Annual AGC-ODOT Meeting

February 19, 2016

Brian Gray – AGC

Bob Pappe – ODOT

Executive Work Zone Strategy Sessions

What we want to cover today:

Work Zone Executive Strategy Sessions update

- Background
- Law Enforcement Taskforce – ODOT Directive
- December 7, 2015 meeting
  - Guiding Principle
  - Decision Tree
- How this will work into ODOT culture

Oregon Work Zone Executive Strategy Sessions

The Work Zone Executive Strategy Sessions have been held every six months, beginning December 2013.

The Executive Strategy Sessions include key executive stakeholders:

- Association of General Contractors (AGC),
- Oregon Trucking Association (OTA),
- Oregon State Police (OSP), and
- Triple A Oregon Idaho (AAA). We also have
- Dr. John Gambatese from OSU
- ODOT

The intent is enhancing safety in work zones for the safety of the traveling public and for construction workers.

ROAD WORK AHEAD

Oregon Work Zone
Executive Strategy Session #5

Oregon Department of Transportation

AGENDA

Monday,
December 7, 2015

3:00 p.m.
to 5:00 p.m.

ODOT HQ
355 Capitol St. NE
Salem, Oregon 97301

Gail L. Achterman
Commission Room 103

Teleconference:
1-866-590-5055
Participant Code
755731

1. Introductions & Background – Matt Garrett, ODOT – 10
2. Task Force / Resource Team Updates (15 min each)
   - **Engineering Enhancements** – Bob Pappe, ODOT
   - **Enforcement** – Captain David Anderson, OSP
   - **Separation & Mobility** – Brian Gray, AGC, Bob Russell, OTA and Walter Gamble, W.R. Gamble Engineering
   - **Communication Resource Team** – Dave Thompson, ODOT
3. 2015 and 2016 Construction Seasons – Joe Squire / Bob Pappe – 10
4. Work Zone Interstate Photo Radar – Anne Holder – 10
5. OSU – David Hurwitz, PhD – 10
6. Task Force Next Steps – Matt Garrett – 10
7. Good of the Order – All – 10

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ROAD WORK

High Priority Work Items

Oregon Department of Transportation

Task Forces	Work Items	Action Items	Lead	PDLT Involvement
Separation / Mobility (S/M)	1. Guiding Principle	• Finalize guiding principle	S/M TF (Gray/Russell/Mather)	Information / Feedback
	2. Manuals / Directives	• Modify or create the following to align with the guiding principle: a. Traffic Control Design Manual b. Mobility Procedures Manual c. Highway Design Manual d. Construction Manual e. PD-16 f. Maintenance g. New Directives? h. Other (TBD)? • Communicate changes	a. Traffic / Roadway Section (Bob Pappe) b.	Information
Engineering Enhancements (EE)	3. Work Zone / Separation Devices (ongoing)	• Continue search for new separation devices • Meet with contractors to discuss/test • Sort Qualified Products List for existing separation devices (show applications) • Add to Qualified Products List as devices receive FHWA approval	EE TF (Bob Pappe)	Information
	4. Separation / Mobility Decision Tree	• Build Prototype • Review / Feedback (Task Force, Regions, Contractors, OSU, and users) • Pilot / Modify • Tech Bulletin • Expand / Enhance	Traffic / Roadway Section (Bob Pappe)	• Obtain input from Regions • Direct Regions to implement
Law Enforcement (LE)	5. Portfolio / Project communication and coordination with LE	• Memo / Directive on communication • Considerations / Criteria • Performance Measures • PDLT Annual Performance Report	LE TF (Anne Holder)	• Feedback • Direct Regions to implement • Determine Reporting Needs

Project Delivery Leadership Team – Directive (Nov 2015)

Area Managers to hold biennial meetings to include OSP Area Commander, Maintenance and Project Leaders. Explain full portfolio of upcoming and current projects. Identify opportunities for OSP to participate in project development process.

Construction Project Managers to invite OSP and appropriate local LE to attend pre-construction meetings.

- Discuss project issues, traffic control, schedule
- Contacts – PM office and Contractor

Quarterly meetings with Transportation Safety Coordinators to discuss current and upcoming construction projects, which are high priority for enhanced work zone enforcement.

ROAD WORK

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Oregon Department of Transportation

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Guiding Principle

Mission: ODOT's mission is to provide a safe, efficient transportation system that supports economic opportunity and livable communities.

Goal: Our work zone safety goal is zero fatalities and injuries, including ODOT employees, contractors, public safety professionals and the traveling public while efficiently moving people and goods.

Guiding Principle: The best work zone design and management plan will maintain safety and mobility, a balance that shall be analyzed continuously throughout the lifecycle of the facility.

Directive/Strategy: To accomplish this goal, project design teams shall consider the full range of options including but not limited to separation of the traveling public from workers and work areas, speed reductions, law enforcement, enhanced traffic control devices and signage, and overall roadway and work zone design. Effective communication with travelers is essential to establish reasonable expectations and minimize unsafe driver behavior. While there is no single solution that is appropriate for all roadway designs and work zones, whenever practicable workers should be separated from traffic.

Resources:

- Mobility Committee
  - ODOT's Mobility Committee is a resource that can provide necessary balanced guidance.
  - Work through your mobility coordinator and the mobility committee to reach resolution.
  - Bring issues forward early in the scoping and design stage to avoid surprises and keep everyone in the problem solving mode.
- Work Zone Separation Decision Tree
  - The decision tree will help us identify separation options available per work zone.
  - Impacts to safety, mobility, scope, schedule, budget, delay, driver convenience, and 'other' impacts shall be identified when assessing separation options.
  - To help guide us through our decision making, the following decision tree is intended to provide new tools and approaches.

ROAD WORK AHEAD

Oregon Work Zone Safety Executive Steering Committee

Oregon Department of Transportation

Guiding Principle

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Oregon Department of Transportation | OTA Oregon Trucking Associations Inc. | AGC Oregon Columbia Chapter Associated General Contractors | OSU Oregon State University | AAA Keep Life Going™

Approved 12/7/15

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ROAD WORK AHEAD

Decision Tree

Oregon Department of Transportation

Oregon Department of Transportation

Print Form

Decision Tree

Evaluate Separation Opportunities, Other WZ Concepts, WZ Devices

Project Name (Section)

Key No.

Contract No.

Highway

Project Leader / Project Manager

Agency Project Manager

Region

Instructions: For each phase, work through each opportunity on this "decision tree." Add other project-specific decisions as needed. (Add more instructions as needed.)

