OREGON DEPARTMENT OF TRANSPORTATION

SPEED ZONE MANUAL

ODOT Traffic-Roadway Section
July 2019
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). 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 XX):

- 15 mph – alleys; narrow residential roadways;
- 20 mph – business districts, school zones (and some residential);
- 25 mph – residential districts, public parks, ocean shores;
- 55 mph – most open rural highways, trucks on some interstate highways;
- 60 mph – trucks on some open rural highways, (OAR designates trucks on most interstates);
- 65 mph – passenger vehicles, light trucks, motor homes and light duty commercial vehicles on most interstate highways; some open rural highways; trucks on some interstate and open rural highways;
- 70 mph – passenger vehicles, light trucks, motor homes and light duty commercial vehicles on some interstates and open rural 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 XX.

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)).

In 2016, state statute ORS 811.111 was amended establishing higher speeds on specific sections of interstate and rural highways for both cars and trucks in the central and eastern parts of the state.

In 2017, the Oregon Transportation Commission approved amendments to OAR 734-020-0011, raising the speed for trucks on specific sections of interstate in the western part of the state.

In 2017, state statute ORS 810.180(11) was added allowing the City of Portland to lower statutory speeds for residence districts that are not arterials by five miles per hour.

In 2019, state statute ORS 810.180(11) was amended to allow any city to lower statutory speeds for residence districts that are not arterials by five miles per hour. ORS 810.180(12) was added to include to the residence district definition roadways that have access to dwellings provided by alleys.

In 2019, state statute ORS 811.111 was amended to have all speeds be limits.

In 2019, state statute ORS 811.105 was amended to allow a statutory residence district on roads outside of cities that are classified as collectors.
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). Links to 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. An existing designated speed zone may, at the discretion of the State Traffic-Roadway Engineer, be extended or shortened up to 500 feet without obtaining a spot speed check within that section.

3. The engineering study will consider factors such as:

   - **Free Flow speeds**
     Spot speed studies are used to determine the speed distributions of traffic at a specific location. The average and the 85th percentile speeds are determined as well as the pace limits (the ten mile per hour range that contains the most vehicles).

   - **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.

   - **Pedestrians and bicyclists**
     When determining the appropriate speed, pedestrians and bicyclists should be taken in to consideration. The type of facilities for non-motor traffic, such as sidewalks and separated cycling paths versus shoulder use, should be considered if there is consistent pedestrians or bicyclist 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 limited capacity and 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 according to the MUTCD.

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-Roadway 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 documented 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 submitted through the ODOT website: https://ecmnet.odot.state.or.us/SpeedZone/Home/RequestForm
(See Appendix A for screen shot of webpage). The request 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. 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.

When an agency conducts its own investigation, the information on the Speed Zone Request is part of the submittal to the State Traffic-Roadway Engineer for speed zone approval.

For rural state highways outside city limits, the request may be in the form of a letter or email. The request should contain at least the section of road to be investigated, the reason for the investigation and a recommended speed.

Cancellation of request – the investigation can only be cancelled by the original requestor/jurisdiction or the State Traffic-Roadway Engineer. Region Traffic must send justification to cancel the request to State Traffic-Roadway Engineer such as low volume or investigation completed recently.

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
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, headquarters Traffic office or online at https://ecmnet.odot.state.or.us/SpeedZone/Search/index

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 information obtained from the different sources can vary. The State Highway Inventory Reports provide milepoints of features related to the highway system. The milepoint information in the State Highway Inventory 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 the State Highway Inventory Reports are still the main choice, as many features surveyed in the field will have corresponding milepoints assigned to them in the State Highway Inventory Reports. The data in TransGIS 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 State Highway Inventory Summary Reports bridge milepoints for tying field work to State Highway Inventory 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 State Highway Inventory Reports, 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 the State Highway Reports at https://www.oregon.gov/odot/data/pages/road-assets-mileage.aspx. 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.
- Check available resources such as previous investigation’s map, Google maps or ODOT’s TransGIS for location information.
- A pdf of the electronic map is required with the report.

**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 or pull crash information from ODOT’s Crash Data System. These crash locations can be verified through TransGIS.
- 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 (this is not required to turn in with report but is helpful for completing the report or if the State Traffic-Roadway Engineer has questions that can't be verified through internet viewing sites):

   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.
     - curve advisory speed, noting:
       - if needed signing is in place, and
       - need for curve signing including ball bank tests or other accepted measures for advisory 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.) Google Streetview may be used in the office to verify or check before you travel to the site.

• 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. If high volume road and/or unsafe to take photos, you may use images from either Google Streetview or ODOT’s digital videolog. If either of these methods are used, make sure to state image capture date and note anything that has changed since those photos were taken.

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-Roadway Engineer, be extended or shortened up to 500 feet without obtaining a spot speed check within that section. An abbreviated “housekeeping” type report is required. Current photos of area are encouraged depending on reason for requesting extension or subtraction.

**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 cities), 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 an electronic copy of the speed check data with the report to the State Traffic-Roadway Engineer.
  ▪ Electronic data must be supported with a scanned electronic 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:
  • 85th 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 total 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-Roadway Engineer. All of the following is submitted with the Speed Zone Report to complete the report of investigation:

- Transmittal letter
- All correspondence
- Completed Speed Zone Reports
- Supporting data from the field investigation should remain in the Region’s electronic files, viewable for the Speed Zone Coordinator to access during review and to remain available for at least one year after complete. This includes any road/sign log, spot speed survey sheets, etc.

