



ODOT 2013 Transportation Conference Roundabout Update

Finding Balance



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*September 24, 2013
Wilsonville, Oregon*



Roundabout Update

2010 - Roundabout Proposed at Jct. of OR 140 & OR 39, East of Klamath Falls
Senator From District 28 Raises Concerns About Passage of Large Farm
Equipment, Large Trucks and Large Specialty Horse Trailers





Roundabout Update

➤ 2011 – Senate Bill 580 Introduced into Committee

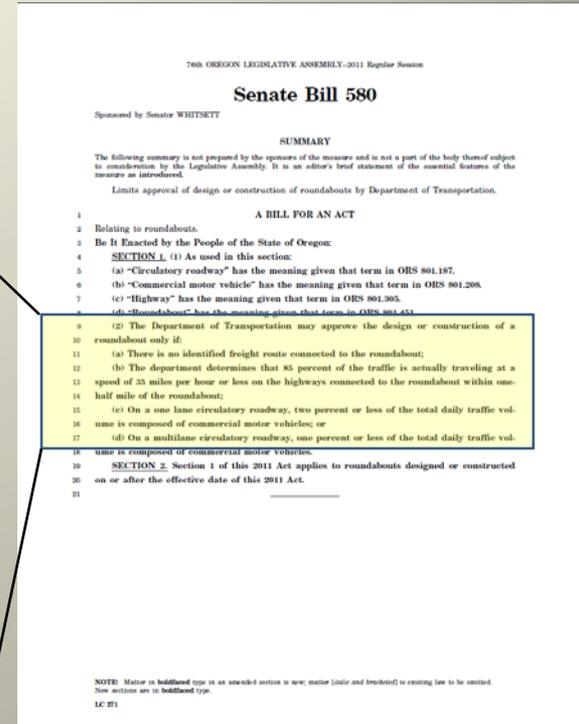
(2) The Department of Transportation may approve the design or construction of a roundabout only if:

(a) There is no identified freight route connected to the roundabout;

(b) The department determines that 85 percent of the traffic is actually traveling at a speed of 35 miles per hour or less on the highways connected to the roundabout within one half mile of the roundabout;

(c) On a one lane circulatory roadway, two percent or less of the total daily traffic volume is composed of commercial motor vehicles; or

(d) On a multilane circulatory roadway, one percent or less of the total daily traffic volume is composed of commercial motor vehicles.



Whoa Didn't See That Coming.

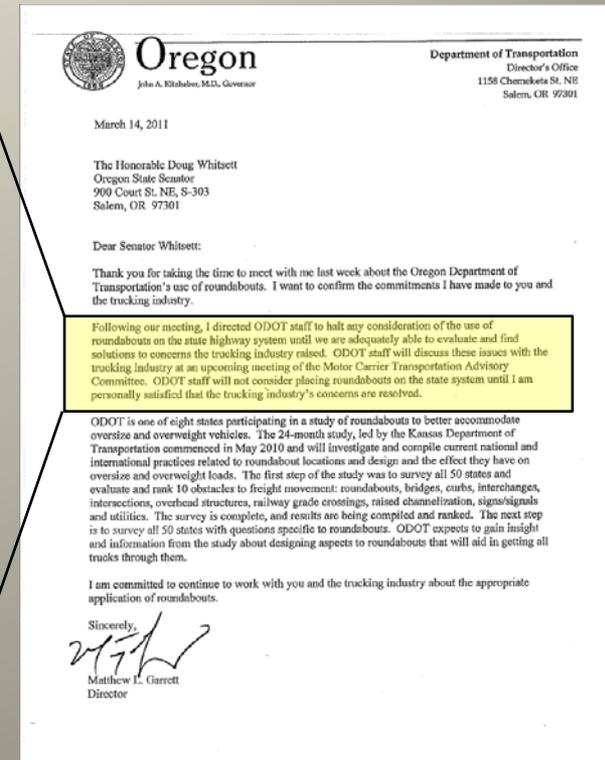


Roundabout Update

Fortunately - SB 580 Dies in Committee – **However**

- ❖ 2008 Requirement to Analyze a Roundabout When Determining Appropriate Intersection Control Options is Temporarily Suspended
- ❖ ODOT Director Commits ODOT to a Moratorium on Planning or Designing Roundabouts Until Industry Concerns Can Be Addressed

"Following Our Meeting, I directed ODOT staff to halt any consideration of the use of roundabouts on the state highway system until we are adequately able to evaluate and find solutions to concerns the trucking industry raised. ODOT staff will discuss these issues with the trucking industry at an upcoming meeting of the Motor Carrier Transportation Advisory Committee. ODOT staff will not consider placing roundabouts on the state system until I am personally satisfied that the trucking industry's concerns are resolved."





Roundabout Update

- October 2011 – ODOT and MCTAC Agree to Create a Steering Committee to Discuss Roundabout Concerns and Solutions. Included Representatives from Trucking Co., AAA of Oregon, City and County Public Works, ODOT Policy and Design Staff
- January 2012 – First Meeting of Steering Committee. Two Sub-teams Formed – One for Policy and One for Design
- Spring/Summer 2012 – Policy Team Meets Twice to Coordinate Roundabout Policy Across ODOT (Design, Motor Carrier, Planning, Etc.); Design Team Meets Once to Determine Critical Design Issues.
- September 2012 – ODOT Writes Draft Policy Directive to Define How ODOT Will Partner With The Freight Industry and Other Highway Stakeholders When Siting and Designing Roundabouts
- October 2012 – Second Meeting of Steering Committee. Draft Directive is Approved. Oregon Trucking Association Sends Memo to Director Garrett and Senator Whitsett in Support of Lifting the Moratorium.
- November 2012 – Final Directive Signed



Roundabout Update

November 2012 – Department Directive - Roundabouts on State Highway System Signed and Becomes Effective

What Does It Say?

ODOT Will Address the Trucking Industry's Concerns in Three Ways:

1. This directive and the edits made to the individual ODOT manuals and guidelines listed below make clear that roundabouts proposed to be located on the state highway system shall be designed so as not to impede the freight on the highway, including evaluation of how over-dimension vehicles will be accommodated.

2. Roundabout-specific communication with the trucking industry is necessary on a case-by-case basis on decision elements such as route mobility, design vehicle exceptions, over-dimension vehicle to be accommodated, and typical design elements for any proposed roundabout on the state highway system.

