Motor Carrier Transportation Advisory Committee

Commerce and Compliance Division

Oregon Department of Transportation

Thursday, October 19, 2023

Oregon Department of Transportation

Housekeeping

- We are in a hybrid format.
- Today's presentation is being recorded.
- Please introduce yourself and with whom you are associated before speaking.
- We will pause throughout the presentation to allow time for questions.

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If you are on Teams …

- Please mute your microphone in the Teams application if you are using the application as your visual *and* calling in via phone for your audio.
- Turn down your desktop sound as well.
- Please use the “raise hand” function in Teams to signify you want to speak.

Oregon Department of Transportation

Motor Carrier Transportation Advisory Committee (MCTAC) Agenda

Thursday, October 19, 2023 | 8:30 am to 10:00 am

Click here to join the meeting Audio only: +1 971-277-1965,,578660104#

Agenda/Meeting Materials: https://www.oregon.gov/odot/MCT/Pages/MCTAC.aspx

Time			Topic	Action	Lead
8:30-8:35	5 min	01	Welcome and Housekeeping	Decision	Jason Lawrence
			Objective: • Welcome, housekeeping, etc. • Approve previous meeting summary • Overview of today's agenda		
8:35-8:50	15 min	02	Tolling Update	Information	Garet Prior
			Objective: • Update on tolling project		
8:50-9:15	25 min	03	Truck Parking Grant and Freight Plan Implementation	Information	Erik Havig
			Objective: • Update on ODOT's truck parking grant work and the upcoming implementation of the freight plan		
9:15-9:25	10 min	04	Oregon Administrative Rule Amendments	Information	Sven Johnson
			Objective: • Annual adoption of IFTA and IRP • Final amendments on OAR requests from tow industry		
9:25-9:35	10 min	04	Serialized IFTA Decals	Discussion	All
			Objective: • Discussion: What does the industry think about serialized decals?		
9:35-9:55	20 min	05	Oregon Trucking Online – Data and Usage	Info & Discussion	Audrey Lawson, Gian Olsen, All
			Objective: • Presentation on TOL features and usage • Discussion: How do we increase TOL usage?		
9:55-10:00	5 min	06	Administrator's Report	Information	Amy Ramsdell
			Objective: • Guest: DMV to highlight fee changes for 2024 • 2024 Renewal News • Driver's Appreciation Week: Thank you, OTA!		
Close		07	Agenda Build	Discussion	All
			Objective: • Identify agenda topics for January 18, 2024		
Next Meeting: Thursday, January 18, 2024 8:30-10:00 am					

MCTAC Summary Notes – July 20, 2023

Attendees: Members - Kristan Mitchell (ORRA), Jon Golly (AOL), Mark Gibson (OTA), Brent Vander Pol (Peninsula Truck Lines), Donny Callahan (OTTA), Kaiger Braseth (Mountain West Moving)

Presenters and Guests – Elisha Brackett (ODOT-CCD), Sven Johnson (ODOT-CCD), Jenny Galvin (ODOT-CCD), Carla Phelps (ODOT-CCD), Garet Prior (ODOT-Tolling Program), Michelle Bowlin (ODOT-CCD),

Support – Jason Lawrence (ODOT-CCD)

Previous meeting's minutes approved.

Oregon Toll Program Update – Garet Prior, Tolling Program Manager
Garet joined MCTAC to provide an overview of the Oregon tolling project, where ODOT is in that process, timelines for what is ahead, and considerations that are being taken for commercial transportation. He walked through the current iteration of the payment process and how STRAC has advised them to streamline the process for businesses with many vehicles. Next, he walked through the interoperability of the program and how it will help streamline data collection on the State's side, while the plan is to also ensure ease and simplicity on the user side. There was discussion about equity and how those considerations are being worked through, as well as an emphasis on cost allocation. Jon Golly and Garet were connected offline following the meeting to provide Jon with some follow up on questions he had regarding equity and small businesses.

Update on CCD tax-evasion study – Jenny Galvin, Interim CCD Commercial Vehicle Tax Manager
Jenny highlighted recent work that CCD has undertaken to further analyze tax evasion in Oregon. With a focus on the Portland Metro area where significant evasion occurs, eight screening locations were set up in June of 2021 to monitor commercial activity. Valuable data was collected there, and the project was expanded to 39 locations, moving outside of Portland Metro. The two sites that collected the most data were Cornelius Pass and Riddle Bypass. CCD is currently analyzing the data, identifying any necessary audits and developing new methods to better track unscreened carriers. A report will be produced in the future.

CCD Quarterly Business Report Draft – Elisha Bracket, CCD Business Operations Manager
Elisha provided an update on CCD's ongoing work in reestablishing the Division's quarterly and annual business report. The project involves delving into the data that CCD collects and finding the best ways to accurately analyze and present the data to reflect the work the Division does. In this overview of where the project is currently, we saw data on carrier compliance and customer service (i.e., phone center wait times and services). Members provided feedback on what they'd like to see. CCD anticipates coming back to MCTAC in January 2024 with a draft report for CY 2023.

Changes in CCD Service Hours – Sven Johnson, Interim CCD Motor Carrier Services Manager
Sven laid out CCD's plans to change phone center service hours in October. The change in service hours will align CCD with the rest of the states in the contingent US, as well as provide benefits for customers. This change will put more staff on the phones at peak call times, shortening wait times and improving services. The monthly hour of staff development will create opportunities for timely training to further improve service delivery. These new hours will also allow CCD to push necessary system maintenance

outside of business hours to avoid service disruptions and delays. The change will be effective October 1, 2023.

Oregon Administrative Rule Amendments – Sven Johnson, CCD
Sven gave a quick overview of two minor OAR adjustments. First, OAR 734-074-0070 was amended to change "road test" to "skills test" to align language with current DMV and CFR standards for necessary requirements to operate with triple-trailer configurations. Second, OAR 734-082-0045 was amended to allow the CCD Administrator to delegate authority to other CCD managers to approve the over-dimension permits of sections 5 and 7. Additionally, paragraph 10 was amended to align with other existing Rule and current practice to change "front haul" and "back haul" to primary haul and secondary haul.

Administrator's Report – Carla Phelps, CCD Motor Carrier Safety and Enforcement Manager
Carla stepped in to provide an Administrator's report for Amy. Carla reminded MCTAC that the CCD Portland Bridge office was moving to Tualatin over the Labor Day weekend. Next, there was an overview of internal Division reorganization of our branches to better streamline our workflows and internal operations. A few titles for managers will change, but nothing external will change for customers. These changes are completely internal to improve CCD efficacy in their work. Finally, Elisha Bracket provided a quick update on the upcoming Motor Carrier Education (MCE) Program, highlighting that this work as required by HB 3055 (2021) is nearing its completion. Look for a final update on the already-launched program in January.

Jason gave a quick plug for upcoming CCD open houses and webinars.

Agenda build discussion: Tolling will likely be back for another update; final amendments for tow industry OAR requests; further suggestions can be sent to Jason.

Close of meeting.

Tolling Update

Garet Prior, Toll Policy Manager

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Insert Tolling Slides

Questions or Comments?

Thank you!

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ODOT Truck Parking Grant and Freight Plan Implementation

John Boren, Freight Program Manager

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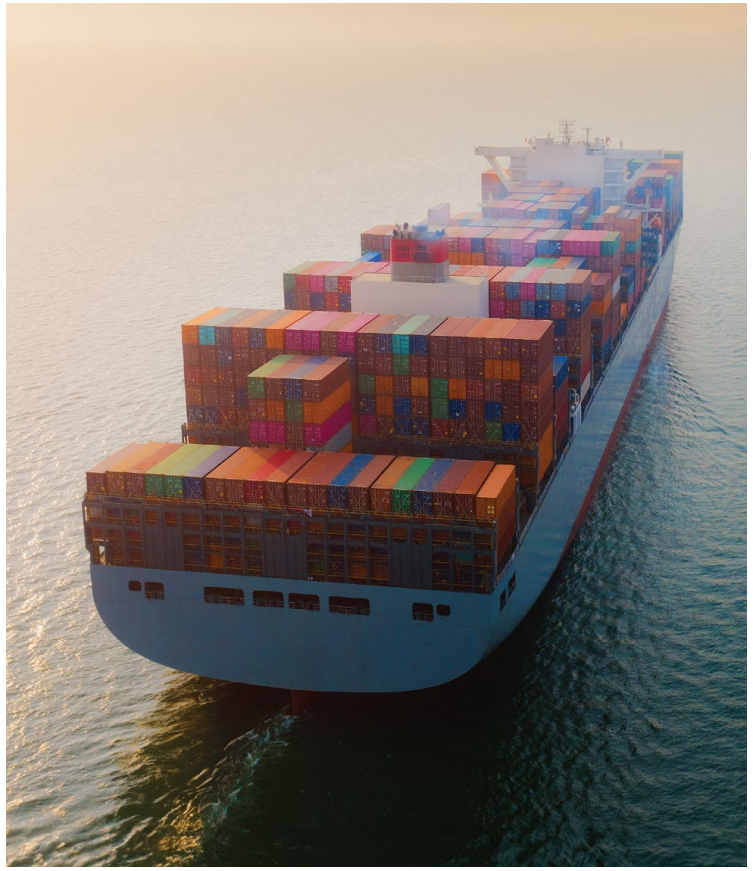
OFP Implementation Plan

MCTAC

October 19, 2023

Freight Plan Updated 2023

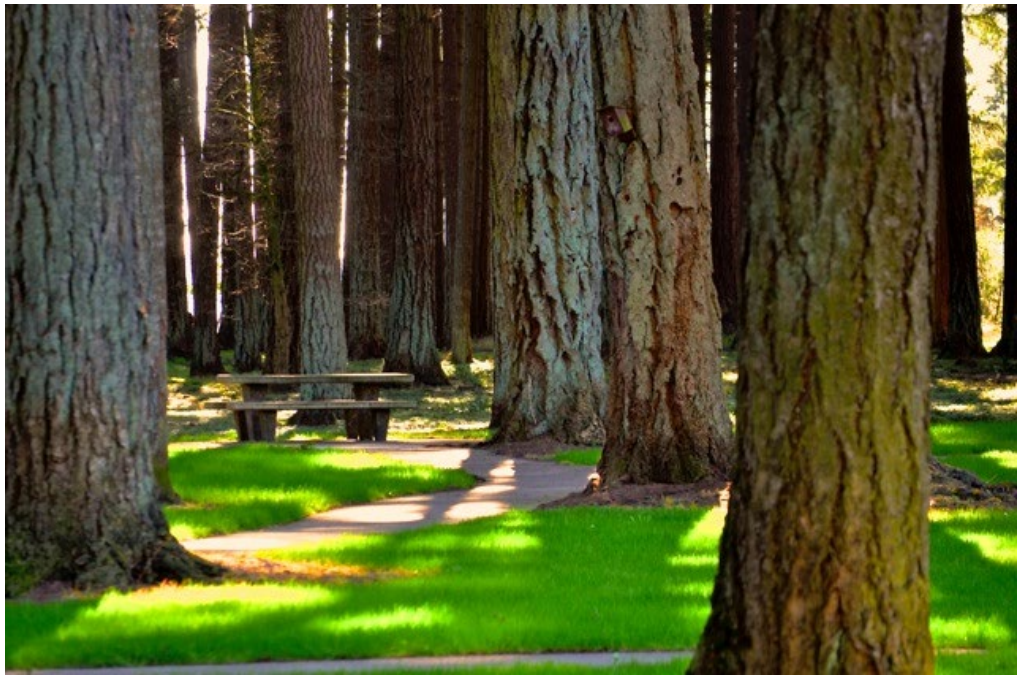
- Updated due to FHWA requirements
- Implementation Plan adopted in September 2023 areas in the near to mid term
- Four focus areas
  - 1. Truck Parking
  - 2. Use of Alternative Fuels
  - 3. Multimodal Freight Priority Projects
  - 4. Freight and Highway Designations.



