



An introduction to Work Zone Safety & Mobility Policies & Procedures



ODOT Statewide
Mobility Program



Course Objectives

- Demonstrate an understanding of the Mobility Procedures Manual.
- Explain your roles & responsibilities in keeping state highways open for travel & business.
- Explain ODOT's Guiding Principle for Work Zone Safety.
- Identify mobility impacts, impediments & resources to assist in maintaining mobility within your projects.
- Recognize the significance of freight restrictions, delay thresholds, notification requirements and coordination expectations.

Agenda

1. Introduction
2. Mobility: What is it & why it matters to Oregon
3. Over-Dimension Permitting Basics
4. Work zone safety
5. Communication & coordination/Roles & responsibilities
6. Identifying mobility impacts & options for addressing them:
 - Permanent restrictions
 - Roundabouts
 - Temporary restrictions & critical route pairs
 - Staging, delay and detour routes
 - Contract & design considerations.
7. Resources
8. Conclusion





2. Mobility:

What is it? Why does it matter to Oregon?



mo·bil·i·ty

/mō'bilədē/

noun

Mobility Procedures Manual:

Mobility can be defined as the ease with which



people

&

goods

**move throughout
their community,
state & the world.**

Mobility...



balances with **Work Zone Safety.**



ODOT Mission: We provide a safe and reliable multimodal transportation system that connects people and helps Oregon's communities and economy thrive.

Mobility...



protects our **infrastructure.**



Mobility...



is vital to Oregon's economy.



Oregon's Economy Depends on Mobility

- Annual Weight Mile Taxes, Registration & Fees: **Approximately \$361 million, or about 29% of the State Highway Fund**
(Source: 2019-21 ODOT Ways & Means presentation)
- In 2016, roughly **240 million tons of freight** valued at **\$270 billion** moved within, to, and from Oregon via truck, rail, air, pipeline, and marine modes.
(Source: ODOT 2018 State of the System report)



Oregon's Economy Depends on Mobility



Vehicle miles
traveled on
Oregon Hwys
(ODOT, 2017)

21.4 Billion



Passenger vehicles
registered in Oregon
(DMV, 2018)

3.5 million



Trucks operating in
Oregon
(CCD, 2018)

366,907



2. Over-Dimension Permitting Basics





Over-dimension permitting basics

- **Annual** — A continuous trip permit that allows for exceeding legal dimensions or weights — overwidth, overlength, overheight, overweight. Valid for approved routes, dimensions, & weights.
- **Single Trip** — Primarily issued to exceed annual permit dimensions/weights or to authorize routes that are not covered by the annual permit. These also include “Superload” permits.



Legal size vs. oversize in Oregon

Legal Size	Oversize (Requiring a permit)*	
	Annual (Continuous Trip) Permit	Single-Trip Permit (incl. superloads)
<p>Width: Up to 8.5 feet</p> <p>Height: Up to 14 feet</p> <p>Length: Up to those allowed on Group Map 1</p>	<p>Width:</p> <ul style="list-style-type: none"> • Daytime: Up to 12 or 14 feet (depending on the route) • Nighttime: Up to 10 or 12 feet (depending on the load & route) <p>Height: Up to 14½ feet</p>	<p>Width: 14 – 20 feet wide (and sometimes wider)</p> <p>STPs over 12 feet can travel at night on any route, case-by-case with DM approval</p> <p>Height: Up to 17 feet (and sometimes higher)</p> <p>Length: Up to 199 feet (and sometimes longer)</p>
	<p><i>*These are general dimensions for each permit. There are exceptions & route-specific requirements.</i></p>	

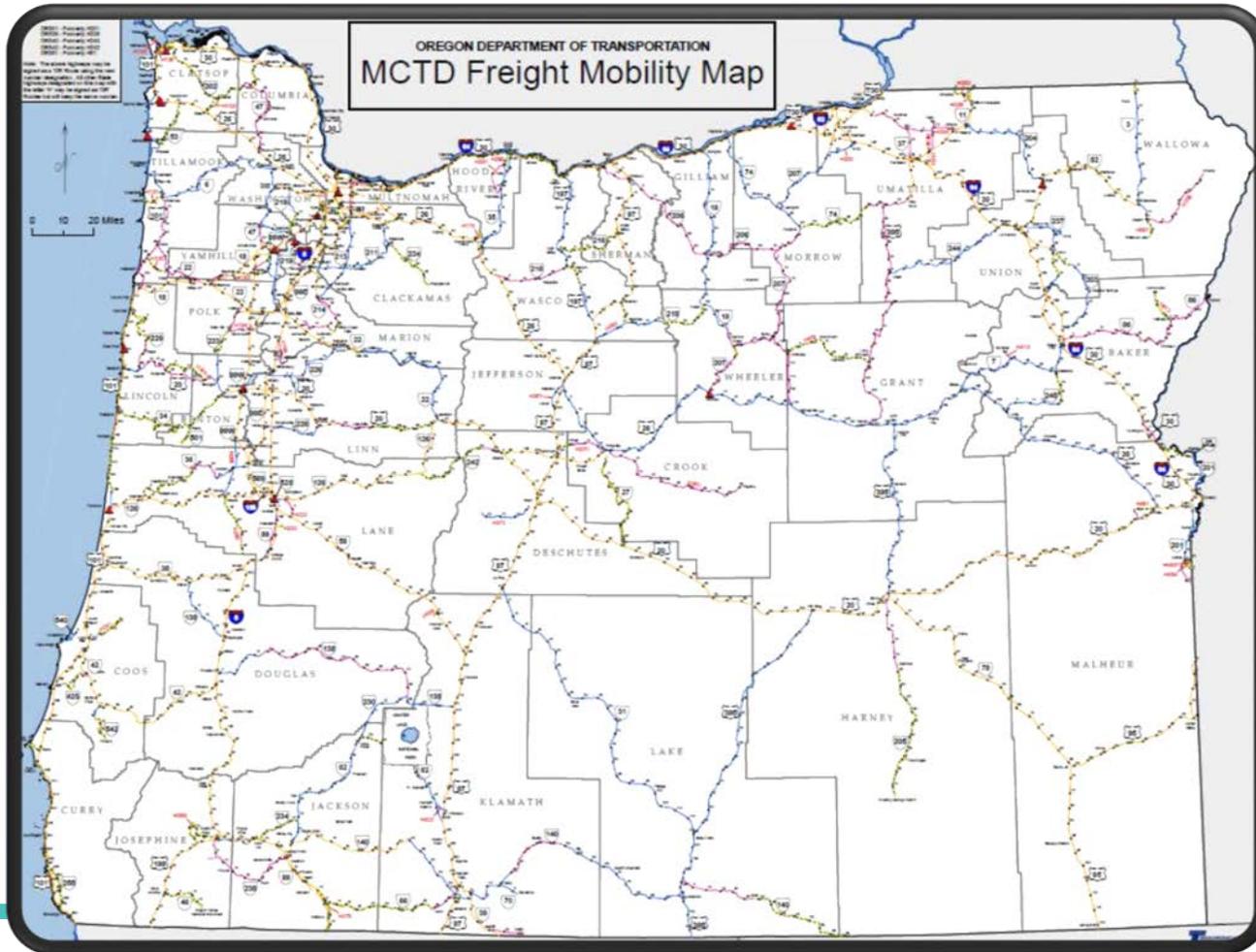
Over-Dimension Permits in Oregon

In 2019, the Commerce and Compliance Division's Over-Dimension Permit Unit issued:

- **60,231 Annual Permits**
(allows for unlimited trips)
- **66,541 Single-Trip Permits**
(includes superloads)