Contractor

Phase: ☐ Scoping ☐ Project Initiation to DAP ☒ DAP to Advance Plans ☐ Construction

Opportunities to Evaluate →	Possible →	Impacts →	Stakeholders →	Decision
Full road closure	no			
Partial road closure	no			
Full detour	no, 100 miles around			
Partial detour	yes, construct temporary bridge	increases cost of project, adds time to schedule	Area Manager	no
Cross-overs	no, volumes too high for one lane during day			
Temporary barrier	yes	requires narrower lanes than mobility manual allows adds cost for temp barrier	Mobility Committee Area Manager	
Increased clear space	yes	requires narrower lanes than mobility manual allows	Mobility Committee	Yes, as long as no hard barrier
Decrease exposure time	yes, limit work hours	extends project duration	Area Manager - project schedule	
Accelerate/time incentives	yes, but need alternate contracting approval	need exemption, need more PE time	Area Manager, project PE schedule, later bid date, resources for alternate contracting	
Law enforcement OT hours	yes	LE OT hours, LE available?	LE, regions with LE OT hours - TSB	yes
Construction Speed Zone Reduction				
Use drums and cones to close lane				
Use automated flagging station				
Use temporary transverse RS upstream of flagging station				
Use additional PCMS upstream to communicate with drivers				
Other:				

ADD ANOTHER ITEM

ROAD WORK AHEAD

Decision Tree

Oregon Department of Transportation

Print Form

Decision Tree

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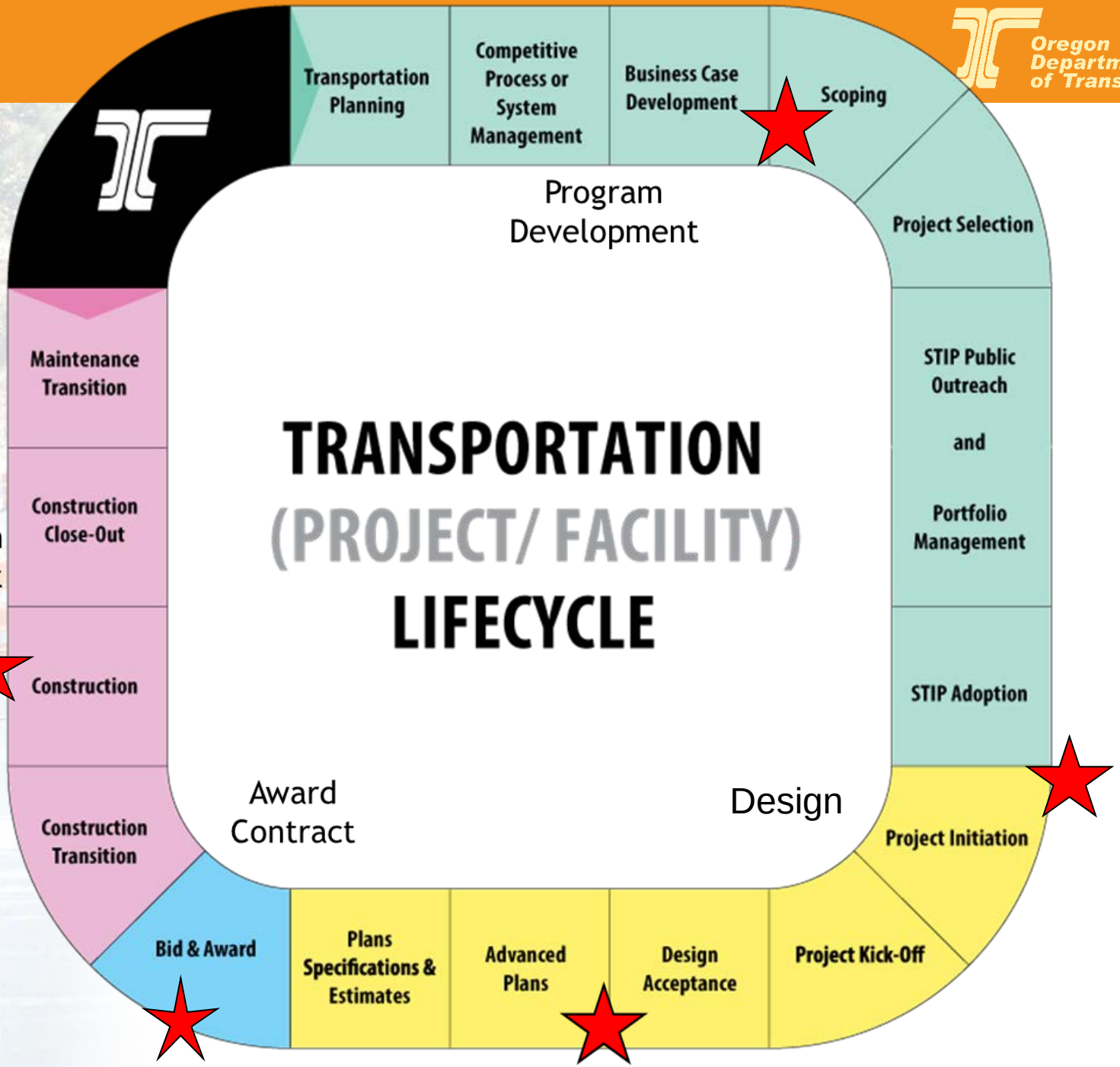
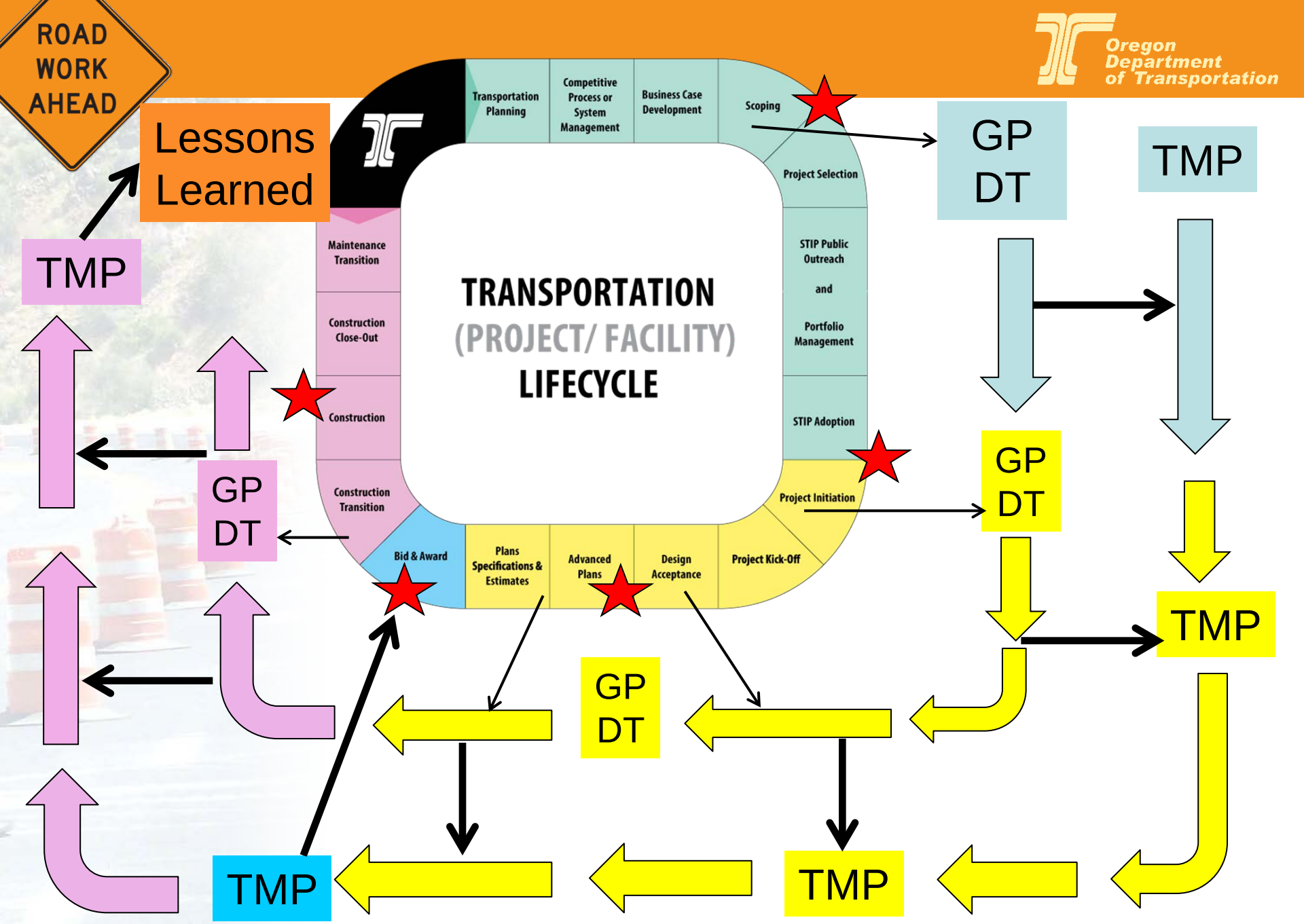
ROAD WORK AHEAD

