the speed zone report and on the map as New Street (Old Street). The old street name will not show up on the new order.

New development that has changed the intersections and/or alignment of the road in a way to require a new boundary description will require field work to establish the best description. Measure where the boundary is on the roadway using the old information, then determine the nearest cross street and distance from that cross street. The new description and both the new and old street names are to be in the report and on the map. Again, the old description will not show up in the new order.

Housekeeping Change or Full Investigation?

In some situations, a full speed zone investigation should be done, even though the initial changes were thought to be only housekeeping corrections. The criteria listed below are used to determine when a full investigation (that investigates the designated speed) is to be done:

- There has been a significant* change to the roadway (alignment change or modernization-type project) and/or
- Development around the roadway has changed significantly* and/or
- Traffic volumes for the roadway have changed significantly*.

* As determined by the Region Traffic office.

If these criteria are not met and the road authority or interested jurisdiction is not proposing a change to the speed zoning, then the Region office should send to the Traffic-Roadway Section an abbreviated report and a cover memo as described above.

Noting the Need for Future Updates

If a housekeeping change needs to be made but resources are not available to do the required field work and/or prepare the housekeeping report, note that the correction is required on the office copy of the speed zone order. Additionally, submit a memo to the state traffic engineer on the needed changes, recommending they be field verified the next time there is a speed zone review of any portion of that order.

Example of 1st Page of Report for Housekeeping Purposes

OREGON DEPARTMENT OF TRANSPORTATION
REPORT OF SPEED ZONE INVESTIGATION
Coker Butte Road
Crater Lake Avenue to Foothill Road
City of Medford / Jackson County
May 30, 2012

Recommendation: Rescind SSRP Order #1199D, dated May 8, 1996 and establish the following speed zoning as listed below. Recommendation to establish a new order is for housekeeping purposes.

Investigated

	Existing	Recommended
From: Crater Lake Avenue (Crater Lake Hwy. No. 22) To: 300 feet west of Springbrook Road	45 mph	45 mph 1/ 2/ 4/
From: 300 feet west of Springbrook Road To; Foothills Road	45 mph	45 mph 3/ 4/

1/ City of Medford – Road Authority
2/ Jackson County – Interested Jurisdiction
3/ Jackson County – Road Authority
4/ Housekeeping – Retain existing speeds in new order due to recent project changed starting point of 45 mph speed zoning.

Historical Background:
Investigation requested by: James Philp, Traffic & Development Engineer, Jackson County
Requested Speed: None (Housekeeping)
Previous Action: Established SSRP Order #1199D, dated May 8, 1996

APPENDIX F: Survey of Oregon Unincorporated Communities

In OAR 734-020-0015, the rules around the establishment of speed zones on rural state highways describe how the speed may be varied a maximum of ten miles per hour above or below the computed speed if certain conditions are met. One of the criteria [in Section (2)(c)(C)] requires that the section of highway be located within an area that has been identified by the Oregon Department of Land Conservation and Development (DLCD) as an “Unincorporated Community” and is listed in the Survey of Oregon Unincorporated Communities. The information below describes how the list of unincorporated communities was developed, and the following pages list those communities.

Background

In 1993, DLCD conducted a statewide survey of unincorporated communities (these areas were called "rural communities" at that time). The purpose of the survey was to gather information about such areas in order to assist in writing land use planning rules for such communities. The survey included a list of community names for each county, and also provided information about land uses and public facilities in these areas.

The Land Conservation and Development Commission (LCDC) adopted administrative rules for unincorporated communities in 1994 (OAR 660, Division 22). Because the survey had been conducted prior to the drafting of the related rules, counties had listed some areas in the survey that do not meet the formal definition of "unincorporated community." As such, not all the areas listed in the survey are subject to LCDC's rural communities rules.

In 1997, LCDC revised the unincorporated communities rules. The revised rules refer to the survey of unincorporated communities. During the public review process for these amendments several counties requested that LCDC add certain communities to the DLCD survey. These communities had not been listed in the original (1993) survey, but are similar to the other community areas listed on that survey. LCDC agreed to amend the survey so as to include these additional areas.

The survey is on file at DLCD as the official document referenced by the amended unincorporated communities rules. The attached document is a list of the communities named by each county. As with the 1993 survey, not all the areas listed in this, the amended (1997) survey, will qualify as an "unincorporated community" using the definition in Division 22. The 1993 survey, which is also available from DLCD, includes additional land use and public facilities information for each of the communities surveyed at that time.

Baker County	**Columbia County**	**Douglas County**	**Hood River County**
Bourne	Alston Corner	Azalea	Mt. Hood
Bridgeport	Birkenfeld	Camas Valley	Oak Grove
Carson	Deer Island	Clarks Branch	Odell
Cornucopia	Goble	Curtin	Parkdale
Durkee	Mist	Days Creek	Pine Grove
Hereford	Warren	Dillard	Rockford
Homestead	Quincy	Dixonville	Windmaster Corner
Keating		Dry Creek	Van Horn
Langrell	**Coos County**	Gardiner	
McEwen	Allegany	Glendale Junction	**Jackson County**
New Bridge	Arago	Glide	Applegate
Oxbow	Bridge	Green	Brownsboro
Pine	Bandon Dunes	Jackson Creek	Lake creek
Pleasant Valley	Broadbent	Lookingglass	Lincoln/Pinehurst
	Bunker Hill/Mill	Melrose	McKee Bridge
Benton County	Charleston/Barview	Milo	Prospect
Alpine	Cooston	Nonpareil	Ruch
Alsea	Dew Valley	North Fork	Trail
Bellfountain	Dora	North Umpqua V.	Union Creek
Blodgett	Fairview	Oak Valley	White City
Bruce	Glasgow	Quines Creek	Wimer
Greenberry	Greenacres	Rice Hill	
Hoskins	Hauser	Riversdale	**Jefferson County**
Kings Valley	Hollow Stump	Scottsburg/Wells	Ashwood
Summit	Laurel Grove	Steamboat	Camp Sherman
Wren	Lower Lee Valley	Tenmile/Porter creek	Crooked River Ranch
	Norway	Tiller	Chinook Airport
Clackamas County	Riverton	Winchester Bay	Gateway
Beavercreek	Sumner	Fortune Branch	High Chaparral
Boring	Sunnyhill		
Brightwood		**Gilliam County**	**Josephine County**
Colton	**Crook County**	Mayville	Kerby
Damascus	Paulina	Mikkalo	Merlin
Government Camp	Post	Olex	Murphy
Mulino	Powell Butte		North Valley
Redland	Powell Butte West	**Grant County**	O'Brien
Rhododendron		Austin	Pottsville
Welches/Wemme	**Curry County**	Austin Junction	Shan Creek
Zig Zag	Agness	Dale	Selma
	Langlois	Fox	Sunny Valley
Clatsop County	Nesika Beach	Galena	Wilderville
Arch Cape	Ophir	Hamilton	Williams
Burnside		Izee	Wolf Creek
Cannon Beach Junction	**Deschutes County**	Kimberly	Wonder
Elderberry	Alfalfa	Logdel	
Elsie	Black Butte	Ritter	**Klamath County**
Fish Hawk	Brothers	Susanville	Beatty
Highway 26	Desch. R. Woods		Beaver Marsh
Jewel	Hampton	**Harney County**	Bly
Knappa	Inn of 7th Mtn.	Andrews	Chemult
Miles xing/Jeffers	LaPine	Buchanan	Crescent
Necanicum/Hwy 53	Millican	Crane	Crescent Lake
Old Naval Hospital	Spring River	Diamond	Dairy
Olney	Sunriver	Drewsey	Diamond Lake Junction
Smith Lake	Terrebonne	Fields	Fort Klamath
Svensen	Tumalo	Frenchglen	Gilchrist
Sunset Beach	Whistle Stop	Lawen	Henley
Westport	Wickiup Junction	Princeton	Keno
	Wild Hunt	Riley	Midland
		Wagontire	Olene