Truck Parking

- Public Supply
  - Identify rest areas for expansion
  - Redesign existing to increase capacity
- Private Supply
  - Public/Private Partnerships
  - Regulatory hurdles for siting

- Information Management Systems
  - Explore TPIMS grant
  - Seek alternative funding if tri-state approach not successful



Park benches at French Prairie Rest Area

Use of Alternative Fuels

- Electrification
  - Work sessions with Climate Office
- Expand Charging Infrastructure
  - Public Private partnerships

Multimodal Priority Freight Projects

- Funding
  - Matching funds to leverage federal grants
- Diversification
  - Statewide port planning
- Investment
  - Identify key investment needs and priorities

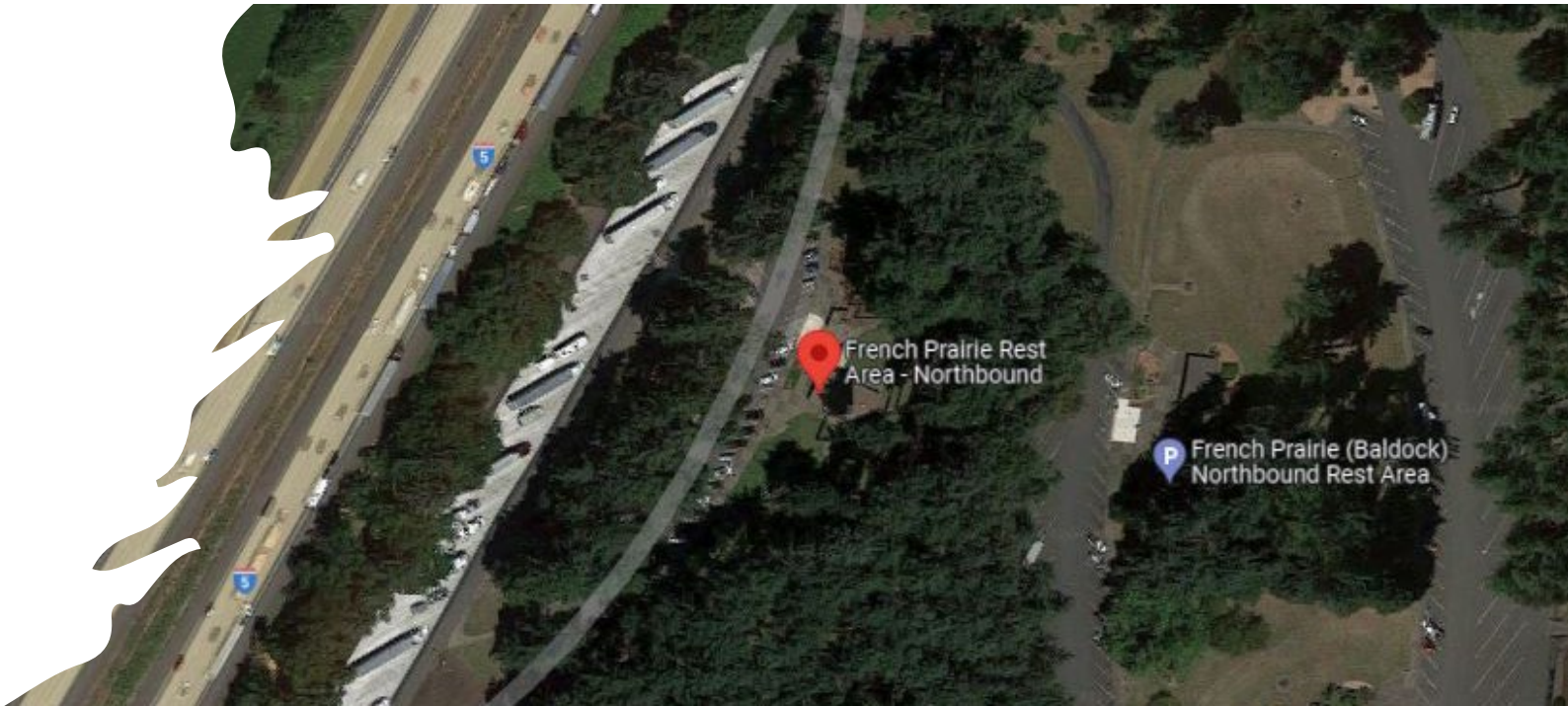
Freight and Highway Designations

- Participate in Oregon Highway Plan Update
  - Prioritize strategic freight route designations
  - Streamline the number of different and overlapping designations

Truck Parking Information Management System (TPIMS)

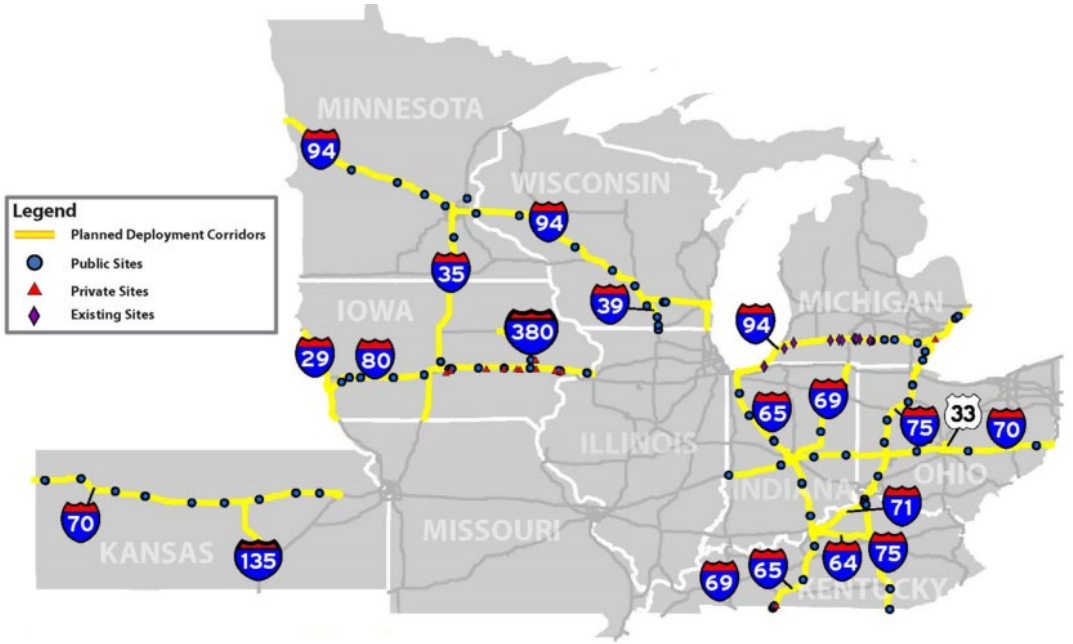
MCTAC

October 19, 2023

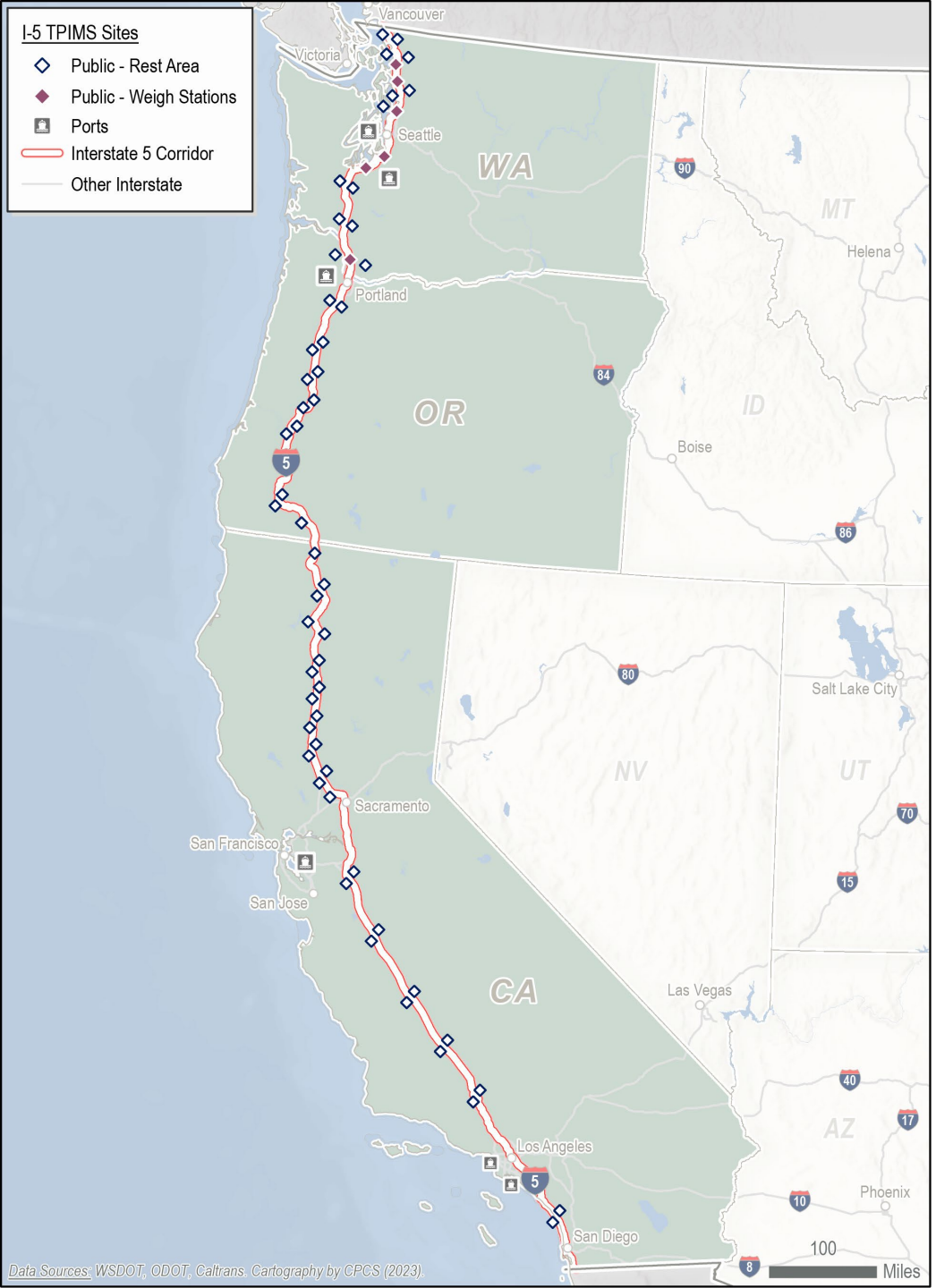


Truck Parking Information Management Systems

- Significant capital investments needed to increase supply of parking
- Maximizing utilization of existing areas is a cost-effective way to manage supply
- TPIMS is:
  - System that identifies truck parking availability and then delivers that information to drivers in real time, allowing them to proactively plan routes and make informed parking decisions
- Without real time data, drivers must visit each site to determine availability, or must make assumptions about lack of availability