Oregon Department of Transportation




ROAD WORK AHEAD
Oregon Department of Transportation
Lessons Learned
TRANSPORTATION (PROJECT/ FACILITY) LIFECYCLE
Transportation Planning
Competitive Process or System Management
Business Case Development
Scoping
Project Selection
STIP Public Outreach and Portfolio Management
STIP Adoption
Project Initiation
Project Kick-Off
Design Acceptance
Advanced Plans
Plans Specifications & Estimates
Bid & Award
Construction Transition
Construction
Construction Close-Out
Maintenance Transition
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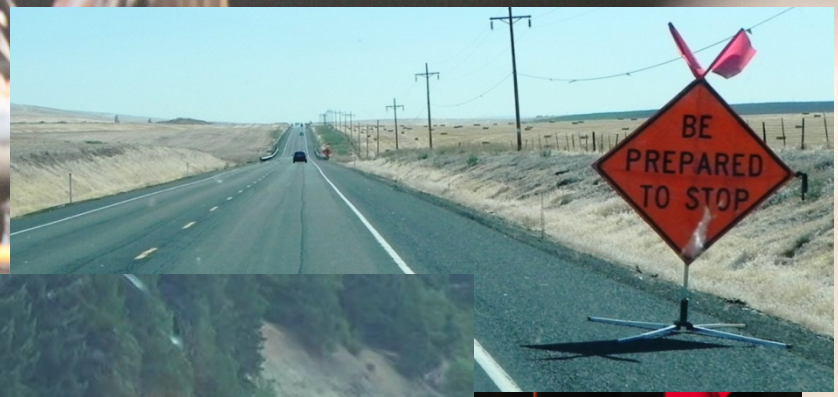
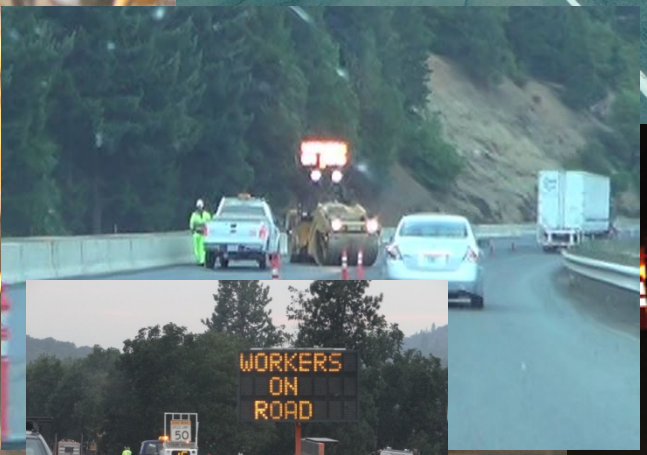
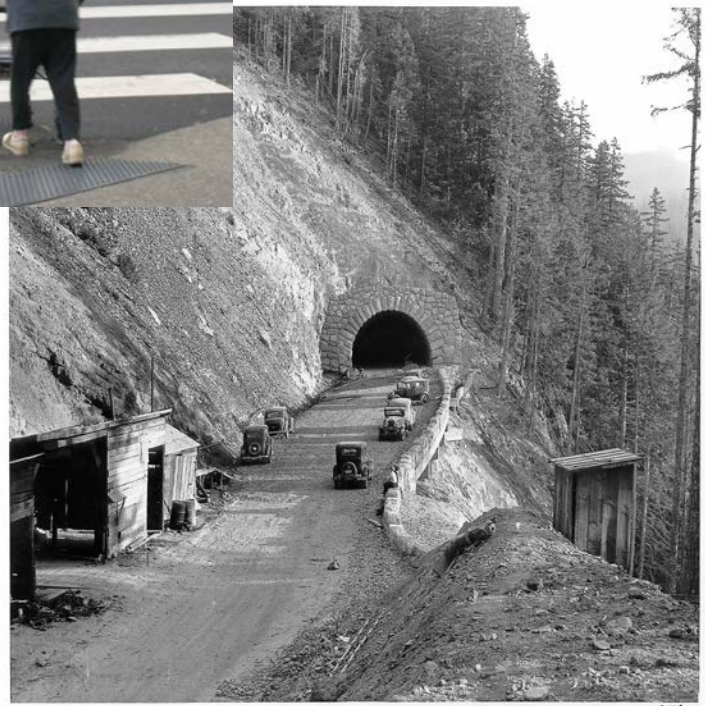