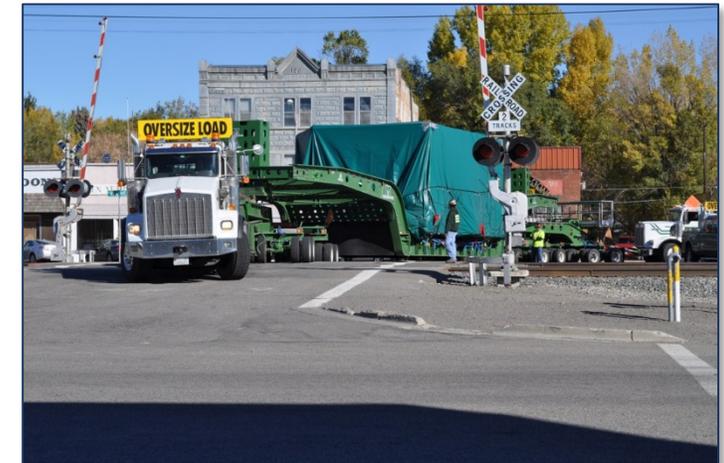


Freight mobility relies on primary routes with sufficient clearance limits



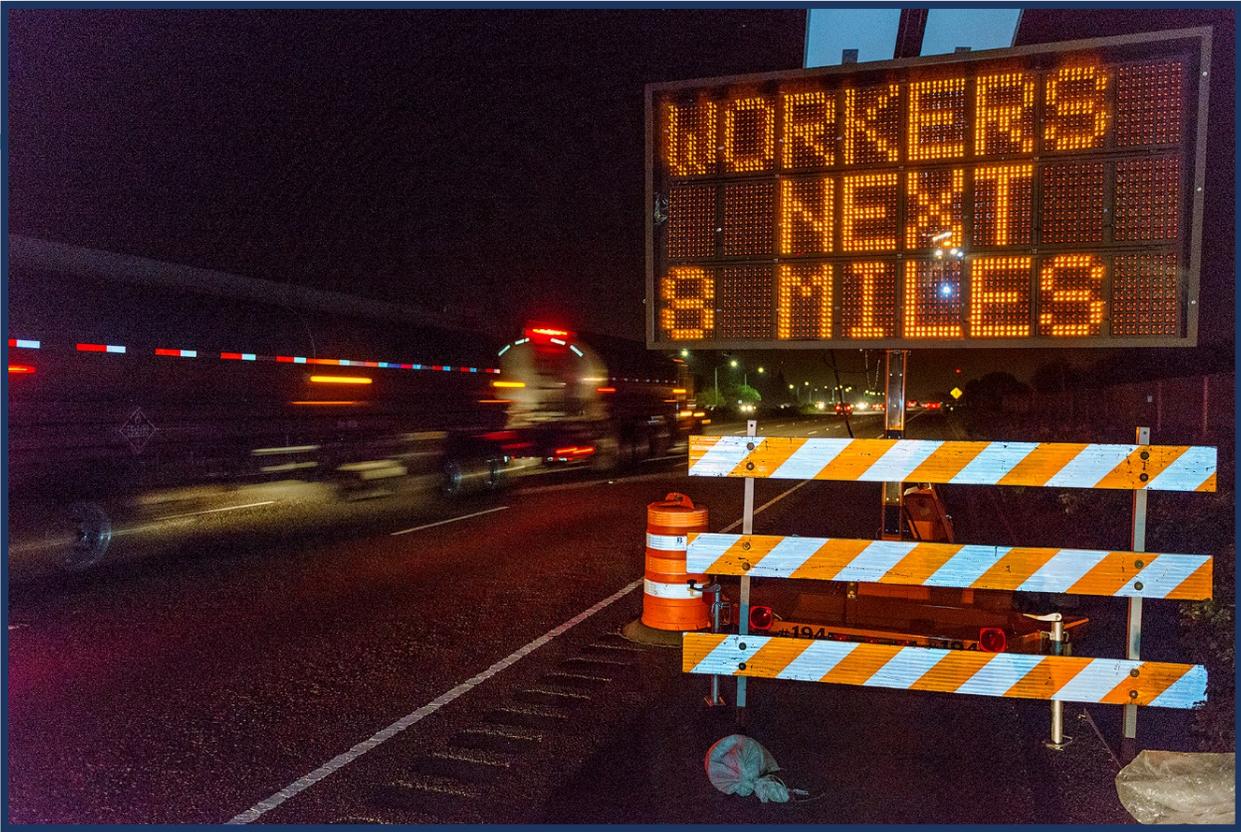
Secondary route clearance limits are equally important

- Farms move wide implements on secondary routes (and they're not required to obtain an over-dimension permit.)
- When a community suddenly needs a heavy hauler to bring in an emergency transformer, the routes needed are mostly secondary.





3. Work Zone Safety



Work Zone Safety

Work Zone Safety in Oregon

- 2011 – 2015, Oregon averaged **488 work zone related crashes** per year; averaging **13 serious injury** & **5 fatal** crashes.
- On average, a work zone crash occurs in Oregon **every 18 hours**.
- On average, more than **one person is hurt every day** in a work zone crash in Oregon.
- Road workers are **6X more likely to be injured or killed** on the job compared to other professions.



Work Zone Safety Guiding Principle

Oregon Work Zone Safety Executive Steering Committee

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.

Highway Directive TRA 10-16

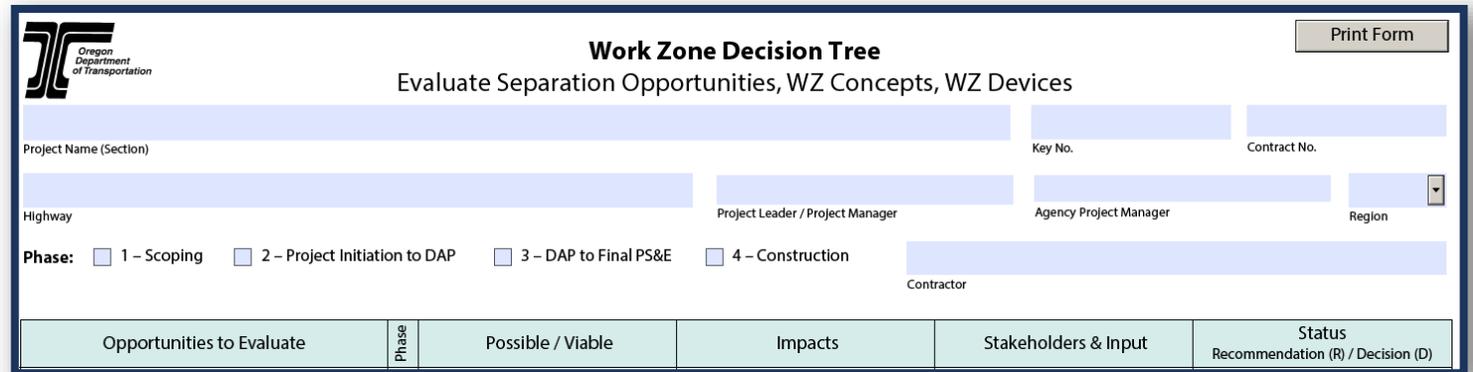
Oregon Department of Transportation  Highway Directive	NUMBER TRA 10-16	SUPERSEDES NEW
	EFFECTIVE DATE 11/08/16	PAGE NUMBER 01 OF 05
	VALIDATION DATE 11/08/19	
	AUTHORING BRANCH Technical Services Branch – Traffic / Roadway	
	SUBJECT Guiding Principle for Work Zone Safety	APPROVED SIGNATURE 

Work Zone Safety

- All stages of project delivery are subject to the Guiding Principle.
- Requires use the Work Zone Decision Tree (WZDT) & Transportation Management Plan (TMP).
- Consideration of options for:
 - Construction staging;
 - Traffic control;
 - Separation strategies;
 - Public/stakeholder involvement, and;
 - Communications that occur during the entire project

Work Zone Safety

Work Zone Decision Tree Form



The screenshot shows the 'Work Zone Decision Tree' form from the Oregon Department of Transportation. The form title is 'Work Zone Decision Tree' with the subtitle 'Evaluate Separation Opportunities, WZ Concepts, WZ Devices'. It includes a 'Print Form' button in the top right corner. The form fields are as follows:

- Project Name (Section): [Text input]
- Key No.: [Text input]
- Contract No.: [Text input]
- Highway: [Text input]
- Project Leader / Project Manager: [Text input]
- Agency Project Manager: [Text input]
- Region: [Dropdown menu]
- Phase: 1 - Scoping 2 - Project Initiation to DAP 3 - DAP to Final PS&E 4 - Construction
- Contractor: [Text input]

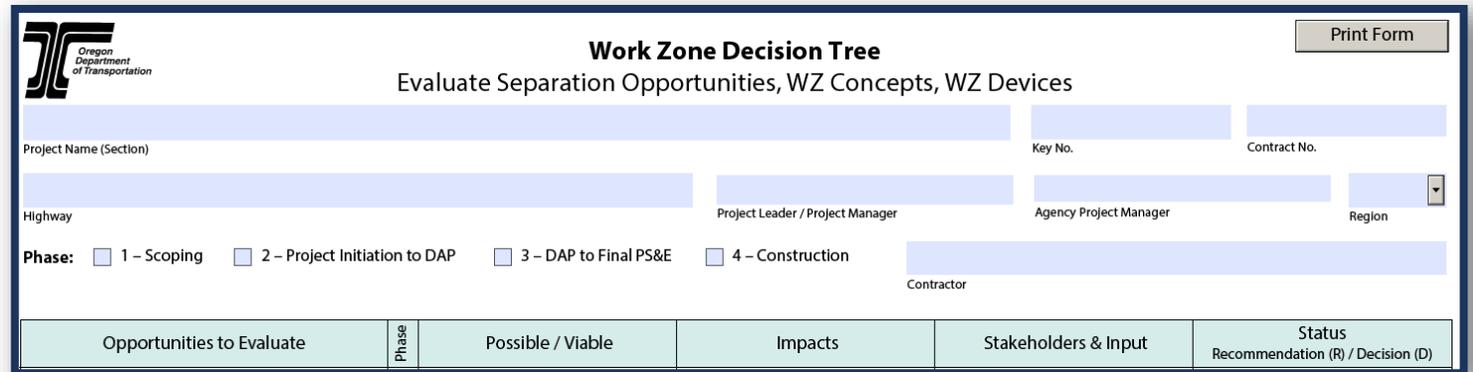
At the bottom, there is a table with the following columns:

Opportunities to Evaluate	Phase	Possible / Viable	Impacts	Stakeholders & Input	Status Recommendation (R) / Decision (D)
---------------------------	-------	-------------------	---------	----------------------	---

- The WZDT is a “living document” used to record:
 - Work zone safety options considered.
 - The resulting impacts of those options.
 - Stakeholder input (including during construction)
 - Recommendations and decisions made.
- As the form is filled out, the entrees become part of a project’s TMP.

Work Zone Safety

Work Zone Decision Tree Form



The screenshot shows the 'Work Zone Decision Tree' form from the Oregon Department of Transportation. The form is titled 'Evaluate Separation Opportunities, WZ Concepts, WZ Devices' and includes a 'Print Form' button in the top right corner. The form fields are as follows:

- Project Name (Section):** A text input field.
- Key No.:** A text input field.
- Contract No.:** A text input field.
- Highway:** A text input field.
- Project Leader / Project Manager:** A text input field.
- Agency Project Manager:** A text input field.
- Region:** A dropdown menu.
- Phase:** Radio buttons for '1 - Scoping', '2 - Project Initiation to DAP', '3 - DAP to Final PS&E', and '4 - Construction'.
- Contractor:** A text input field.