Klamath County Cont'd	Lincoln County Cont'd	Marion County Cont'd	Umatilla County
Rocky Point	Lincoln-Gleneden	St. Louis	Meacham
Sprague River	Logsden	Talbot	Rieth
	Nashville	Waconda	Umapine
Lake County	Otis Junction	West Stayton	
Adel	Otter Rock		**Union County**
Alkalai Lake	Rose Lodge	**Morrow County**	Alice
Christmas Valley	San Marine	Ruggs	Anthony Lakes
Five Corners	Seal Rock	Hardman	Camp Elkanah
Fort Rock	Star Creek		Hotlake
New Pine Creek	Tidewater	**Multnomah County**	Medical Springs
Plush		Bridal Veil	Perry
Silver Lake	**Linn County**	Burlington	Spout Springs
Summer Lake	Cascadia	Corbett (NSA)	Starkey
Valley Falls	Crabtree	Dodson (NSA)	Telocaset
Westside	Crawfordsville	Orient	
	Holley	Springdale	**Wallowa County**
Lane County	Lacomb	Warrendale (NSA)	Flora
Alvadore	Peoria		Imnaha
Blachly	Shedd	**Polk County**	Minam
Blue River	West Scio	Airlie	Troy
Cheshire		Ballston	Wallowa Lake
Crow	**Malheur County**	Buell	
Culp Creek	Annex	Buena Vista	**Wasco County**
Cushman	Arock	Derry	Pine Grove
Deadwood	Brogan	Eola	Pine Hollow
Dexter	Burns Junction	Fort Hill	Tygh Valley
Dorena	Cairo Junction	Grand Ronde	Walter's Corner
Elmira	Farewell Bend	Lincoln	Wamic
Fall Creek	Harper	McCoy	
Franklin	Ironside	Pedee	**Washington County**
Glenada	Jamieson	Perrydale	Buxton
Goshen	Johnson Brothers	Rickreall	Cherry Grove
Greenleaf	Juntura	Suver	Laurelwood
Jasper	McDermitt	Suver Junction	Manning
Lancaster	Oregon Slope	Valley Junction	Timber
Leaburg	Owyhee Corner		Verboort
London	Rome	**Sherman County**	
Lorane	Weiser Junction	Biggs Junction	**Wheeler County**
Mapleton	Willowcreek	Kent	Clarno
Marcola			Kinzua
McKenzie Bridge	**Marion County**	**Tillamook County**	Service Creek
Nimrod	Brooks	Barview	Twickenham
Noti	Brooks Interchange	Beaver	
Pleasant Hill	Butteville	Cape Meares	**Yamhill County**
Rainbow	Central Howell	Cloverdale	Bellevue
Saginaw	Drakes Crossing	Falcon Cove	Cove Orchard
Swisshome	Fargo Interchange	Hebo	Grand Island Junction
Trent	Hopmere	Idaville	Grande Ronde Agency
Triangle Lake	Labish Village	Mohler	Hopewell
Vida	Lone Pine	Neahkahnie	Unionvale
Walterville	Macleay	Neskowin	Whiteson
Walton	Marion	Netarts	
	Mehama	Oceanside	
Lincoln County	Monitor	Pacific City/Woods	
Beverly Beach	North Howell	Syskeyville	
Burnt Woods	North Santiam	Tierra Del Mar	
Eddyville	Norton's Corner	Twin Rocks	
Elk City	Pratum		
Harlan	Quinaby		
Kernville	Shaw		

APPENDIX G: Footnoting Jurisdictional Boundaries

On the investigation report, use footnotes to designate the road authority and the interested jurisdiction. (If just one agency is involved, no footnotes are necessary.)

"Road Authority" and "Interested Jurisdiction" are defined in OAR 734-020-0014 (Speed Zone Definitions) as:

> "Road authority" means the governing agency which has the jurisdiction to place, maintain and operate traffic control devices as defined in Oregon Revised Statute 810.010.
>
> "Interested jurisdiction" means any governing agencies, other than the Road Authority, which may have interest in the speed on a highway by virtue of being within the city limits, or having responsibility for maintaining the highway.

(For the purpose of the definitions, the words highway, road and street are synonymous.)

Below is ORS 810.010 that describes road authority designations:
[ROAD AUTHORITIES]

(Jurisdiction)

> 810.010 Jurisdiction over highways; exception. This section designates the bodies responsible for exercising jurisdiction over certain highways when the vehicle code requires the exercise of jurisdiction by the road authority. This section does not control where a specific section of the vehicle code specifically provides for exercising jurisdiction in a manner different than provided by this section. Except as otherwise specifically provided under the code, the responsibilities designated under this section do not include responsibility for maintenance. Responsibility for maintenance is as otherwise provided by law. The following are the road authorities for the described roads:
>
> (1) The Department of Transportation is the road authority for all state highways in this state including interstate highways.
>
> (2) The county governing body is the road authority for all county roads outside the boundaries of an incorporated city.
>
> (3) The governing body of an incorporated city is the road authority for all highways, roads, streets and alleys, other than state highways, within the boundaries of the incorporated city.
>
> (4) Any other municipal body, local board or local body is the road authority for highways, other than state highways, within its boundaries if the body or board has authority to adopt and administer local police regulations over the highway under the Constitution and laws of this state.
>
> (5) Any federal authority granted jurisdiction over federal lands within this state under federal law or rule is the road authority for highways on those lands as provided by the federal law or rule. [1983 c.338 §145; 1985 c.16 §45]

The following examples show the format to use when footnoting different jurisdictional boundary situations on the report.

