

OREGON TRAFFIC CONTROL DEVICES COMMITTEE

Meeting Agenda

January 18, 2019

[ODOT TLC Bldg.](#), Alsea Conf. Room,
4040 Fairview Industrial Dr., Salem

9:00 – 9:10	Welcome / Building Orientation / Introductions / Approve Previous Minutes	Pam O'Brien
9:10 – 9:15	Business from the Audience <i>Public Comment on Non-Agenda Topics</i>	Pam O'Brien
9:15 – 9:45	2019 Signal Policy & Guidelines Update <i>Information</i>	Julie Kentosh
9:45 – 10:00	Update on Proposed Developments for New Speed Setting Process <i>Information / Discussion</i>	Mike Kimlinger / Doug Bish
10:00 – 10:30	NCUTCD Update including MUTCD <i>Information</i>	Mike Kimlinger/Eric Leaming
10:30 – 10:40	BREAK	
10:40 – 11:10	Legislative Update <i>Information / Discussion</i>	Eric Leaming
11:10 – 11:25	Roundtable <i>Local Jurisdiction Issues - Discussion</i>	All Committee Members
11:25 – 11:30	Not-on-Agenda Items	Pam O'Brien
11:30 – 11:35	Agenda Items for Future Meetings	Pam O'Brien

2019 OTCDC Meeting Schedule

<i>Date</i>	<i>Location</i>
January 18	ODOT TLC Bldg., Alsea Conf. Rm., 4040 Fairview Ind. Dr., Salem
March 15	ODOT TLC Bldg., Alsea Conf. Rm., 4040 Fairview Ind. Dr., Salem
May 17	Possibly w/ITE, TBD
July 19	ODOT TLC Bldg., Alsea Conf. Rm., 4040 Fairview Ind. Dr., Salem
September 20	ODOT TLC Bldg., Alsea Conf. Rm., 4040 Fairview Ind. Dr., Salem
November 15	ODOT TLC Bldg., Alsea Conf. Rm., 4040 Fairview Ind. Dr., Salem

Oregon Traffic Control Devices Committee

[November 16, 2018](#)

Meeting Minutes

[ODOT TLC Bldg.](#), Alsea Conference Room
4040 Fairview Industrial Drive, Salem

Members Present: [Janet Hruby](#), City of Bend; [Joseph Marek](#), Vice-Chair, Clackamas County; [Mike Kimlinger](#), Secretary, ODOT State Traffic-Roadway Engineer; [Darrin Lane](#), Linn County; [Karl MacNair](#), City of Medford; Eric Niemeyer for [Brian Barnett](#), Chair, City of Springfield; [Pam O'Brien](#), DKS Associates; [Jeff Wise](#), ODOT Region 5; [Tristan Wood](#), Columbia County

Members Absent: [Brian Barnett](#), Chair, City of Springfield; [Patrick Huskey](#), OSP

Others Present: Fahad Alhajri, Frank Belleque, Doug Bish, Scott Cramer, Kevin Haas, Marie Kennedy, Julie Kentosh, Justin King, Eric Leaming, Kathi McConnell, Bethany Veil, ODOT Traffic/Roadway Section; Jocelyn Blake, AOC; Jabra Khasho, City of Beaverton; Matthew Machado, City of Portland

Introduction/Building Orientation/Approval of Minutes

Vice Chair Joe Marek called the meeting to order as Acting Chair at 9:00 a.m. He introduced new member, Tristan Wood of Clackamas County and then asked attendees to introduce themselves (see above).

Pam O'Brien then moved, Jeff Wise seconded, and the committee approved the [July minutes](#).

Business from the Audience/Public Comment

None.

OTCDC Bylaws - Refresher

Kathi McConnell was asked by Brian Barnett to put a review of the Committee Bylaws, especially in regard to providing an alternate when members are unable to attend a meeting.

Section 4 – Voting: Each member is entitled to one vote.

All members are expected to attend all meetings; however, in the event that a member cannot attend a meeting, the member may appoint an alternate member upon advising the Committee chairperson in writing prior to the meeting.