3. Prior to construction of a roundabout on the state highway system, a documented agreement will be memorialized with the designated statewide representatives of the trucking industry that the roundabout is properly sized. Properly sized means there is agreement on the selection of the design vehicle to use in the design process as provided in the Highway Design Manual chapter on Roundabouts, and that over-dimension vehicles can be appropriately accommodated.



Highway Division
DIRECTIVE



planning, during project development, or during development review, conversation with the trucking industry is required.

ODOT will address the trucking industry's concerns in three ways:

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GUIDELINES:

Typical times when roundabouts may be discussed or proposed are during planning activities involving community level and facility level planning, during project development for highway improvement projects and during development review of private developments that impact the state highway system.

The following manuals/guidelines have been or will be edited to address design related issues to assure freight movement is accommodated, as well as to address how to consider roundabouts for planning, project development and design, and development review.

- Highway Design Manual
- Traffic Manual
- Transportation System Planning Guidelines
- Interchange Area Management Plan Guidelines
- Project Delivery Guidelines
- Project Leader's Checklist
- Analysis and Procedures Manual
- Development Review Guidelines

Following the Directive given above and using the guidance provided in these manuals/guidelines provides good communication with the trucking industry that will result in appropriate decisions about where roundabouts can be placed on state highways. The



Roundabout Update

2009 – ODOT Joins a TRB, Pooled Fund Study with 7 Other State DOTs to Investigate Oversize and Overweight (OSOW) Trucks and Roundabouts . KSU Leads Study, Connecticut, Iowa, Kansas, Mississippi, Ohio, Oregon, Wisconsin, Washington Provide Technical Review – Final Report Published - October 2012