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 memo. The transmittal memo containing the recommendation must be signed by the Region Traffic Engineer or another supervising engineer. The Region Engineer submits recommendation based on engineering study but the State Traffic-Roadway Engineer may offer the jurisdiction a different speed if within his/her authority and documents reasoning.

If the investigated section of a highway includes a SPIS site, it can be stated within the transmittal letter and any planned safety projects should be mentioned.

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

CORRESPONDENCE

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

SUPPORTING DATA (see directions above)

- Raw data sheet for each Spot Speed check
- PRC crash data received from the Crash Analysis and Reporting Unit
- Milepoint log (sign/driveway log)
- Investigation notes of any unusual circumstances, conversations, time in the field, etc.
DATE:       June 20, 2018

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

FROM:       John Doe, P.E.
            Region Traffic Engineer

                       Jane Smith
            Sr. 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.
Recommendation: (Disposition of current speed zone orders and investigated sections)

Section:

<table>
<thead>
<tr>
<th>Investigated/Not Investigated</th>
<th>Existing</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
<td>From:</td>
<td>To:</td>
</tr>
<tr>
<td>From: Begin point by road or feature name w/ distance &amp; direction</td>
<td>MP (state hwy)</td>
<td>Posted speed (MPH)</td>
</tr>
<tr>
<td>To: End point by road or feature name w/ distance &amp; direction</td>
<td>MP (state hwy)</td>
<td>Posted speed (MPH)</td>
</tr>
</tbody>
</table>

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:

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

*Crashes per Million Vehicle Miles

Figure 2
### Roadway Data:

<table>
<thead>
<tr>
<th>Section/Part of Sec.</th>
<th>Surface type</th>
<th>Width Nearest ft.</th>
<th>Lanes #travel, note median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking (See description)</td>
<td>Shoulders (See description)</td>
<td>Intersecting Streets # Exclude ends</td>
<td>Paved # side streets</td>
</tr>
<tr>
<td>Stopped # side streets</td>
<td>Signalized # side streets</td>
<td>Bicycles / Pedestrians # peds / # bikes</td>
<td></td>
</tr>
</tbody>
</table>

### Crash Data:

<table>
<thead>
<tr>
<th>Study Period</th>
<th>Last 3 full yrs min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Crashes</td>
<td># for study period</td>
</tr>
<tr>
<td>Injuries</td>
<td># for study period</td>
</tr>
<tr>
<td>Fatalities</td>
<td># for study period</td>
</tr>
<tr>
<td>(Last full yr.) Crashes</td>
<td>#</td>
</tr>
<tr>
<td>(Last full yr.) Crash Rate (R) Acc./MVM</td>
<td>(Last full yr.)State Rate (r) From Rate Table</td>
</tr>
<tr>
<td>Deviation (R-r) R-r, if &lt;0, =0</td>
<td></td>
</tr>
</tbody>
</table>

### Spot Speed Data:

<table>
<thead>
<tr>
<th>85% Speed</th>
<th>Avg. for Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pace Limits 2/</td>
<td>Avg. for Section</td>
</tr>
<tr>
<td>% in Pace</td>
<td>Avg. for Section</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>High for Section</td>
</tr>
<tr>
<td>Posted Speed</td>
<td>List all for Section</td>
</tr>
<tr>
<td>% Exceeding Posted Speed</td>
<td>List Avg. %/Each posted speed</td>
</tr>
<tr>
<td>Computed Speed 3/</td>
<td>85% (local)/85%-(R-r) (State hwy.)</td>
</tr>
<tr>
<td>Recommended Speed</td>
<td>MPH</td>
</tr>
</tbody>
</table>

---

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
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:

<table>
<thead>
<tr>
<th>Section</th>
<th>Investigated</th>
<th>Not Investigated</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>From: 100’ N of George Road MP 9.98</td>
<td>From: 100’ N of Birch Street MP 10.46</td>
</tr>
<tr>
<td></td>
<td>To: Arborvitae Lane MP 10.20</td>
<td>To: Dunne Street MP 11.40</td>
</tr>
<tr>
<td></td>
<td>MP 9.98 45 MPH</td>
<td>MP 10.46 30 MPH</td>
</tr>
<tr>
<td>A</td>
<td>From: Arborvitae Lane MP 10.20</td>
<td>From: Dunne Street MP 11.40</td>
</tr>
<tr>
<td></td>
<td>To: 100’ N of Birch Street MP 10.46</td>
<td>To: 350 feet south of Dunne Street MP 11.46</td>
</tr>
<tr>
<td></td>
<td>MP 10.20 45 MPH</td>
<td>MP 10.20 30 MPH</td>
</tr>
<tr>
<td></td>
<td>45 MPH 2/</td>
<td>30 MPH 3/ 1/</td>
</tr>
<tr>
<td>B</td>
<td>From: 100’ N of Birch Street MP 10.46</td>
<td>From: 100’ N of Birch Street MP 10.46</td>
</tr>
<tr>
<td></td>
<td>To: Dunne Street MP 11.40</td>
<td>To: 350 feet south of Dunne Street MP 11.46</td>
</tr>
<tr>
<td></td>
<td>MP 10.46 30 MPH</td>
<td>MP 11.46 30 MPH</td>
</tr>
<tr>
<td></td>
<td>30 MPH 2/</td>
<td>2/</td>
</tr>
<tr>
<td>C</td>
<td>From: 350 feet south of Dunne Street MP 11.46</td>
<td>From: 0.12 mile south of Dunne Street MP 11.52</td>
</tr>
<tr>
<td></td>
<td>To: 0.12 mile south of Dunne Street MP 11.52</td>
<td>To: 0.12 mile south of Irwin Road MP 11.52</td>
</tr>
<tr>
<td></td>
<td>MP 11.46 45 MPH</td>
<td>MP 11.52 45 MPH</td>
</tr>
<tr>
<td></td>
<td>45 MPH 2/</td>
<td>2/</td>
</tr>
<tr>
<td>C</td>
<td>From: 0.12 mile south of Dunne Street MP 11.52</td>
<td>From: 0.12 mile south of Irwin Road MP 12.44</td>
</tr>
<tr>
<td></td>
<td>To: 0.32 mile south of Irwin Road MP 12.44</td>
<td>To: 0.32 mile south of Irwin Road MP 11.52</td>
</tr>
<tr>
<td></td>
<td>MP 11.52 45 MPH</td>
<td>MP 12.44 45 MPH</td>
</tr>
<tr>
<td></td>
<td>45 MPH 3/</td>
<td>45 MPH 3/</td>
</tr>
<tr>
<td>C</td>
<td>From: 0.32 mile south of Irwin Road MP 12.44</td>
<td>From: 0.32 mile south of Irwin Road MP 12.44</td>
</tr>
<tr>
<td></td>
<td>To: 400’ S of eastbound I-84 on-ramp MP 2C12.73</td>
<td>To: 400’ S of eastbound I-84 on-ramp MP 2C12.73</td>
</tr>
<tr>
<td></td>
<td>MP 12.44 45 MPH</td>
<td>MP 12.44 45 MPH</td>
</tr>
<tr>
<td></td>
<td>45 MPH 2/</td>
<td>2/</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Section A</th>
<th>Section B&amp;C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigated</td>
<td>Not Investigated</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Section Length</td>
<td>0.48 mile</td>
</tr>
<tr>
<td>85% Speed</td>
<td>52 MPH</td>
</tr>
<tr>
<td>2012 Crash Rate*</td>
<td>0.92</td>
</tr>
<tr>
<td>2012 Average Daily Traffic</td>
<td>12,400</td>
</tr>
<tr>
<td>Culture Type and Density</td>
<td>Sparse Residential / Business</td>
</tr>
<tr>
<td>Horizontal Alignment</td>
<td>Tangent</td>
</tr>
<tr>
<td>Vertical Alignment</td>
<td>Level</td>
</tr>
<tr>
<td>Curve Signs &amp; Speed Riders</td>
<td>None</td>
</tr>
<tr>
<td>Existing Posted Speed</td>
<td>45 MPH</td>
</tr>
<tr>
<td>Recommended Speed</td>
<td>45 MPH</td>
</tr>
</tbody>
</table>

*Crashes per Million Vehicle Miles

Roadway Data:

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

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:

<table>
<thead>
<tr>
<th>Section</th>
<th>Speed Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Investigated</td>
</tr>
<tr>
<td>B&amp;C</td>
<td>Not Investigated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speed Parameter</th>
<th>Section A</th>
<th>Section B&amp;C</th>
</tr>
</thead>
<tbody>
<tr>
<td>85% Speed</td>
<td>52 MPH</td>
<td></td>
</tr>
<tr>
<td>Pace Limits 2/</td>
<td>41-50 MPH</td>
<td></td>
</tr>
<tr>
<td>% in Pace</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>61 MPH</td>
<td></td>
</tr>
<tr>
<td>Posted Speed</td>
<td>45 MPH</td>
<td></td>
</tr>
<tr>
<td>% Exceeding Posted Speed</td>
<td>59%</td>
<td></td>
</tr>
<tr>
<td>Computed Speed 3/</td>
<td>52 MPH</td>
<td></td>
</tr>
<tr>
<td>Recommended Speed</td>
<td>45 MPH</td>
<td></td>
</tr>
</tbody>
</table>

---

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

**Factors Influencing Recommendation:**

85\textsuperscript{th} 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:

<table>
<thead>
<tr>
<th>ROAD CATEGORY</th>
<th>Line 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>City street or State highway in the city</td>
<td>City of XX</td>
</tr>
<tr>
<td>State highway outside city</td>
<td>ODOT</td>
</tr>
<tr>
<td>State highway in &amp; out of city</td>
<td>City of XX &amp; ODOT</td>
</tr>
<tr>
<td>County road in county</td>
<td>XX County</td>
</tr>
<tr>
<td>Road in city and county</td>
<td>City of XX &amp; XX County</td>
</tr>
<tr>
<td>Interested jurisdictions</td>
<td>RoadAuthority1/RoadAuthority2</td>
</tr>
</tbody>
</table>

**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 Order¹ 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 Order¹ 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.*

d) “Rescind Order¹ No. XXXX, dated XXX and establish the following speed zoning. Recommendation to establish a new order is for housekeeping purposes.”  
   *Use this wording when the changes are housekeeping items and the speed zoning is to remain the same. 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.*

e) “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.