Example of multi-state TPIMS deployment in the midwest

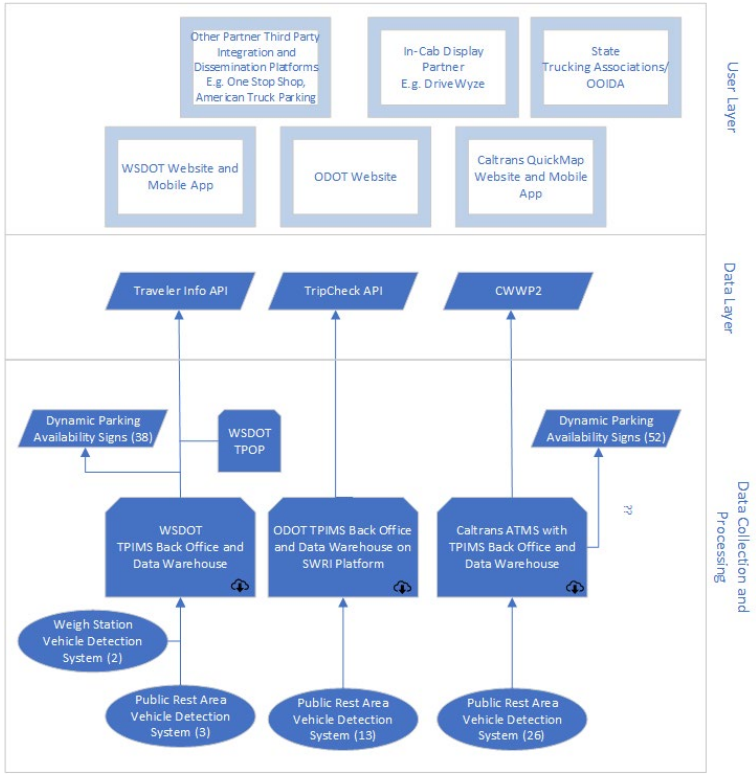


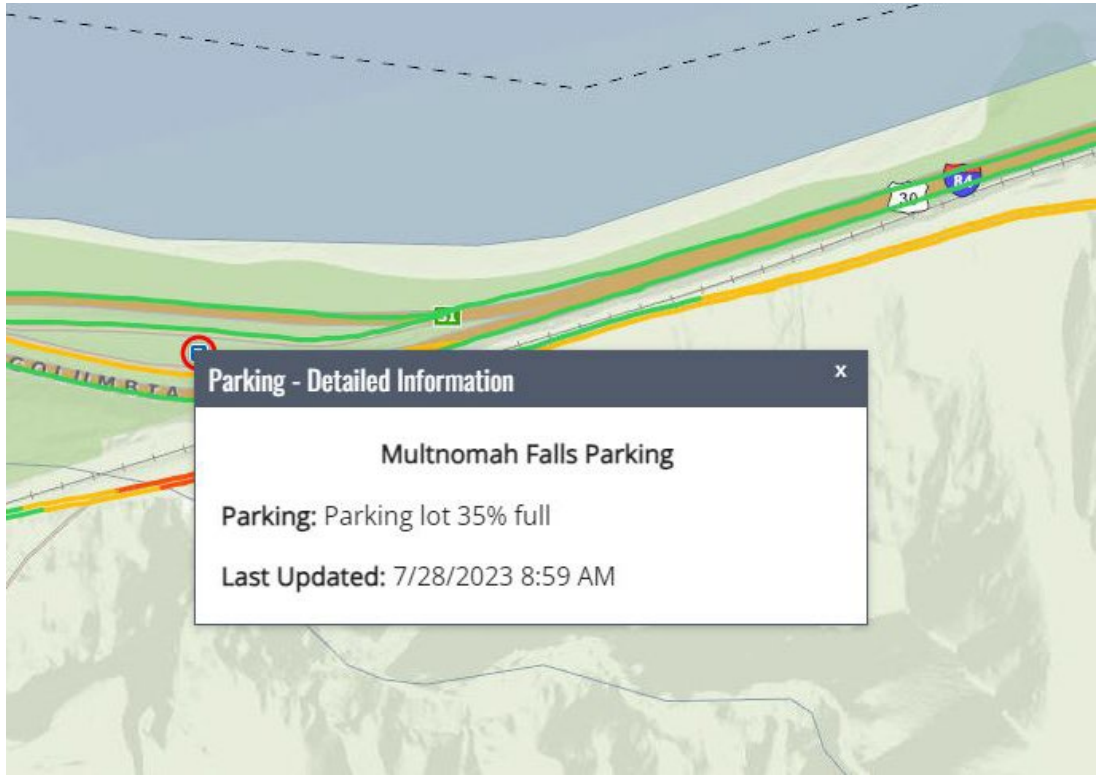
I-5 TPIMS proposal for INFRA Grant

- Proposed grant application for Caltrans, ODOT and WSDOT for I-5 corridor
- System would collect and disseminate real-time truck parking information
- Tri-state effort promotes awareness of system for users

Build on existing technology suites

- Utilize Trip Check API for real-time data dissemination
  - Data can be brought into 3rd party apps
- FLIR Cameras to capture parking availability and to validate in ground sensor readings
- Availability displayed on TripCheck website





Questions or Comments?

Thank you!

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Oregon Administrative Rule Amendments

Sven Johnson, Tax Program Analyst
Commerce and Compliance Division

Oregon Department of Transportation

OAR 740-200-0010, -0020 and -0040

- Housekeeping for annual adoption of IFTA/IRP and HVUT for 2024

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Final Amendments:
Tow Industry OAR Requests
Chapter 734, Division 76

CCD Coordinator: Jason Lawrence

CCD Subject matter experts: Sven Johnson, David Babb and Charlie Hutto

Industry Representatives: Donny Callahan, Kevin Baker and Mark Gibson

OSP Representative: Jason Lindland

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The Original Requests

- Allow
  - Rotators to be 45’ in length and Weight Table 3 when empty
  - 6” additional height from accident scenes = 14’6” total
  - Any group of three or more axles to Weight Table 4
- Remove/Update
  - 100 air mile rule restriction on combination tows

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New Definitions: 734-076-0015

- **(8) “Emergency” means the towing of a vehicle due to a motor vehicle accident, mechanical breakdown on a public roadway, or other emergency-related incident necessitating vehicle removal for public safety with or without the owner's consent.**

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734-076-0145: 5-axle rotators

- Allow 5-axle rotators, so long as gross weight when unladen does not exceed 86k pounds:
  - **(c) When any portion of the weight of the disabled unit rests upon a Class B,[or] Class C, or rotator tow vehicle, and operating under a CTP:**
  - **(D) A rotator tow vehicle must have no more than 5 axles;**
  - **(E) A combination that includes a rotator tow vehicle must not cross any posted weight-restricted bridges for SHVs, regardless of the level of load posting or number of axles on the tow vehicle;**
  - **(F) The gross weight for the tow vehicle and disabled vehicle(s) must not exceed 98,000 pounds;** and
  - **(d) When unladen, and operating under a CTP, a rotator tow vehicle must not:**
  - **(B) Exceed a gross weight of 86,000 pounds; and**
  - **(C) Cross any posted weight-restricted bridges in excess of the weight limits allowed for SHVs.**

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New Definitions: 734-076-0015

- Note: We are reviewing the FAST Act language.

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Questions or Comments?

Thank you!

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Serialized IFTA Decals

Discussion

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Serialized IFTA Decals

- Proposed in 2017; vote failed
- Industry Advisory Committee does NOT support a VIN specific decal
- Key states in support: CA, PA, KY and OK
- Key states in opposition: IN, WA, WI, NE and TX

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Discussion: What do you think about serialized decals?

Questions or Comments?

Thank you!

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Oregon Trucking Online: Data and Usage