AGC-ODOT Conference

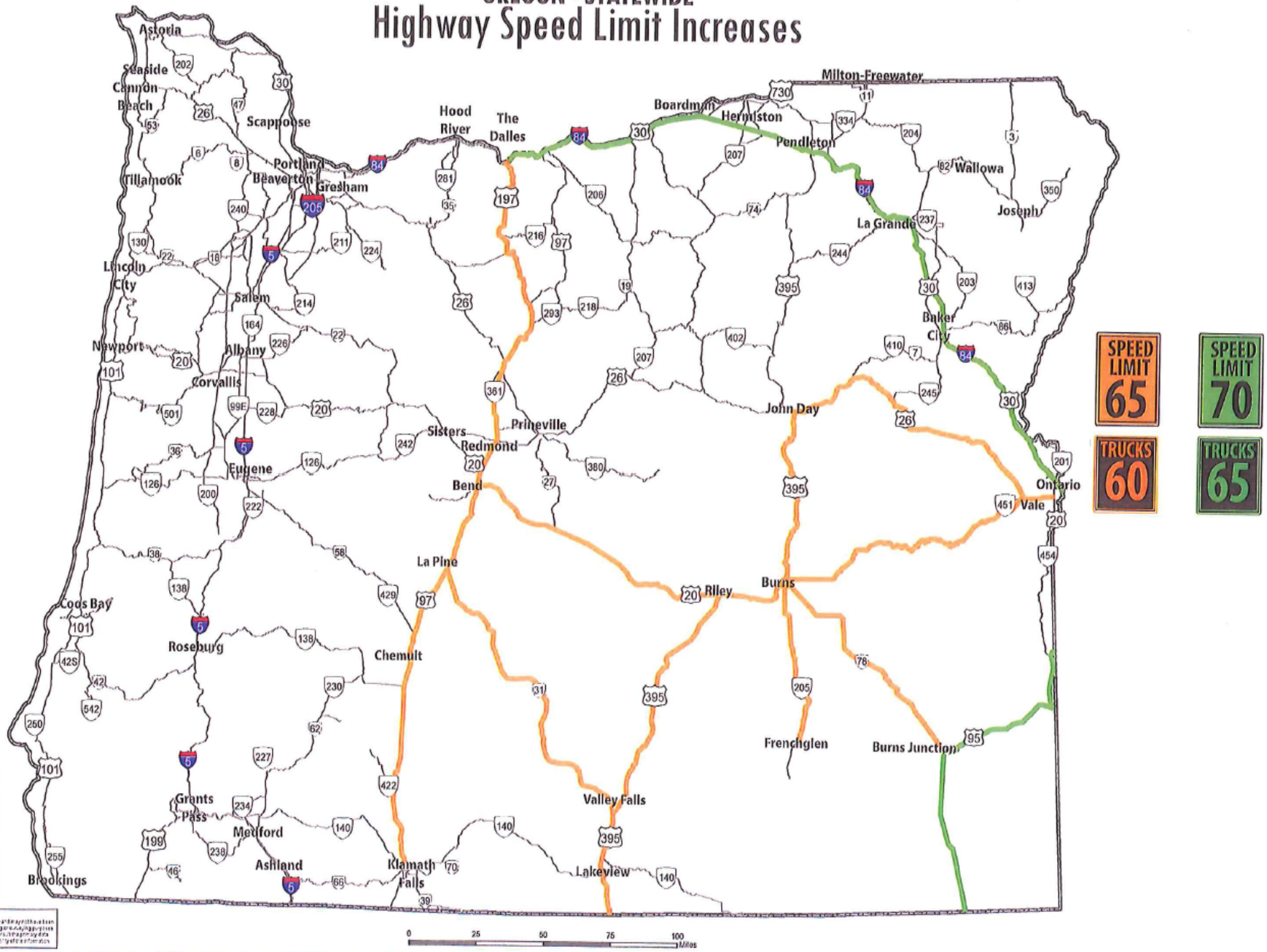
ADA-MASH

February 19, 2016

Bob Pappe, PE, PLS

ODOT Traffic-Roadway Engineer

OREGON - STATEWIDE
Highway Speed Limit Increases



ROAD WORK AHEAD

Oregon Department of Transportation

Section 00220: Accommodations for Public Traffic

00220.00 Scope – This work consists of maintaining facilities to accommodate public traffic through and within the project for the life of the Contract. **Public Traffic includes motor vehicles, bicycles, and pedestrians.**

Subject	Oregon	United States
Population with a disability	14.1%	12.3%
Disability status	5.3%	5.9%
Hearing difficulty	3.6%	4.1%
Vision difficulty	3.9%	4.4%
Cognitive difficulty	4.1%	4.7%
Ambulatory difficulty	4.1%	4.7%
Self-care difficulty	4.1%	4.7%
Independent living difficulty	4.0%	4.6%

ROAD WORK AHEAD

Oregon Department of Transportation

Accommodating Pedestrians (including ADA needs)

- Provide adequate temporary facilities as part of TCP
- Accessible routes through or around the work zone.
- Equal to or better than existing facilities, where practical
- Where impractical to provide a temp. facility, alternative measures should be developed, such as:
  - Alternate/detour routes on existing facilities
  - Partnership with local transit providers (Tri-Met, Chariots, LTD)
  - Shuttle services through private vendors
- Document what you've done (or haven't done) and why.