**Example for Couplet**

<table>
<thead>
<tr>
<th>Section</th>
<th>One way eastbound</th>
<th>MP</th>
<th>Existing</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>West Park Street / East Park Street</td>
<td>0.00</td>
<td>30 MPH</td>
<td>30 MPH 2/3</td>
</tr>
<tr>
<td></td>
<td>From: 150 feet west of Maple Lane</td>
<td>0.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>East Park Street</td>
<td>0.00</td>
<td>35 MPH</td>
<td>35 MPH 2/3</td>
</tr>
<tr>
<td></td>
<td>From: 150 feet west of Maple Lane</td>
<td>0.35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example for Frontage Road or State Highway Connection

On Old Stage Frontage Road/Pacific Hwy. (I-5_ (AKA Old Stage Road) Conn. 001CA

From: Gold Hill Spur (OR 99/OR 234) (Pacific Hwy. I-5 SB on & off ramps) MP 40.86
To: Frontage Road Connection (001CB) MP 43.12

Example for ‘Z’ mileage (see Glossary for definition)

If a speed zone includes a section of highway that includes ‘Z’ mileage, this is the only time there should be a letter in front of the MP such as 0.22 mile north of Lake Boulevard, MP Z48.94.

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.
• When there is a milepoint equation within the investigated section, do not use reference point that is after the equation. Reference point should be prior to equation for less confusion.

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. (If Basic Rule 55 mph not posted, list as such.)
• 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.
### Outline of Section Description Format

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

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

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**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 beginning 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 (email) 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 not-investigated 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-Roadway 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, this should be provided on the request form but if not or if it appears to be incorrect, 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
Sparse
Light
Moderate
Heavy

Culture Type
Rural - mostly agricultural or open undeveloped land (density not required when listing rural).
Residential - mainly land used for dwellings, parks, etc.
Business - mainly buildings used for commercial or professional business.
Industrial - industry and heavy truck traffic.
Expressway – access controlled in urban area.

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.

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

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 of the State Highway Crash Rate Tables. 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:**

Since these may be printed, 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).

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.

<table>
<thead>
<tr>
<th>MPH</th>
<th>COLOR</th>
<th>MICROSTATION COLOR NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Green</td>
<td>2 or 35</td>
</tr>
<tr>
<td>25</td>
<td>Sky Blue</td>
<td>7 or 242</td>
</tr>
<tr>
<td>30</td>
<td>Sienna Brown</td>
<td>6 or 92</td>
</tr>
<tr>
<td>35</td>
<td>Carmine Red</td>
<td>3 or 155</td>
</tr>
<tr>
<td>40</td>
<td>Violet</td>
<td>5 or 197</td>
</tr>
<tr>
<td>45</td>
<td>Olive Green</td>
<td>39 or 81</td>
</tr>
<tr>
<td>50</td>
<td>Indigo Blue</td>
<td>14 or 52</td>
</tr>
<tr>
<td>55</td>
<td>Orange</td>
<td>24</td>
</tr>
<tr>
<td>60</td>
<td>Yellow</td>
<td>43</td>
</tr>
<tr>
<td>65</td>
<td>Bright Pink</td>
<td>59</td>
</tr>
<tr>
<td>70</td>
<td>Dark Grey</td>
<td>134</td>
</tr>
</tbody>
</table>

* Suggested color numbers from Bentley Microstation software (using the color chart version that is attached to ODOT’s GIS system maps).
Figure 5
PHOTOGRAPH PAGE(S)

The photograph page shows:

- highway or roadway name,
- jurisdiction,
- date (either date of photo taken or capture date if obtained from DVL or other),
- 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.

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 Page for 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.
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-Roadway Engineer. This same process is followed when requesting to extend or shorten an existing school speed zone listed on an existing speed zone order. 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-Roadway 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.
The Region Traffic Engineer under delegated authority from the State Traffic-Roadway 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:

<table>
<thead>
<tr>
<th>From (Description)</th>
<th>MP</th>
<th>To (Description)</th>
<th>MP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 (and some residential);
- 25 mph – residential districts, public parks, ocean shores;
- 55 mph – most open rural highways, trucks on some interstate highways;
- 60 mph – trucks on some open rural highways, (OAR designates trucks on most interstates);
- 65 mph – passenger vehicles, light trucks, motor homes and light duty commercial vehicles on most interstate highways; some open rural highways; trucks on some interstate and open rural highways;
- 70 mph - passenger vehicles, light trucks, motor homes and light duty commercial vehicles on some interstates and open rural 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.

In 2017, the Oregon Legislature approved that the City of Portland may establish by ordinance a designated speed for a roadway under their jurisdiction 5 mph lower than the statutory speed (see ORS 810.180(11)). Certain criteria must be met: (1) the roadway is located in a residence district and (2) the roadway is not an arterial roadway. In 2019, the Oregon Legislature approved that any city may follow the above.

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:

Residence districts within an incorporated city (except state highways):

- 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-Roadway Engineer requesting that ODOT rescind the order so the roadway can operate under a statutory speed.

Residence districts outside of an incorporated city (except state highways):

- 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-Roadway Engineer requesting that ODOT rescind the order so the roadway can operate under a statutory speed.

Residence districts on state highways:

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-Roadway 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 percenttile 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-Roadway 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-Roadway Engineer for temporary speed zoning. An abbreviated report through Historical Background, similar to a Housekeeping type report, should be included.

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/TRAFFICROADWAY/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.
OTHER TEMPORARY SPEED ZONES ON STATE HIGHWAYS

Temporary speed zones may be established on state highways if existent conditions constitute a temporary hazard to the public traveling over such sections of highway or if it is considered necessary to protect any portion of the highway from being unduly damaged. Temporary speed zones must be approved by the State Traffic-Roadway Engineer. Examples are bridge deck issues, road slide areas, high crash area with impending safety project such as a roundabout scheduled.

An abbreviated report through Historical Background should be submitted including the following:

Recommendation with an explanation of how the recommendation was determined.

Requested date of expiration for the order (Emergency speed zone orders can only be established for 120 days). This must be specified time that corresponds with the hazard, damage or other condition specified.