Example 1:
You have conducted a speed zone investigation on a local road in the City of Cove and Union County. Both jurisdictions are responsible for maintenance within their jurisdictional boundaries. You would footnote the following way:

		Existing	Recommended
From:	Cove Highway	35 mph	30 mph 1/
To:	Antler Road		
From:	Antler Road	45 mph	30 mph 2/
To:	100 feet west of Tick Creek		

1/ City of Cove – Road Authority
2/ Union County – Road Authority

Example 2:
You have conducted a speed zone investigation on a local road in the City of Cove and Union County. Union County is responsible for maintenance within both jurisdictional boundaries. You would footnote the following way:

		Existing	Recommended
From:	Cove Highway	35 mph	30 mph 1/ 2/
To:	Antler Road		
From:	Antler Road	45 mph	30 mph 3/
To:	100 feet west of Tick Creek		

1/ City of Cove – Road Authority
2/ Union County – Interested Jurisdiction
3/ Union County – Road Authority

* The “interested jurisdiction” footnote would indicate the section within the city limits where the county is responsible for maintenance

Example 3:
You have conducted a speed zone investigation on a local road in the City of Cove and Union County. The city limits line follows the center line of the roadway for a portion of the investigated section. Union County is responsible for maintenance of all the segments. You would footnote the following way:

		Existing	Recommended
From:	Cove Highway	35 mph	30 mph 1/ 2/
To:	Antler Road		
From:	Antler Road	35 mph	30 mph 3/ 2/
To:	Coleman Road		
From:	Coleman Road	45 mph	30 mph 4/
To:	100 feet west of Tick Creek		

1/ City of Cove – Road Authority
2/ Union County – Interested Jurisdiction
3/ City of Cove and Union County – Road Authorities; City limits coincident with centerline
4/ Union County – Road Authority

Example 4:
You have conducted a speed zone investigation on a state highway within the City of Cove. You would footnote the following way:

			Existing	Recommended
A	From:	Arlene Avenue	35 mph	30 mph 1/
	To:	100 feet east of Hunter Avenue		
B	From:	100 feet east of Hunter Avenue	45 mph	40 mph 1/
	To:	Brewster Avenue		

1/ City of Cove – Interested Jurisdiction

The interested jurisdiction footnote would indicate that the section is within the city limits. If you wish, you could add a footnote showing that ODOT is the road authority.

Example 5:
You have conducted a speed zone investigation on a rural state highway that extends through the City of Cove. You would footnote the following way:

			Existing	Recommended
A	From:	Blizzard Creek Road	55 mph	50 mph 1/
	To:	100 feet west of Arlene Avenue		
B	From:	100 feet west of Arlene Avenue	35 mph	30 mph 2/
	To:	100 feet east of Hunter Avenue		
C	From:	100 feet east of Hunter Avenue	45 mph	40 mph 2/
	To:	Brewster Avenue		

1/ ODOT – Road Authority
2/ City of Cove – Interested Jurisdiction

When a section has both a road authority and an interested jurisdiction, you can combine both agencies into one footnote number, if you wish.

Note that if there is just one road authority and no interested jurisdiction, no jurisdiction footnotes are required.

The footnotes and jurisdictional breaks are only shown on speed zone orders for state highways, not shown on local road orders.

APPENDIX H: Speed Zoning Oregon Administrative Rules
(Except 734-020-0010, -0011 and -0019 that are exclusive to interstate freeways)

734-020-0014

Speed Zone Definitions

Definitions. The following definitions apply to OAR 734-020-0014 through 734-020-0017.

(1) “Average daily traffic” (ADT) means the total number of vehicles during a given time period greater than one day and less than one year, divided by the number of whole days in that time period.

(2) “Crash rate” means the number of crashes per million vehicle-miles (MVM) traveled on a section of road.

(3) “Computed Speed” means the eighty-fifth percentile speed minus the crash rate above the average statewide crash rate for similar functional classification highways.

(4) “Department” means the Oregon Department of Transportation.

(5) “Designated speed” means the speed that is designated under ORS 810.180 as the maximum permissible speed for a highway. The designated speed is established through a speed zone order. Designated speeds shall be in multiples of 5 mph. The designated speed supersedes the statutory speed that would be in effect if no designated speed was established except for school speed zones.

(6) “Eighty-fifth percentile speed” means the speed at or below which 85 percent of the motorists drive on a section of road for which speeds were measured.

(7) “Free flow speed” means the speed of vehicles when drivers tend to drive at their chosen speed unrestricted by conditions such as congestion, inclement weather, road work, law enforcement activity or traffic control such as traffic signals, stop or yield signs or by road geometry such as infrequent curves or hills.

(8) “Engineering study” means a documented investigation with analysis and evaluation of the pertinent information and applicable engineering principles.

(9) “Gravel road” means an unpaved road which has a running surface of small rock, gravel or other approved aggregate road surfacing material and may have a dust palliative applied.

(10) “Highway” means any road, street or thoroughfare that is maintained by a public agency (i.e., city, county, state, or federal) and open to travel by the public. Highway and road are synonymous.

(11) “Interested jurisdiction” means any governing agencies, other than the Road Authority, which may have interest in the speed on a highway by virtue of being within the city limits, or having responsibility for maintaining the highway.

(12) “Low volume road” means any road, street or thoroughfare which has an average daily traffic of less than 400 vehicles, and is open to travel by the public. State highways are not considered low volume roads, regardless of ADT.

(13) “Pace limits” means the ten mile-per-hour range containing the largest number of sample vehicles observed in a spot speed check.

(14) “Paved road” means a regularly maintained solidified hard surfaced road typically solid bituminous (asphalt concrete), oil mat or Portland cement concrete.

(15) “Recommended Speed” is the speed that has been determined from an engineering study. Recommended speeds shall be in multiples of 5 mph.

(16) “Road authority” means the governing agency which has the jurisdiction to place, maintain and operate traffic control devices as defined in Oregon Revised Statute 810.010.

(17) “Rural state highway” means a section of state highway that is outside the city limits of an incorporated city.

(18) “School zone exception” means a specific section of highway where a statutory school speed limit (20 mph) is posted as specified in ORS 811.111.

(19) “Speed zone” means a specific section of highway where a designated speed is posted under ORS 810.180.

(20) “Speed Zone Review Panel” means the hearings panel created in OAR 734-020-0015.

(21) “Statutory speed” means the speed that is established in statute, under ORS 811.111 or ORS 811.105.