At the bottom of the form is a table with the following columns:

Opportunities to Evaluate	Phase	Possible / Viable	Impacts	Stakeholders & Input	Status Recommendation (R) / Decision (D)
---------------------------	-------	-------------------	---------	----------------------	---

TMP/WZDT shared with the Mobility Team:

- Both are provided to the Mobility Team who makes them available to the Mobility Advisory Committee when necessary.
- Examples can be found on the Mobility Records web page (posted with meeting agendas)
<https://www.oregon.gov/ODOT/MCT/Pages/MobilityRecords.aspx>

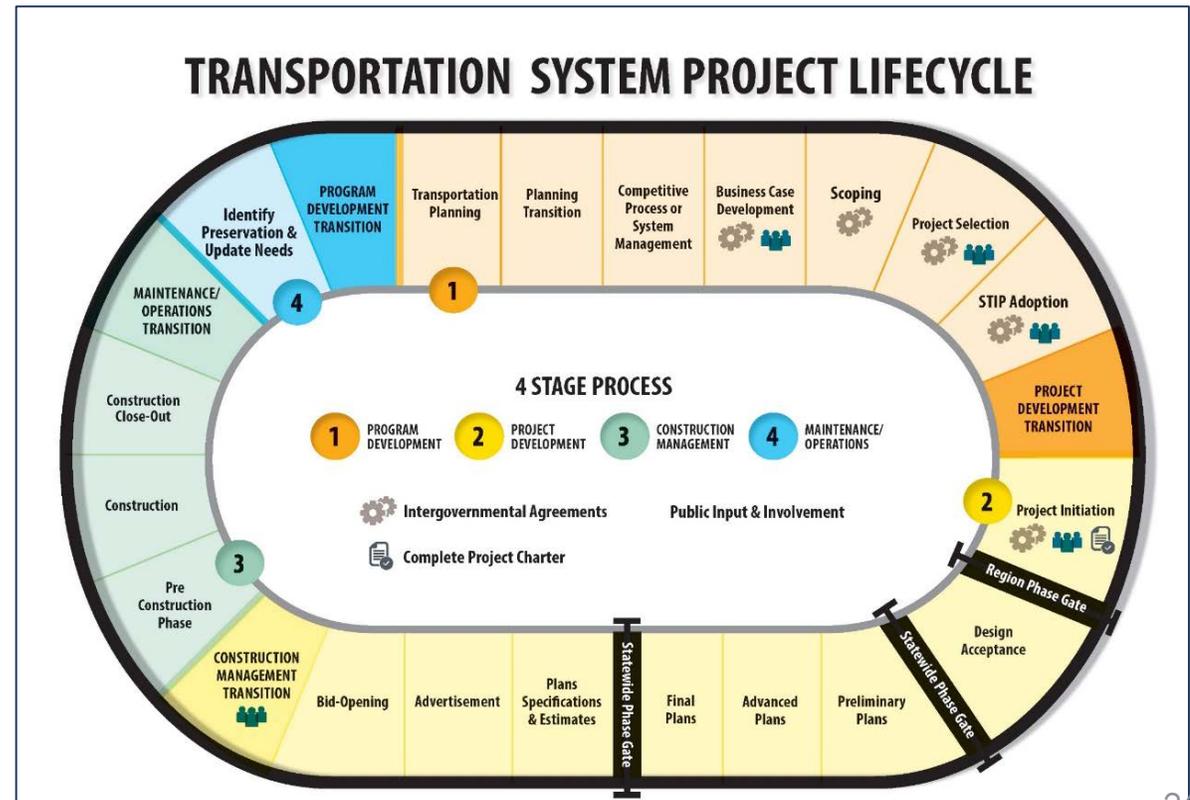
5. Communication & coordination/ Roles & responsibilities



Communication & Coordination

Keys to successful mobility communication and coordination throughout Project Delivery:

1. Identify mobility issues early.
2. Engage the public, industry and stakeholders.
3. Resolve issues as they arise.



Communication & Coordination

Stakeholder engagement is essential for resolving issues & providing input

- Reduction in vehicle-carrying capacity impacts (ORS 366.215)
- Work zone safety for workers and the traveling public
- Road or lane closures & detours
- On-ramp or off-ramp closures
- Vertical or horizontal clearance limits
- Weight restrictions
- Sunrise/sunset exceptions to allow longer work windows
- Critical route pair conflicts
- Roundabouts on the state highway system

ODOT's Mobility Team is the primary contact to engage mobility stakeholders.



Communication & Coordination

During Planning & Project Development

Project Teams communicate mobility impacts with the Mobility Team through:

Early Planning & Stakeholder Engagement. Examples:

- 366.215 Reduction Reviews
- Roundabout proposals
- Permanent Weight Restrictions
- Permanent vertical/horizontal clearance reductions.
- Critical Route Pair conflicts

Traffic Control Planning:

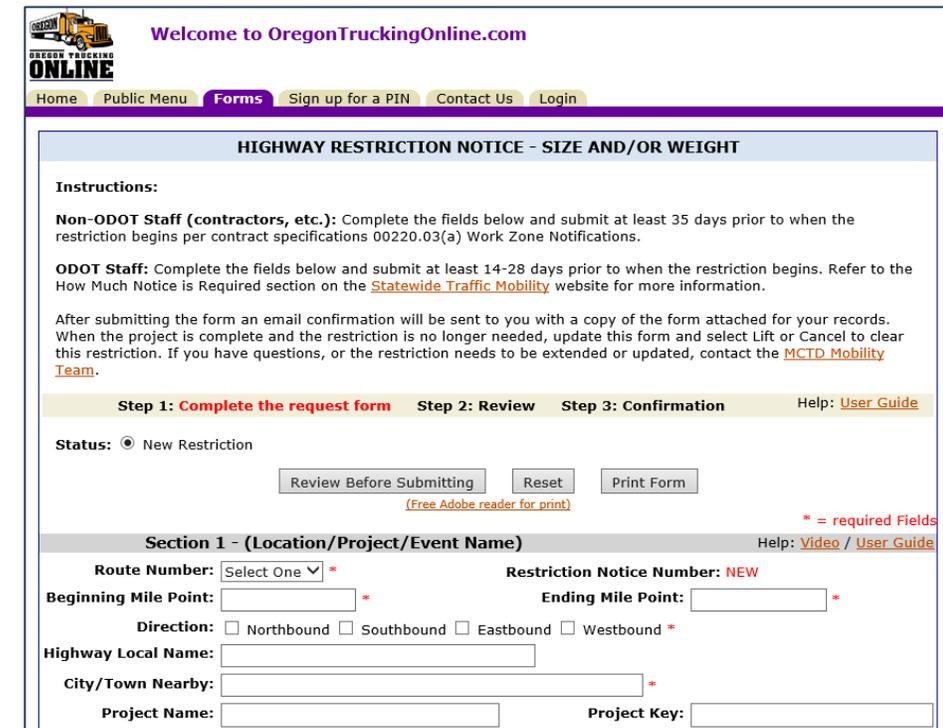
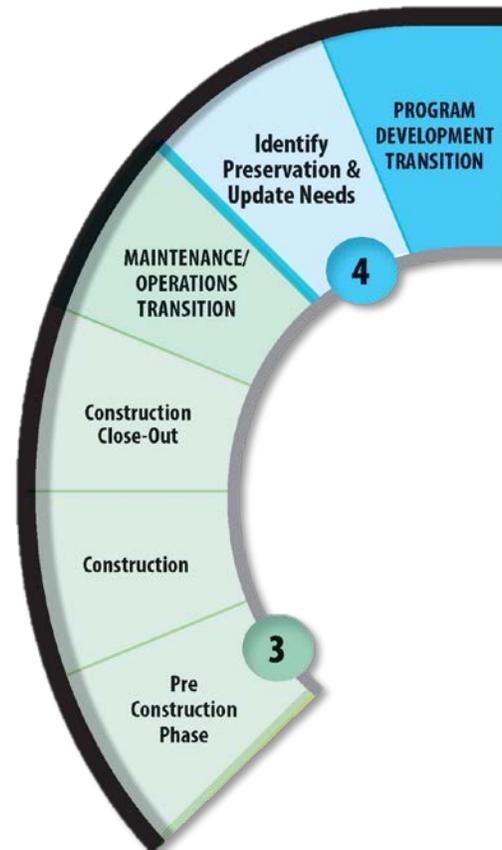
- Mobility Considerations Checklist
- Transportation Management Plan
- Work Zone Decision Tree



Communication & Coordination

During Construction & Maintenance Work

- The Online Highway Restriction Notice Form is used to send restriction information to the Mobility Team before work begins
- Submitting Highway Restriction Notices allows ODOT to ensure work zone safety and help motor carriers hauling oversize loads plan their trips.



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HIGHWAY RESTRICTION NOTICE - SIZE AND/OR WEIGHT

Instructions:

Non-ODOT Staff (contractors, etc.): Complete the fields below and submit at least 35 days prior to when the restriction begins per contract specifications 00220.03(a) Work Zone Notifications.

ODOT Staff: Complete the fields below and submit at least 14-28 days prior to when the restriction begins. Refer to the How Much Notice is Required section on the [Statewide Traffic Mobility](#) website for more information.