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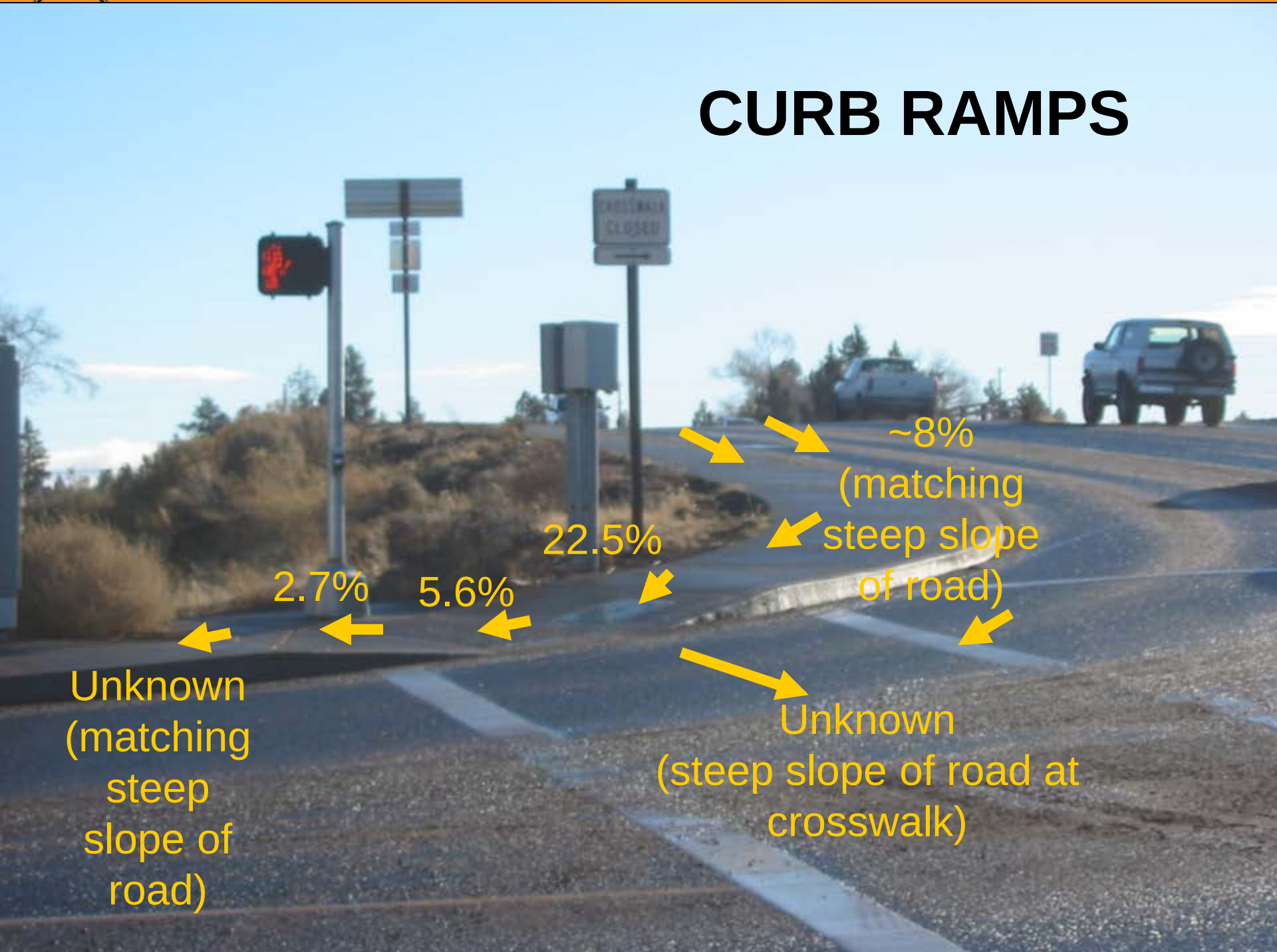
DETOUR

CURB RAMPS


CROSSWALK
CLOSED
~8%
(matching
steep slope
of road)
22.5%
2.7%
5.6%
Unknown
(matching
steep
slope of
road)
Unknown
(steep slope of road at
crosswalk)

ROAD WORK AHEAD

Oregon Department of Transportation

ODOT Fundamentals

ODOT's responsibilities for complying with ADA requirements within ODOT RW are the same, regardless of if work is delivered by:

- STIP Projects,
- Maintenance self-performed or maintenance contract,
- By developers, utilities, local agencies
- By any other means.

Every new curb ramp on ODOT ROW gets inspected using ODOT form.

Newly constructed curb ramps that do not meet the required standards require corrective action so they do meet the required standards, up to and including removal and replacement.