(22) “Transition speed zone” means a speed zone(s) established to make the change in legal speeds less abrupt for drivers. As an example, instead of going directly from a 55 mph section to a 25 mph section, it may be desirable to establish one or more transition speed zones in between, such as 45 mph and 35 mph.

(23) “Unpaved road” means a road which has a surface that does not meet the definition of a paved road. The road surface may be dirt, rock, gravel, or other non-solidified material and may have a dust palliative applied.

(24) “Written order” means the official document that delineates the roadway segment(s) and designates the speed in a speed zone or speed zones established. This is commonly known as a speed zone order.

Stat. Auth.: ORS 184.616, 184.619, 810.010 and 810.180
Stats. Implemented: ORS 810.180

734-020-0015

Establishment of Speed Zones on Public Roads Except Public Unpaved Roads

(1) Purpose: This rule is adopted for the purpose of establishing speed zones on public roads by the Department and other road authorities under ORS 810.180. This rule applies to all public roads except for the establishment of speed limits on interstate highways under OAR 734-020-0010 or where the Department may delegate 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. Establishment of speed zones on low volume roads may follow the standard method described in this rule or the procedures described in OAR 734-020-0016. The State Traffic Engineer may approve an experimental alternative investigation method that could be used instead of the standard engineering study identified in Section (2) of this rule after consideration of the recommendation of the Speed Zone Review Panel.

(2) Speed Zone Standard Method:

(a) An engineering study must be performed to determine the recommended speed for proposed speed zoning. The standard engineering study will use the following criteria:

(A) Analysis of the speed of free flowing traffic to include the eighty-fifth percentile speed and pace limits;

(B) The crash rate for the specific section of highway being considered;

(C) The average crash rate for similar functional classification highways (if available);

(D) The difference between the crash rate for the specific section being considered and the average crash rate for similar functional classification highways; and

(E) The computed speed, which is the eighty-fifth percentile speed minus the crash rate above the average rate as determined in paragraph (D) of this subsection.

(b) The following additional factors may be considered in the standard engineering study:

(A) Accesses;

(B) Crash history;

(C) Enforcement;

(D) Geometric features;

(E) Pedestrian and bicycle movements;

(F) Public testimony;

(G) Traffic volumes;

(H) Type and density of adjacent land use; and

(I) Other applicable factors.

(c) Speed Zone Recommendation. The Department is subject to the following guidelines when determining the recommended speed using the standard engineering study:

(A) The recommended speed may be varied a maximum of 10 miles per hour above or below the computed speed on all public roads except for state highways outside city limits.

(B) The recommended speed may not be varied, except under subsection (2)(c)(C), more than five miles per hour above or below the computed speed on rural state highways.

(C) The recommended speed may be varied a maximum of 10 miles per hour below the computed speed on state highways outside city limits for one or more of the following reasons:

(i) The crash rate for the specific section exceeds the average crash rate for similar functional classification highways;

(ii) There has been more than one fatal or serious injury crash in the last three years;

(iii) The specific section meets the definition of a “business district” under ORS 801.170 or a “residence district” under ORS 801.430;

(iv) There are residences, businesses, or other public service facilities that front the specific section, and the section is located within an area that has been identified by the Oregon Department of Land Conservation and Development as an Unincorporated Community, and is listed in the Survey of Oregon Unincorporated Communities;

(v) The specific section has urban character and environment and pedestrian attractions such as businesses, schools, parks or other facilities; or

(vi) There is limited stopping sight distance which has contributed to crashes or near misses.

(d) Transition speed zones should be considered when the difference between two adjoining posted speeds would otherwise exceed 20 miles per hour:

(A) The recommended speed for transition speed zones may exceed 10 miles per hour above or below the computed speed as deemed appropriate by the Department; and

(B) The Department is not restricted by paragraphs (A) through (C) of subsection (2)(c) when determining the recommended speed for transition speed zones.

(e) The section length used for speed zoning should be at least one-quarter of a mile in length except transition speed zones may be a minimum of one thousand feet in length.

(f) An existing designated speed zone may, at the discretion of the State Traffic Engineer, be extended or shortened up to 500 feet without obtaining a spot speed check within that section.

(3) An experimental alternative investigation to replace the standard engineering study in order to determine a speed zone recommendation on certain City of Portland streets (not state

highways) may be approved for a two-year trial period by the State Traffic Engineer. The alternative method must include an evaluation plan for the City of Portland to provide a review and report to the Speed Zone Review Panel at the end of the trial period for a recommendation on the suitability of the City's alternative method.

(a) After the two-year trial period, the State Traffic Engineer will decide whether to continue or terminate the alternative method.

(A) The Speed Zone Review Panel will review the evaluation of the alternative method and make a recommendation on whether or not to adopt the alternative method as an additional standard (not experimental) method, extend the evaluation period an additional year or terminate the use of the alternative method.

(B)The State Traffic Engineer will consider the Speed Zone Review Panel recommendation in the final decision.

(C) Establishment of the alternative method as an additional standard speed zoning procedure after the two-year trial period requires Department adoption by administrative rule.

(b) The alternative method shall include the following factors as a minimum:

(A) Street classification;

(B) Street character and roadside development;

(C) Traffic volumes;

(D) Street width and lane configuration; and

(E) An analysis of the current speed distribution of free-flowing vehicles.

(c) The alternative method will not be used on streets that are state highways or ones that are classified as Arterials in the Federal Functional Classification System. Federal Functional Classification is shown on ODOT City and County maps.

(d) The Department could determine that the standard engineering method, not the alternative method, is to be used on any street.

(e) If another local agency is involved in the jurisdiction of the street (an interested jurisdiction), the local agency using the alternative method must obtain the interested jurisdiction's concurrence with the use of the alternative method and the speed zone recommendation.

(f) The road authority shall perform the alternative investigation and submit the report containing the recommended speed to the Department for review and approval. The road authority shall refer to the Department for accepted report format and content.