After submitting the form an email confirmation will be sent to you with a copy of the form attached for your records. When the project is complete and the restriction is no longer needed, update this form and select Lift or Cancel to clear this restriction. If you have questions, or the restriction needs to be extended or updated, contact the [MCTD Mobility Team](#).

Step 1: Complete the request form Step 2: Review Step 3: Confirmation Help: [User Guide](#)

Status: New Restriction

(Free Adobe reader for print)

Section 1 - (Location/Project/Event Name) Help: [Video](#) / [User Guide](#)

Route Number: * Restriction Notice Number: NEW

Beginning Mile Point: * Ending Mile Point: *

Direction: Northbound Southbound Eastbound Westbound *

Highway Local Name:

City/Town Nearby: *

Project Name: Project Key:

Communication & Coordination



Providing Notice for Highway Restrictions

Use the Online Highway Restriction Notice Form to send restriction information to the Mobility Team:

- 28 day notification required for restrictions affecting annual permit holders.
- 14 day notification required for restrictions affecting single trip permits.

The Mobility Team spreads the news about restrictions:

1



OTL Road & Bridge Restrictions List

2



Over-Dimension Permit Analysts

3

Incident Maps
Road Cameras
Road Conditions 

 TripCheck
Commercial Vehicle Information Advisories

4



Letters to Annual Permit holders

5



GovDelivery advisories

6



ODOT Commerce and Compliance Division Web site



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ROAD RESTRICTIONS

Interstate Routes

I-5 NB Exit 124 off-ramp to OR138 (Roseburg)

Effective June 16, 2019, the I-5 northbound exit 124 off-ramp to OR138 will be restricted to 14 feet 00 inches in width at all hours. Mobile homes with eaves are allowed provided the base width does not exceed 14 feet 00 inches in width. The estimated completion date for this project is June 29, 2019.

I-5 SB on-ramp from OR138/Harvard Ave (Roseburg) -- NEW --

Effective June 11, 2019, the I-5 southbound on-ramp from OR138/Harvard Ave will be restricted to 14 feet 00 inches in width Sunday through Thursday nights between the hours of 7 PM & 7 AM. Loads wider than 14 feet 00 inches in width may be accommodated on a case-by-case basis. Contact the Over-Dimensional Unit for information. The estimated date of completion is July 15, 2019.

I-5 SB Exit 124 off-ramp to OR138 (Roseburg)

Effective May 30, 2019, the I-5 southbound exit 124 off-ramp to OR138 will be restricted to 16 feet 00 inches in width between the hours of [unclear] completion date for this project is July 14, 2019.

I-5 NB on-ramp from OR138 WB (Roseburg)

Effective June 3, 2019, the I-5 northbound on-ramp from OR138 westbound will be restricted to 14 feet 00 inches in width between the hours of [unclear] with eaves are allowed provided the base width does not exceed 14 feet 00 inches in width. The estimated completion date for this project is [unclear]

I-5 NB Exit 161 off-ramp to Buck Creek Rd (Curtin) -- NEW --

Effective June 18, 2019, the I-5 northbound Exit 161 off-ramp to Buck Creek Rd will be closed Tuesday through Friday between the hours of 6 AM & 6 PM. The estimated completion date for this project is June 21, 2019.

1 Road and bridge restrictions are added to the Trucking Online list of restrictions on state routes. This list is closely monitored by many trucking companies.



Query by Hwy No.

or

Query by Route

HwyMP	TD	R	Description	* Ln2	Ln1	Comments	Ed
			Map view				
210	0.0000	EB	Junction with EB US20 (Albany-Corvallis Hwy #031 MP 0.10) Map View				
210	0.1300	EB	Crossing Willamette River (Van Buren St) Bridge. Leaving Corvallis. Linn- Benton County Line. Map View			16" Wide Max. To Bypass: OR99W SB: US20/OR34	
210	0.3200	EB	End divided highway. Map View				

2

Road and bridge restrictions are added to the Electronic Routing Manual System that's critical to Over-Dimension Permit Analysts' work.

Corvallis
Corvallis-Newport
(56.80).

Restriction - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address http://trucking.intranet.odot.state.or.us/cf/intraProxy/ERM/OD_Read Go

Links Prod ERM Analyst TOL Update ERM Snagit

Old OR34 Van Buren St Bridge (Corvallis)

MP 0.13 Willamette River (Van Buren Street) in Corvallis is restricted to 20,000 lbs. single axle, 34,000 lbs. tandem axle - 80,000 lbs. GVW., Weight Table 1

Parent restriction is at 0.1300

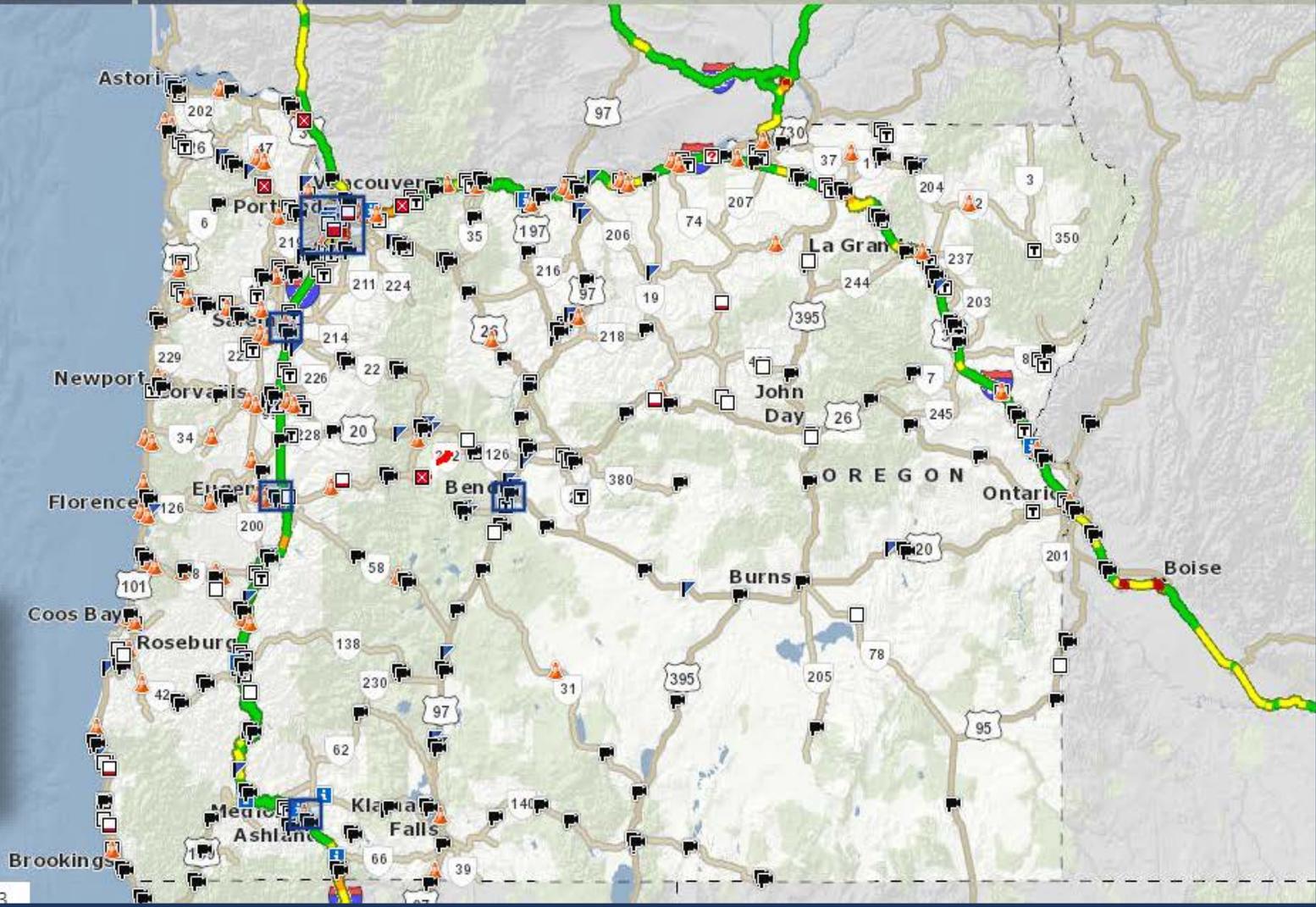
Done Local intranet



OREGON DEPARTMENT OF TRANSPORTATION

- Road & Weather
- Travel Center
- Transit & More
- About TripCheck
- On the Go
- Contact Us

- Base Maps +
- Quick Links +
- Map Features -
 - Road
 - Cameras
 - Incidents +
 - Parking lot
 - Travel Time
 - Weather +
 - Restrictions +
 - Municipalities +
 - Waze Events +



3

Trucking-related restrictions appear on TripCheck maps with a **T** icon. Click on the icon and up pops the details.

DATE: May 13, 2011

TO: ALL HOLDERS OF ANNUAL OVER-DIMENSION PERMITS

FROM: Christy Jordan, Manager
Over-Dimension Permit Unit

SUBJECT: FULL CLOSURE OF I-5 SOUTHBOUND MP 303.41 TO MP 300.00, PORTLAND

Effective June 17, 2011, I-5 southbound will be closed in Downtown Portland between the hours of 10 PM & 5 AM, to facilitate work on the Marquam Bridge. In addition, the ramp from Greeley Ave to I-5 southbound will be closed the nights of June 17 and 18. Estimated date of completion is June 20, 2011.