Oregon

**23' Wide
16.5' High**



Oregon

**Length – 225 ft.
Weight – 244,000 lbs.**



North Carolina

**Length - 300' - 36 axles
Weight - 1.98 Million lbs.
Not Including 4 Trucks**



Kansas

**Length – 249 ft.
Weight – 681,600 lbs.**

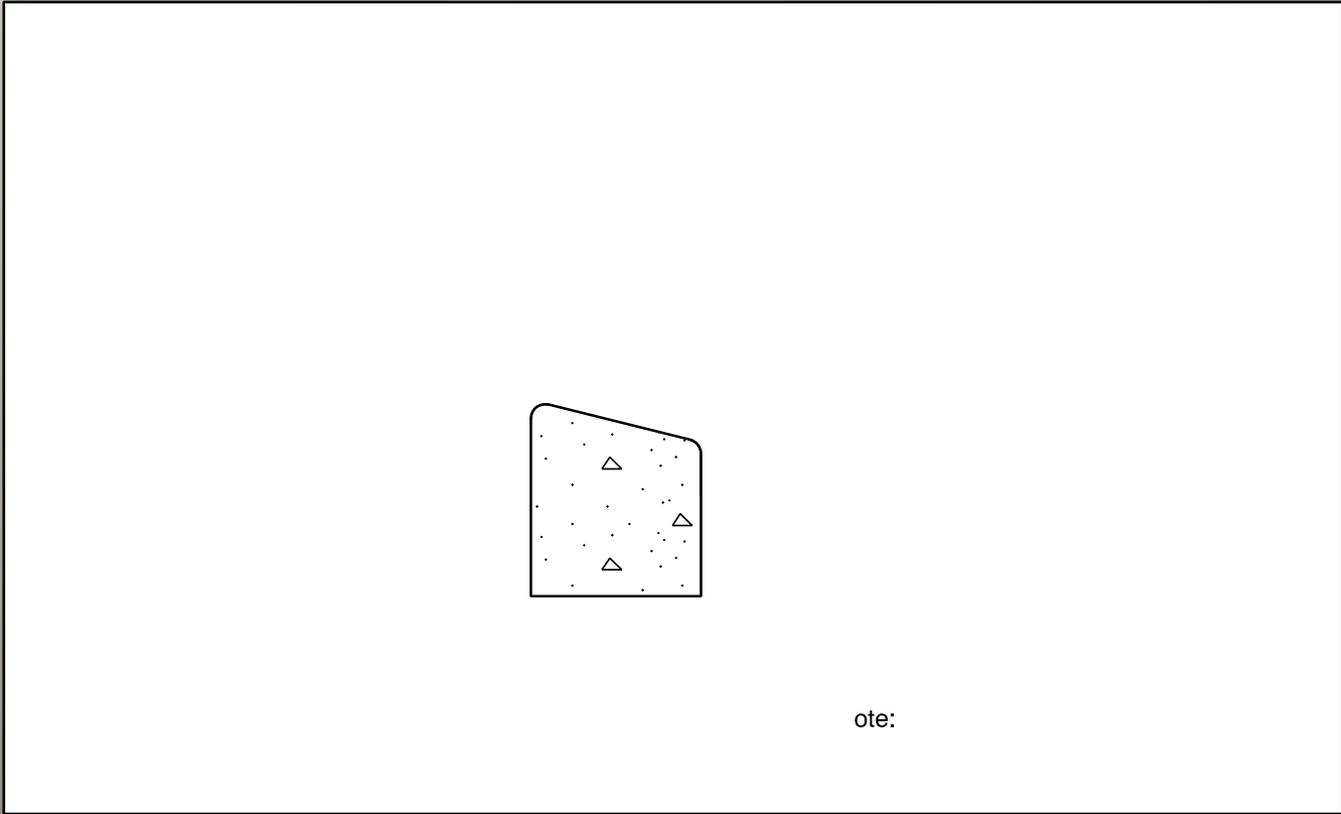


**Kansas – OS/OW Loads
1999 – 433
2007 – 6,402**



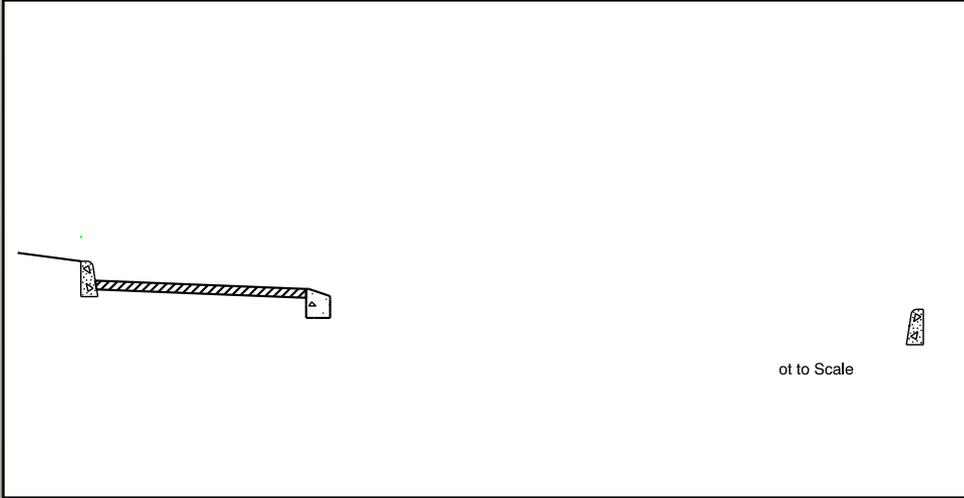
Roundabout Update

Modified Truck Apron Curb Design to Accommodate Trucks

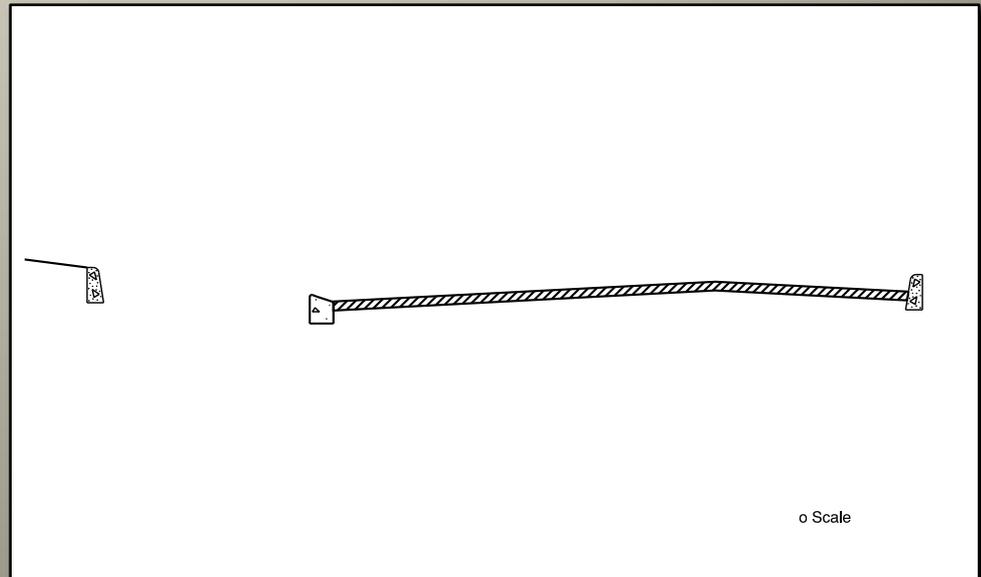




Roundabout Update



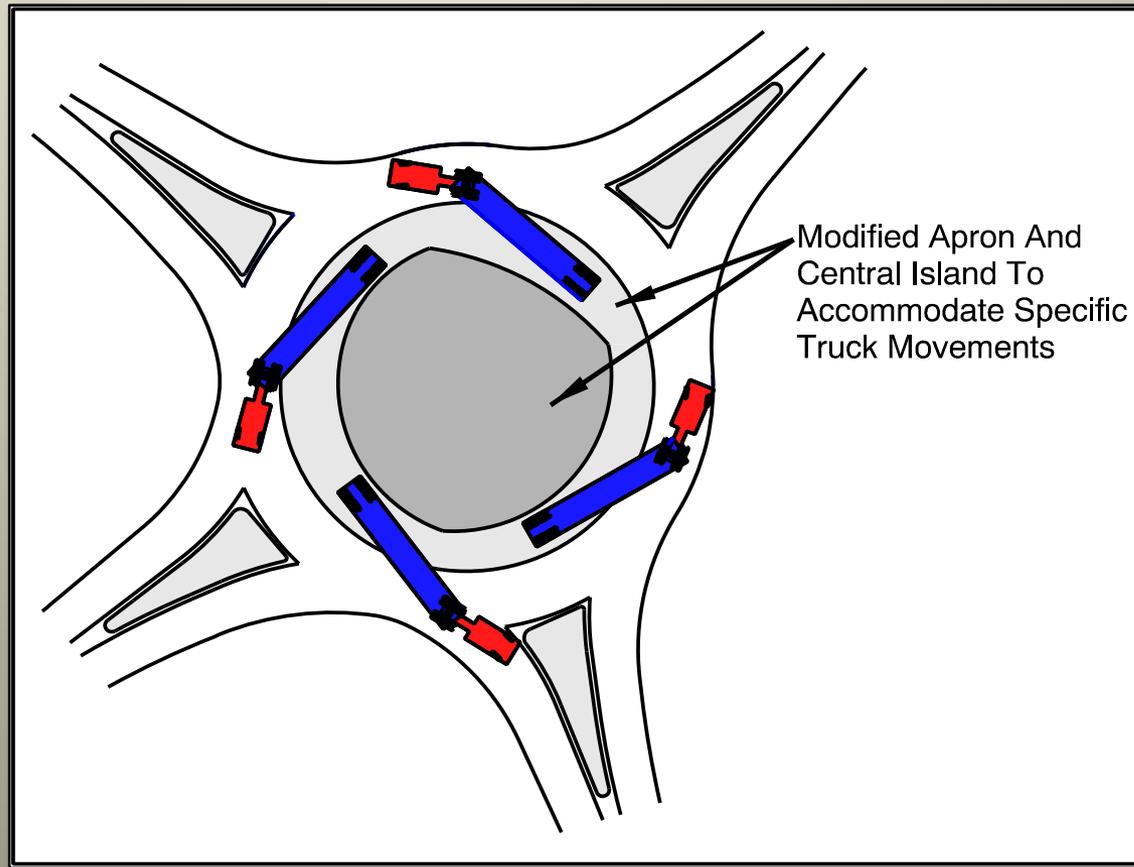
**Circulating Roadway and
Truck Apron Design Options
to Accommodate Trucks**