It was suggested the Bylaws are on the OTCDC web page, but we weren't sure they are. [We later confirmed they are](#). But just in case, members asked to be sent a copy of the Bylaws for review and reference. This was done after the meeting.

FHWA Announcement on Intent to Update MUTCD

Eric Leaming gave a heads up/reminder: FHWA has [announced](#) it is pursuing an update to the “Manual on Uniform Traffic Control Devices for Streets and Highways” in preparation for the future of automated vehicles and to afford states and local communities with more opportunities to utilize innovation. The draft should be out for public review and comments next Spring. FHWA has released the [proposed new rule](#) in conjunction with the announcement.

ODOT will again be depending upon members of the Committee and other interested volunteers in reviewing the draft MUTCD. We will also be generating a new Oregon Supplement to the new MUTCD. More will be revealed on time frames at our January 2019 meeting.

Fixed Photo Radar Results & Proposed Legislation Around Automated Enforcement

Doug Bish returned to the committee with an [updated draft](#) to the [Red Light Running Camera Guidelines for State Highways](#) for review and discussion. Doug said the updates in this draft addresses comments he's received on the previous draft. The update is needed because the 2017 Legislature passed a law allowing fixed speed enforcement with these cameras. Two areas of update are an added a section on using RLR cameras for automated speed enforcement and one which requires cities to provide ODOT a copy of their annual legislative report on their RLR camera use.

The cameras use in speed enforcement are only to be used where the purpose is to reduce RLR crash history at intersections. The primary consideration will continue to be to reduce the severity of red-light running crashes. Reducing speed-related crashes will be a secondary goal.

It was clarified the fatal and injury in crashes involving red light running in the U.S. statistics on page 1 reflect the most recent data available for each. Fatal crashes come in earlier than injury crash data, which explains the 2015/2016 difference.

Karl MacNair suggested the next to last bullet on Page 10 be truncated to call for speed signs nearby as the law requires, leaving out the parenthetical “within 300-400 feet of an intersection”. Doug agreed to do so. It was later amended to “nearby *in advance of an intersection*” There was further discussion and Committee consensus on the adequacy of signage in accordance with the law and perhaps some education of the public. This includes “Traffic Laws Photo Enforced” on all major routes into a jurisdiction where cameras are in use.

Decision: Karl MacNair moved the Committee recommend approval of the updated draft with the noted changes in wording above. Pam O’Brien seconded and the Committee voted in favor.

Update on Proposed Developments on New Speed Setting Process

Doug Bish reported on an ODOT speed roundtable [presentation](#) in October for ODOT, city and county representatives including Joe Marek, Brian Barnett and Stacy Shetler. The intent was to see what agreement could be attained on how to improve the speed setting process and possible legislation to attain more safety through speed zoning. Doug reviewed his presentation in this agenda item for the Committee, starting with how statutory and designated speeds are arrived at in Oregon.

A proposed change to the MUTCD will modify language regarding use of the 85th percentile speed. Speed limits closer to the 85th percentile are more advisable in rural areas than they are in urban areas due to greater variation in speeds in the rural area and more pedestrian and other activity in urban areas.

Currently, crash statistics are going up statewide, so this increases the need to improve safety in a way which balances rural and urban needs. Doug noted recent and current efforts to change how speed zoning is done, including the NCHRP, NTSB, TTI and AAA surveys, and the previously noted proposed change to the MUTCD.

Doug Bish said ODOT is trying to push changes in urban design guidelines which will help get speeds down so an updated speed zoning doctrine can be successfully implemented.

Automated vehicle technology will start to influence the issue but there will likely be older technology vehicles on the road for the next 30-40 years.

Doug noted certain other jurisdictions would like to be included in the Portland project for alternative speed zoning. Portland is paying more attention to pedestrian and bike traffic and the needs of those users in regard to setting a speed limit on all but their arterial routes.

In addition to the presentation, the Committee briefly discussed variations in rural statutory speeds, changes to the rules around low volume and gravel roads.

After a draft rule is come up with, it will likely take a year to move through the rulemaking process. ODOT hopes to have some guidance from the NCHRP (17-76) group before starting the rulemaking process in Summer, 2019.