(4) Speed Zone Procedures:

(a) The Department of Transportation is subject to the following procedures while exercising its authority for establishing the designated speed, using the standard engineering study method,

on state highways within city limits, city streets, county roads and any other rural roads under ORS 810.180 unless otherwise provided under ORS 810.180:

(A) The road authority and interested jurisdiction, if any, must make written request to the State Traffic Engineer in order for the Department to perform an engineering study with respect to establishing a designated speed on a highway under ORS 810.180. The application must state the recommended designated speed for the highway or section of highway by the road authority and interested jurisdiction, if any;

(B) The Department must determine the recommended speed by performing or causing to be performed an engineering study;

(C) The Department, when requested by the road authority and interested jurisdiction, if any, may allow the requestors to perform or cause to be performed an engineering study of the roadway section under its own jurisdiction and remit a copy of the investigation to the Department for review. Refer to the Department for acceptable methodologies and procedures for an engineering study of speed zones;

(D) The Department must allow the road authority and interested jurisdiction, if any, that is requesting an investigation under this section to participate with the Department in the investigation;

(E) The Department may recommend a change in the existing designated or statutory speed for a specific section of highway if the investigation establishes to the satisfaction of the Department that the existing speed is greater or less than reasonable or safe under the conditions found in the specific section in question;

(F) The Department must give written notice to the road authority and interested jurisdiction, if any, of the Department's determination concerning a recommended speed;

(G) The Department must issue a Speed Zone Order if the recommended speed is mutually agreeable to the road authority and interested jurisdiction, if any;

(H) If mutual agreement cannot be reached, the road authority may take the matter to the Speed Zone Review Panel;

(I) A written speed zone order must be issued to establish a designated speed;

(J) A copy of the written speed zone order must be provided to the road authority and interested jurisdiction, if any, as appropriate, and the original retained in the Department of Transportation's records for each speed zone established; and

(K) The speed zone becomes enforceable when appropriate signs giving notice of the designated speed are posted on the portion of the highway where the designated speed is imposed.

(b) The Department of Transportation is subject to the following procedures while exercising its authority for establishing the designated speed on rural state highways under ORS 810.180 unless otherwise provided under ORS 810.180:

(A) A Government agency or citizen must make written request for the Department to perform an engineering study with respect to speed on a highway under ORS 810.180. The request must be made to the State Traffic Engineer or Region Traffic Manager. The request must state the reason for the requested change in speed zoning;

(B) The Department may perform or cause to be performed an engineering study. If the engineering study is performed by someone other than the Department, that person should refer to the Department for accepted methodologies and procedures for an engineering study of speed zones;

(C) The Department may change the existing designated or statutory speed for a specific section of highway if the engineering study establishes to the satisfaction of the Department that the existing speed is greater or less than reasonable or safe under the conditions found in the specific section in question;

(D) The Department must give a written reply to the original requestor of the Department's determination concerning a designated speed;

(E) Written objections by the requestor may be filed with the Department to any speed established by the Department;

(F) If the recommended speed exceeds the guidelines established under paragraph(2)(c)(B) or (2)(c)(C) of this rule, the Department may refer the matter to the Speed Zone Review Panel;

(G) A written speed zone order must be issued to establish a designated speed;

(H) The original written order must be retained in the Department of Transportation's records for each speed zone established; and

(I) The speed zone becomes enforceable when appropriate signs giving notice of the designated speed are posted on the portion of the highway where the designated speed is imposed.

(c) The Department of Transportation is subject to the following procedures while exercising its authority for establishing the designated speed using the alternative method in the City of Portland,

(A) The Department will evaluate the recommendation on the report using the factors from (3)(b) as approved by the State Traffic Engineer for the alternative method. The Department may change the existing designated or statutory speed for a specific section of highway if the alternative method establishes to the satisfaction of the Department that the existing speed is greater or less than reasonable or safe.

(B) If the recommended speed is mutually agreeable to the road authority, the Department and any interested jurisdictions, the Department will issue a written speed zone order.

(C) When differences of opinion about the recommended speed occur among the Department, the road authority and any interested jurisdictions, the road authority may take the matter to the Speed Zone Review Panel for decision.

(D) A written speed zone order must be issued to establish a designated speed. A copy of the written speed zone order must be provided to the road authority and any interested jurisdictions, and the original retained in the Department's records.

(E) The speed zone becomes enforceable when appropriate signs giving notice of the designated speed are posted on the portion of the street where the designated speed is imposed.

(F) A speed zone established under the approved alternative method shall be considered as duly established under ORS 810.180 whether the alternative method becomes permanent or is terminated.

(G) Subsections (2)(d), (e), and (f) and Sections 5 and 6 of this rule apply to the alternative method process (as well as the standard engineering study method).

(5) Speed Zone Review Panel:

(a) The Speed Zone Review Panel is created to conduct hearings for deciding contested speed zone recommendations and to serve as an advisory body to the Department. The panel must consist of the five following persons:

(A) The Chair of the Transportation Safety Committee or a representative designated by the Chair;

(B) The Superintendent of State Police or a representative designated by the superintendent;

(C) The Chief Engineer of the Department of Transportation or a representative designated by the Engineer; and

(D) Two additional members, one representative of the interests of cities and one representative of the interests of counties. The League of Oregon Cities and the Association of Oregon Counties must each appoint a member representing the interest of cities and counties respectively. City and county representatives may serve a maximum three-year term. City and county representatives may be re-appointed to serve an additional three-year term.

(b) Three Speed Zone Review Panel members attending a hearing constitute a quorum.

(c) The State Traffic Engineer will designate the Chairperson.

(d) The Department is responsible to pay from the State Highway Fund the per diem travel and other expenses of the members of the Speed Zone Review Panel for the purpose of conducting hearings on speed zone appeals.

(e) The Speed Zone Review Panel must conduct a hearing when the State Traffic Engineer determines the Department has received a sufficient number of appeals to convene the panel:

(A) The State Traffic Engineer must arrange the hearing date and present the speed zone appeals;

(B) The Department must notify the road authority, interested jurisdiction, if any, and any citizen having expressed an interest to the Department regarding the contested speed zone of the

hearing in writing at least 30 days prior to the hearing. The 30-day hearing notification may be waived if it is mutually agreeable among the Department, road authority and any interested jurisdiction;

(C) The opportunity to present testimony in person or in writing must be included in the notice of hearing date;

(D) Written testimony received by the State Traffic Engineer at least three days prior to the hearing must be considered in the speed zone appeal review;

(E) The criteria and procedures established under ORS 810.180, OAR 734-020-0015, OAR 734-020-0016 and OAR 734-020-0017 for determining speed zoning will be considered in deciding the appeals;

(F) The decision of the panel is final and any speed zone order must be issued accordingly; and

(G) The speed zone becomes enforceable when appropriate signs giving notice of the designated speed are posted on the portion of highway where the designated speed is imposed.

(6) Rescission.

(a) A designated speed established in a speed zone order created under ORS 810.180 supersedes the statutory speed except for school speed zones that would otherwise apply, until or unless the speed zone order is rescinded.

(b) A road authority may request that the Department rescind an established speed zone order if the road authority has determined that the statutory speed is more appropriate for the roadway and the roadway meets the statutory definition of the proposed statutory speed.

(c) When a speed zone order has been formally rescinded, the road authority may post the statutory speed.