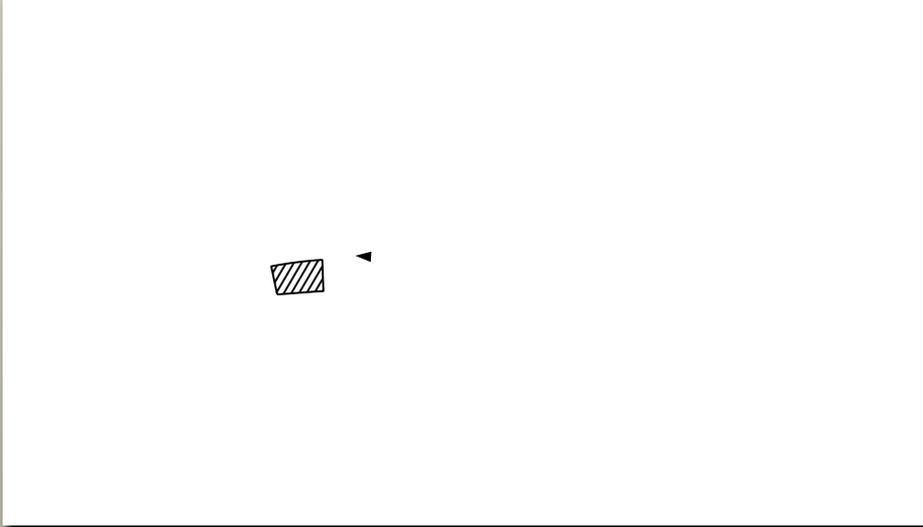
Roundabout Update

Modified Central Island and Truck Apron to Accommodate Trucks

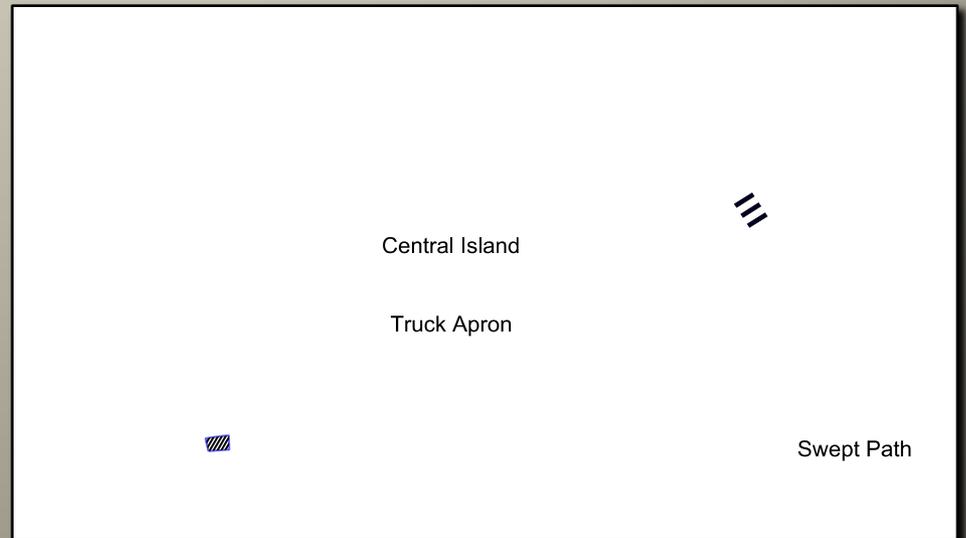




Roundabout Update

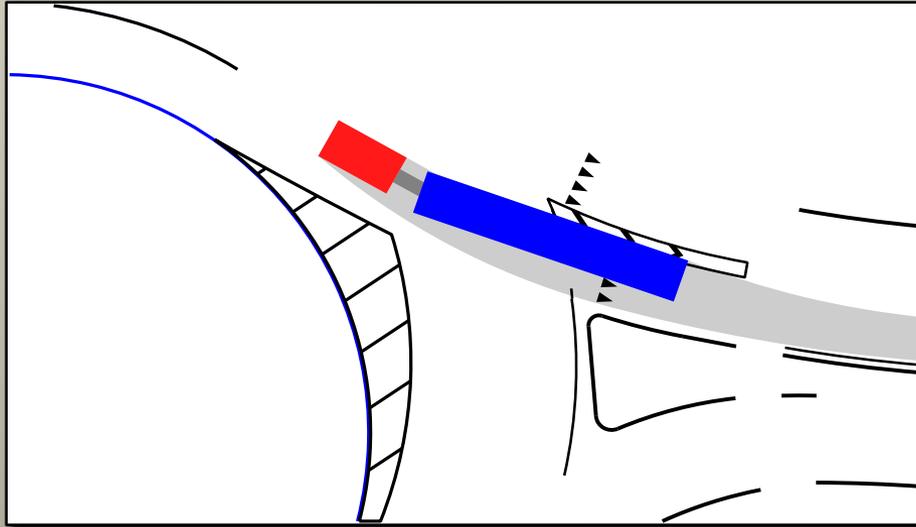


**Entrance Truck Apron Design
to Accommodate Trucks**

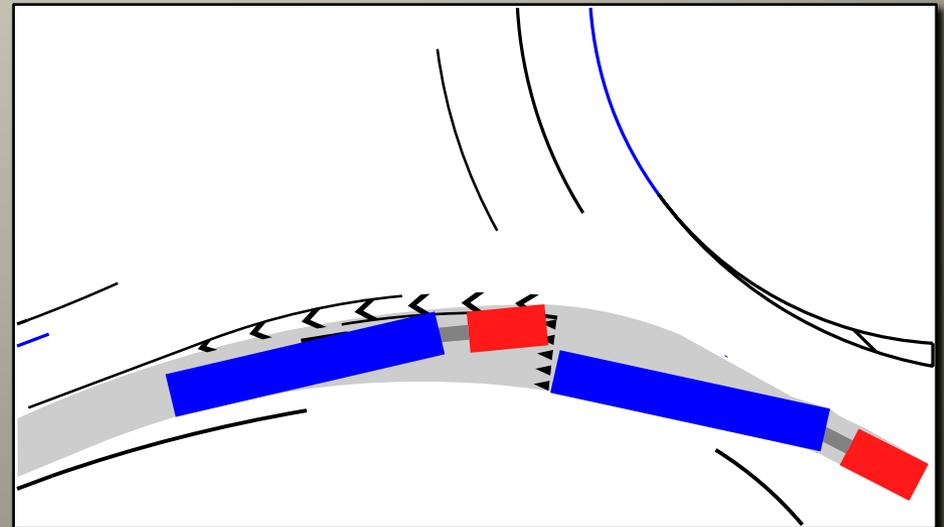




Roundabout Update



**Entrance Gore Striping Option
to Accommodate Trucks**





Roundabout Update

Wider Truck Aprons to Accommodate Trucks



