Identifying & Minimizing Permanent Mobility Impacts

ODOT Statewide Traffic Mobility Program

Refer to Mobility Procedures Manual, Chapter 6: Permanent Conditions
Agenda

- Permanent impacts: what’s at stake?
- Oregon Revised Statute 366.215
- Vertical & horizontal clearance
- Length & weight restrictions
- Roundabouts
- Jurisdictional transfers
- Resources
Permanent Impacts: What’s at stake?
The freight industry moves oversize loads, day and night, on our state highway system.

Our ability to coordinate and minimize permanent impacts to our highway system helps keep freight moving safely and efficiently.
Oregon’s existing transportation system relies on several primary routes for freight mobility.

**Permanent changes** that will impact freight mobility need to be considered early in planning and project development.
Secondary routes are just as important when considering the impacts of permanent restrictions. For example:

• Overwidth farm vehicles should be considered, which aren’t required to get an over-dimension permit to use these routes.

• And routes needed for oversize loads delivered to local communities are mostly secondary.
Considering the economic importance of maintaining freight mobility, it is essential to recognize and evaluate impacts and address them early in design.

These are some examples of some questions to consider when evaluating design plans.
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 (3), the agency may not permanently reduce the vehicle-carrying capacity of an identified freight route when altering, locating, 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. [Amended by 1977 c.312 §2; 2001 c.18 §38]
Oregon Revised Statute 366.215 states that the Oregon Transportation 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.”

The Oregon Transportation Commission can also approve an exemption at the request of a local government, provided the OTC finds the request is in Oregon’s best interest and it does not unreasonably impede freight movement.
From this statute, it’s important to understand what *vehicle-carrying capacity* means, and what is meant by *identified freight routes*. 
Oregon Administrative Rule Chapter 731, Division 12 defines Reduction of Vehicle-Carrying Capacity, and also defines a review process for ORS 366.215.

RVC is a **permanent** reduction in horizontal or vertical clearance by a permanent physical obstruction to motor vehicles on a usable right-of-way.

Per the rule, Department staff is responsible for identifying if the proposed action has the potential to be an RVC.

Horizontal and vertical clearance is also known as the “hole-in-the-air” above the entire roadway. Horizontal clearance is the entire width of unobstructed paved roadway (including any paved shoulder) between curbs, raised medians, guardrail, etc. Likewise, vertical clearance is the unobstructed height above the roadway (and paved shoulder), measured from the top of the pavement to the bottom of any permanent structures over the roadway. Street markings/lane striping are **NOT** considered an RVC.

Even if a proposed action does **not** create a new pinch point on the route, it can still be considered an RVC if the feature reduces the horizontal or vertical clearance at its proposed location.
These are some examples of permanent structures that can result in a reduction in vehicle-carrying capacity, as they impact horizontal or vertical clearance of the roadway.

They include, but are not limited to, traffic signals, signposts, stationary bollards, curbs, trees, raised or depressed medians, roundabouts, streetlights and overhead wiring.
ODOT has identified routes that are subject to ORS 366.215, which are called “Reduction Review Routes” or “RRRs.”

Maps showing these routes are available on the Statewide Traffic Mobility website (and a copy is provided in your handout materials).

If you have a plan, project or proposed feature on one of these routes, you will need to consider if there are potential reductions in vehicle-carrying capacity that are subject to review under the statute.
Potential RVC impacts on Reduction Review Routes must be reviewed by a **Stakeholder Forum**, which is facilitated by the Mobility Team. The Forum is conducted within the Mobility Advisory Committee meetings.

The Stakeholder Forum (SF) includes a variety of representatives (including the trucking industry, mobile home manufacturing, oversize freight haulers, automobile users, Association of General Contractors, and others).

- In some cases, design issues can be resolved to the point where stakeholders do not consider the project to be a RVC.
- In other cases, a proposed design may actually reduce the existing highway clearances, but not significantly enough to impede over-dimension movement.

If agreement is reached by the Stakeholder Forum on a design that avoids any actual RVC or is supported by the Stakeholder Forum, then no further review under Administrative Rule is required. If the proposal is supported by the Forum, The Mobility Team will prepare and publish a Record of Support of the proposed action.
If your project has potential reduction review impacts, **communication should take place early** with your Region Mobility Liaison, the Mobility Team and the Stakeholder Forum.

In addition, an **ORS 366.215 Guidance Document** is an excellent resource that explains the review process steps in detail, including a process flow chart.

The document is available on the Statewide Mobility Website, and the internal Mobility SharePoint site.
When preparing for a Stakeholder Forum Review, the Mobility Team requires the information listed here **at least 2 weeks prior to the meeting**.

Although not required, an ORS 366.215 PowerPoint Presentation Template is available on our SharePoint and public website.
ORS 366.215 also applies to planning level documents such as transportation system plans, refinement plans, and facility plans.

However, some plans do not yet have the level of detail needed to determine if there is a RVC or if it would be supported by the stakeholders.

In most cases, it’s best to wait until project implementation to go through the reduction review process.

The planning documents should, however, identify the reduction review route or routes in the plan area and include a statement similar to the one listed here.
Permanent Vertical & Horizontal Clearance
Permanent Vertical Clearance
The movement of mobile homes, construction materials, equipment and other types of loads are restricted due to insufficient vertical clearance on many routes.
Measuring vertical clearance can be tricky, as the clearance can vary over different lanes and even usable shoulder.