Stat. Auth.: 184.616, 184.619, 810.010 and 810.180
Stats. Implemented: ORS 810.180

734-020-0016

Establishment of Speed Zones on Public Paved Low Volume Roads

(1) Purpose. This rule is adopted for the purpose of establishing speed zones on public paved low volume roads by the Department and other road authorities and interested jurisdictions when appropriate. Establishment of speed zones on low volume roads may follow the standard method described in OAR 734-020-0015 or the method described in this rule.

(2) Delegation of Authority.

(a) Upon the request of a road authority, the Department may delegate its authority under ORS 810.180 for public paved low volume roads if the road authority agrees to exercise the authority according to this rule. The written application must:

(A) Be made to the State Traffic Engineer requesting delegated authority to determine and establish speed zones for public paved low volume roads under their jurisdiction;

(B) Include a specific roadway or all roadways under their jurisdiction for which the road authority is requesting delegation;

(C) If there is an interested jurisdiction on any public paved low volume roads within the boundaries of the road authority, the written application from the road authority must include a statement that the road authority and interested jurisdiction have agreed to the need to perform an engineering study and if appropriate, establish a designated speed according to this rule; and

(D) Specify that the road authority will perform or cause to be performed an engineering study to determine the appropriate designated speed.

(b) If the Department determines that the road authority has established a speed zone without complying with this rule, the Department may withdraw the delegation of authority and the road authority must remove existing speed zone signing and post the section of roadway at the speed that was posted preceding the engineering study.

(c) The Department may perform the engineering study at the request of the road authority following the procedures set forth in OAR 734-020-0015(4)(a).

(3) Speed Zone Criteria. A road authority granted speed zone authority under section (2) of this rule is subject to the following:

(a) Perform or cause to be performed an engineering study to determine the recommended speed for the proposed speed zone using the eighty-fifth percentile speed.

(b) The following additional factors may be considered in the engineering study:

(A) Accesses;

(B) Crash history;

(C) Enforcement;

(D) Geometric features;

(E) Pedestrian and bicycle movements;

(F) Public testimony;

(G) Traffic volumes;

(H) Type and density of adjacent land use; and

(I) Other applicable factors.

(c) Speed Zone Recommendation. The road authority is subject to the following guidelines when determining the recommended speed:

(A) The recommended speed may be varied a maximum of 10 miles per hour above or below the eighty-fifth percentile speed; and

(B) The section investigated for speed zoning should be at least one-quarter of a mile in length except transitions speed zones may be a minimum of one thousand feet in length.

(4) Speed Zone Procedures.

(a) The road authority may establish a different speed on a specific section of highway if the engineering study finds that the existing designated or statutory speed is greater or less than reasonable or safe under the conditions found in the specific section in question unless any part of subsections (b) or (c) of this section apply.

(b) If the recommended speed exceeds 10 mph above or below the eighty-fifth percentile speed, the road authority must notify the Department and the matter will be presented to the Speed Zone Review Panel.

(c) If there is an interested jurisdiction on the section of road, the following procedures must be followed:

(A) If the recommended speed is within 10 mph difference from the eighty-fifth percentile speed and it is mutually agreed to by the road authority and interested jurisdiction then the road authority may issue a written order to establish the speed zone; or

(B) When differences of opinion between the road authority and interested jurisdiction occur, the road authority must notify the Department and the matter will be presented to the Speed Zone Review Panel.

(d) The road authority and interested jurisdiction, if any, should refer to the Department for further guidance on acceptable methodologies for an engineering study of speed zones.

(e) The road authority must file with the Department a copy of the written speed zone order and engineering study.

(f) The road authority must retain the original speed zone order and engineering study.

(g) The road authority may authorize the Department to issue the speed zone order by submitting a copy of the engineering study.

(h) The road authority is responsible for installing speed zone signing.

(i) The speed zone becomes enforceable when appropriate signs giving notice of the designated speed are posted on the portion of the highway where the designated speed is imposed.

(5) Rescission.

(a) A designated speed established in a speed zone order created under ORS 810.180 supersedes the statutory speed that would otherwise apply, until or unless the speed zone order is rescinded.

(b) A road authority may request that the Department rescind an established speed zone order if the road authority has determined that the statutory speed is more appropriate for the roadway and the roadway meets the statutory definition of the proposed statutory speed.

(c) When a speed zone order has been formally rescinded, the road authority may post the statutory speed.

Stat. Auth.: ORS 184.616, 814.619, 810.010 and 810.180
Stats. Implemented: ORS 810.180

734-020-0017

Establishment of Speed Zones on Public Unpaved Roads

(1) Purpose. This rule is adopted for the purpose of establishing speed zones on unpaved roads by the Department when appropriate.

(2) Guidance. ODOT provides the following guidance to assist the road authority in determining if creation of a speed zone is appropriate:

(a) Establishing speed zones on unpaved roads is generally discouraged:

(A) The risk with establishing a specific speed zone is that a “Speed Zone” sign creates an expectation by the driver that the roadway is safe to drive at the posted speed. Since unpaved roadway conditions can change rapidly depending on weather, season, traffic volumes and amount of road maintenance, establishing the appropriate speed zone for all conditions is difficult, if not impossible; and

(B) Oregon’s basic rule speed law requires drivers to adopt a reasonable and prudent speed. The driver should rely primarily on their visual observation of the roadway conditions, rather than a speed zone sign to determine the safe speed to drive a road.

(b) There are other factors that reduce the effectiveness of, or necessity for setting speeds on unpaved roads:

(A) Enforcement is minimal on unpaved roads. There would be poor compliance with speed zoning without enforcement commitment; and

(B) Risks of vehicle conflict are very low on these roads; most are used by travelers who are familiar with the roads and their condition.

(c) Given the factors in this subsection, parts (a) and (b), speed zones will only be established for unpaved roads that are gravel roads as defined in OAR 734-020-0014. Speed zones will not be established under ORS 810.180 for other unpaved roads except for speed zones established by a road authority under ORS 810.180(7), (8) or (9).

(3) Speed Zone Application Process. The road authority must do all of the following:

(a) Make written application to the State Traffic Engineer requesting authority to perform or cause to be performed an engineering study for a specific unpaved road under their jurisdiction;

(b) State the reason for the requested change in speed;

(c) Specify that the engineering study will be performed; and

(d) Submit the following documentation:

(A) Evidence of crash history;

(B) Written commitment from law enforcement that the subject roadway will be part of routine patrols;

(C) Written commitment from the road authority and interested jurisdiction, if any, that the roadway will be graded a minimum of every six months when open to normal traffic; and

(D) If there is an interested jurisdiction on the specified unpaved road within the boundaries of the road authority, the written application must include a statement that the road authority and interested jurisdiction have agreed to the need to perform an engineering study and if appropriate, establish a designated speed according to this rule.