Kevin Haas noted the OSP is looking at highlighting the low level of enforcement in Oregon compared to most of the rest of the nation for the next Legislature in hopes of getting funding for improving the enforcement presence on the roads. Automated enforcement is one tool which is becoming more available. But there is also concern of public push back on automated enforcement which could affect the future enforcement landscape.

The suburban fringe may be one of the hardest areas to develop road/roadside design to facilitate lower speed compliance and require a lot of time and money to complete. Other issues are inevitable, pitting mobility vs. safety interests. Public messaging and public discussion may be very important in transitioning speed zoning policy and practice.

On another topic, a future agenda item on how recent legislation prohibiting cell phone distracted driving is working in Oregon was proposed. There is anecdotal experience it needs more visible enforcement on the street to be effective. But this will have to wait for sufficient data to accumulate.

Standards for Accessible Parking Places

Bethany Veil updated the committee on [ODOT efforts](#) to improve [Standards for Accessible Parking Places](#) around NO PARKING pavement messages for access aisles. She reviewed various options for their layout and example photos of the recognized need. These are primarily applicable to parking lots.

The new marking has been approved up through the Oregon Transportation Commission, where it was originated. It is therefore now in effect. ODOT and local jurisdiction code enforcement staff will need to implement the new NO PARKING pavement message in new and replacement pavement marking work adjacent to accessible parking spaces.

There is no good data as to how effective these markings will be. But they shouldn't be harmful and time will tell if they're of help.

Sign Policy Update

Frank Belleque reviewed the [November updates](#) to the Sign Policy and Guidelines publication. There are no major changes. There is work to make the layout and accessibility better.

While presenting Frank mentioned that the Signing group was working on setting up a website where the [Sign Policy & Guidelines](#) can be commented on.

There was a request to be able to access the standard sign designs in a CAD format. Frank said they can be accessed through the [ODOT Workspace](#).

Decision: Darrin Lane moved, Karl MacNair seconded, and the Committee agreed to support the updates to the Sign Policy & Guidelines.

New Chair and Vice Chair for 2019 and the Proposed 2019 Meeting Schedule

Kathi McConnell showed the [proposed schedule](#) which adheres to the third Friday of alternating months format of previous years. The ITE has not yet determined if or where they will meet in May, so the May 17th meeting is not yet final. There were no objections to the schedule from the membership.

The nomination of new officers was then addressed. After Pam volunteered to chair, and Karl agreed to vice-chair the nominations were formally agreed to as follows:

Decision: Darrin Lane Nominated and Janet Hruby seconded Pam O'Brien and Karl MacNair as Chair/Vice Chair for 2019. The Committee voted unanimously in favor.

Roundtable and NOA Discussion

Janet Hruby thanked ODOT for the work on reviewing and updating the speed zoning process. Eugene is very happy it is happening.

Mike Kimlinger introduced new pilot project -- "stick and stomp" stickers being tested for helping people through and around work zones. The stickers are on non-reflective sign sheeting. Samples were made available for those at the meeting. Others may contact Justin King. [Guidance for using the stickers](#) was provided. If anybody chooses to pilot these, ODOT would like their feedback. The stickers are available at [Traffic Safety Supply Company](#) at \$2 each. If enough interest is generated, the price might come down.

Joe Marek said he was looking at a wider spacing, six inch stripes for centerlines and asked if anybody else has experience with this idea. There is space to still include buttons between the lines. Joe is looking for any tips or advice for how best to do this, what to look out for. There is more national than Oregon experience with the wider lines. Mike Kimlinger said ODOT has looked at it but not yet seen a definite benefit. He said he was open to looking into it again if there is good data to support it. He suggested Joe keep notes on how implementation works out so others may benefit.

Agenda Items for Future Meetings

- PBOT staff report: bike detector confirmation light findings
- PBOT staff: consideration of improving the [9C-7 stencil](#)
- 2019 Traffic Signal Policy Guidelines update
- 2019 Yellow-Red Clearance Policy update
- MUTCD Update
- Speed Zone Project Update
- Legislative Concepts Update
- Standards for Accessible Parking Places update

Adjournment

Joe Marek adjourned the meeting at 11:10 a.m.