Detour Route:

Traffic on I-5 southbound from North Portland will be detoured to I-405 southbound. The ramp from I-405 northbound to I-5 southbound will remain open at all times, as will the ramp from Weidler Ave (Rose Quarter) to I-5 southbound. Remaining traffic will be detoured to I-84 eastbound.



4

When a restriction affects Annual Permit holders, the Mobility Team mails a special notice to them.

Trucking Advisory: I-105 and I-5 interchange work in Eugene

EUGENE: A construction project will necessitate several closures and restrictions involving the Interstate 105 and Interstate 5 interchange in Eugene in late Aug. and early Sept.

I-105 westbound closures

There will be two full weekend closures of I-105 westbound between mileposts 4.5 and 3.

- 9 p.m. Sept. 10 to 6 a.m. Sept. 13
- 9 p.m. Sept. 24 to 6 a.m. Sept. 27

Intermittent ramp closures

Beginning Aug. 26, the following ramps will be closed intermittently between 10 p.m. and 5 a.m. The expected completion date is Dec. 31. The I-105 westbound Exit 4B ramp will remain open.

- I-5 northbound Exit 194B to I-105 westbound
- I-105 westbound Exit 4A to I-5 southbound
- I-5 southbound Exit 194B to I-105 westbound

Width restriction

Beginning Aug. 26, I-105 westbound between milepost 4.5 and 3 will be restricted to loads no wider than 16 feet between 10 p.m. and 5 a.m.

The detour is to take I-105 westbound Exit 4B to I-5 northbound to Oregon 569/Beltline westbound to Delta Highway southbound to I-105 westbound.

For routing or permit information, contact the Oregon Department of Transportation's Over Dimension Permit Unit, (503) 373-0000.

For updated information on highway work and current travel information throughout Oregon, visit www.tripcheck.com or call the toll-free Oregon road report at 511 or (800) 455-4544.

Thank you for subscribing to Trucking Advisories from the Oregon Department of Transportation.



When a restriction affects Annual Permit holders or the trucking industry in general, the Mobility Team uses GovDelivery to send an e-mail notice to them.

Interstate Highways



Interstate Highways Restrictions

Route	Restriction Type	Date	Restriction Letter Link
I-5	Ramp Closures	6-23-19	I-5 NB & WB Exit 228 (Tangent)
I-5	Ramp Closures	3-18-19	I-5 NB & SB Exits 253 & 258 (Salem)
I-5	Ramp Closures	6-20-18	I-5 NB & SB MP 303 to MP 308 (Portland)
I-5	Full Closure & Ramp Closure	7-13-18	MULTIPLE MAINLINE AND RAMP CLOSURES IN THE PORTLAND AREA THIS SUMMER
I-5	Ramp Closures	7-22-18	INTERMITTENT WEEKEND RAMP CLOSURES IN THE TUALTIN AREA
I-5	Mainline and Ramp Closures	8-3-18	MULTIPLE MAINLINE AND RAMP CLOSURES IN THE PORTLAND AREA THIS SUMMER

6

The ODOT Commerce and Compliance Division Web site includes links to restriction lists and notices.

Mobility Roles & Responsibilities



Mobility Roles & Responsibilities

Statewide	Region	District
<ul style="list-style-type: none">• Mobility Advisory Committee• ODOT Mobility Team• ODOT Technical Services Branch• State Bridge Engineer	<ul style="list-style-type: none">• Region Manager• Region Mobility Liaison• Project Development Teams• Construction Management Teams	<ul style="list-style-type: none">• District Manager (or designees)

Statewide Roles

Mobility Advisory Committee

- Collaborates among diverse stakeholders to resolve mobility issues or concerns.
- Advises and provides input on potential reduction of vehicle-carrying capacity impacts (Oregon Revised Statute 366.215), permanent weight restrictions, critical route pair conflicts, roundabouts on the state highway system, work zone safety issues, and impacts from temporary restrictions.



Statewide Roles

ODOT Mobility Team



- Initiates all mobility stakeholder contacts and facilitates mobility meetings.
- Tracks ODOT projects for mobility impacts, and provides work zone and restriction information to mobility stakeholders.
- Recommends industry stakeholders for high-impact projects as needed.
- Works with project teams to identify and share issues for early stakeholder input. Works with project teams and stakeholders to develop options and solutions.
- Provides vehicle size, weight and routing info to project teams.
- Reviews Highway Restriction Notices (form 734-2357) submitted by ODOT staff and contractors to ensure information is consistent with mobility policies and stakeholder agreements.
- Notifies the trucking industry of planned restrictions.
- Provides training on the Department's mobility policies and procedures.
- Maintains and updates the Department's mobility forms and manuals.
- Maintains the program Oregon.gov website and SharePoint intranet site.

Statewide Roles

ODOT Engineering and Technical Services Branch

- Provides input regarding traffic control plans, traffic management plans, reductions in capacity, and design exceptions.
- Evaluates physical requirements for moving freight through temporary work zones and permanent changes to the highway system.

Statewide Roles

State Bridge Engineer

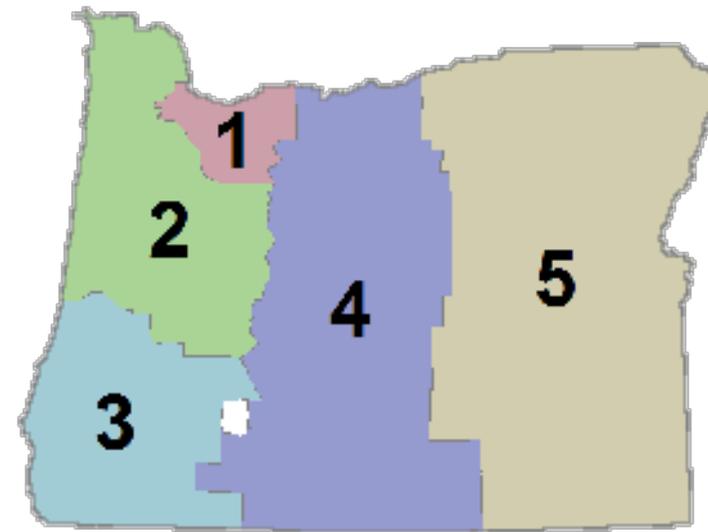
- Notifies district managers, the CCD administrator, the communications division and the director regarding the need for bridge load postings.



Region Roles

Region Managers

- Appoint a region mobility liaison who is the point of contact for region staff and the Highway Mobility Team.
- Participates in the Mobility Issue Resolution Process as appropriate.



Region Roles



Region Mobility Liaisons

- Collects mobility information for all projects occurring in the region and neighboring/bordering jurisdictions.
- Identifies and develops resolution strategies for schedule and delay threshold conflicts that affect corridor mobility.
- Collect data on existing or proposed detour routes.
- Work with project team leaders/managers to develop delay exception requests and seek input from stakeholders.
- Work with the Mobility Team, the Mobility Advisory Committee, region staff, local governments, and others to resolve issues.
- Work with the ODOT Rail Division to review proposed detour routes and rail project operations that may affect mobility.
- Work with the region planning unit to vet potential reduction in vehicle-carrying capacity issues.
- Act as a conduit for communicating updates or best practices to the region management team/project leaders.
- Track all special community events, major agriculture activities, and any other information that would impact traffic volumes or delays.
- Review designs for local programs including development reviews.

Region Roles

Planning Staff

- Identify and evaluate potential mobility issues (e.g. reduction in vehicle-carrying capacity) early in the development of plans (e.g. transportation system plans, corridor plans and interchange access management plans) and involve the region mobility liaison.

Region Roles



Project Development Teams

- Work with the region mobility liaison and the Mobility Team to identify potential reduction in capacity (ORS 366.215) design conflicts early.
- Develop project specific TMPs, TCPs, and Work Zone Decision Trees.
- Involve the Mobility Team early in the project development process when mobility issues are identified.
- Provide documentation of Mobility Team and mobility stakeholder support for planned restrictions to the region mobility liaison.
- Identify mobility-related project risks and plan/evaluate risk responses.
- Notify the state bridge engineer regarding planned bridge load posting.
- Ensure consideration is given to alternative design practices, materials, and construction methods to minimize delays and restrictions.
- Ensure consideration is given to various contracting methods.
- Ensure other factors are given consideration (secondary routes, congestion impacts, emergency mobility plans, etc.).
- Complete Project Mobility Considerations Checklist.

Region Roles

Construction Management Teams

- Notify the Mobility Team when work zones restrict width, length, height or weight of trucks, and of planned detours.
- Notify the Mobility Team of any changes to the Traffic Control Plan.
- Notify the Mobility Team when restrictions are lifted.
- Review and approve adequacy of information in Form #734-2357 Highway Restriction Notice as prepared by contractor and then forwarding the approved form to the Mobility Team.
- Notify region mobility liaison and Mobility Team before proposing changes during construction that have the potential to adversely affect mobility or differ from specified restrictions/agreements made during the project development process.
- Provide documentation of Mobility Team and trucking industry support for changes in restrictions and construction to Region Mobility Liaison.