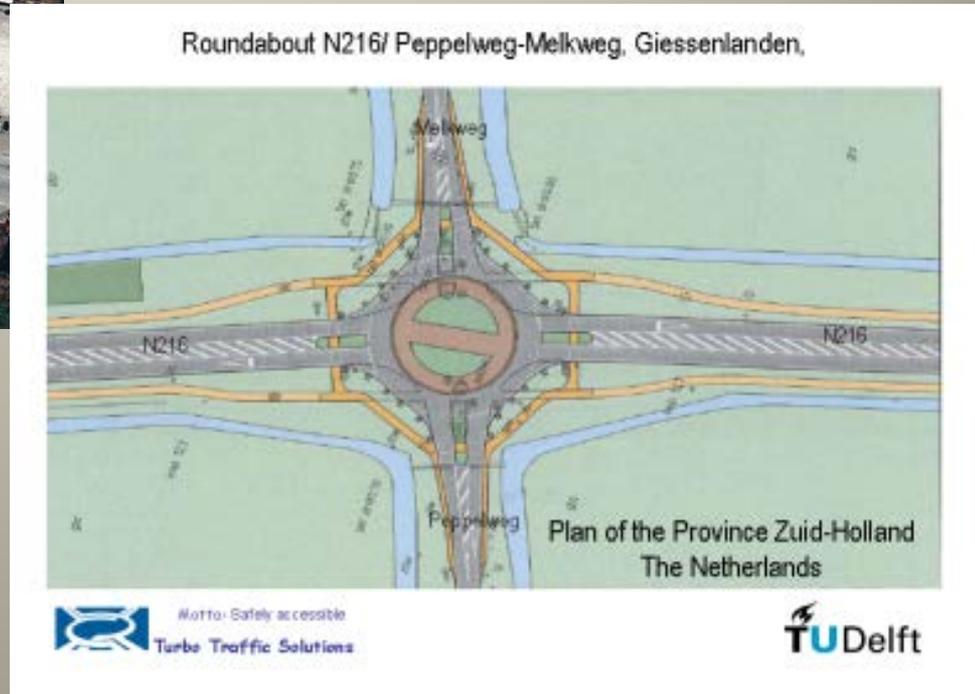


Roundabout Update Central Island Design Options to Accommodate Trucks



Straight Pass-Through

Gated Central Island Pass-Through



Offset Pass-Through



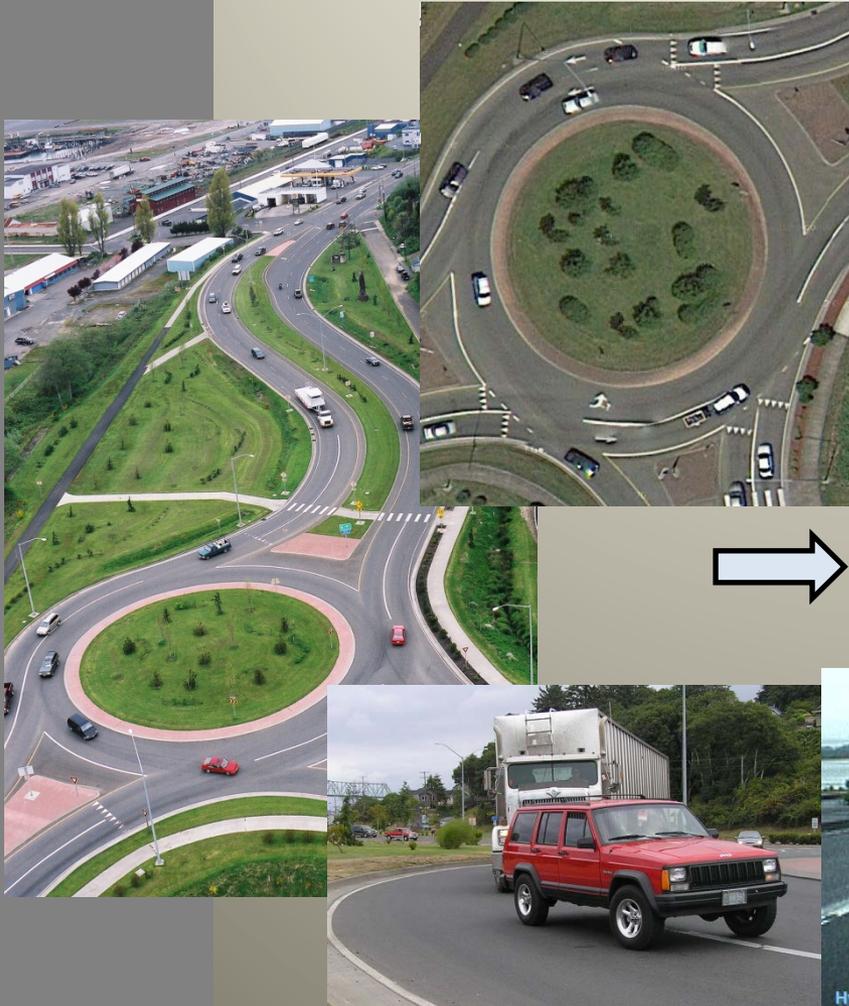
Roundabout Update

➤ **2005;2006** – Regional Office Fielding Complaints From Trucking Companies About the Astoria Roundabout. ODOT Investigation of Astoria Roundabout to Determine Extent of Problems and/or Solutions.