ROAD WORK AHEAD

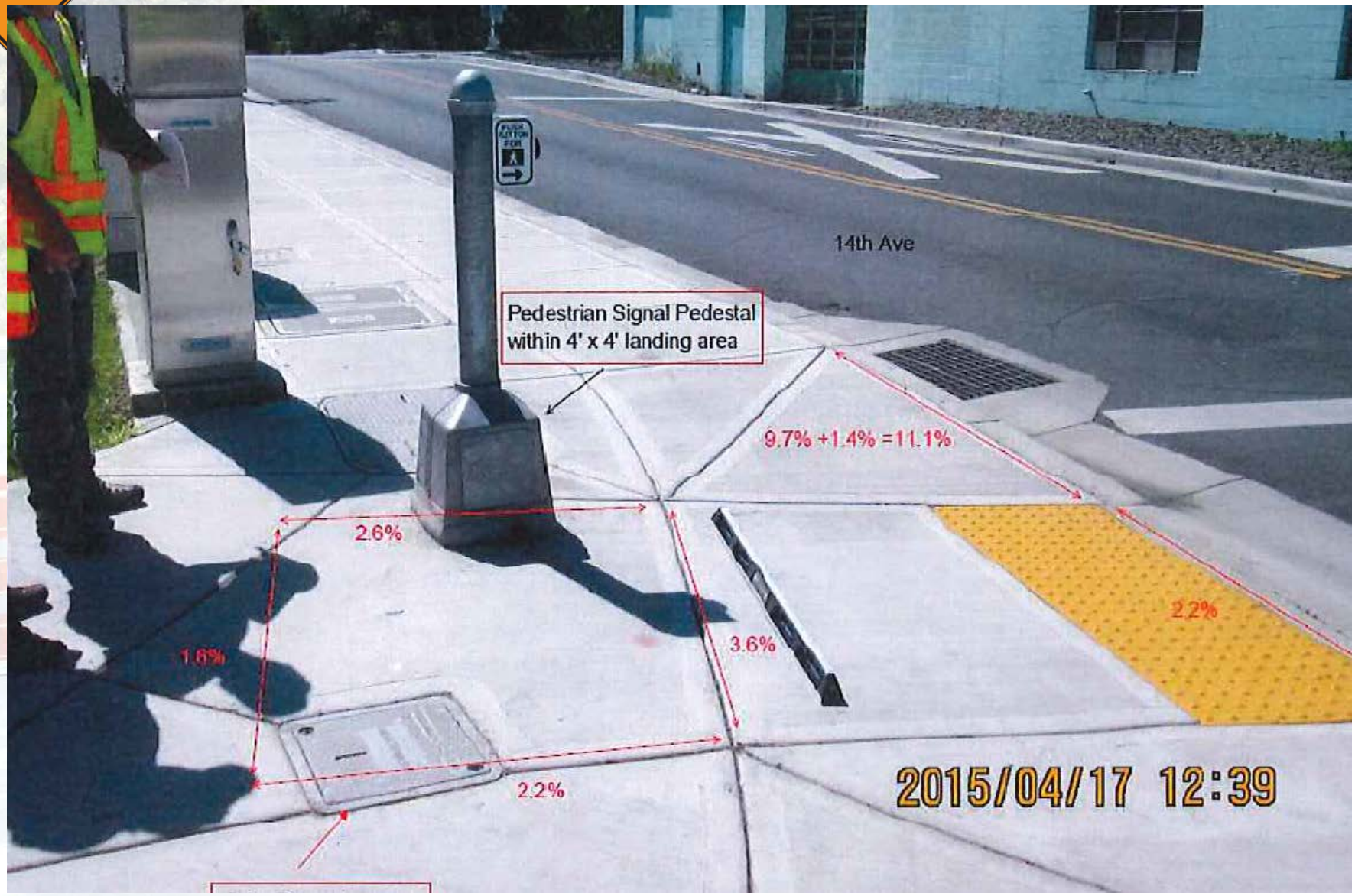
Oregon Department of Transportation

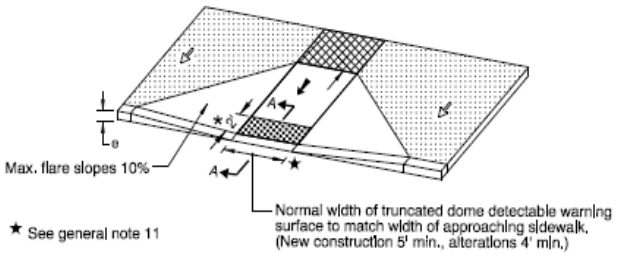
Newly constructed curb ramps:

What's acceptable for newly constructed curb ramps?

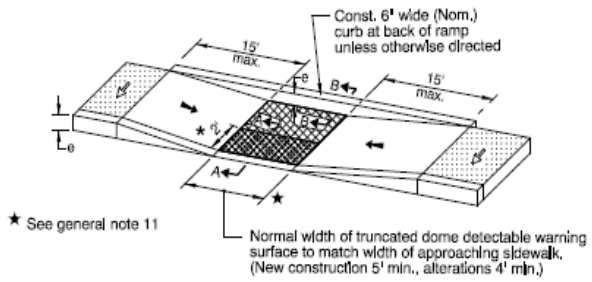
ROAD WORK AHEAD

Oregon Department of Transportation

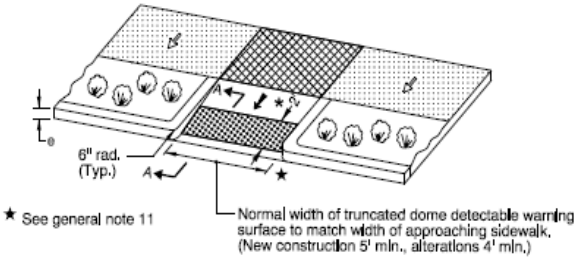




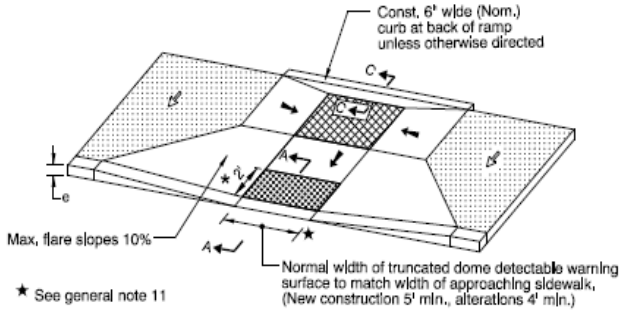
PERPENDICULAR SIDEWALK RAMP DETAIL
(Use 'Parallel Sidewalk Ramp Detail' or 'Combination Sidewalk Ramp Detail' when reqd, turning space cannot be obtained)



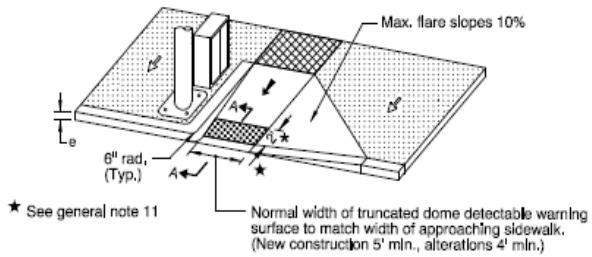
PARALLEL SIDEWALK RAMP DETAIL



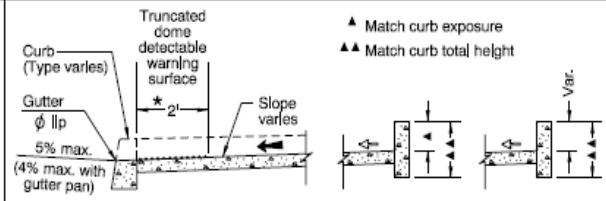
PERPENDICULAR SIDEWALK RAMP DETAIL
(THROUGH BUFFER STRIP)



COMBINATION SIDEWALK RAMP DETAIL



PERPENDICULAR SIDEWALK RAMP DETAIL (WITH SINGLE FLARE)
(Use "Parallel Sidewalk Ramp Detail" or "Combination Sidewalk Ramp Detail" when reqd. turning space cannot be obtained)



- Sidewalk
- Turning space
  Min. level area 4' x 4'
  4' x 5' when constrained (with longer dimension in direction of ramp travel).
  For the purposes of this application, a 2% maximum construction slope (for drainage) is considered level.
- Truncated dome detectable warning surface
- Slope 1.5% design (2% max. construction) (Normal sidewalk cross slope)
- Slope 7.5% design (8.3% max. construction) (Ramp length 15' max.)
- ★2' See general note 5

GENERAL NOTES FOR ALL DETAILS:

1. Sidewalk ramp details are based on United States Access Board Standards.
2. See Std. Drgs. RD700 & RD701 for curbs. See Std. Drg. RD720 for sidewalks. See Std. Drgs. TM503 & TM530 for crosswalk markings, widths, etc.
3. Tooled joints are required at all sidewalk ramp slope break lines.
4. Sidewalk curb ramp slopes shown are relative to the true level horizon (Zero bubble).
5. Place truncated dome detectable warning surface in the lower 2' adjacent to traffic of throat of ramp only. For details not shown, see Std. Drg. RD759.
6. Side flares that are not part of the path of travel may be any slope.
7. Sidewalk flare is not necessary where the ramp is protected from pedestrian cross-travel.
8. For the purpose of this drawing, a curb ramp is considered 'perpendicular' if the angle between the longitudinal axis of the ramp and a line tangent to the curb at the ramp center is 75° or greater.
9. Ramps for paths intersecting a roadway should be full width of path, excluding flares. When a ramp is used to provide bicycle access from a roadway to a sidewalk, the ramp should be 8' wide.
10. For sidewalk ramp placement options, see Std. Drgs. RD756 & RD757.
11. Check the gutter flow depth at ramp locations to assure that the design flood does not overtop the back of sidewalk at ramp. If overtopping occurs place an inlet at upstream side of ramp or perform other approved design mitigation.
12. Only use details allowed by jurisdiction.
13. Site conditions normally require a project specific design. See project plans for details not shown.