Next Meeting: January 18, 2019 at 9:00 a.m. at the [TLC Building in Salem](#).

ODOT Policy - Yellow Change and Red Clearance Intervals



Proposed Changes for 2019 Traffic Signal Policy and Guidelines

ODOT Research Project SPR 773 (2016)

Project Recommendations

- 1) The duration of the yellow change and red clearance intervals have a considerable influence on driver behavior. As such ODOT should consider adopting the kinematic equations recommended in NCHRP Report 731.
- 2) Currently ODOT uses the posted speed limit as the approach velocity for the kinematic timing equations. ODOT should consider using an operational speed as recommended in NCHRP Report 731, which could provide more precise estimations for yellow change and red clearance durations.

ITE Develops Guidelines (Sep. 2018)

AN ITE RECOMMENDED PRACTICE

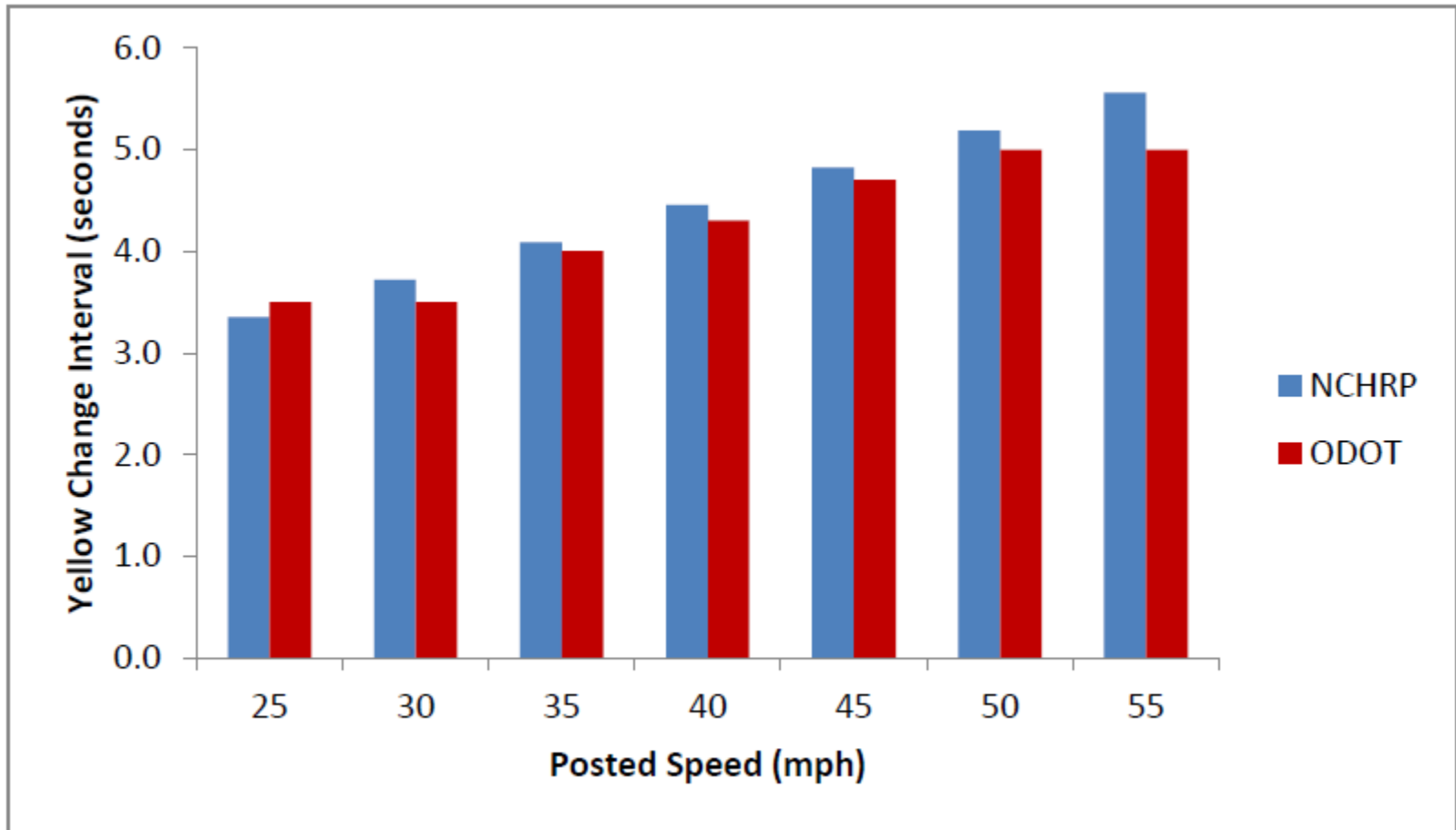
GUIDELINES FOR DETERMINING TRAFFIC SIGNAL CHANGE AND CLEARANCE INTERVALS

Permissive vs Restrictive Yellow

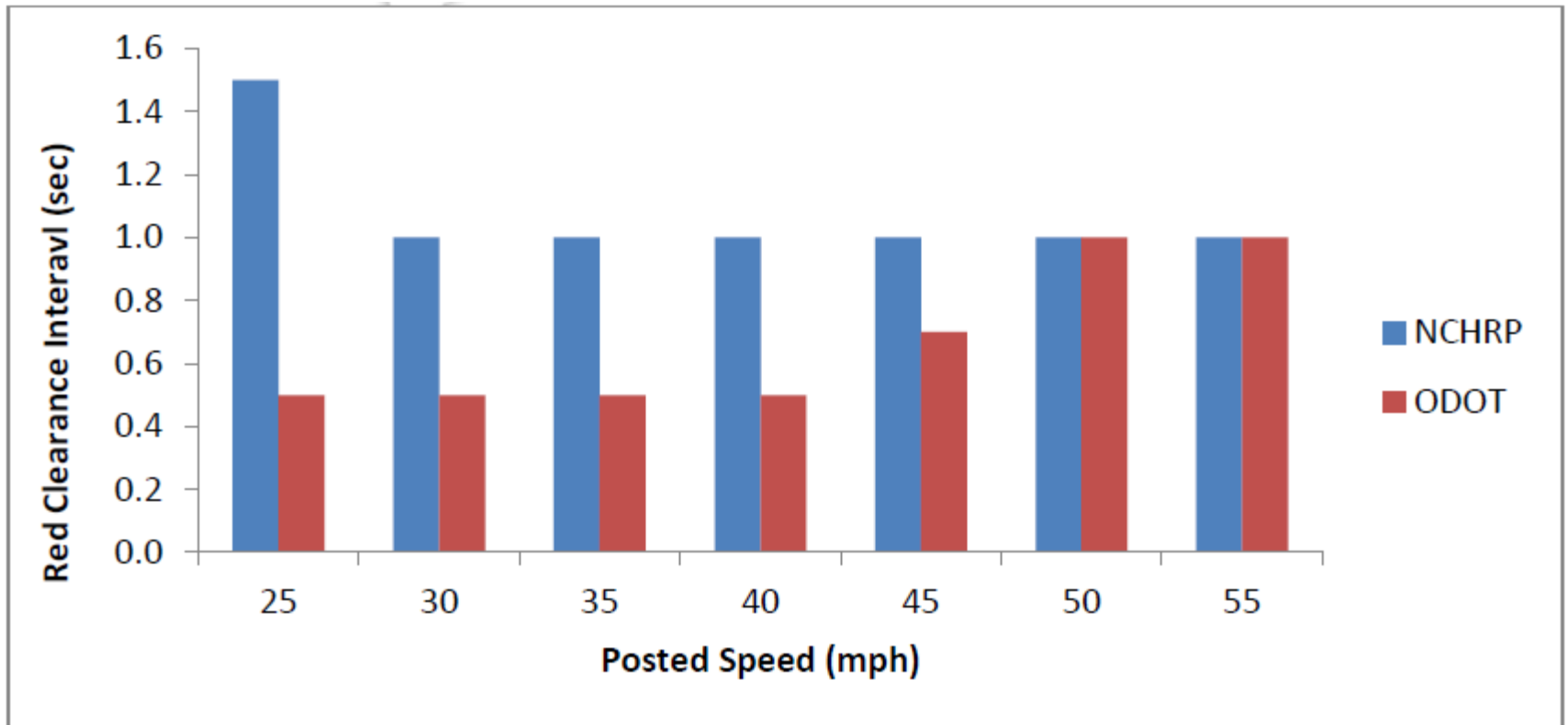
ITE's recommended practice indicates the following