You can reach out to the Mobility Team if you need current VC data for existing structures.

MCTD’s Electronic Routing Manual system has the most up-to-date VC data for all structures entered into the system.
This slide shows vertical clearance standards (from the *Highway Design Manual*) for new and existing roadway structures for the state system.

Note: The VC standard underneath sign bridges and other overhead traffic structures is 18’-19’ (per the *ODOT Traffic Structures Design Manual*)

Any proposed decrease in clearance below these minimum standards requires consultation with the Mobility Team and Region Mobility Liaison. The Team will work with the region mobility liaison and project team leader/manager to evaluate user impacts and design options.
It’s important to note that ORS 366.215 Reduction Review Routes may result in a higher vertical clearance being requested as a result of the Stakeholder Forum process than the standards listed above.
Any project involving a structure identified as having **substandard vertical clearance** must be evaluated during scoping for opportunities to increase the vertical clearance.

Options include replacing the structure, raising the structure or reconstructing the roadway under the structure to lower the grade. Structures that are no longer in use, such as abandoned railroad structures, should be removed whenever possible.

This video of a railroad undercrossing in Massachusetts illustrates why substandard structures can impact safety and mobility.
For pavement replacement or overlay activities, efforts should be made to preserve clearance.

This may include grinding out the existing pavement and replacing it to the previous thickness so as not to decrease the vertical clearance.
Permanent Horizontal Clearance
Like vertical clearance, maintaining horizontal clearance is critical to the movement of freight in Oregon.
When considering design options, the Mobility Procedures Manual recommends not just building to match an existing constriction or pinch point on a route.

Instead, build with the hope that other pinch points will be removed in the future – which could open up an entire freight route for loads such as manufactured homes, windmill components, farm implements, construction materials and military equipment.
Permanent Length & Weight Restrictions
Length restrictions are commonly caused by roadway curvature.
Oregon has identified several length restricted routes, which can be found on MCTD’s Over-Dimension web page: https://www.oregon.gov/ODOT/MCT/Pages/Over-Dimension.aspx

Projects that involve the source of a length restriction should consider options for removing them if possible.
Permanent weight restrictions aren’t necessarily planned – but rather the result of aging or damaged infrastructure.
Eliminating weight restrictions is an important factor to increasing mobility on our state transportation system.

Weight restrictions due to cracked bridges can also put more stress on the freight routes that are open.
ODOT’s Size & Weight Policy needs to be followed any time a bridge load posting is needed.

PMT 06-01 ensures that ODOT maintains viable routes to move freight throughout the state from border to border. It also ensures collaboration with other restrictions that are a direct result of either highway work or a natural disaster or events that we know could cause issues. Per the policy, the state bridge engineer must follow a specific notification process, and provide information on the severity of the bridge condition and the timeframe for posting (30 days, effective October 2019).

This procedure is also outlined in Oregon Administrative Rule 734-050-0090: Procedure for Designating Highway Weight Restrictions (https://secure.sos.state.or.us/oard/view.action?ruleNumber=734-050-0090)
Roundabout Considerations
There are three overlapping policies and procedures that apply to planning and designing roundabouts:

• The Mobility Procedures Manual requires stakeholder engagement throughout the planning and design process.

• ORS 366.215 stakeholder forum review process is required, if the roundabout is proposed for a reduction review route.

• And if a roundabout is the preferred design option, Highway Directive DES 02 establishes expectations and processes in memorializing an agreement with the trucking industry on roundabout sizing.
The Directive has three requirements for addressing the trucking industry’s concerns for roundabouts.

The first one states that roundabouts proposed on the state highway system shall be designed so as not to impede the freight on the highway, including an evaluation of how over-dimension vehicles will be accommodated.

Legal-sized trucks, such as WB-67’s, are often not the largest trucks that use a given route. Many different types and sizes of over-dimension vehicles may need to be accommodated.
The second requirement: Communication with the trucking industry is necessary on a case-by-case basis on decision elements such as:

- Design vehicle exceptions
- Over-dimension vehicles to be accommodated
- Typical design elements for proposed roundabouts

The Mobility Team facilitates this communication by coordinating stakeholder meetings and email communications, providing over-dimension permit data for proposed roundabout locations and working with the trucking industry to provide vehicle diagrams for AutoTurn analysis.
The third requirement calls for a documented agreement memorialized with designated statewide representatives of the trucking industry that the roundabout is properly sized.

Per the Directive - 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.

Like ORS 366.215 Reduction Reviews, we encourage planners and project teams to share proposed Roundabout plans early to allow time for stakeholder engagement throughout the entire planning and design process.
Jurisdictional Transfers
If you are planning a jurisdictional transfer agreement, the JTA goes through a review process that includes Mobility.

These are some of the elements that Mobility looks for to be addressed in the agreement.

Exceptions can be considered, and the Director makes the final decision if agreement can’t be reached with the freight industry.
Resources
Here are links to resources related to permanent mobility impacts (an expanded list is provided in the handout materials):

• The Mobility Procedures Manual is the Department’s accepted authority on mobility policies and procedures.

• The Statewide Traffic Mobility SharePoint site and public website provide variety of links and information.

• For projects with potential ORS 366.215 impacts, there is a Guidance Document available and a PowerPoint template to help prepare for presenting to the Stakeholder Forum.

• The ODOT TransGIS interactive map is helpful for displaying freight routes or Reduction Review Routes subject to ORS 366.215.
Thank you!

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