CALC. BOOK NO. N/A
BASELINE REPORT DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

SIDEWALK RAMP DETAILS

2015

DATE	REVISION DESCRIPTION
01-2015	REVISED & ADDED NOTES
07-2015	ADDED DETAIL & REVISED NOTES

Effective Date: December 1, 2015 - May 31, 2016

Sidewalk

Turning space
Min. level area 4' x 4'
4' x 5' when constrained (with longer dimension in direction of ramp travel).
For the purposes of this application, a 2% maximum construction slope (for drainage) is considered level.

Truncated dome detectable warning surface

Slope 1.5% design (2% max. construction)
(Normal sidewalk cross slope)

Slope 7.5% design (8.3% max. construction)
(Ramp length 15' max.)

*2' See general note 5

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New Curb Ramp Construction Specifications

00759.02 Required Submittals - Before the preplacement conference, submit the following:

- **(a) Working Drawings** - Before the preplacement conference, submit six copies of **unstamped working drawings according to 00150.35 for all sidewalk ramp work. Include field verification of each ramp location, and all dimensions and grades necessary to demonstrate compliance with the Standard Drawings and Plans.** Notify the Engineer of any deficiencies or non-compliance with the Standard Drawings or Plans. The Engineer will provide additional or modified Plans as needed.
- **(b) Sidewalk Ramp Plan** - At least 21 Calendar Days before the sidewalk ramp work is scheduled to begin, **submit a plan for accomplishing all phases of the sidewalk ramp work,** including the following:
  - Surface preparation
  - Compliance with working drawings and details submitted under 00759.02
  - Compliance with current Standard Drawings and Plans
  - Waste handling and disposal

  Do not begin any sidewalk ramp work before the plan for completing the work has been approved.

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00759.03 Preplacement Conference - **Before beginning any sidewalk ramp work, meet with the Contractor's supervisory personnel** and quality control manager, any sidewalk ramp subcontractors' supervisory personnel, and the Engineer at a mutually agreed upon time.

If the Contractor's personnel change, or if the Contractor proposes a significant revision to the plan for accomplishing the sidewalk ramp work, the Engineer may require additional preplacement conferences.

00759.46 Concrete - Add the following sentence after the first sentence:

Before placing concrete, **verify that forms are correctly positioned** to produce sidewalk ramps with proper slopes and dimensions to comply with the Standard Drawings and Plans.

00759.50(c) Driveways, Walks, and Surfacings - Add the following paragraph to the end of this subsection:

In addition, finish concrete surfaces of sidewalk ramps to be within the established slopes and dimensions allowed by the Standard Drawings and Plans. **Repair or remove and replace sidewalk ramps not meeting the Standard Drawings and Plans at no additional cost to the Agency.**

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New Curb Ramp Construction Specifications

00759.90 Payment - Add the following pay items:

Pay Item Unit of Measurement

(l) Concrete Driveway Connections..... Square Foot

(m) **Retrofit Concrete Sidewalk Ramps** .....Each

(n) **Extra for New Sidewalk Ramps**.....Each

Item (m) includes saw cutting and removing existing concrete walks, curbs, or ramps, and replacing them with new sidewalk ramps and curbs.

(Use the following paragraph when item (n) is included in the pay item list above.)

Item (n) includes the additional work required to construct a new sidewalk ramp in a new concrete sidewalk or monolithic curb and sidewalk. Payment for the area of the new sidewalk ramp will be made under the concrete walk or sidewalk pay item.

No separate or additional payment will be made for Sidewalk Ramp Working Drawings, Sidewalk Ramp Plan, Preplacement Conference, concrete form verification, and any necessary repair or removal and replacement of Sidewalk Ramps.

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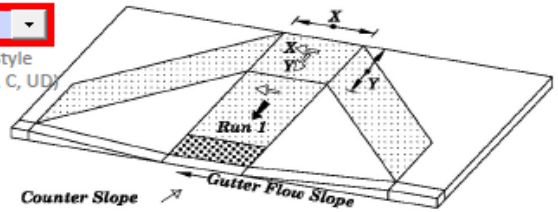
ADA Ramp Inspection Form

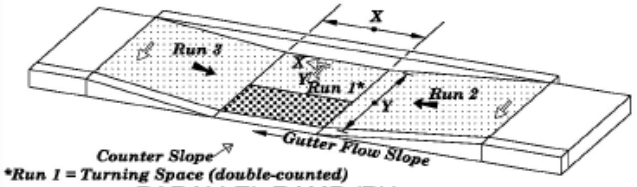
Submit by E-mail

Project Name (Section) | Construction Year | Contract No. | Highway No. | MP | Cross Street Name

Ramp Style (PR, PL, C, UD)

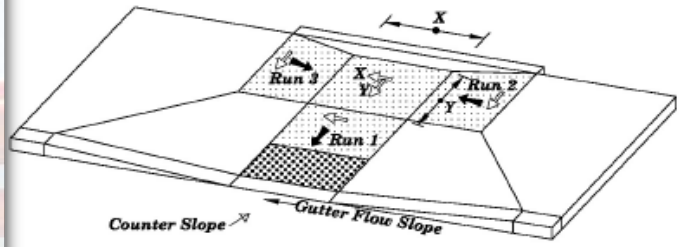


PERPENDICULAR RAMP (PR)



*Run 1 = Turning Space (double-counted)

PARALLEL RAMP (PL)



COMBINATION RAMP (C)

???

UNIQUE DESIGN (UD) - take photo

- Pedestrian Access Route (to measure clear width)
- Truncated dome detectable warning surface
- Cross Slope (2.0% max.)
- Running Slope (8.3% max.)
- Counter Slope (5.0% max.)
- Landing Area (X & Y) (2.0% max. / 4' x 4' min.)
- Gutter Flow Slope (as directed)

RAMP RUN 1		Pass	Fail
Running Slope 1		≤ 8.3%	> 8.3%
Cross Slope 1		≤ 2.0%	> 2.0%
Detectable Warning		(TD, X)	None
Lip Height		≤ 1/4"	> 1/4"
Gutter Flow Slope			
Counter Slope (+/-)		≤ 5.0%	> 5.0%
Slope Differential = Running Slope 1 + Counter Slope	0		

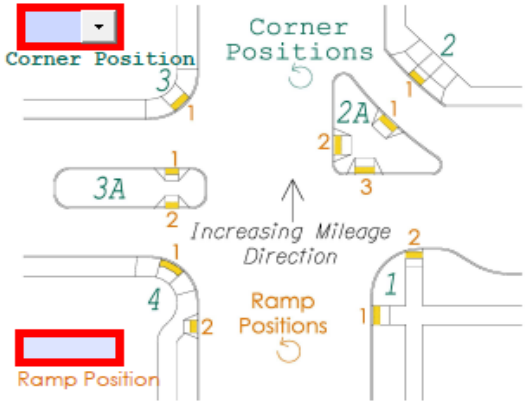
RAMP RUN 2		Pass	Fail
Running Slope 2		≤ 8.3%	> 8.3%
Cross Slope 2		≤ 2.0%	> 2.0%