Gian Olsen, Business Analyst

Commerce and Compliance Division

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Website User Experience

14 Categories, 106 Transaction Types

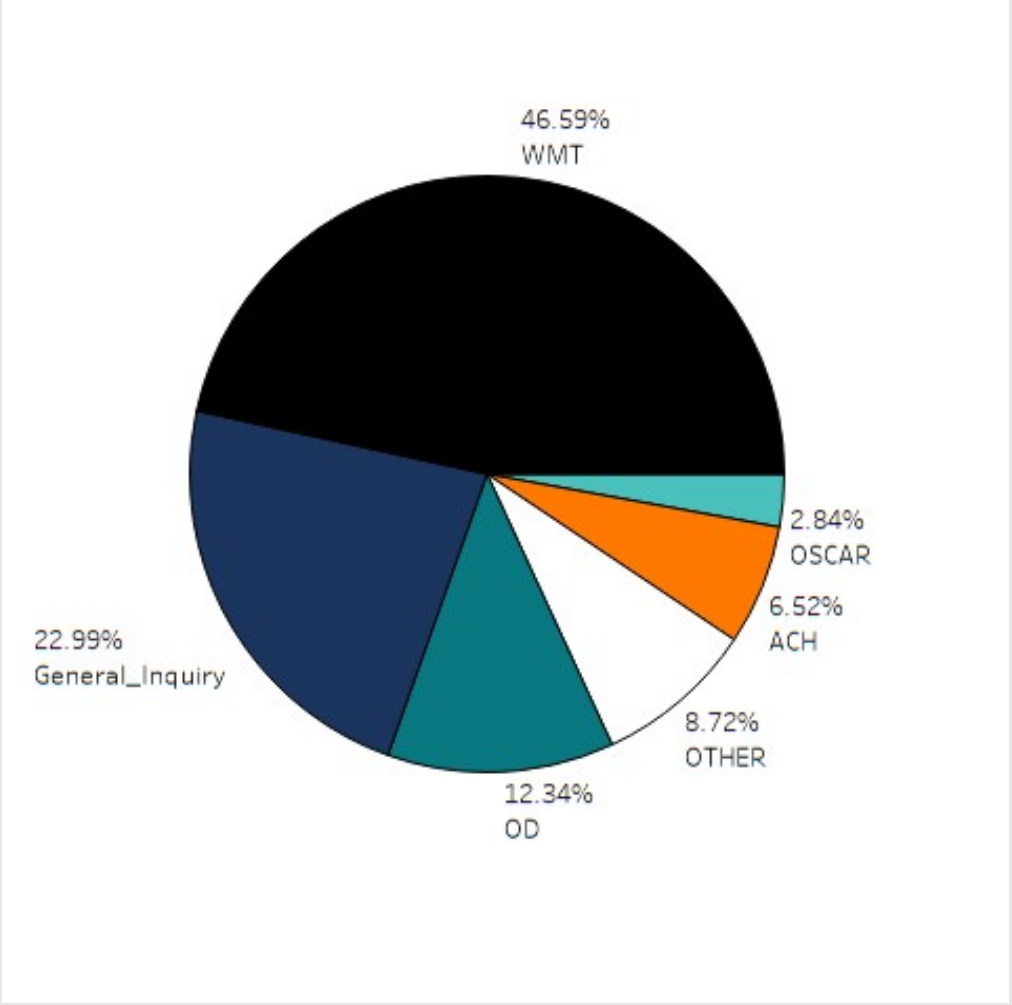
1. ACH/Direct Payment
2. Block Pass
3. Carrier Account Maintenance
4. General Inquiry
5. IFTA
6. Insurance
7. IRP
8. Misc.
9. Over-Dimension (OD)
10. Oregon Scale Crossings And Reports (OSCAR)
11. Vehicle Registration
12. Rental & Temporary Pass
13. Trip Permit
14. WMT

Website User Experience

The General Inquiry category includes transactions that provide TOL users self-service options to their data and information in real time.

- **24 Total Inquiries in the General Inquiry Category**
- Vehicle Lookups
- HVUT and WMT inquiries
- Account status
- OD weight analysis
- IFTA payments, returns, balances, status.
- USDOT inquiry
- And many more…

Top 5 Transaction Types



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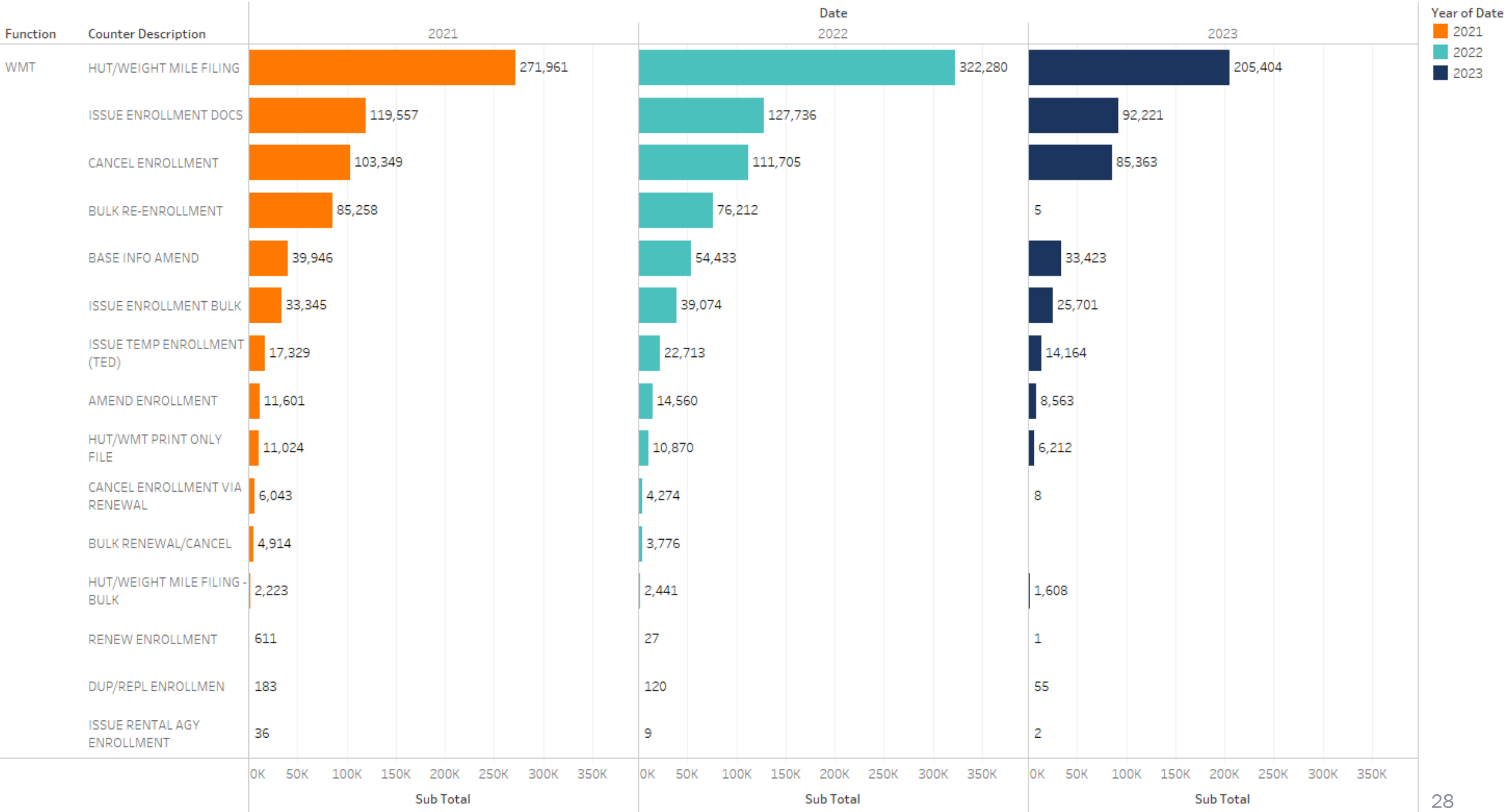
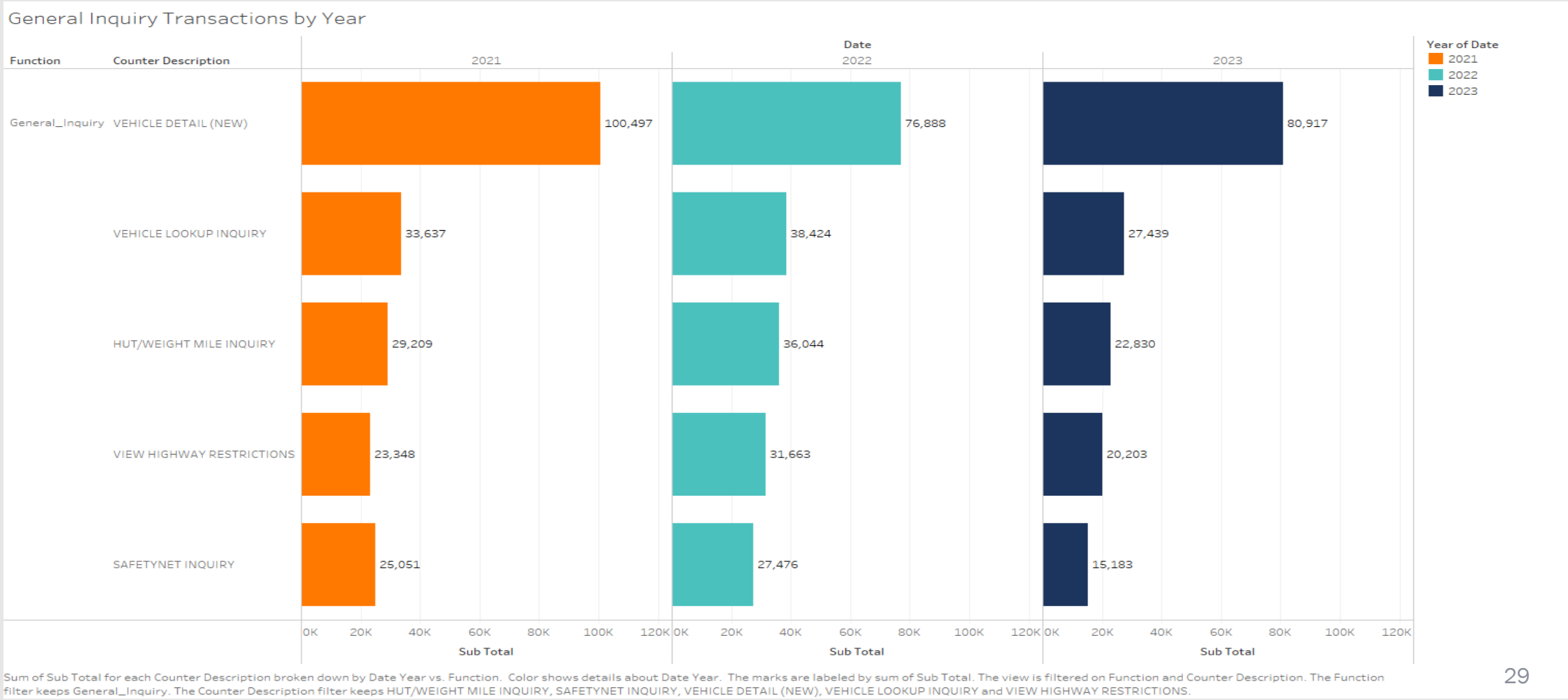
Weight Mile Tax Transactions by Year