- 1996-2002 (BR) – 1 Truck Involved Crash
- 2003-2004 (AR) – 0 Truck Involved Crashes
- 2005-2006 – 1 Truck Involved Crash/year
- 2007-2011 – 2 Truck Involved Crashes/Year
- 2005-2011 – Total - 10 Truck Involved Crashes
All Sideswipe/Overtaking, 9-PDO, 1-Injury C
- 2012 - First Half – 0 Truck Involved Crashes

2011 Oregon Legislature Revises ORS 811.292
“Failure to Yield Right of Way Within Roundabout”

Class C Traffic Violation to Pass or Drive Beside a Commercial Vehicle in a Roundabout





Roundabouts in Oregon (As of August 2013)

Bend	26	(2)	Wash. Co.	3	(1)
Springfield	6	(1)	Beaverton	2	
Sherwood	4	(1)	Albany	1	
Clackamas Co.	6	(2)	Astoria	1	(1)
Lake Oswego	2		Medford	1	
Oregon City	1		Tigard	1	
Wilsonville	3		Newberg	3	
Madras	2		Redmond	1	
Eugene	2		Sunriver	10 {Circles}	
Portland	3	(1)	Hillsboro	1	
	27	{Circles}			

Total: 106 (9)

() = # of multi-lane roundabouts

Red -Central Oregon - 39

Blue – Willamette Valley - 12

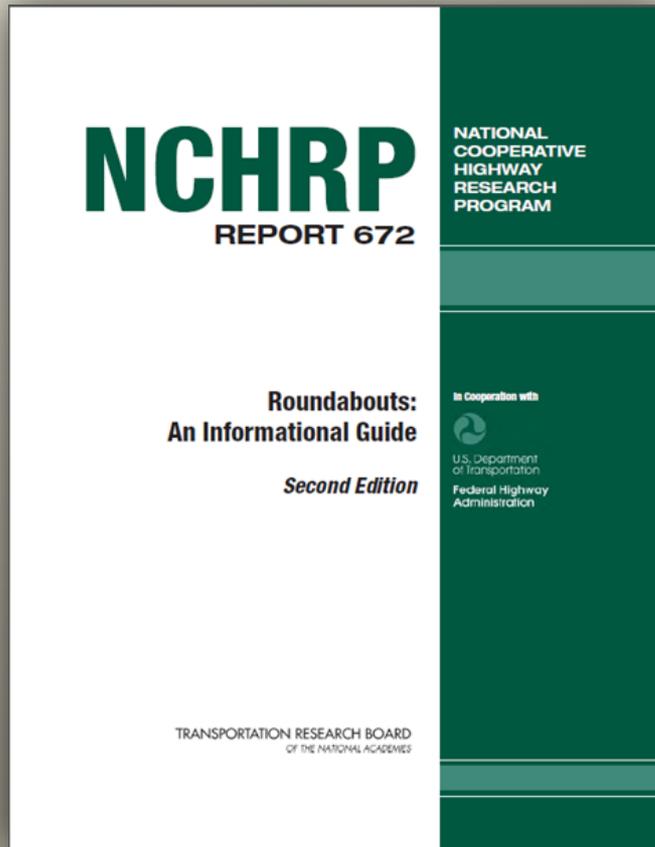
Green – Portland Area - 53

Purple – Coast - 1

Orange – Southern Oregon - 1



NCHRP Report 672
Roundabouts: An Informational Guide, Second Edition



http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_672.pdf



ORS 366.215 – Reduction of Vehicle-Carrying Capacity

- **2003-2004 – ORS 366.215 Creation of State Highways; Reduction in Vehicle-Carrying Capacity** – Legislature Amends ORS 366.215 With No Input From ODOT Technical Staff. Legislation Severely Restricts Roadway Design Options on the State Highway System.

366.215 Creation of state highways; reduction in vehicle-carrying capacity.

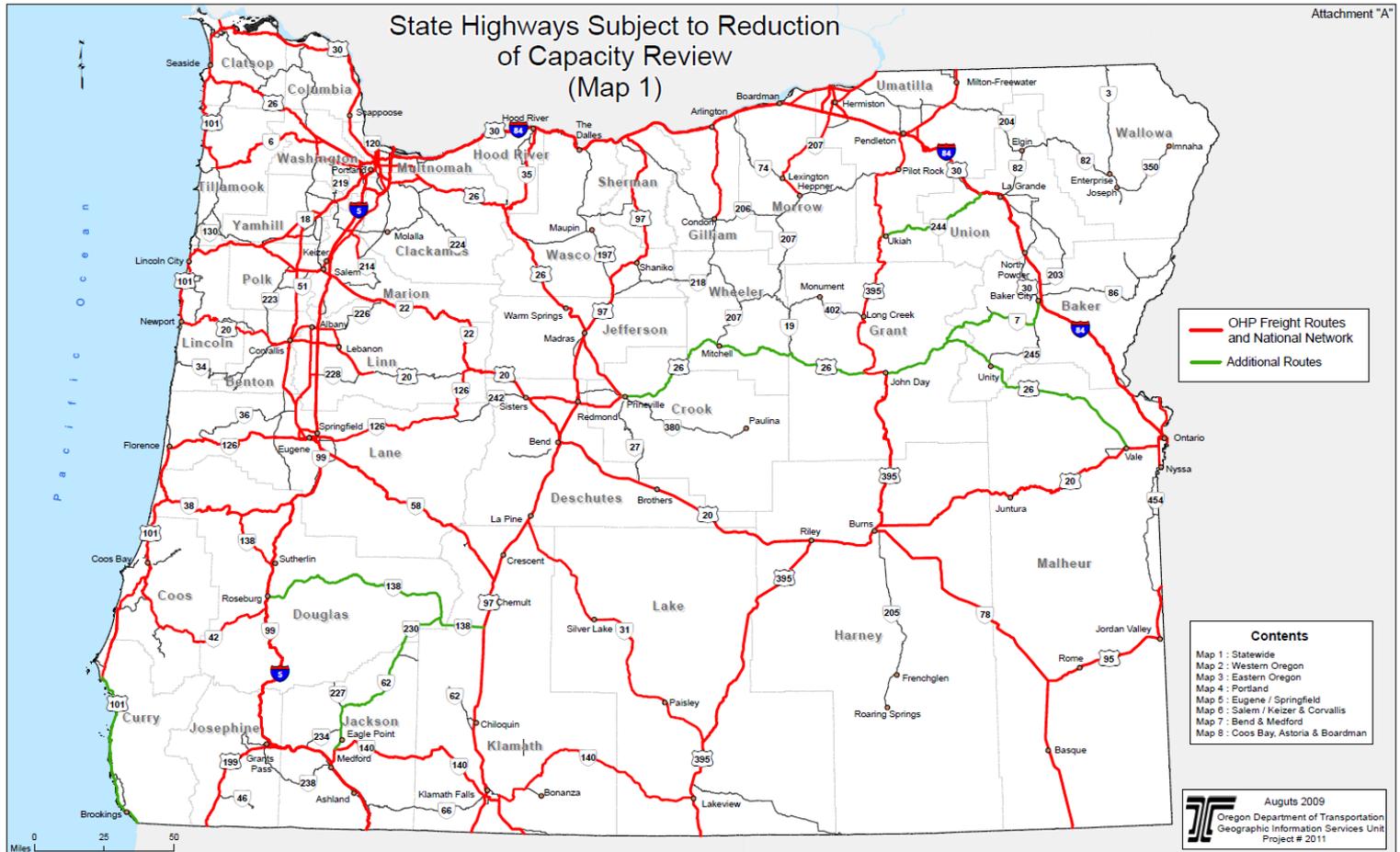
- (1) The Oregon Transportation Commission may select, establish, adopt, lay out, locate, alter, relocate, change and realign primary and secondary state highways.
- (2) **Except as provided in subsection (3) of this section, the commission may not permanently reduce the vehicle-carrying capacity of an identified freight route when altering, relocating, changing or realigning a state highway unless safety or access considerations require the reduction.**
- (3) **A local government, as defined in ORS 174.116, may apply to the commission for an exemption from the prohibition in subsection (2) of this section. The commission shall grant the exemption if it finds that the exemption is in the best interest of the state and that freight movement is not unreasonably impeded by the exemption.**