Region Roles

Area Managers

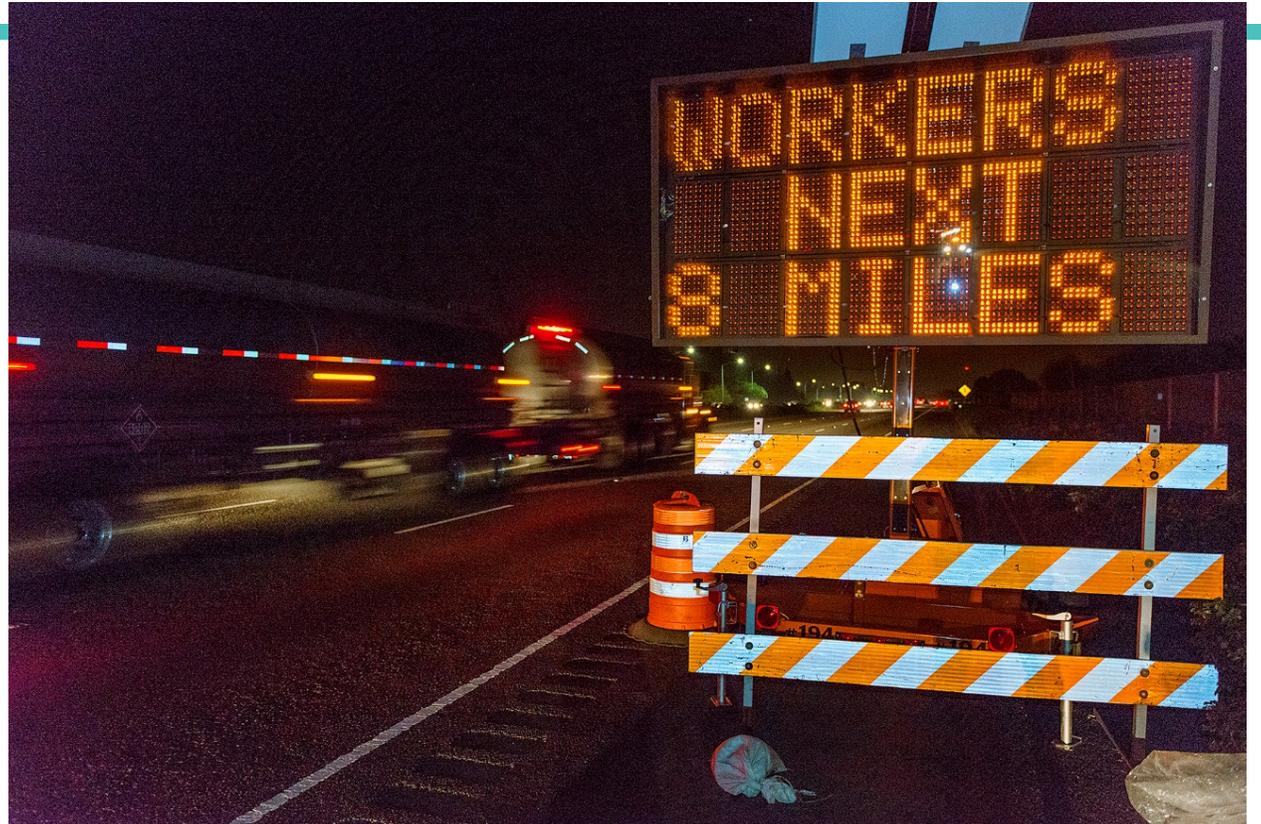
- Work with the region mobility liaisons and project development and construction staff to ensure projects and activities meet mobility requirements.
- Ensure staff engage the mobility liaison early when mobility issues are identified.
- Ensure staff copy the region mobility liaison on any project items for use in notifying the trucking industry of public meetings and project plans.
- Ensure staff identify and evaluate risks associated with mobility.
- Ensure staff notify the region mobility liaison of planned restrictions, delays, or detours.
- Ensure staff evaluate alternative design practices, materials, and construction methods to minimize delays and restrictions.
- Ensure staff work with the region mobility liaison, region staff, Mobility Team, local governments, industry stakeholders and others to resolve conflicts.

District Roles

District Managers (or their designees)

- Implement mobility activities for the district and monitor maintenance activities to meet mobility requirements. Ensure projects conform to mobility guidance and policies.
- May require restrictions (e.g., emergency declarations) as necessary.
- Notify the region mobility liaison and the ODOT Mobility Team of planned detours.
- Notify the region mobility liaison and the Mobility Team when restrictions are changed or lifted.
- Submit Form #734-2357 Highway Restriction Notice 14 or 28 days prior to any planned work zone restriction when maintenance mobility activities 2 or 3 apply.

3. Identifying Mobility Impacts



Types of Impacts

- Permanent



- Temporary



Permanent Impacts



Permanent Impacts

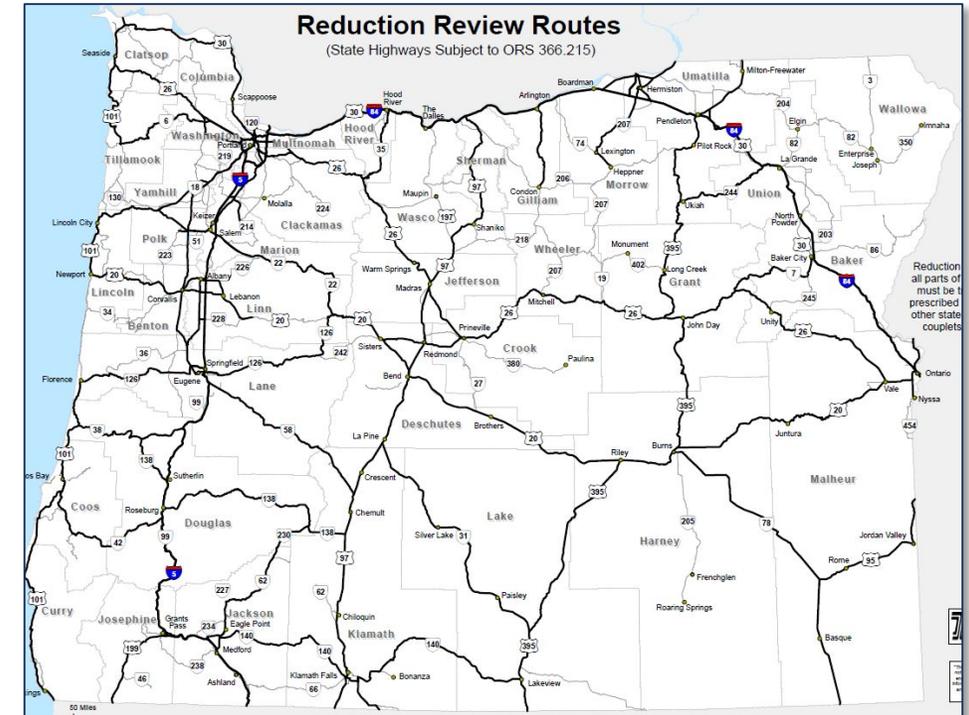
Oregon Revised Statute 366.215

- Prohibits permanent reductions in vehicle-carrying capacity on an identified freight route.
- Exceptions are allowed for safety or access considerations.
- A local gov't can apply to the OTC for an exception.

Permanent Impacts

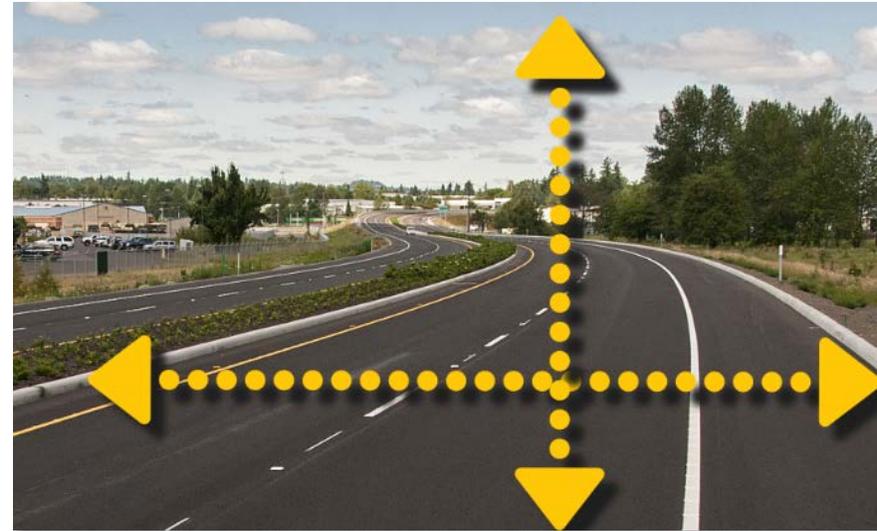
Oregon Revised Statute 366.215

Projects on these Reduction Review Routes are subject to the statute.



Permanent Impacts

Oregon Revised Statute 366.215



Reduction of Vehicle-carrying capacity is defined in OAR Chapter 731, Division 12:

“A *permanent reduction* in the *horizontal* or *vertical clearance* of a highway section, by a permanent physical obstruction to motor vehicles...”



Oregon Revised Statute 366.215

Permanent Impacts



Structures subject to review include traffic signals, signposts, stationary bollards, curbs, trees, raised or depressed medians, roundabouts, streetlights & overhead wiring.

An ORS 366.216 Guidance Document is available to help with the review process:

<https://www.oregon.gov/ODOT/MCT/Documents/ORS366Guidance.pdf>

Permanent Impacts

Permanent Vertical Clearance

Any proposed decrease in vertical clearance below minimum standards for existing or new structures requires consultation with the Mobility Team.

Minimum Vertical Clearance Standards for New Structures			
	All Interstates & High Routes	NHS (Not on High Routes.)	All other routes (Not on NHS or High Routes.)
Minimum Clearance	17' 04"	17' 00"	16' 00"

Standards for Existing Structures (on any route)
<ul style="list-style-type: none">• Shall not be reduced below minimum vertical clearance standards;• Shall not be reduced if the existing vertical clearance is substandard.