RAMP RUN 3		Pass	Fail
Running Slope 3		≤ 8.3%	> 8.3%
Cross Slope 3		≤ 2.0%	> 2.0%

TURNING SPACE		Pass	Fail
Landing Width X		≥ 4'	< 4'
Landing Length Y		and	or
Landing Slope X		≤2.0%	>2.0%
Landing Slope Y			

MISCELLANEOUS		Pass	Fail
Clear Width (feet)		≥ 4'	< 4'
Physical Condition (G,F,P)			
ADA Design Exception (Y,N)			
Design Ex. Control Number			

Corner Position



Ramp Position

Function Condition (G,F,P)

Good (G) = all applicable boxes on left pass.
Fair (F) = all boxes on left pass, except detectable warning
Poor (P) = any box fails other than detectable warning

See also Standard Drawings RD755 and TM458 to assess provisions not shown: (flares, inlets, pushbutton reach, alignment, etc.)

Comment:

Inspector's Signature | Date

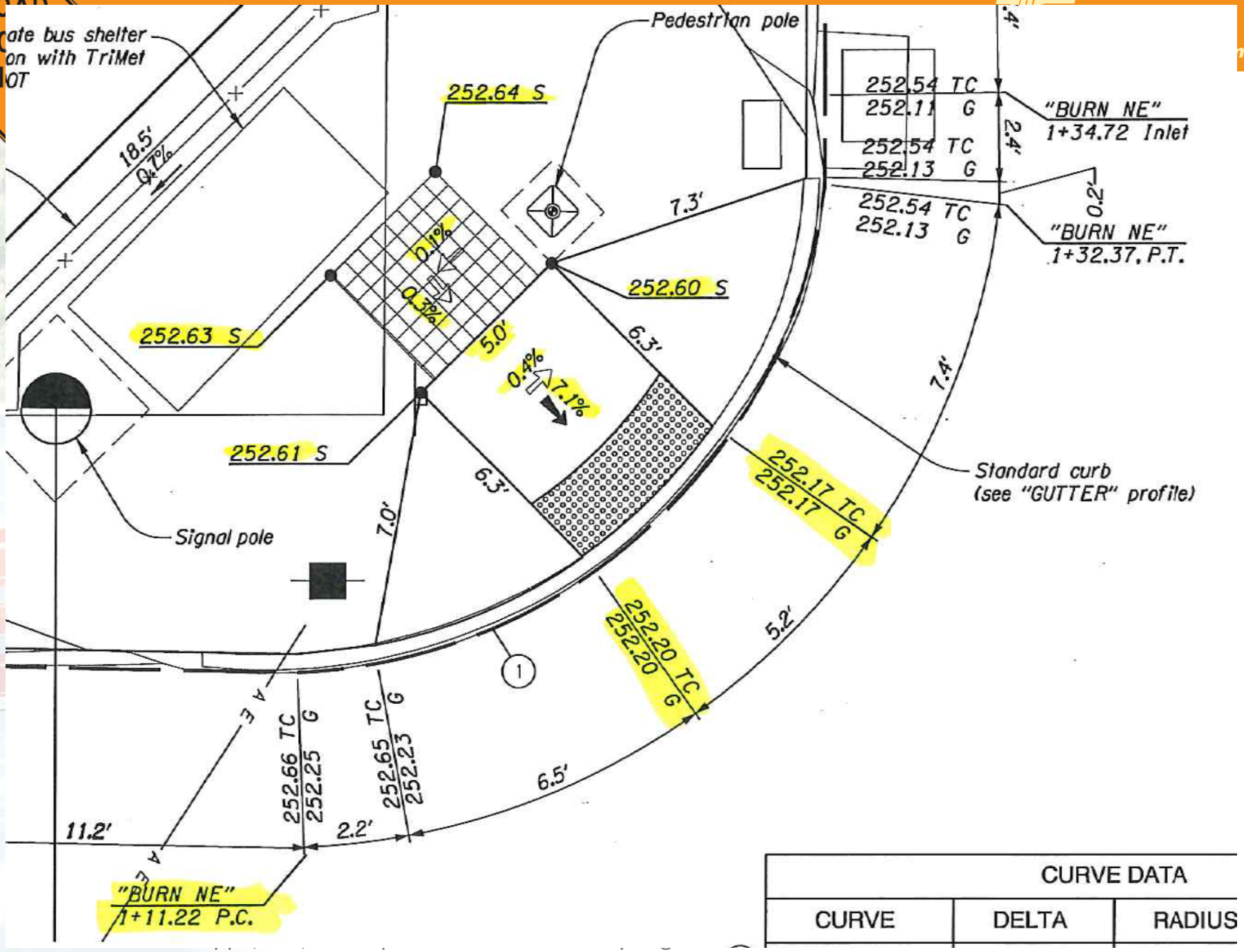
Print name clearly | Certification No.

Company/Agency | Crew No. (ODOT)

734-5020 (11-3-2015)

Reset Entire Form | Keep Intersection, Reset Fields

http://www.oregon.gov/ODOT/HWY/CONSTRUCTION/Pages/HwyConstForms1.aspx



CURVE DATA		
CURVE	DELTA	RADIUS

Manual for Assessing Safety Hardware (MASH)

Crash Test History

- 1962: HRCS Circular 482
- 1973: NCHRP Report 153
- 1978: TR Circular 191
- 1980: NCHRP Report 230
- 1993: NCHRP Report 350
- 2009: Manual for Assessing Safety Hardware (MASH)
- Coming soon – 2015 MASH

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Crash Test..

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Crash Test…

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Proposed Implementation

Proposed MASH 2015 Implementation Plan

- Based on anticipated available products meeting MASH
- After following dates, only safety hardware meeting MASH 2015 allowed on NHS for new permanent installations and full replacements.

Proposed Implementation

- Dec 31 2017: w-beam and cast-in-place Conc. Barrier
- June 30 2018: w-beam Terminals
- Dec 31, 2018: Cable Barrier, CB Terminals, Crash Cushions
- Dec 31 2019: Bridge rails, transitions, all other longitudinal barriers (including portable installed as permanent), all other terminals, sign supports, and other breakaway hardware.
- Temporary work zone devices, including portable barriers, manufactured after Dec.31, 2019 must have been successfully tested to MASH. Such devices manufactured on or before this date, and successfully tested to NCHRP 350 or MASH 2009 may continue throughout normal service life.

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