Originally, “Identified Freight Route” Meant State Highway Freight Routes – Highways Designated in The 1999 Oregon Highway Plan as The Statewide Network of “FR” Highways. However, Now It Has Been Expanded to The NHS Routes as Well.



ORS 366.215 – Reduction of Vehicle-Carrying Capacity

ODOT Map of Highways Applicable to ORS 366.215 Requirements





ORS 366.215 – Reduction of Vehicle-Carrying Capacity

ORS 366.215 Creation of State Highways; Reduction in Vehicle-Carrying Capacity

No Definition for “Vehicle-Carrying Capacity” provided.

We First Assumed it Was Related to Vehicle to Capacity Ratio (V/C) and Freight Haulers Were Concerned With Congestion.

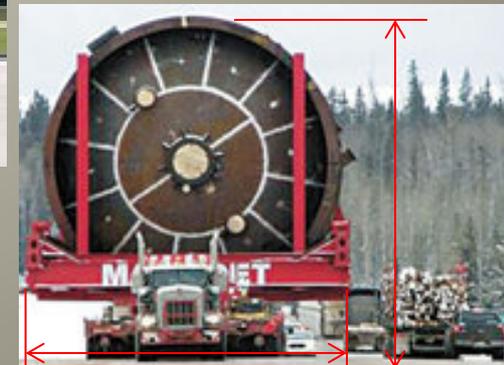
However - Truckers Meant – The “Hole in the Air” – The physical Space a Truck and Its Load Require to Move Through a Section of Roadway.



Normal - ok



Reasonable?



What About Extreme?

... But What Does “Hole in the Air” Really Mean?



Oregon Administrative Rule 731-012

- **OAR 731-012-0010 – Purpose** “This division implements ORS 366.215. The purpose of this division is to define terms, identify a review process and facilitate communication and development of consensus during this review process”
- **OAR 731-012-0020 – Definitions**
- **OAR 731-012-0030 – Reduction Review Routes (ORS 366.215 Routes)**
- **OAR 731-012-0040 – Application of the Rule**
- **OAR 731-012-0050 – Determination of a Potential Reduction of Vehicle-Carrying Capacity**
- **OAR 731-012-0060 – Stakeholder Forum**
- **OAR 731-012-0070 – Stakeholder Forum Planning Input**
- **OAR 731-012-0080 – Proposed Actions for Access (Subject to OAR 734, Div. 51)**
- **OAR 731-012-0090 – Proposed Action for Safety**
- **OAR 731-012-0100 – Director Determination of Reduction of Vehicle-Carrying Capacity**
- **OAR 731-012-0110 – Chief Engineer Certification**
- **OAR 731-012-0120 – Local Agency Exemption from Restrictions Prohibiting Reduction of Vehicle-Carrying Capacity**
- **OAR 731-012-0130 – Commission Decision (OTC)**
- **OAR 731-012-0140 – Record Keeping**

August 20, 2013 – OAR 731-012 – Final Text Approved by OTC

August 26, 2013 – OAR 731-012 – Final Text Authorized



Oregon Administrative Rule 731-012

- **OAR 731-012-0030 – Reduction Review Routes (ORS 366.215 Routes)**
Reduction Review Routes include all parts of the state highway(s) that must be traveled to complete the prescribed route and/or connect with other state highways. This includes couplets and on and off ramps which are not included in the text description below.

Route	Begin Route	Begin Description (General Location)	End Route	End Description (General Location)
OR 6	US 101	Tillamook	US 26	Banks
OR 7	US 26	Austin	I-84	Baker City
OR 8	OR 47	Forest Grove	OR 217	Beaverton
OR 11	I-84	Pendleton		Washington Border
OR 18	US 101	Ons	OR 99W	
OR 19	OR 206	Condon	I-84	Arlington
OR 22	OR 18	Valley Junction	US 20	Santiam Junction
OR 31	US 97	La Pine	US 395	
OR 34	OR 99W	Corvallis	US 20	Lebanon
OR 35	US 26	Mt. Hood	I-84	Hood River
OR 38	US 101	Reedsport	OR 99	Drain
OR 39	OR 140	Klamath Falls		California Border
OR 42	US 101		I-5	Green
OR 47	OR 8	Forest Grove	US 26	
OR 58	I-5		US 97	
OR 62	I-5	Medford	OR 230	