(4) Delegation of Authority.

(a) The Department will delegate authority to perform the engineering study if the road authority satisfactorily completes the application process as outlined in section (3) of this rule; and

(b) The road authority will proceed with the engineering study upon review and approval of the application by the Department.

(5) Speed Zone Criteria. A road authority granted authority under section (4) of this rule is subject to the following:

(a) Perform or cause to be performed an engineering study to determine the recommended speed for the proposed speed zone using the following criteria:

(A) The eighty-fifth percentile speed; and

(B) Documented history of crashes related to excessive speed in the section of unpaved road for which a speed zone is requested.

(b) The following additional factors may be considered in the recommended speed:

(A) Accesses;

(B) Crash history;

(C) Enforcement;

(D) Geometric features;

(E) Pedestrian and bicycle movements;

(F) Public testimony;

(G) Traffic volumes;

(H) Type and density of adjacent land use; and

(I) Other applicable factors

(6) Speed Zone Recommendation. The road authority is subject to the following guidelines when determining the recommended speed:

(a) The recommended speed may be varied a maximum of 10 miles per hour above or below the eighty-fifth percentile speed; and

(b) The section considered for speed zoning should be at least one-quarter of a mile in length except transition speed zones may be a minimum of one thousand feet in length.

(7) Speed Zone Procedures. The following procedures apply to consideration and approval or denial of a speed zone recommendation:

(a) The road authority must submit two copies of the completed engineering study to the Department.

(b) The road authority should refer to the Department for acceptable methodologies and procedures for an engineering study of speed zones.

(c) The Department:

(A) May change the existing designated or statutory speed on a specific section of highway if the engineering study establishes to the satisfaction of the Department that the existing speed is greater or less than reasonable or safe for the specific section in question;

(B) Must give written notice to the road authority and interested jurisdiction, if any, of the Department's determination regarding the designated speed; and

(C) May issue a speed zone order if the recommended speed is mutually agreeable to the road authority and any interested jurisdiction.

(d) The Department will refer the matter to the Speed Zone Review Panel when:

(A) There are differences of opinion among the Department and the road authority or interested jurisdiction;

(B) There are differences of opinion between the road authority and interested jurisdiction; or

(C) The recommended speed exceeds 10 mph above or below the eighty-fifth percentile speed.

(e) A copy of the written speed zone order must be filed with the road authority and any interested jurisdiction, as appropriate, and the original retained in the Department's records for each speed zone established.

(f) The road authority is responsible for installing speed zone signing.

(g) The speed zone becomes enforceable when appropriate signs giving notice of the designated speed are posted on the portion of the highway where the designated speed is imposed.

(8) Rescission.

(a) A designated speed established in a speed zone order created under ORS 810.180 supersedes the statutory speed that would otherwise apply, until or unless the speed zone order is rescinded.

(b) A road authority may request that the Department rescind an established speed zone order if the road authority has determined that the statutory speed is more appropriate for the roadway and the roadway meets the statutory definition of the proposed statutory speed.

(c) When a speed zone order has been formally rescinded, the road authority may post the statutory speed.

Stat. Auth.: ORS 184.616, 184.619, 810.010 and 810.180
Stats. Implemented: ORS 810.180

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

GLOSSARY

Crash Rate Deviation The positive difference, in number of crashes per million vehicle miles, between the crash rate for the investigated road section and the statewide rate for comparable highway types. If the crash rate for the section is equal to or less than the statewide average rate, the deviation is zero. There is no crash rate deviation for city and county roads since there is no comparable statewide classification of data.

Crash Rate The number of crashes per million vehicle miles traveled on a section of roadway.

Computed Speed The eighty-fifth percentile speed minus the crash rate above the average statewide crash rate for similar functional classification highways.

Ahead on Line Following the road centerline, the direction of increasing milepoints.

Arterial or arterial highway A highway that is used primarily by through traffic. (ORS 801.127)

Average Speed The mean speed of all vehicles included in a given spot speed check.

Average Daily Traffic (ADT) The total number of vehicles during a given time period greater than one day and less than one year, divided by the number of whole days in that time period.

Back on Line Following the road centerline, the direction of decreasing milepoints.

Basic Rule See violation of the basic speed rule in this glossary.

Business District Territory contiguous to a highway when 50 percent or more of the frontage thereon for a distance of 600 feet or more on one side or 300 feet or more on both sides, is occupied by buildings used for business. (ORS 801.170)

Collector or collector highway A highway that serves primarily to funnel traffic from one local highway to another or between arterials and local highways. (ORS 801.197)

Designated Speed The speed that is designated under ORS 810.180 as the maximum permissible speed for a highway. The designated speed is established through a speed zone order. Designated speeds shall be in multiples of 5 mph. The designated speed supersedes the statutory speed that would be in effect if no designated speed was established except for school speed zones.

Eighty-fifth Percentile Speed (85% SPEED) The speed at or below which 85 percent of the vehicles for which speeds were recorded are traveling.

Free Flow Speed The speed of vehicles when drivers tend to drive at their chosen speed unrestricted by conditions such as congestion, inclement weather, road work, law enforcement activity or traffic control such as traffic signals, stop or yield signs or by road geometry such as infrequent curves or hills.

Established Speed Zone A posted speed zone established by Order.

Industrial District An area contiguous to the road with mainly warehouse, distribution and manufacturing development. Not defined in ORS.

Interested Jurisdiction Any governing agencies, other than the road authority, which may have interest in the speed on a highway by virtue of being within the city limits, or having responsibility for maintaining the highway.

Local Roadway A public facility that serves mainly as local property access. Not defined in ORS.

Low Volume Roadway A roadway with average daily traffic volume of less than 400 vehicles.

Maximum Speed The highest speed recorded in a spot speed check.

Median Speed The speed at or below which 50% of the vehicles in a spot speed check were observed to travel.

Milepost Log A log of text and graphics representing road features, traffic control, access and construction details of a road by milepost along the road alignment. For state highways, there is a milepost log on each highway, frontage road, or connection, published by Inventory & Mapping Unit, ODOT. The state milepoint log doesn't include traffic control or all road features. The current version is automated and available on the mainframe.

Mode Speed The most frequently occurring speed for a spot speed check.

Narrow Residential Roadways A two-way roadway that is (1) located in a residence district; and (2) not more than 18 feet wide at any point between two intersections or between an intersection and the end of the roadway.

ODOT Oregon Department of Transportation: The state agency given the responsibility to establish designated speeds on Oregon highways.