- ✓ 37 Permissive states
- ✓ 4 Restrictive states (statutes violate MUTCD)
- ✓ 9 states (including Oregon) designated as “states allowing intersection entry and clearance in circumstances where it is unsafe or not possible to stop are generally not in conflict with the permissive yellow law.”

ODOT vs. NCHRP/ITE (Yellow Change)



ODOT vs. NCHRP/ITE (Red Clearance)



Why Change?

- Following NCHRP 731 is expected to reduce all crashes by 8 to 14 percent, and injury crashes by 12 percent.
- Increased yellow time may increase the risk of rear-end crashes.
- Following NCHRP Report recommendations & ITE Recommended Practice (assuming adoption) would likely help ODOT in litigation.

Current ODOT Policy

Table 3-1: ODOT Minimum Yellow Change and Red Clearance Intervals

Posted Speed (mph)	Minimum Yellow Change Intervals⁽¹⁾⁽²⁾ (sec)	Minimum Red Clearance⁽²⁾ (sec)
25	3.5	0.5
30	3.5	0.5
35	4.0	0.5
40	4.3	0.5
45	4.7	0.7
50	5.0 ⁽³⁾	1.0
55	5.0 ⁽³⁾	1.0

- (1) Applies to approaches with a downgrade of 3 percent or less.
- (2) Some intersections may require more than the minimum times.
- (3) ODOT limits the yellow change interval to 5 seconds. The sum of the yellow change and red clearance intervals shall exceed the length of yellow interval calculated from Formula 1.

Proposed ODOT Policy

Posted Speed Limit (mph)	Grade (%)				
	-4	-2	0	2	4
25	3.2	3.0	3.0 ^a	3.0 ^a	3.0 ^a
30	3.6	3.4	3.3	3.1	3.0
35	4.0	3.8	3.6	3.5	3.3
40	4.4	4.2	4.0	3.8	3.7
45	4.8	4.6	4.4	4.2	4.0
50	5.3	5.0	4.7	4.5	4.3
55	5.7	5.4	5.1	4.8	4.6
60	6.1 ^b	5.8	5.5	5.2	5.0

Posted Speed (mph)	Red Clearance (sec)											
	Width of Intersection (ft)											
	30	50	70	90	110	130	150	170	190	210	230	250
25	1.0	1.0	1.0	1.3	1.8	2.2	2.6	3.0	3.5	3.9	4.3	4.7
30	1.0	1.0	1.0	1.0	1.4	1.8	2.1	2.5	2.9	3.2	3.6	4.0
35	1.0	1.0	1.0	1.0	1.1	1.4	1.8	2.1	2.4	2.7	3.0	3.4
40	1.0	1.0	1.0	1.0	1.0	1.2	1.5	1.8	2.0	2.3	2.6	2.9
45	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.5	1.7	2.0	2.3	2.5
50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.3	1.5	1.7	2.0	2.2
55	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.3	1.5	1.7	2.0

Yellow Change – Current vs. Proposed

Current	Proposed
Uses Kinematic equation $y = t+v/(2a+2Gg)$	Uses Kinematic equation $y = t+v/(2a+2Gg)$
Uses Posted Speed	Uses Operational Speed*
Minimum 3.5 seconds, Maximum 5 seconds	Min 3.0 seconds, Maximum 6 seconds
Applies to downgrades of 3% or less	Grade included in
For left turns uses 25 mph speed	For left turns uses approach speed limit minus 5 mph
Uses standard rounding to nearest 0.1 second for 40-45 mph. Rounds up to nearest half second for 25-35 mph. Rounds down to nearest half second for 50-55 mph.	Uses standard rounding to the nearest 0.1 seconds for all speeds

*Operational speed is more accurate than posted speed. Operational speed = posted speed + 7 mph or 85th percentile speed, if available.