Map showing the location.

Any additional information such as photos/aerials of area.

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-Roadway 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-Roadway 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-Roadway 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)
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-Roadway 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-Roadway 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-Roadway 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
April 30, 2012

State Traffic-Roadway 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
Recommendation: Establish the following speed zoning:

<table>
<thead>
<tr>
<th>Investigated</th>
<th>Existing</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>From: Douglas Road</td>
<td>MP 55 MPH</td>
<td>MP 45 MPH</td>
</tr>
<tr>
<td>To: Grove Road</td>
<td>MP</td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Section</th>
<th>Existing Investigated</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>From: Douglas Road MP</td>
<td>55 MPH</td>
</tr>
<tr>
<td>To:</td>
<td>Grove Road MP</td>
<td>45 MPH</td>
</tr>
<tr>
<td>B</td>
<td>From: Grove Road MP</td>
<td>55 MPH</td>
</tr>
<tr>
<td>To:</td>
<td>Juniper Road MP</td>
<td>35 MPH</td>
</tr>
</tbody>
</table>

**Investigation:**

- 85% Speed: 47 MPH, 36 MPH
- Section Length: 0.31 mile, 0.38 mile

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

<table>
<thead>
<tr>
<th></th>
<th>Section A</th>
<th>Section B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal Alignment</td>
<td>0 curves</td>
<td>2 curves</td>
</tr>
<tr>
<td>Vertical Alignment</td>
<td>Level</td>
<td>Level</td>
</tr>
<tr>
<td>Curve Signs &amp; Speed Riders</td>
<td>None</td>
<td>None 1/</td>
</tr>
<tr>
<td>Surface</td>
<td>Bituminous</td>
<td>Bituminous</td>
</tr>
<tr>
<td>Width</td>
<td>22 feet</td>
<td>22 feet</td>
</tr>
<tr>
<td>Lanes</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Shoulders</td>
<td>1-2’ gravel</td>
<td>1-2’ gravel</td>
</tr>
<tr>
<td>Intersecting Streets</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

*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:*

<table>
<thead>
<tr>
<th>Study Period</th>
<th>Total Crashes</th>
<th>Injuries</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2009 - 12/31/2011</td>
<td>2</td>
<td>1</td>
<td>0</td>
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<tr>
<td>01/01/2009 - 12/31/2011</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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

*Optional*  

**Figure 12**
EXISTING SPEED
SECTION A - 55 MPH

RECOMMENDED SPEED
SECTION A - 45 MPH

Figure 13
Figure 14

EXISTING SPEED
SECTION A - 55 MPH
SECTION B - 55 MPH

RECOMMENDED SPEED
SECTION A - 45 MPH
SECTION B - 35 MPH
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-Roadway 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-Roadway 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

For both local roadways and state highways, all emergency speed zones temporarily supersede any permanent designated speed zone or statutory speed for the specified time that the order states.
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.

The Department may establish variable speed zones on a section of interstate highway, rural state highway or state highways inside city limits, city streets, county roads and any other rural public roads except unpaved public roads. This must be based on an engineering study of the characteristics such as congestion, road conditions, reduced visibility or weather conditions. For city streets, county roads or any other rural public road, the road authority must make a recommendation to the State Traffic-Roadway Engineer, which would include all that is listed below for listed types of roadways.

For each section of interstate highway, rural state highway or state highway inside city limits under consideration, the Department will prepare an engineering study that will include all of the following:

- The Maximum speed.
- 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.
- Law enforcement consultation and input.
- 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).
- Type and frequency of adverse road conditions, including weather, environment, and visibility.
- Locations of each sign and the boundaries of each variable speed segment listed by description and milepoint (if state highway).

The Department will prepare a written analysis and recommendation of the boundaries and algorithms for the variable speed zone. The Oregon Statewide Variable Speed System Concept of Operations meets this requirement for detailing the algorithms on all state highways. If a different system is to be used, the recommendation will include:

- Set of algorithms,
- The speed change intervals,
- The means, responsibilities and procedures for changing posted speed and
- The means, responsibilities and procedures for keeping the speed change records.
- If appropriate, the Department will institute rulemaking to make changes to the interstate speed designations which are included in OAR 734-020-0019.

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-Roadway 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 B: Crash Data Request Information

The following crash data products are available on-line or by contacting:

Crash Analysis and Reporting (CAR) Unit
ODOT Mill Creek Office
555 13th Street NE
Salem, Oregon 97301

Email request to Crash Reporting Group:
ODOT TDS Crash Request Group

TDS Data Portal - on-line reporting
http://transnet.odot.state.or.us/tdd/tdata/Shared%20Documents/TDS_Data_Portal.aspx

Comprehensive PRC (CDS380): This is the original crash listing, but now as many type of reports exist it is called the Comprehensive PRC (CDS380) as it gives all the crash information. Included with the PRC is a summary of code definitions used in the PRC. You will receive information on crash location, including lat-long, date, type of crash, event, cause, errors, road characteristic's, vehicle type, vehicle direction of travel, alcohol or drug involvement: also participant types, ages, gender, license and injury severity.

3R or Crash Characteristics Summary: This is a summary report on single crash characteristics. It reports on several characteristics of each crash within the designated year range and highway and milepoint ranges requested.

Summary by Year (CDS 150): This report gives a crash count by year and collision type. It includes crash severity, number injured or killed, truck involved, road surface, day, dark, intersection or intersection-related, and off road.

Other Summary Reports: Through requests to the CAR Unit there are several other summary reports available that break down data by different fields. Contact the office for more information on these reports.