OTC Oregon Transportation Commission: The Oregon Department of Transportation governing body. The State Traffic Engineer has delegated authority from the OTC to set speed zones within established guidelines designated in OARs 734-020-0015, 734-020-0016, and 734-020-0017.

Pace A 10-mph increment that includes the greatest percentage of vehicles observed in a spot speed check.

Prima Facie Evidence Information or material that would, if uncontested, establish a fact or raise a presumption of a fact. In the case of speed zoning, some statutory speeds are designated as prima facie evidence of basic rule violation or of the maximum speed limit. ORS 811.105 & 811.111.

Recommended Speed The speed that has been determined from an engineering study. Recommended speeds shall be in multiples of 5 mph.

Residence District Territory not comprising a business district that is contiguous to a highway that: (1) Has access to property occupied primarily by multifamily dwellings; or (2) Has an average of 150 feet or less between accesses or approaches to: (a) Dwellings, churches, public parks within cities or other residential service facilities; or (b) Dwellings and buildings used for business. (ORS 801.430) Residence Districts are limited to certain classifications of roads per ORS 811.105(2)(d) and ORS 811.111(1)(d)(D).

Road Authority The body authorized to exercise authority over a road, highway, street or alley under ORS 810.010.

School Zone Exception That portion of a speed zone which is signed as a school zone or school crossing, where the designated speed shall be 20 mph per provisions of ORS 811.111.

Speed Limit Maximum speed limits, as opposed to Basic Rule speeds, that are authorized by statute. See ORS 811.111 for more information.

Speed Zone Review Panel The Speed Zone Review Panel was formed by ODOT to act as a hearing body to decide contested speed zoning decisions. Members include representatives from League of Oregon Cites (LOC), Association of Oregon Counties (AOC), Oregon State Police (OSP), Oregon Transportation Safety Committee and ODOT.

State Speed control Board (SSCB) The former established board with the authority to set speed zones on all city streets and county roads. The SSCB was replaced in 1994 by the Speed Zone Review Panel.

Statutory Speed The speed which is set as a maximum speed limit or prima facie evidence of basic rule violation by statute. The statutory speed is the legal speed, whether posted or not, on any section of road if there is no written speed zone order establishing a different designated speed. Examples of a statutory speed would be a "residence district", "business district", etc. See ORS 811.105 & 811.111.

Straightline Chart A graphical representation of the mile post log.

Transition Speed Zone A speed zone(s) established to make a change in legal speed less abrupt for drivers. For example, instead of going directly from a 55 mph section to a 25 mph, it may be necessary to establish one or more transition speed zones in between, such as 45 mph and 35 mph. Transition speed zones must be a minimum of 1000 feet in length.

Unestablished Speed Zone A posted speed zone not established by Order or statute.

Urban Area Developed area inside an urban growth boundary.

Written Order The legal document which designates the boundaries and speed(s) of speed zoning on a single road or continuous route.

Variable Speed Zone A designated speed that changes based on congestion, road conditions, reduced visibility or weather conditions.

Violation of the basic speed rule When a person drives a vehicle upon a highway at a speed greater than is reasonable and prudent, having due regard to all of the following: Traffic, surface and width of the highway, the hazard at intersections, weather, visibility and any other conditions then existing. (ORS 811.100)

REVISION HISTORY

Revision Date	Description
July 2009	Corrected language to make it clear that one spot speed check is necessary for each existing posted speed. (Pages 9 and 24)
July 2009	Changed the directions for tallying pedestrians and cyclists. (Page 11)
July 2009	Added a Recommendation choice for retaining statutory speed zoning. (Page 22)
July 2009	Added direction to explain on the report when housekeeping-only changes are made. (Pages 22 and 24)
July 2009	Under the description of "Crash Data", removed "new pavement" as a reason for not using past years' crash data. Changed the wording to make it possible to use crash data prior to road construction, depending upon how much the road was altered. (Page 31)
July 2009	Clarified the language to use when there is no posted speed. (Pages 10, 29 and 33)
July 2009	Added language describing statutory Business District speed zoning. (Page 46)
July 2009	Revised the School Speed Zones section to describe removing existing school speed zones, including a Safe Route to School Plan and clarification of required approvals. (Page 51)
July 2009	Added definition of Low Volume Roadway. (Page 91)
June 2011	Added language concerning STE authority to extend or shorten existing speed zone up to 500 feet without a spot speed check. (Pages 2, 10 & 27)
June 2011	Added rescission language to Established Speed Zone section. (Page 5)
June 2011	Updated Determining Mileposts on State Highways section with correct name of database. (Page 5)
June 2011	Clarification of reports required for school speed zones within existing speed zones and within statutory speed areas, whether inside city limits or not. (Page 43)
June 2011	Updated School Speed Zone Record. (Page 45)
June 2011	Added Variable Speed Zones section. (Page 60)
June 2011	Updated mailing address for ODOT on Speed Zone Request Form. (Appendix A, Page 61)
June 2011	Added direction to contact local agency when making housekeeping change. (Page 73)
June 2011	Updated Speed Zoning OAR's (Pages 82 – 96)
June 2011	Added definitions of Computed Speed, Designated Speed, Free Flow Speed and Recommended Speed to Glossary. (Page 94)
January 2014	Added information concerning new statute under ORS 810.180(10). (Pages 1 and 44)
January 2014	Added reference to OAR 734-020-0018 (Page 1)
January 2014	Removed references to "unmarked map"
January 2014	Added language to Transmittal Letter information regarding if the Region determines investigation not warranted (Page 12)
January 2014	Added direction to See Appendix E for housekeeping procedures (Page 22)
January 2014	Added language concerning footnotes and jurisdictional breaks (Pages 22 and 80)
January 2014	Added direction under Listing Existing and Recommended Speeds (Page 23)
January 2014	Added language clarifying requirements when applying rule that an existing speed zone can be extended or shortened up to 500 feet without spot speed check (Page 26)
January 2014	Added direction when no speed is posted under Spot Speed Data (Page 33)
January 2014	Removed color pencil information in map directions (Page 36)
January 2014	Removed directions concerning non-digital photos (Page 38)

January 2014	Added language clarifying temporary and construction speed zones temporarily supersede any other orders (Pages 47 and 49)
January 2014	Updated link to Work Zone Speed Reduction Request Form (Page 48)
January 2014	Added OAR reference for Variable Speed Zones (Page 59)
January 2014	Added example of first page of report for housekeeping purposes in Appendix E (Page 74)
January 2014	Added reference to OAR 734-020-0019 to Appendix H exceptions (Page 81)
January 2014	Added OAR 734-020-0018 to Appendix H (Page 95)
January 2014	Added Variable Speed Zone to Glossary (Page 102)