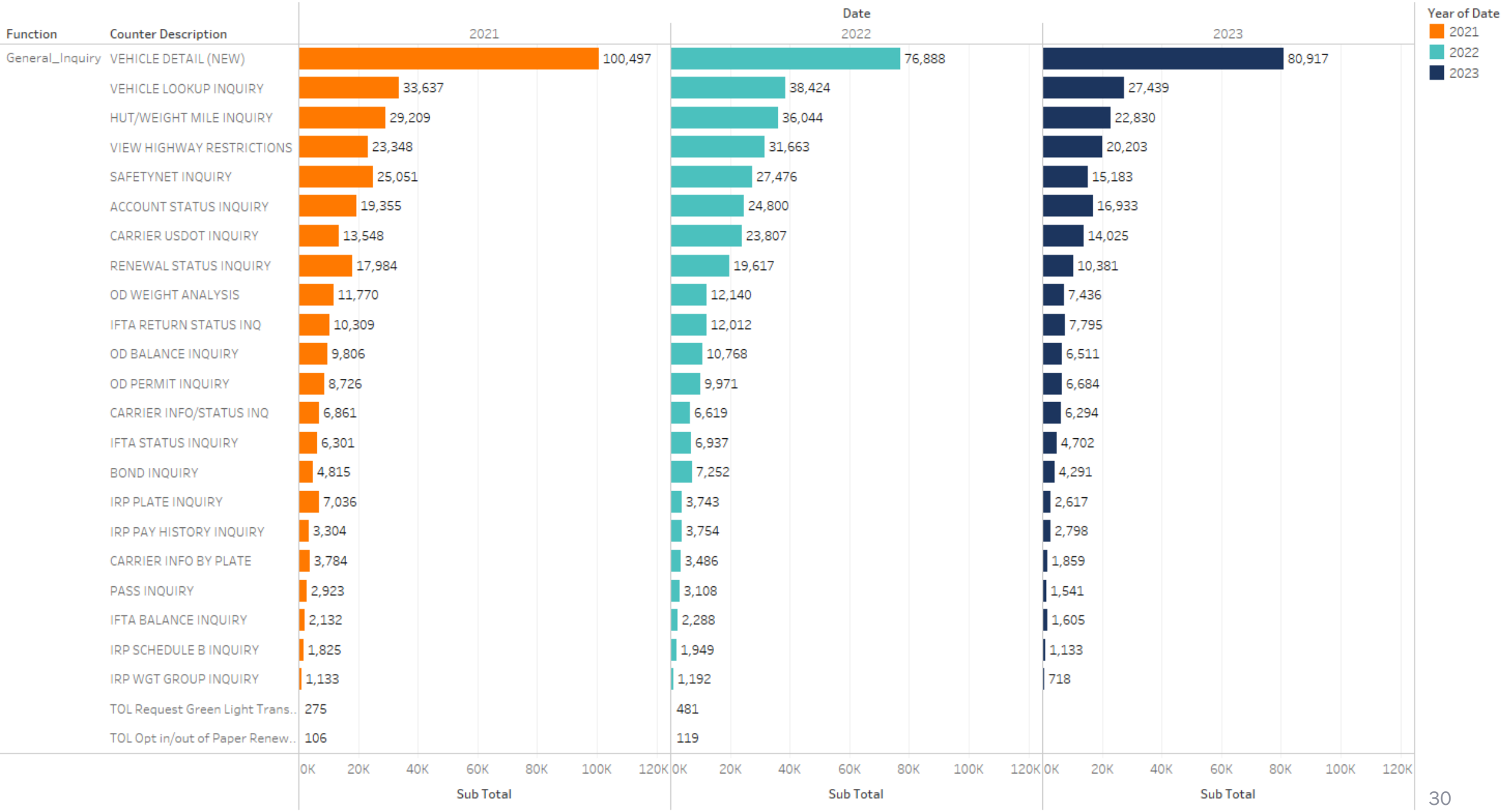


Sum of Sub Total for each Counter Description broken down by Date Year vs. Function. Color shows details about Date Year. The marks are labeled by sum of Sub Total. The view is filtered on Function, which keeps WMT.

Top 5 Inquiries



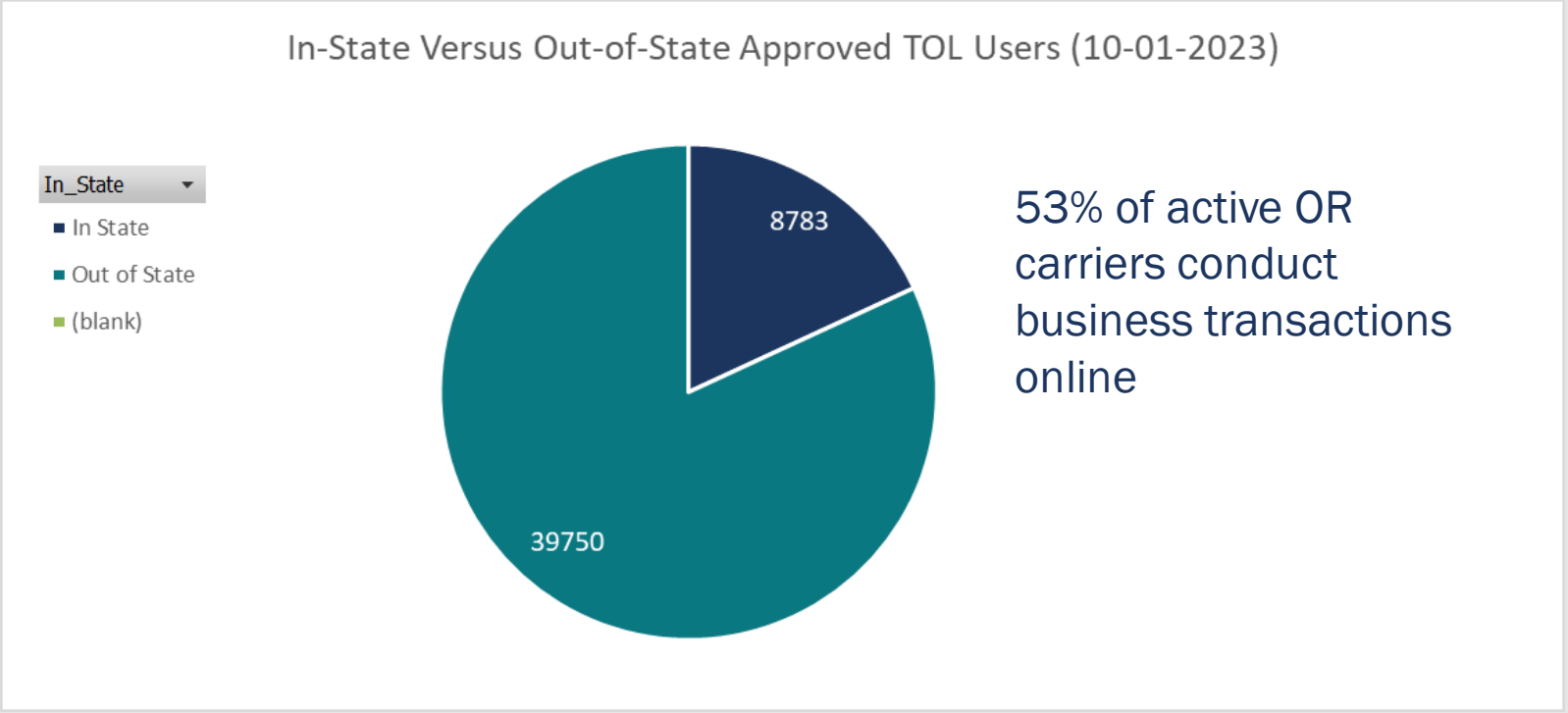
General Inquiry Transactions by Year



Sum of Sub Total for each Counter Description broken down by Date Year vs. Function. Color shows details about Date Year. The marks are labeled by sum of Sub Total. The view is filtered on Function, which keeps General_Inquiry.

TOL User Demographics

- 48,533 Total Approved TOL Users (as of 10-01-2023).
- Carriers located across the U.S. and Canada.



CCD Strategic Priority

Customer Self Service

Goals:

- Increase usage of self-service transactions
- Reduce phone contacts with CCD, improving efficiency and enhancing service levels

Actions:

- Marketing and Communications
  - Shape self-service transactions to provide customers information and services anywhere and any time
- Measure platform performance
- Measure customer satisfaction

Discussion: How do we increase TOL usage?

- Hurdles/challenges?
- Opportunities?

Thank you!

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Administrator's Report

Amy Ramsdell, Administrator

Commerce and Compliance Division

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Administrator's Report

- Quick update from DMV!
- 2024 Renewal News
- Driver's Appreciation Week: Thank you, OTA!

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TRAVEL
SAFE
SCALE
SPEED
3
CASCADIA
SCHNEIDER
SCHNEIDER NATIONAL CARRIERS, INC.
US DOT 264184
3-M-316440-003A
51823


THANK
YOU
DRIVERS
SCALE
SPEED
3
LEGEND
Transportation, Inc.
CA 361784
MCC 536992
US DOT 1419483
VIN PJ266604
586
53'

Agenda Build for January 2024

What items would you like CCD to consider for upcoming agendas?

Additional Resources & Information

- Oregon Transportation Plan
- Oregon Transportation Commission
- Oregon Freight Advisory Committee
- Urban Mobility Office
- Equity and Mobility Advisory Committee
- Oregon Safety Transportation Plan

For questions or comments about MCTAC meetings, please email:

MCTACContacts@odot.Oregon.gov

APPENDIX

Highway Cost Allocation Study
2023-2025 Biennium

PREPARED BY
ECONorthwest
ECONOMICS • FINANCE • PLANNING

PREPARED FOR

EVALUATING THE I-205 TOLL PROJECT

This issue paper, however, is focused on evaluating the potential cost-allocation implications of tolling in the I-205 corridor at and approaching the Abernathy Bridge. That toll program is designed to finance corridor improvement while also retaining some variable toll rates in hopes of alleviating congestion and providing a lower toll cost option for corridor users during off-peak travel periods. In this paper, our concern is narrowly defined as the question of whether the shares of incremental costs allocated to different classes of highway users (light-duty versus heavy-duty vehicles) are similar to the shares of toll revenues that are paid.

Our approach to evaluating this question necessarily relies upon a current implementation of the HCAS model and reporting framework. However, tolls in the I-205 corridor will not be levied during the upcoming biennium. So, the first step in the evaluation is determining the methods for incorporating information about future tolling within the existing HCAS model. The steps are as follows:

1. Establish a baseline set of equity ratios from the current HCAS model for the 2023-25 biennium.
2. Identify an estimate of toll revenues appropriate for inclusion in the HCAS model.
3. Include in the HCAS model a list of projects and project costs associated with the I-205 toll program.
4. Assign work types to the I-205 toll program projects.
5. Calculate a new set of equity ratios that reflect both toll revenue and toll-program projects and costs.

The source of information about toll-revenue estimates is the I-205 Toll Project Level 2 Toll Traffic and Revenue Study Report released in October of 2022. Information about the I-205 projects and project costs, and their work types, was provided by the Oregon Department of Transportation.

I-205 TOLL PROJECT

ODOT is proposing to implement tolls on the Abernethy Bridge and Tualatin River Bridges of I-205 to generate funding for the I-205 Improvements and to manage congestion on I-205 between Stafford Road and Oregon Route 213. The I-205 Toll Project is located on I-205 approximately five miles south of Portland and crosses through the jurisdictions of Oregon City, West Linn, and Clackamas County. Exhibit 1 illustrates the I-205 Toll Project and the locations for placement of toll gantries near the Abernethy Bridge and the Tualatin River Bridges.