VDL Vehicle Direction: Report lists crashes by highway and milepoint. Date, time, road character, off road, collision type, injury severities, vehicle types, and direction of travel for up to three vehicles.

Decode DB and Data Extracts: Available for download with supporting files.

Spatial Crash Data: Access TransGIS - http://gisintra.odot.state.or.us/TransGIS/

Collision Diagrams: Crash Magic is the tool now used for diagrams. Please contact CAR Unit Manager if interested in more information on access to this application.

Other Reports or Data Requests: Contact the CAR Unit for assistance.
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
Email: ODOTTDDCrashRequestGroup@odot.state.or.us

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 ___________/_______________

Figure 15
<table>
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<th>Collision Type</th>
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<th>2008</th>
<th>Total</th>
<th>2007</th>
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</table>

Figure 16

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<td>Fixed Object</td>
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<tr>
<td>All Collisions</td>
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<td>1</td>
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</tbody>
</table>
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-Roadway 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 (not required, see NOTE below):

- 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. These instructions were created before Google Streetview existed and there was no way to capture this information with just taking photos. Check Google Streetview before leaving the office to see if anything has changed since image capture date. If conditions are the same, you may use Google Streetview or similar tools to assist filling out the report.
**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 of 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.
- If high volume of traffic and it is unsafe to take photos, you may use online street-level imagery such as Google Streetview, Bing Maps or ODOT’s videolog. Make sure to list on the photo page if use other source.

**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, provide a link to your working files:

- Correspondence
- 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-Roadway Section
SPOT SPEED SURVEY

City: _______________________ Route: ___________________ Hwy #: _______ MP: _________
Date: ____________________ Day: _____________________ Time: ______________________
Weather: ___________________ Sign Speed: ___________ Observer: ______________________

Location Description: _______________________________________________________________

Remarks: __________________________________________________________________________
__________________________________________________________________________________
Bicycles:_________________________________ Pedestrians______________________________

<table>
<thead>
<tr>
<th>MPH</th>
<th>Passenger Cars</th>
<th>Trucks</th>
<th>Bus</th>
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<tbody>
<tr>
<td></td>
<td>Bound Tot. %</td>
<td>Bound Tot. %</td>
<td>Bound Tot. %</td>
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<td>70+</td>
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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
Central Oregon & Pacific RXR overcrossing MP 17.76
Weather: Overcast
Direction of Travel: Combined

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<th>MPH</th>
<th>N</th>
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<td># of Vehicles</td>
<td>82</td>
<td>165</td>
<td>83</td>
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<td>85th % Speed</td>
<td>48</td>
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<tr>
<td>Pace Limits</td>
<td>40 - 49</td>
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<td>% In Pace</td>
<td>80%</td>
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<td>% Exceeding Posted</td>
<td>39%</td>
<td>35%</td>
<td>31%</td>
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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.
- Jurisdictional transfer.
- Minor adjustment – An existing designated speed zone may, at the discretion of the State Traffic-Roadway Engineer, be extended or shortened up to 500 feet without obtaining a spot speed check within that section (OAR 734-020-0015(2)(f)).

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). 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-Roadway 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

| From: Crater Lake Avenue (Crater Lake Hwy. No. 22) | 45 mph | 45 mph |
| To: 300 feet west of Springbrook Road |

| From: 300 feet west of Springbrook Road | 45 mph | 45 mph |
| To: Foothills Road |