Red Interval – Current vs. Proposed

Current	Proposed
Uses table of values by posted Speed	Uses Kinematic equation $R = (W+L)/1.47V - 1$
Minimum 0.5 seconds	Minimum 1.0 seconds
Uses Posted Speed	Uses Operational Speed*
For left turns uses 25 mph speed	For left turns uses 20 mph speed
Not specifically addressed	For right turns uses 10 mph speed subject to variation due to site conditions

*Operational speed is more accurate than posted speed. Operational speed = posted speed + 7 mph or 85th percentile speed, if available.

Data Needed for Calculations

- Posted Speed (TransGIS) or 85th percentile if available
- Intersection width for each movement (Plan Set or Google Maps or field measurement)
- Approach Grade (Survey Data, TBD)

2019 TSP&G Highlights

- Yellow and Red Clearance + Worksheet
- Bike Guidance - Crossing Time, Min Green, etc
- Updated Right Turn Phasing Guidance
- Updated PSOD Form
- LPI Worksheet
- Adaptive Signal Timing Guidance

OREGON TRAFFIC CONTROL DEVICES COMMITTEE Members

as of January 8, 2019

<p>Chairperson</p> <p>Pam O'Brien, P.E., PTOE, Senior Transportation Engineer DKS Associates, Inc. 720 SW Washington Street, Suite 500 Portland, OR 97205-3503</p> <p>(503) 243-3500 pio@dksassociates.com</p>	<p>Vice-Chairperson</p> <p>Karl MacNair, P.E., Transportation Manager City of Medford 411 W 8th Street Medford, OR 97501-3105</p> <p>(541) 774-2115 karl.macnair@cityofmedford.org</p>
<p>Secretary</p> <p>Mike Kimlinger, P.E., State Traffic-Roadway Engineer ODOT Traffic-Roadway Section 4040 Fairview Industrial Drive SE, MS #5 Salem, OR 97302-1142</p> <p>(503) 986-3606 michael.j.kimlinger@odot.state.or.us</p>	<p>Brian Barnett, P.E., PTOE, City Traffic Engineer City of Springfield 201 South 18th Street Springfield, OR 97477-5241</p> <p>(541) 726-3681 bbarnett@springfield-or.gov</p>
<p>Janet Hruby, P.E., PTOE, Project/Traffic Engineer City of Bend 575 NE 15th Street Bend, OR 97701-4400</p> <p>(541) 322-6336 jhruby@bendoregon.gov</p>	<p>Lt. Patrick Huskey, Lieutenant, Patrol Services Division Oregon State Police, General Headquarters 3565 Trelstad Avenue SE Salem, OR 97317-9614</p> <p>(503) 932-3316 cell patrick.huskey@state.or.us</p>
<p>Darrin Lane, P.E., County Traffic Engineer Linn County 3010 Ferry Street SW Albany, OR 97322-3988</p> <p>(541) 967-3919 dlane@co.linn.or.us</p>	<p>Joseph Marek, P.E., PTOE, Traffic Engineering Supervisor Clackamas County 150 Beaver Creek Road Oregon City, OR 97045-4302</p> <p>(503) 742-4705 joem@co.clackamas.or.us</p>
<p>Jeffrey Wise, P.E., PTOE, Region Traffic Manager ODOT Region 5 Headquarters 3012 Island Avenue La Grande, OR 97850-9497</p> <p>(541) 963-1902 jeff.wise@odot.state.or.us</p>	<p>Tristan Wood, County Road Department Assistant Director Columbia County 1054 Oregon Street St. Helens, OR 97051</p> <p>(503) 397-5090 tristan.wood@co.columbia.or.us</p>