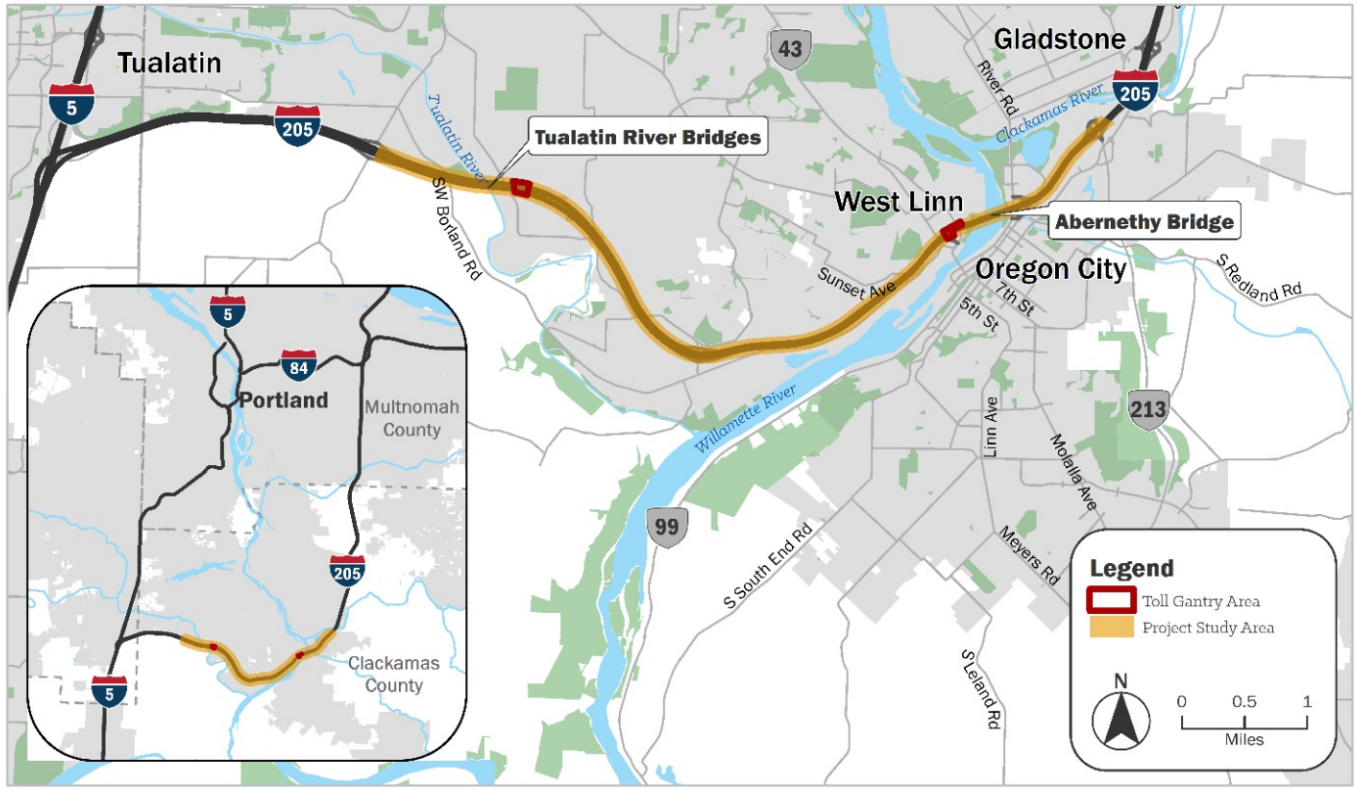
The I-205 Improvements Project includes the following project elements:

- Constructing seismic upgrades to eight bridges along I-205
- Constructing a third lane in each direction of I-205 between Stafford Road and OR 99E and constructing a northbound auxiliary lane from OR 99E to OR 213
- Constructing interchange improvements.

The I-205 Improvements Project would be constructed in two phases (Exhibit 2). Phase 1 would involve multiple contracts and subphases (A – D). In 2021, HB 3055 provided state financing tools that allow construction of Phase 1A to begin in 2022, prior to toll implementation. Phase 1A includes reconstructing the Abernethy Bridge and adjacent interchanges at OR 43 and OR 99. Funding through toll revenues is necessary to complete the remaining phases of the I-205 Improvements Project:

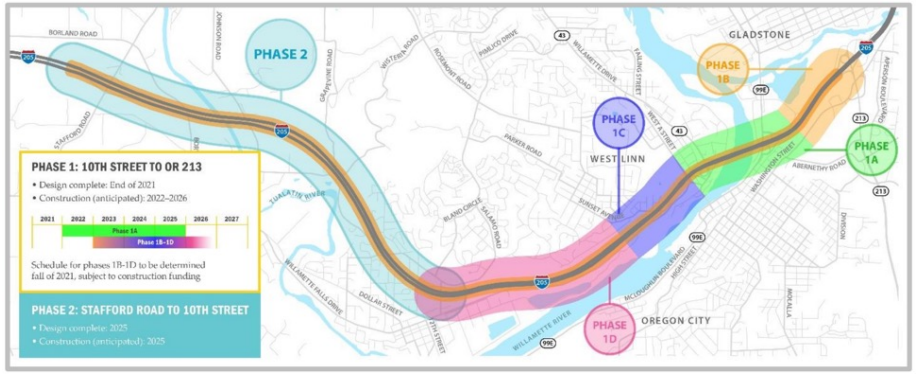
- Phase 1B (OR 99E to OR 213)
- Phase 1C (Sunset Bridge to OR 43)
- Phase 1D (10th Street to Sunset Bridge)
- Phase 2 (Stafford Road to 10th Street, and reconstruction of the Tualatin River Bridges)

EXHIBIT 1: I-205 TOLL PROJECT LOCATION



Source: I-205 Toll Project Level 2 Toll Traffic and Revenue Study Report, October 2022

EXHIBIT 2: I-205 TOLL PROJECT PHASES



Source: I-205 Toll Project Level 2 Toll Traffic and Revenue Study Report, October 2022

TRAFFIC AND REVENUE STUDY

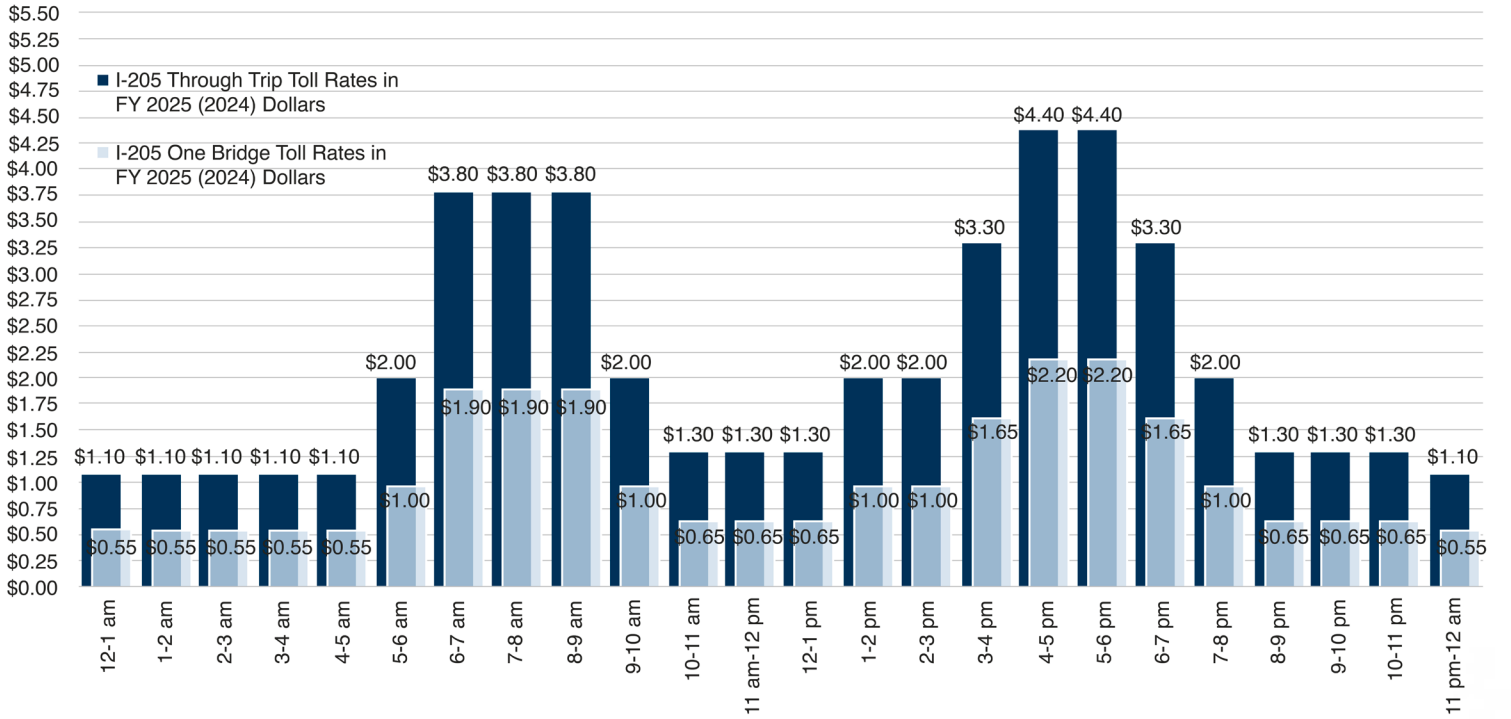
The I-205 Toll Project Level 2 Traffic and Revenue (T&R) Study is the basis for estimates of toll revenues that are used in this issue paper. The Traffic and Revenue Study begins with the representation of the toll project within the Portland Metro regional travel demand model. The study was conducted by a team comprised of staff from Metro, ODOT, and a WSP Consultant Team.

Metro developed and maintains both the regional travel demand model and dynamic traffic assignment models for use on the I-205 Toll Project. These model data include the existing base year (2015) and future years (2027 and 2045) No-Build and Build models. The Consultant Team applied the models to conduct analysis and sensitivity tests, and to derive specific model outputs for analysis purposes. Model volumes from both the demand model and peak-period volumes from the DTA model were post-processed to obtain the projected 2027 and 2045 weekday traffic volumes used for preparing the annual toll traffic and revenue projections.

The traffic volumes and toll rates (see Exhibit 3 below) that are part of the travel demand forecast were then used in the Traffic and Revenue Study to estimate toll transactions and gross and net toll revenues. The toll rates assumed in the Traffic and Revenue Study varied by time of day but also across light-duty vehicles, medium trucks, and heavy trucks. Medium trucks see a toll that is two times the value of the base toll rate while heavy trucks see a toll that is four times the value of the base toll rate.

The T&R Study estimated toll transactions and gross revenues for each of the above vehicle classes and also estimated the various uncollectable revenue and toll transaction fees that permit the estimation of a net revenue finding.