Permanent Impacts

Permanent Vertical Clearance

Improving Vertical Clearance

Projects involving structures with substandard vertical clearance need to be evaluated for opportunities to increase VC.

For example→

This Massachusetts bridge (aka “The Can Opener”) has 10.5’ of clearance.

That’s 5.5’ below ODOT’s lowest clearance standard for new structures.





Permanent Impacts

Permanent Horizontal Clearance

Maintaining and improving horizontal clearance can provide significant benefits to Oregon's economy.



An increase in horizontal clearance at a “pinch point” may open up an entire freight route.

Permanent Impacts

Permanent Length Restrictions

Length restrictions are commonly caused by roadway curvature.

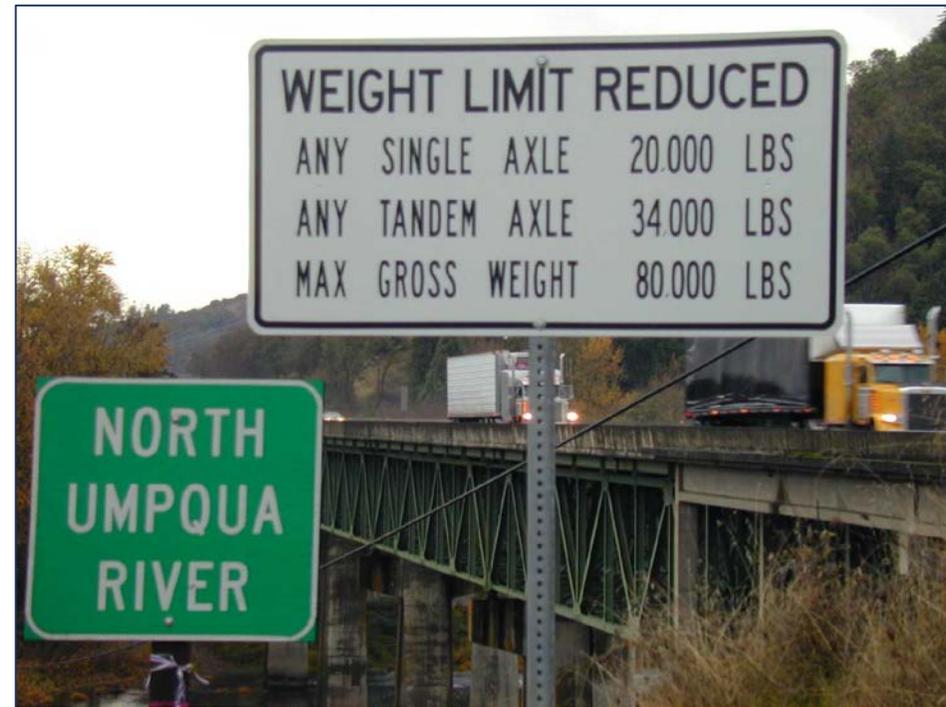


Projects involving the location of a length restriction should evaluate removing the restriction whenever possible.

Permanent Impacts

Permanent Weight Restrictions

Movement of heavy loads are greatly restricted due to the problems ODOT has with cracked bridges.



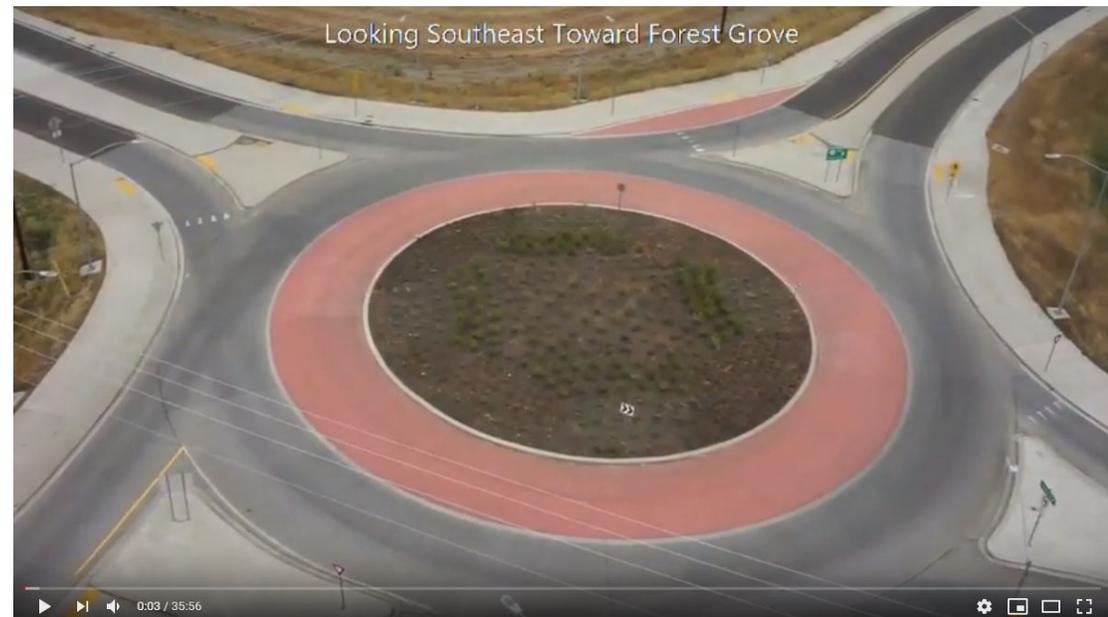
Whenever load rating factors show insufficient capacity for unrestricted use by permitted over-dimension vehicles, ODOT's Size & Weight Restrictions Policy PMT-06-01 will be followed.

Permanent Impacts

Roundabouts

Highway Directive DES 02:

Establishes the expectation and processes concerning freight mobility whenever a roundabout is proposed to be installed on the state highway system.



The process includes a documented agreement memorialized with the designated statewide representatives of the trucking industry that the roundabout is properly sized.

Temporary Impacts



Temporary Impacts

Temporary Vertical Clearance Restrictions

Any proposed temporary reduction in VC requires notification/coordination with the Mobility Team.



Examples include temporary bridge falsework, temporary traffic signals, and diverting traffic into lanes with less VC.

Temporary Impacts

Temporary Horizontal Restrictions

Loads up to 16 feet wide are commonly transported throughout the state.

Oregon issues annual permits for loads up to 14 feet wide for many two-lane highways throughout Oregon.



Temporary Impacts

Temporary Horizontal Restrictions

Horizontal clearance through a work zone refers to the paved width between any barriers (soft or hard barrier, or equipment) including any usable shoulder.



Temporary Impacts

Temporary Horizontal Restrictions

Horizontal Clearance Standards for daytime hours* to meet commitments to the freight industry:

(*1/2 hour before sunrise until 1/2 hour after sunset)



Interstate/Multilane Highways:

- Maintain 28 for two lanes of one-way traffic.
- Maintain 19 feet for one lane of one-way traffic.*

Other Two-Lane Routes on NHS:

- Maintain 28 feet for two lanes of one-way traffic (single lane each direction).
- Maintain 16 feet for one lane of one-way traffic.*

***NOTE:** These widths still require notification/coordination with the Mobility Team (see next slide).



A “sunrise/sunset” exception can be requested for longer hours (between April & August)

Temporary Impacts

Temporary Horizontal Restrictions

Notification to the trucking industry is required during construction work when temporary horizontal width is less than:



- 28 feet for two lanes of one-way traffic.
- 28 feet for two lanes of two-way traffic.
- 22 feet for one lane of one-way traffic.



For maintenance activities, refer to the *Maintenance Mobility Requirements* guide for notification requirements.

Temporary Impacts

Temporary Weight Restrictions

Example: Some bridges require heavy loads to straddle the center line. If bridge work requires a lane closure and heavy loads cannot straddle the center, a temporary weight restriction may be needed until the lane is reopened.



Temporary Impacts

Temporary Lane shifts/Closures Under Structures



High loads may have specific lane usage required in their permits as bridges often have varying vertical clearances above different lanes or shoulders.

Temporary Closures

Full road closures and ramp closures require notification and coordination with the Mobility Team.

Temporary Impacts



Temporary Impacts

Critical Route Pair Conflicts

If a route identified on the list of critical route pairs needs to be temporarily restricted, ODOT will take steps to make sure the paired critical route on the list is not restricted.

Highway	Paired With	Area
I-5	OR 212, US 26, US 97	Washington – California
I-84	OR 78, OR 212, US 26, US 95, US 97, US 20	Portland – Ontario
US 30	US 26	Portland – Coast
OR 22 & OR 18	US 20	Willamette Valley – Coast
OR 126	OR 38	Willamette Valley – Coast
OR 38	OR 42	I-5 – Coast



Temporary Impacts

Evaluating Staging Options

When evaluating staging options, consider all traffic that uses the route, including freight and over-dimension units.



When practical, staging options with the least impact to mobility should be selected, while maintaining worker safety.

Temporary Impacts

Staging Considerations

- Can expected traffic volumes be accommodated at all times?
- Can night work be used to avoid daytime impacts?
- Can continuous free-flow conditions with minimal delay and no restrictions be used?
- Can large sections of roadway work be broken into smaller segments?
- Are there freight impacts such as frequent stopping/starting, stopping at the bottom of steep grades, sending traffic through sharp corners, etc.?
- How will staging affect emergency response times?
- How will other projects be affected?

Temporary Impacts

Managing Delay

- Construction projects are evaluated for delay impacts to mobility and staging.
- Work zone delay is defined as the additional average travel time experienced per vehicle per hour.
- A delay estimate must be prepared for construction projects on routes with delay thresholds.