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.
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<td>Cheshire</td>
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<tr>
<td>Crow</td>
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<tr>
<td></td>
<td>Malheur County</td>
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<tr>
<td>Culp Creek</td>
<td>Annex</td>
<td>Buena Vista</td>
<td></td>
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<tr>
<td>Cushman</td>
<td>Arock</td>
<td>Derry</td>
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<td>Deadwood</td>
<td>Brogan</td>
<td>Eola</td>
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<tr>
<td>Dexter</td>
<td>Burns Junction</td>
<td>Fort Hill</td>
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<tr>
<td>Dorena</td>
<td>Cairo Junction</td>
<td>Grand Ronde</td>
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<tr>
<td>Elmira</td>
<td>Farewell Bend</td>
<td>Lincoln</td>
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<tr>
<td>Fall Creek</td>
<td>Harper</td>
<td>McCoy</td>
<td></td>
</tr>
<tr>
<td>Franklin</td>
<td>Ironside</td>
<td>Pedee</td>
<td></td>
</tr>
<tr>
<td>Glenda</td>
<td>Jamieson</td>
<td>Perrydale</td>
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<tr>
<td>Goshen</td>
<td>Johnson Brothers</td>
<td>Rickreall</td>
<td></td>
</tr>
<tr>
<td>Greenleaf</td>
<td>Junutra</td>
<td>Suver</td>
<td></td>
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<tr>
<td>Jasper</td>
<td>McDermitt</td>
<td>Suver Junction</td>
<td></td>
</tr>
<tr>
<td>Lancaster</td>
<td>Oregon Slope</td>
<td>Valley Junction</td>
<td></td>
</tr>
<tr>
<td>Leaburg</td>
<td>Owyhee Corner</td>
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<td>London</td>
<td>Rome</td>
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<td>Lorane</td>
<td>Weiser Junction</td>
<td>Biggs Junction</td>
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<td>Mapleton</td>
<td>Willowcreek</td>
<td>Kent</td>
<td></td>
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<tr>
<td>Marcola</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>McKenzie Bridge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marion County</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nimrod</td>
<td>Brooks</td>
<td>Barview</td>
<td></td>
</tr>
<tr>
<td>Noti</td>
<td>Brooks Interchange</td>
<td>Beaver</td>
<td></td>
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<tr>
<td>Pleasant Hill</td>
<td>Butteville</td>
<td>Cape Meares</td>
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<tr>
<td>Rainbow</td>
<td>Central Howell</td>
<td>Cloverdale</td>
<td></td>
</tr>
<tr>
<td>Saginaw</td>
<td>Drakes Crossing</td>
<td>Falcon Cove</td>
<td></td>
</tr>
<tr>
<td>Swisshome</td>
<td>Fargo Interchange</td>
<td>Hebo</td>
<td></td>
</tr>
<tr>
<td>Trent</td>
<td>Hopmire</td>
<td>Idaville</td>
<td></td>
</tr>
<tr>
<td>Triangle Lake</td>
<td>Labish Village</td>
<td>Mohler</td>
<td></td>
</tr>
<tr>
<td>Vida</td>
<td>Lone Pine</td>
<td>Neahkahnie</td>
<td></td>
</tr>
<tr>
<td>Walterville</td>
<td>Macleay</td>
<td>Neskowin</td>
<td></td>
</tr>
<tr>
<td>Walton</td>
<td>Marion</td>
<td>Netarts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mehama</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tillamook County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triangl</td>
<td>Monitor</td>
<td>Pacific City/Woods</td>
<td></td>
</tr>
<tr>
<td>Lincoln County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverly Beach</td>
<td>North Howell</td>
<td>Syskeyville</td>
<td></td>
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<tr>
<td>Burnt Woods</td>
<td>North Santiam</td>
<td>Tierra Del Mar</td>
<td></td>
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<tr>
<td>Eddyville</td>
<td>Norton’s Corner</td>
<td>Twin Rocks</td>
<td></td>
</tr>
<tr>
<td>Elk City</td>
<td>Pratum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harlan</td>
<td>Quinaby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kernville</td>
<td>Shaw</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>From:</th>
<th>Existing</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cove Highway</td>
<td>35 mph</td>
<td>30 mph 1/</td>
</tr>
<tr>
<td>Antler Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antler Road</td>
<td>45 mph</td>
<td>30 mph 2/</td>
</tr>
<tr>
<td>100 feet west of Tick Creek</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>From:</th>
<th>Existing</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cove Highway</td>
<td>35 mph</td>
<td>30 mph 1/ 2/</td>
</tr>
<tr>
<td>Antler Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antler Road</td>
<td>45 mph</td>
<td>30 mph 3/</td>
</tr>
<tr>
<td>100 feet west of Tick Creek</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>From:</th>
<th>Existing</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cove Highway</td>
<td>35 mph</td>
<td>30 mph 1/ 2/</td>
</tr>
<tr>
<td>Antler Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antler Road</td>
<td>35 mph</td>
<td>30 mph 3/ 2/</td>
</tr>
<tr>
<td>Coleman Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 feet west of Tick Creek</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th></th>
<th>From:</th>
<th>Existing</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Arlene Avenue</td>
<td>35 mph</td>
<td>30 mph 1/</td>
</tr>
<tr>
<td></td>
<td>100 feet east of Hunter Avenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>100 feet east of Hunter Avenue</td>
<td>45 mph</td>
<td>40 mph 1/</td>
</tr>
<tr>
<td></td>
<td>Brewster Avenue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th></th>
<th>From:</th>
<th>Existing</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Blizzard Creek Road</td>
<td>55 mph</td>
<td>50 mph 1/</td>
</tr>
<tr>
<td></td>
<td>100 feet west of Arlene Avenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>100 feet west of Arlene Avenue</td>
<td>35 mph</td>
<td>30 mph 2/</td>
</tr>
<tr>
<td></td>
<td>100 feet east of Hunter Avenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>100 feet east of Hunter Avenue</td>
<td>45 mph</td>
<td>40 mph 2/</td>
</tr>
<tr>
<td></td>
<td>Brewster Avenue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)


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.

**Milepoint Equation**  Where a project has reduced mileage such as straightening a curve and mileage is reduced.

**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 Road Inventory & Classification Services Unit, ODOT. The state milepoint log doesn't include traffic control or all road features. The current version is available through the State Highway Inventory Reports.