EXHIBIT 3: I-205 TOLL RATES



Source: I-205 Toll Project Level 2 Toll Traffic and Revenue Study Report, October 2022

TOLL REVENUE ATTRIBUTION

For this issue paper, the I-205 Toll Project toll transactions, gross revenues, and net revenues for each vehicle class are used as a basis for the toll revenue attribution to the various HCAS vehicle categories. Toll revenue attribution is handled as a post-processing step once the HCAS model has been implemented.

Within the I-205 Toll Project Level 2 Traffic and Revenue Study, the gross revenue is first adjusted for uncollectable revenues. This adjusted toll revenue is the starting point for this issue paper's revenue attribution. Next, a set of toll system-related fees is removed from the adjusted revenue estimates to arrive at net revenues. The fees estimated in the T&R Study are apportioned according to the share of toll transactions that are associated with each vehicle class for the purposes of this issue paper.

The T&R Study projects toll revenue estimates through the year 2060. But for our purposes, we require early-year revenue estimates that coincide as closely as possible with the current HCAS model implementation timeline (2023-25). Since early-year estimates include a tolling ramp-up period (a period where toll system users adjust to the new system) we have chosen revenue estimates that occur just after the ramp-up has concluded. This set of assumptions is a reasonable basis for a preliminary examination of tolling within HCAS that preserve the basic logic of the toll program while conforming to HCAS modeling requirements that otherwise reflect the most recent other HCAS cost and revenue inputs and assumptions.

EXHIBIT 4: TRAFFIC AND REVENUE STUDY INPUTS TO HCAS

Annual Average Adjusted Gross and Net Toll Revenue (millions)			
	Basic Vehicles	Medium Truck	Heavy Truck
Adjusted Revenue	$71.86	$ 9.51	$22.83
Toll System Costs	-40.73	-2.69	-3.24
Net Revenues	31.13	6.81	19.60

Source: I-205 Toll Project Level 2 Toll Traffic and Revenue Study Report, October 2022

As a sensitivity test, we examined the average gross toll and net toll revenues over the full T&R forecast and determined that the share of revenues by vehicle class does not change substantially.

TOLL PROJECT COST ALLOCATION

The I-205 Corridor investments are to be financed, in part, with toll revenue. The initial phase of investment is the replacement of the Abernathy Bridge. As described above, subsequent phases of investment include constructing a third lane in each direction of I-205 between Stafford Road and OR 99E and constructing a northbound auxiliary lane from OR 99E to OR 213, improving interchanges, and reconstructing the Tualatin River Bridges.

Total additional investment beyond the current Phase 1A will total $697 million. ODOT has indicated that the expenditures can be allocated to various types of work activities in the following manner:

- Engineering, 20% (this includes construction engineering)
- ROW/utilities, 5%
- New structures (retaining walls), 2%
- Replacement structures, 7%
- Roadside improvements, 30%
- Safety improvements, 5%
- Bike/ped improvements, 1%
- Bridge replacement with capacity (Tualatin River Bridges). 20%
- Structures rehabilitation: 10%

In addition, there are toll system deployment costs of $84 million that are not otherwise accounted for in the T&R study gross to net revenue data that is part of our revenue analysis.

Much in the same way that toll revenues will not be collected during the 2023-25 biennium,

these project costs will likewise be incurred in the future. Similarly, in order to preserve the basic logic of the toll program while conforming to HCAS modeling requirements that otherwise reflect the most recent other HCAS cost and revenue inputs and assumptions, we include these project costs in the current HCAS model. However, since the project costs are large and will be supported through bond sales, we include the costs as bonded projects so that only annual bond payments are included in the comparison with toll revenues.

FINDINGS

The test of the I-205 Toll Project within the HCAS model is necessarily an incremental analysis that builds upon the base 2023 HCAS model and results. In order to make this analysis feasible, the actual details of the investment—including when projects are built (or costs are incurred) and when tolls are paid and revenues are collected—have been modified. In short, the analysis is equivalent to imagining that the toll project has already been built and toll operations have begun at the beginning of the 2023-25 biennium. This assumption is a necessary abstraction in order to make the HCAS analysis feasible but it does not fundamentally alter the equity implications and findings.

This paper examines how toll operations might be expected to affect the equity of highway finance by examining cost responsibility and revenue attribution across three toll-paying vehicle classes (light-duty, medium trucks, and heavy trucks). Within the HCAS model, these vehicle classes are based on vehicle weight (under 10,000 lbs., 10,000 to 26,000 lbs., and above 26,000 lbs.). The toll system is expected to classify vehicles by shape rather than weight, but nonetheless, the two classification systems are similar.

The base 2023 HCAS results are included in Exhibit 5 below. The exhibit displays cost shares, revenue shares, and equity ratios for the three vehicle classes. Exhibit 6 includes the same metrics for the 2023 HCAS model with the inclusion of the I-205 toll program.

EXHIBIT 5: BASE 2023 HCAS: COST SHARES, REVENUE SHARES, AND EQUITY RATIOS

BASE 2023 HCAS			
	Basic/ Light	Medium Truck	Heavy Truck
Cost Share	72.7%	3.3%	24.0%
Revenue Share	63.9%	3.5%	32.6%
Equity Ratio	0.878	1.076	1.358

Source: ECONorthwest, 2023 HCAS Model

The comparison of Exhibits 5 and 6 demonstrates the equity implications for the entire system of highway finance. With the inclusion of the I-205 toll program medium and heavy trucks pay a higher share of user fees than in the Base case. The share of costs allocated to medium and heavy vehicles, with the inclusion of the I-205 toll program, decline slightly as compared with the Base case. As a result, the equity ratio for basic vehicles with the inclusion of the I-205 toll program declines and the equity ratios for medium and heavy vehicles increase.

EXHIBIT 6: 2023 HCAS WITH I-205 TOLL PROGRAM: COST SHARES, REVENUE SHARES, AND EQUITY RATIOS

2023 HCAS with I-205 Toll Program			
	Basic/ Light	Medium Truck	Heavy Truck
Cost Share	73.3%	3.2%	23.5%
Revenue Share	63.5%	4.0%	32.5%
Equity Ratio	0.866	1.225	1.386

Source: ECONorthwest, 2023 HCAS Model

And finally, Exhibit 7 includes results from examining just incremental costs and revenues from the I-205 toll program. These findings demonstrate whether the toll program, on its own, results in tolls being paid in proportion to the costs assigned to each class of vehicles. Based on the current analysis assumptions, basic or light-duty vehicles are responsible for 93 percent of the toll program costs while paying 58 percent of the net toll revenues, resulting in

an equity ratio of 0.627. The equity ratios for medium trucks and heavy trucks are 8.577 and 5.230 respectively.

EXHIBIT 7: INCREMENTAL I-205 TOLL PROGRAM: COST SHARES, REVENUE SHARES, AND EQUITY RATIOS

Incremental Results for the I-205 Toll Program			
	Basic/ Light	Medium Truck	Heavy Truck
Cost Share	92.8%	1.2%	6.0%
Revenue Share	58.2%	10.3%	31.5%
Equity Ratio	0.627	8.577	5.230

Source: ECONorthwest, 2023 HCAS Model

POTENTIAL IMPLICATIONS

An ex-ante evaluation of the I-205 toll program has limitations, especially given the assumptions that need to be made in order to include toll project costs and revenues in the 2023 HCAS model. As such, these findings need to be considered with those limitations in mind. The potential implications for equitable highway finance are a best guess based on existing plans for tolling implementation as included in the I-205 Phase 2 Traffic and Revenue Study.

The expectation is that toll rates established for the Portland metro region will vary according to a time-of-day schedule based on congestion relief goals, revenue needs, and public input. However, actual toll policy in Oregon is set by the Oregon Transportation Commission and is likely to be set about six months before tolling begins.

This current analysis suggests that basic/light-duty vehicles may not contribute to toll revenues proportionate to their cost responsibility, and that medium and heavy trucks may contribute to toll revenues in excess of their cost responsibility. A reasonable question is what toll policy could yield equity ratios that are closer to 1.0 for each vehicle class?

The assumptions used in the I-205 T&R Study are that medium trucks pay a toll that is twice the base toll rate and that heavy trucks pay a toll that is four times the base toll rate. An alternative approach is to set toll rates that are based on each vehicle's passenger car equivalency (PCE). PCEs reflect the fact that larger vehicles take up more space on the road and also that heavier vehicles have different performance in terms of acceleration, vehicle spacing, and deceleration. These differences in performance determine how each vehicle contributes to potential traffic congestion. So, tolls that are designed to manage traffic flow might be reasonably based on vehicle PCE. Under typical conditions basic/light-duty vehicles have a PCE of 1.0, medium trucks often have a PCE value of around 1.1, and heavy trucks can have PCE values of approximately 1.5.

Tolls based on base toll rate multipliers that are PCE values would yield lower revenue for medium and heavy trucks than is true in the Base case. A simplistic adjustment of toll revenues based on this policy yields an equity ratio for basic/light-duty vehicles of around 0.9. A more formal analysis of alternative toll policy requires re-running demand models and further T&R analysis and would also result in higher toll-paying truck volumes in response to lower toll rates. And in turn, a larger portion of toll operating costs and fees would be attributed to truck traffic. In summary, it is reasonable to expect that a toll policy based on PCE would bring the equity ratio for basic/light-duty vehicles closer to 1.0 for the I-205 toll program.

Vehicle Classification

Statewide Toll Advisory Committee (STRAC) October 2023 Meeting Materials
Date Updated: October 22, 2023

The purpose of this document is to build from the following documents that detailed Oregon's regulations, rules and policies, as well as the existing toll industry practices around vehicle classification systems for tolling - that we discussed at the July 2023 STRAC meeting - to provide feedback on the draft rules and approach to tolls and trucking.

Why we plan to classify by shape rather than by axle?

It is almost universal practice in toll operations to charge higher rates for larger and heavier vehicles than for small and lighter vehicles, because the larger and heavier vehicles do the most damage to roads and bridges. However, weighing vehicles in a traditional toll environment is expensive, and traditional scales are not suitable for high-speed operations.

When tolls were collected in toll plazas, most toll operators used axle counts as a proxy to estimate weight. Axle-counting traditionally required in-pavement contact sensors for vehicles passing over at low speeds. With current non-stop all-electronic toll systems, toll operators most often have employed "smart loop" sensors. These have proven accurate in operations but come at a high price. Smart loops have a substantial cost to license and install, they may require special or replaced pavement, and they may require ongoing calibration and tuning.

As others launched new non-stop toll facilities, such as Toronto 407 ETR, Rhode Island DOT and the Dallas-Fort Worth region TXDOT TEXpress lanes, they also elected to avoid counting axles and to instead employ shape-based classification. We plan to do the same for I-205 Abernethy Bridge and RMPP. ODOT has agreed to provide the toll system and operations for the Interstate Bridge Replacement (IBR). As a result, ODOT is preparing procurements for all the facilities with shape-based classification.