731-012-0030

Reduction Review Routes

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Route	Begin Route	Begin Description (General Location)	End Route	End Description (General Location)
I-5		California Border		Washington Border
I-82	I-84	Hermiston		Washington Border
I-84	I-5	Portland		Idaho Border
I-105	OR 99	Engene	I-5	Springfield
I-205	I-5	Tualatin		Washington Border
I-405	I-5	SW Portland	I-5	NE Portland
US 20	US 101	Newport	0.14 mile east of Riggs Hill Rd	Sweet Home
US 20	OR 22	Santiam Junction		Idaho Border
US 26	US 101		I-405	NW Portland
US 26	99W	Portland		US 20
US 30 Bypass	US 30	NW Portland	I-5	NE Portland
US 30	US 101	Astoria	I-405	NW Portland
US 95		Nevada Border		Idaho Border
US 95S	OR 201			Idaho Border
US 97		Washington Border		California Border
US 101	US 30	Astoria	OR 6	Tillamook
US 101	OR 18	Ons	US 20	Newport
US 101	OR 126	Florence		California Border
US 199	I-5	Grants Pass		California Border
US 395		Washington Border		California Border
US 730	I-84	Boardman		Washington Border
OR 6	US 101	Tillamook	US 26	Banks
OR 7	US 26	Austin	I-84	Baker City
OR 8	OR 47	Forest Grove	OR 217	Beaverton
OR 11	I-84	Pendleton		Washington Border
OR 18	US 101	Ons	OR 99W	
OR 19	OR 206	Condon	I-84	Arlington
OR 22	OR 18	Valley Junction	US 20	Santiam Junction
OR 31	US 97	La Pine	US 395	
OR 34	OR 99W	Corvallis	US 20	Lebanon
OR 35	US 26	Mt. Hood	I-84	Hood River
OR 38	US 101	Reedsport	OR 99	Drain
OR 39	OR 140	Klamath Falls		California Border
OR 42	US 101		I-5	Green
OR 47	OR 8	Forest Grove	US 26	
OR 58	I-5		US 97	
OR 62	I-5	Medford	OR 230	



Oregon Administrative Rule 731-012

Secretary of State
Certificate and Order for Filing
PERMANENT ADMINISTRATIVE RULES

I certify that the attached copies are true, full and correct copies of the PERMANENT Rule(s) adopted on 08/22/2013 by the
Department of Transportation 731
Agency and Division Administrative Rules Chapter Number
Lauri Kunze (503) 986-3171
Rules Coordinator Telephone
365 Capitol St. NE, MS 51, Salem, OR 97301
Address
To become effective Upon filing, Rulemaking Notice was published in the June 2013 Oregon Bulletin.

RULE CAPTION

Implementation of ORS 366.215 involving reduction of vehicle-carrying capacity on highways termed freight routes
Not more than 15 words that reasonably identifies the subject matter of the agency's intended action.

RULEMAKING ACTION

Secure approval of new rule numbers with the Administrative Rules Unit prior to filing.

ADOPT:
731-012-0010, 731-012-0020, 731-012-0030, 731-012-0040, 731-012-0050, 731-012-0060, 731-012-0070, 731-012-0080, 731-012-0090, 731-012-0100, 731-012-0110, 731-012-0120, 731-012-0130, 731-012-0140

AMEND:

REPEAL:

RENUMBER:

AMEND AND RENUMBER:

Statutory Authority:
ORS 184.616, 184.619, 366.205

Other Authority:
None

Statutes Implemented:
ORS 366.215

RULE SUMMARY

ODOT has adopted these rules to specify the procedures and requirements needed to implement ORS 366.215. The rules define terms, identify review requirements and required communication during reviews of proposed changes to designated highways.

FILED
8-26-13 3:30 PM
ARCHIVES DIVISION
SECRETARY OF STATE

Lauri Kunze lauri.kunze@odot.state.or.us
Rules Coordinator Name Email Address

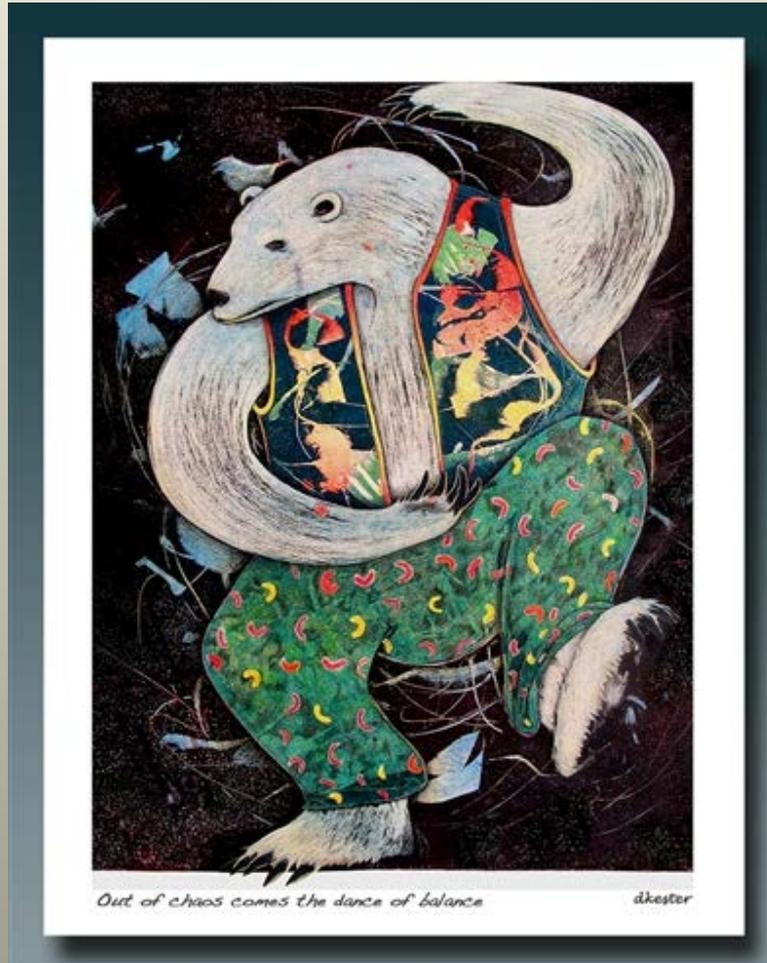
August 20, 2013 – OAR 731-012 – Final Text Approved by OTC

August 22, 2013 – OAR 731-012 – Permanent Rule Adopted

August 26, 2013 – OAR 731-012 – Permanent Rule Filed – Effective Upon Filing



“Out of Chaos Comes the Dance of Balance”



Questions?