Temporary Impacts

Corridor Delay Thresholds

- Corridor delay thresholds are established for:
 - US 26/97
 - I-5 North/OR 58
 - I-5 South
 - I-84



- Construction activities in these corridors must be coordinated to ensure delay thresholds & mobility goals are met.
- Delay thresholds are compared against estimated delays for projects & maintenance activities on a corridor segment.
- Regions decide if delay estimates are formally prepared for less-restrictive maintenance activities.
- An exception may be requested if higher delays are unavoidable.

Temporary Impacts

Detours

Detours are a staging strategy that involves shifting traffic onto a different roadway and away from the project site.



All planned detours must take into account and provide for all traffic that is legally allowed to use the route, including freight traffic and over-dimension units.

Temporary Impacts

Detours

Detours need to be checked for:

- ✓ Size & weight restrictions.
- ✓ Safe turning movements & off tracking.
- ✓ Emergency services response times.
- ✓ Can vehicles transporting hazardous materials use the route?
- ✓ Are there other projects along the proposed detour that will restrict traffic?
- ✓ Are other projects using the existing route as a detour?



Design & Contract Considerations



Design Considerations

Alternative Construction Materials



Consider materials that can reduce traffic impacts:

- Pre-cast, pre-stressed bridge components.
- Concrete accelerators.
- Polyester polymer concrete for deck overlays.

Design Considerations

Consider Alternative Construction Methods

- Exodermic deck replacements.
- Controlled delay method (CDM).
- Trenchless technology.
- Parallel bridge construction.
- Rapid bridge replacement.





Contract Considerations

Contracting Tools

Consider alternative contracting methods to reduce construction duration & impacts



4. Resources



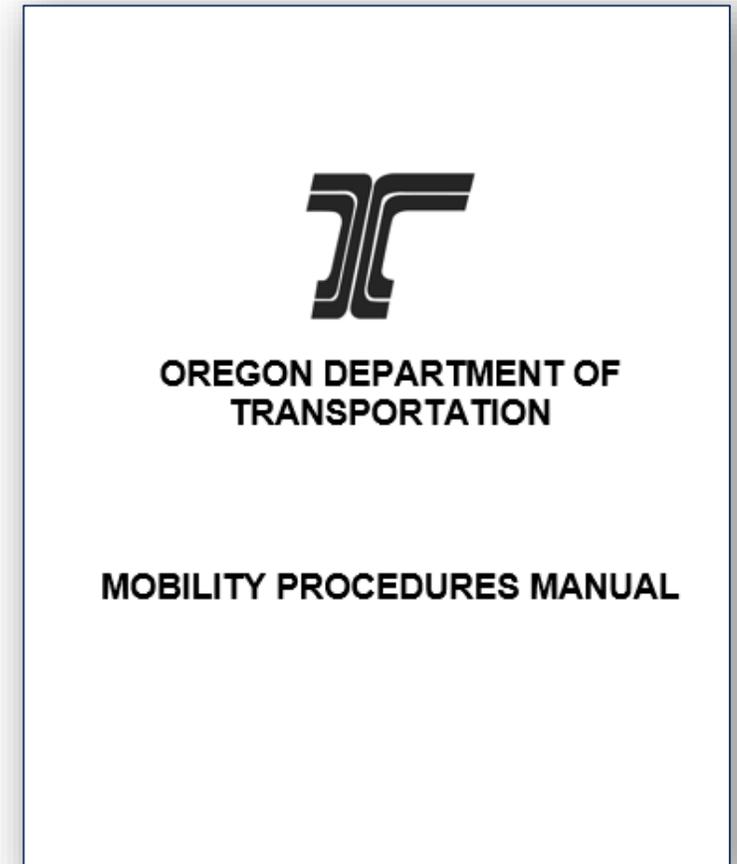
Resources

Mobility Procedures Manual

The MPM is the accepted authority for mobility policy for the Agency

The MPM is available at:

<https://www.oregon.gov/ODOT/MCT/Documents/MobilityProcedureManual.pdf>



Resources

Internal SharePoint Site



ODOT Statewide Traffic Mobility Program

The Mobility Program ensures that traffic delays and freight restrictions are minimized while work zone safety is emphasized at all levels of planning and implementation.

[News & Announcements](#) [Mobility Meetings](#) [Mobility Contact Info](#) [Manuals & Guidance](#) [Reports/Statistics](#)

Includes links to manuals, guidance, training and contact information.

Also includes a form for uploading presentation materials for upcoming Mobility Meetings.

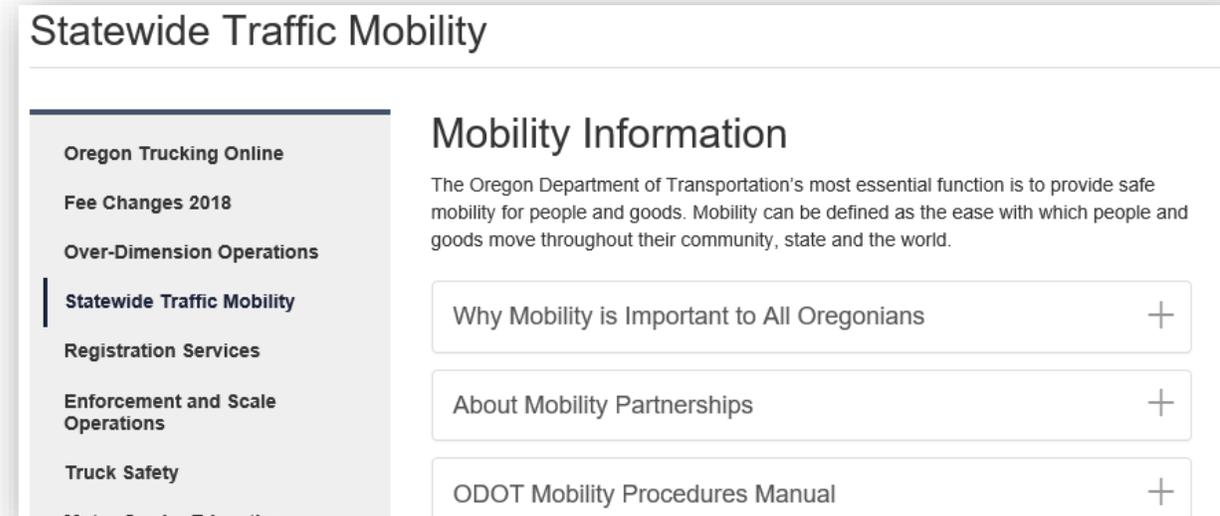
SharePoint link:

<http://transact.odot.state.or.us/mc/Mobility/SitePages/Home.aspx>



Resources

Mobility Website



A Statewide Traffic Mobility web page on Oregon.gov also includes manuals, forms, contact information. This site also includes agendas and minutes for Mobility Advisory Committee Meetings.

Website link:

<https://www.oregon.gov/ODOT/MCT/Pages/StatewideTrafficMobility.aspx>



Resources

Mobility Considerations Checklist

MOBILITY CONSIDERATIONS CHECKLIST		
SECTION 1		
PROJECT NAME	KEY NUMBER	PS&E DATE
HIGHWAY NAME AND NUMBER		
ROUTE NUMBER		
MILE POST RANGE		
DESCRIBE "TYPE" OF PROJECT (E.G. ADA, CULVERT, BRIDGE DECK REPAIR, PRESERVATION, ETC.)		

The Mobility Considerations Checklist is initiated by a transportation project manager and completed by project teams.

The form is a tool used to identify potential impacts to freight and traffic mobility in the development phase of a project.

Checklist Form Link:

<https://www.oregon.gov/ODOT/Forms/Motcarr/9983fill.pdf>



Resources

Highway Restriction Notice Form

Section 1 - (Location/Project/Event Name)		Help: Video / User Guide
Route Number:	<input type="text" value="Select One"/> *	Restriction Notice Number: NEW
Beginning Mile Point:	<input type="text"/> *	Ending Mile Point: <input type="text"/> *
Direction:	<input type="checkbox"/> Northbound <input type="checkbox"/> Southbound <input type="checkbox"/> Eastbound <input type="checkbox"/> Westbound *	
Highway Local Name:	<input type="text"/>	
City/Town Nearby:	<input type="text"/> *	
Project Name:	<input type="text"/>	Project Key: <input type="text"/>

An online web form (#734-2357) is available for submitting temporary Highway Restriction Notices to the Mobility Team. The form also includes a User Guide and Tutorial Videos.

Restriction Notice Form link:

<https://www.oregontruckingonline.com/cf/MCAD/pubMetaEntry/restriction/>

Resources

Additional Links:

- Mobility Considerations Checklist (Form 9983)
<https://www.oregon.gov/ODOT/Forms/Motcarr/9983fill.pdf>
- Work Zone Decision Tree (Form 734-5042)
<https://www.oregon.gov/ODOT/Forms/20DOT/7345042.pdf>
- Mobility Meeting Guidelines:
<https://www.oregon.gov/ODOT/MCT/Documents/MobilityMeetingGuidelines.pdf>
- Mobility Meeting PowerPoint Presentation Template
https://www.oregon.gov/ODOT/MCT/Documents/MAC_PowerPoint_Template.PPTX
- ORS 366.215 Reduction Review PowerPoint Presentation Template:
https://www.oregon.gov/ODOT/MCT/Documents/ORS-366.215_Reduction-in-Capacity_Template.pptx

THANK YOU!

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Please provide us your feedback about this training:
<https://www.surveymonkey.com/r/MobilityTrainingFeedback>