Proposed toll vehicle classification structure

The table on the following page presents the FHWA class, weights, weight categories, how length and height would correlate to them, and the recommended toll classification structure.

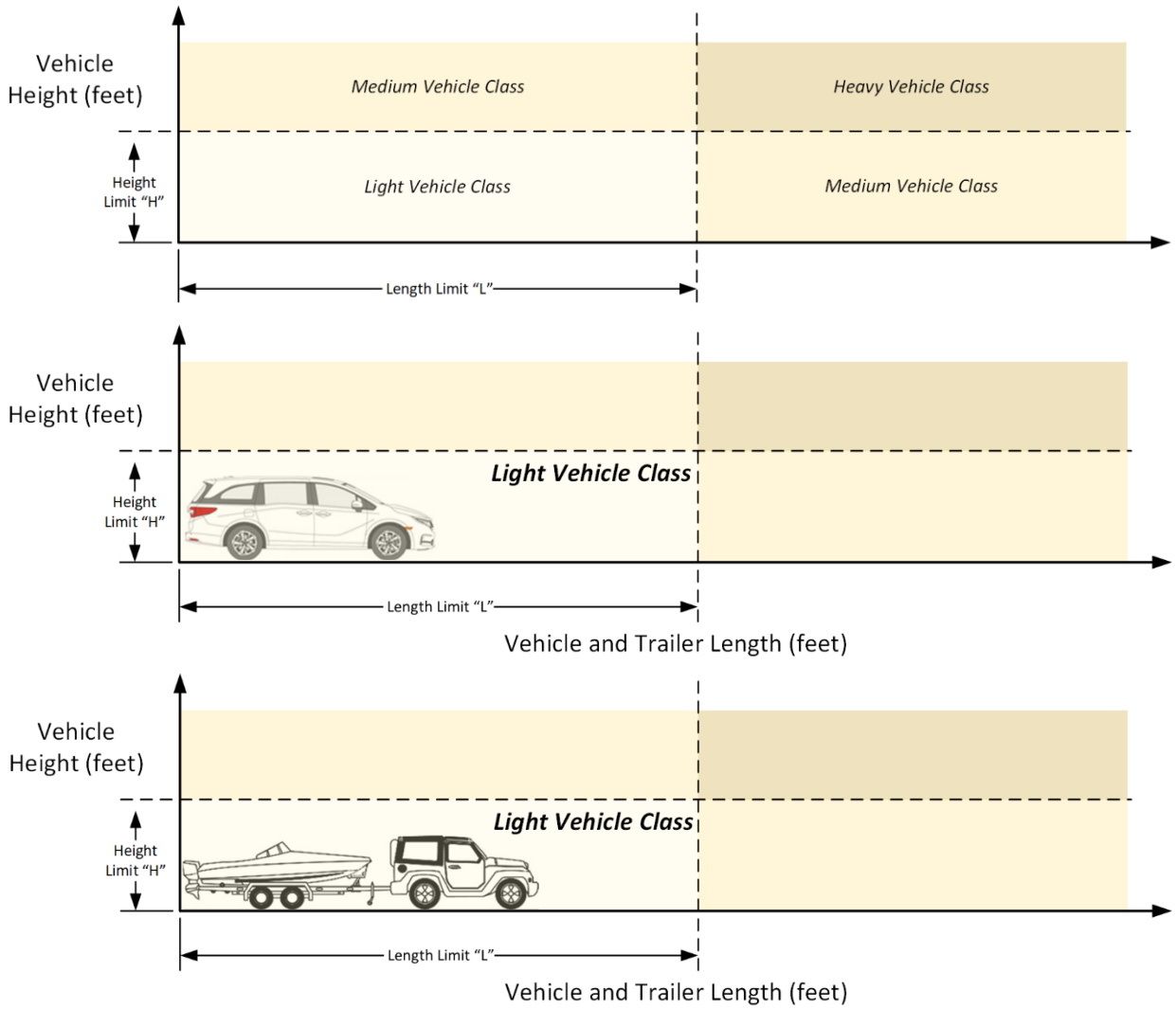
FHWA Vehicle Class		GVWR (lbs)	FHWA GVWR Category	Power Unit Height "H"	Overall Length "L"
1	Motorcycles		Light Duty	< H limit	< L limit
2	Passenger Cars				
		10,000			
3	Four tire, single unit		Medium Duty	may exceed H limit	may exceed L limit
		14,000			
4	Buses			> H limit	
		16,000			
5	Two axle, six tire, single unit				
		19,500			
6	Three axle, single unit				
		26,000			
7	Four or more axles, single unit		Heavy Duty		> L limit
		33,000			
8	Four or more axles, single unit				
9	5-axle tractor semi-trailer				
10+	larger				

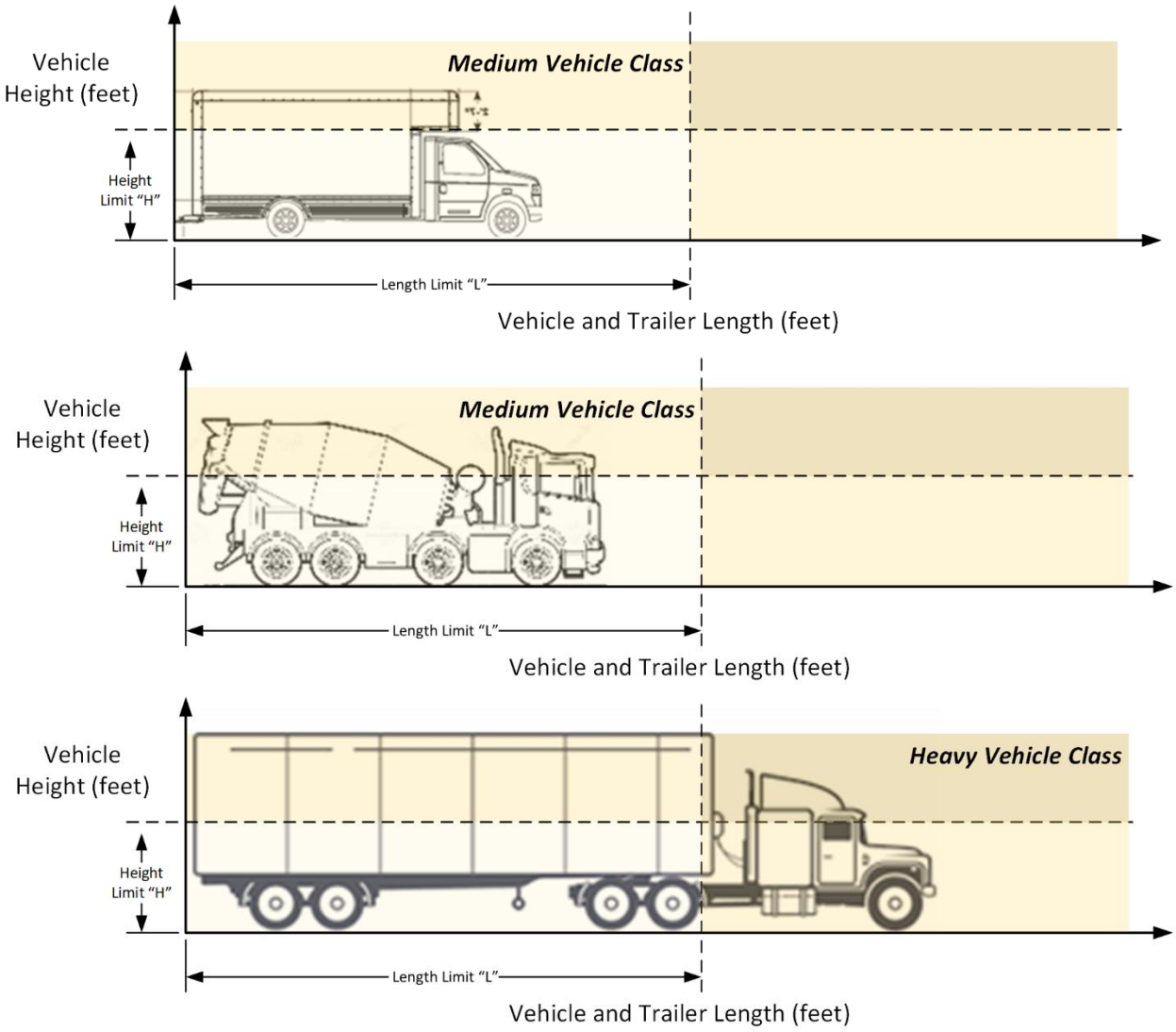
Recommended Toll Classes	
Description and Example Rate	As detected at toll zone
Light Rate = Y	< H limit and < L limit
Medium Rate = up to 2 times Y	exceed either H limit or L limit
Heavy Rate = up to 4 times Y	exceed H limit and L limit

How does shape-based classification work?

Shape-based classification, also sometimes called volumetric classification, is based on measuring vehicle size. Overhead sensors can measure the overall height of the power unit, and the combined length of the power unit and trailer.

Using H = 7.5’ and L = 35’ with images of a few typical vehicles as examples (first, a minivan, secondly a small SUV pulling a small boat, then a larger panel truck, a concrete mix truck, and then a tractor trailer). We believe the correlation of vehicle size to gross weight is no less precise that the count of axles, particularly when considering lighter vehicles and trailers. The charts below identify how this would be implemented.





Unique circumstances

Bicycles and roof racks

The system should only include the permanent and/or significant part of a vehicle or its trailer in the dimension calculation. For example, a vehicle's flag post, a bicycle on the roof, a ladder leaning against a pickup's cabin typically will not be counted as part of a vehicle's height. Some taller passenger vehicles such as large SUVs or vans) will have heights close to the H value. Detected bicycles and roof racks might nominally exceed the H value and thus incur the higher toll rate. We will work to address this circumstance out of concern for customer service and will verify with the systems integrator in 2024 how their technology will address this condition.

Cars and Pickup Trucks with Trailers

The L value under consideration would allow any passenger vehicle or pickup truck to qualify as a Light Vehicle, even if pulling a short trailer. However, if a heavy full-size pickup were detected pulling a 20+' livestock trailer, camper or boat, the total length would likely exceed the L value, and the Medium Vehicle toll would be incurred.

Motorhomes

Most Class A motorhomes are tall enough to exceed the H value, but the average length is about 33 feet, and so would qualify as a Medium Vehicle. When pulling an additional car, however, this would then also exceed the L value, and thus incur the Heavy Vehicle toll.

Truck Tractors without Trailers (Bobtail)

Heavy tractor trailers with dimensions exceeding both the H and L values would normally be tolled at the Heavy Vehicle rate. If a tractor drove past a toll point without a trailer, its length might be below the L value and the toll would be at the Medium Vehicle toll rate.