**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-Roadway 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)

**Z Mileage** Where a project has lengthened the road in the middle due to realignment, Z-mileage is created.
<table>
<thead>
<tr>
<th>Revision Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2009</td>
<td>Corrected language to make it clear that one spot speed check is necessary for each existing posted speed. (Pages 9 and 24)</td>
</tr>
<tr>
<td>July 2009</td>
<td>Changed the directions for tallying pedestrians and cyclists. (Page 11)</td>
</tr>
<tr>
<td>July 2009</td>
<td>Added a Recommendation choice for retaining statutory speed zoning. (Page 22)</td>
</tr>
<tr>
<td>July 2009</td>
<td>Added direction to explain on the report when housekeeping-only changes are made. (Pages 22 and 24)</td>
</tr>
<tr>
<td>July 2009</td>
<td>Under the description of &quot;Crash Data&quot;, removed &quot;new pavement&quot; 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)</td>
</tr>
<tr>
<td>July 2009</td>
<td>Clarified the language to use when there is no posted speed. (Pages 10, 29 and 33)</td>
</tr>
<tr>
<td>July 2009</td>
<td>Added language describing statutory Business District speed zoning. (Page 46)</td>
</tr>
<tr>
<td>July 2009</td>
<td>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)</td>
</tr>
<tr>
<td>July 2009</td>
<td>Added definition of Low Volume Roadway. (Page 91)</td>
</tr>
<tr>
<td>June 2011</td>
<td>Added language concerning STE authority to extend or shorten existing speed zone up to 500 feet without a spot speed check. (Pages 2, 10 &amp; 27)</td>
</tr>
<tr>
<td>June 2011</td>
<td>Added rescission language to Established Speed Zone section. (Page 5)</td>
</tr>
<tr>
<td>June 2011</td>
<td>Updated Determining Mileposts on State Highways section with correct name of database. (Page 5)</td>
</tr>
<tr>
<td>June 2011</td>
<td>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)</td>
</tr>
<tr>
<td>June 2011</td>
<td>Updated School Speed Zone Record. (Page 45)</td>
</tr>
<tr>
<td>June 2011</td>
<td>Added Variable Speed Zones section. (Page 60)</td>
</tr>
<tr>
<td>June 2011</td>
<td>Updated mailing address for ODOT on Speed Zone Request Form. (Appendix A, Page 61)</td>
</tr>
<tr>
<td>June 2011</td>
<td>Added direction to contact local agency when making housekeeping change. (Page 73)</td>
</tr>
<tr>
<td>June 2011</td>
<td>Updated Speed Zoning OAR’s (Pages 82 – 96)</td>
</tr>
<tr>
<td>June 2011</td>
<td>Added definitions of Computed Speed, Designated Speed, Free Flow Speed and Recommended Speed to Glossary. (Page 94)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added information concerning new statute under ORS 810.180(10). (Pages 1 and 44)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added reference to OAR 734-020-0018 (Page 1)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Removed references to “unmarked map”</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added language to Transmittal Letter information regarding if the Region determines investigation not warranted (Page 12)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added direction to See Appendix E for housekeeping procedures (Page 22)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added language concerning footnotes and jurisdictional breaks (Pages 22 and 80)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added direction under Listing Existing and Recommended Speeds (Page 23)</td>
</tr>
<tr>
<td>January 2014</td>
<td>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)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added direction when no speed is posted under Spot Speed Data (Page 33)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Removed color pencil information in map directions (Page 36)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Removed directions concerning non-digital photos (Page 36)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added language clarifying temporary and construction speed zones temporarily supersede any other orders (Pages 47 and 49)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Updated link to Work Zone Speed Reduction Request Form (Page 48)</td>
</tr>
<tr>
<td>Date</td>
<td>Update</td>
</tr>
<tr>
<td>------------</td>
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<tr>
<td>January 2014</td>
<td>Added OAR reference for Variable Speed Zones (Page 59)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added example of first page of report for housekeeping purposes in Appendix E (Page 74)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added reference to OAR 734-020-0019 to Appendix H exceptions (Page 81)</td>
</tr>
<tr>
<td>January 2014</td>
<td>Added OAR 734-020-0018 to Appendix H (Page 95)</td>
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<tr>
<td>January 2014</td>
<td>Added Variable Speed Zone to Glossary (Page 102)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated Statutory Speed descriptions (Page 1)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Added information concerning amended and new statute under ORS 810.180(11 &amp; 12). (Page 1)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated Speed Zoning Guidelines (Page 2)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated Preliminary Requirements (Page 4)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Added link to current speed zone orders &amp; investigation reports online (Page 6)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated information for determining mileposts on state highways (Page 6)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated information for current map and crash data (Page 7)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated information for Field Investigation, Photographs, Spot Speed Checks (Pages 8, 9, 10)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated Speed Zone Report Submittal requirements &amp; supporting data (Page 14)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Added information concerning the STRE may offer different speed under authority and documenting reasoning (Page 14)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated report recommendation wording for housekeeping type reports (Page 23)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Added section description examples for couplet, frontage road, state highway connection and Z mileage (Page 25)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Added milepoint equation information (Page 26)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Added information concerning ADT's on local roads (Page 29)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated Culture &amp; Density descriptions (Page 30)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Removed direction to only color the boxes on map legend that correspond to the speeds listed as Existing and Recommended (Page 39)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Added map color options for 60, 65 and 70 mph (Page 39)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Replaced Map Example (Page 40)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated Photograph page information (Page 41)</td>
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<tr>
<td>July 2019</td>
<td>Added clarification for extending or shortening a school speed zone (Page 44)</td>
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<tr>
<td>July 2019</td>
<td>Updated information concerning Statutory Speeds (Page 47)</td>
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<tr>
<td>July 2019</td>
<td>Added information concerning amended statute under ORS 810.180 (11). (Page 47)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Direction to submit housekeeping type report for temporary speed zones (Page 50)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Added Other Temporary Speed Zones on State Highways information (Page 52)</td>
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<tr>
<td>July 2019</td>
<td>Updated information on Variable Speed Zones (Page 62)</td>
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<tr>
<td>July 2019</td>
<td>Updated Appendix A, example of request form (Page 64)</td>
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<tr>
<td>July 2019</td>
<td>Updated Appendix B, Crash Data Request Information (Page 65)</td>
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<tr>
<td>July 2019</td>
<td>Updated Speed Zone Field Investigation Checklist (Page 68, 69)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Updated Appendix E, Procedure for Housekeeping Changes (Page 74)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Removed OAR text and replaced with links to find on the web (Page 82)</td>
</tr>
<tr>
<td>July 2019</td>
<td>Glossary, added Milepoint Equation and Z Mileage, updated Milepost Log (Page 84)</td>
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