



# Tolling in Oregon: What's Old is New Again

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# ODOT's Scope

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- Maintain Oregon's state highways, roads, and bridges
  - Ensure a safe system
  - Develop a connected multimodal statewide network
  - These functions keep Oregon moving, keep communities connected, and serve those traveling through our state
- Oregon Transportation Plan Vision
    - Connect people and goods to places in the most safe, equitable, and climate-friendly ways



# Funding

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- Three major revenue streams currently
  - Fuel taxes
  - Weight-mile taxes
  - DMV fees
    - Vehicle registration
    - Drivers licensing
- Funding to meet future needs
  - Fuel taxes
  - Weight-mile taxes
  - DMV fees
    - Vehicle registration
    - Drivers licensing
  - *Road usage charging (pay by the mile)*
  - *Tolling*

## Why new revenue streams?

# Our transportation funding system is old. *Really* old.

Oregon Introduces  
1<sup>st</sup> State Fuel Tax  
in U.S.

1932

Oregon Levies 1<sup>st</sup>  
Weight-Mile Tax

1993

Oregon Begins  
Nation's 1<sup>st</sup>  
RUC Program

2021

1919

U.S. Institutes 1<sup>st</sup>  
Federal Fuel Tax

1947

Congress Approves  
Last Federal Fuel  
Tax Increase

2015

13 States Introduce  
RUC Legislation

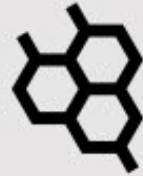


# State highway fund challenges



## Future Fuels Tax Revenue Decline

- The average driver consumes almost **25% less fuel per year** than 10 years ago. At today's rate, that's over **\$40 less per year** in gas tax paid per vehicle.



## Reliance on Few Sources of Revenue

- Oregon **does not utilize inflation-resistant** funding mechanisms to support transportation system needs.



## Rigid Statutory Structure

- About **80% of DMV fees** go to local governments and state highway construction projects and can't be spent on delivering DMV services.
- **Less than 3%** of additional taxes and fees raised by HB 2017 went to state highway maintenance and operations.

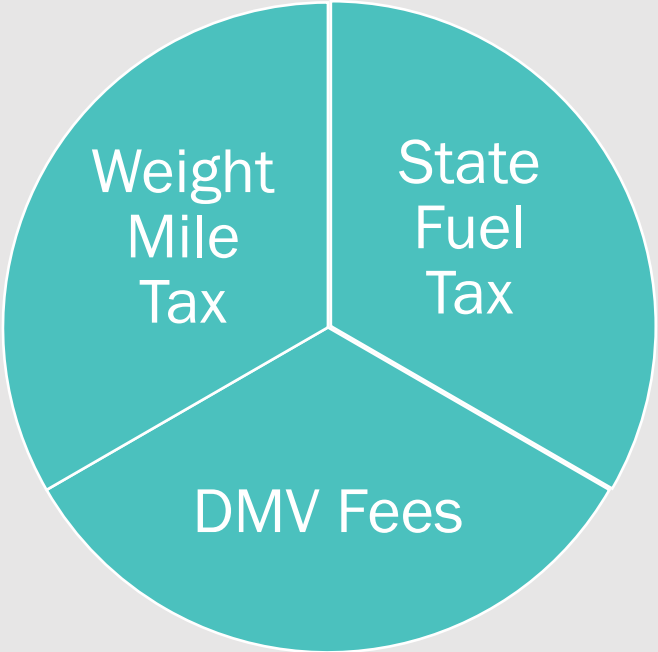


## Rise of Record Inflation

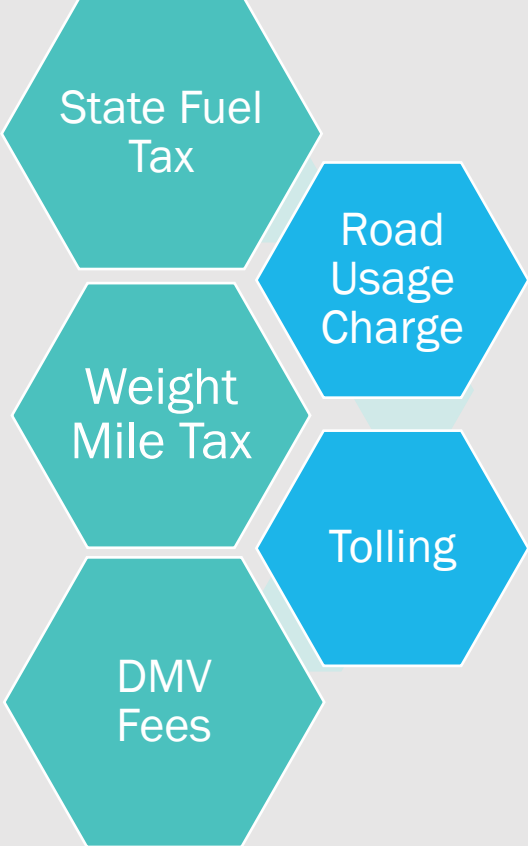
- Since 2017, the National Highway Construction Cost Index has **increased by over 80%**.
- Equipment costs have **increased about 25%** in the past four years.
- Paint costs **have increased over 30%** in the last four years.

# The funding mix of the future

Current State Highway Fund



Future State Highway Fund?





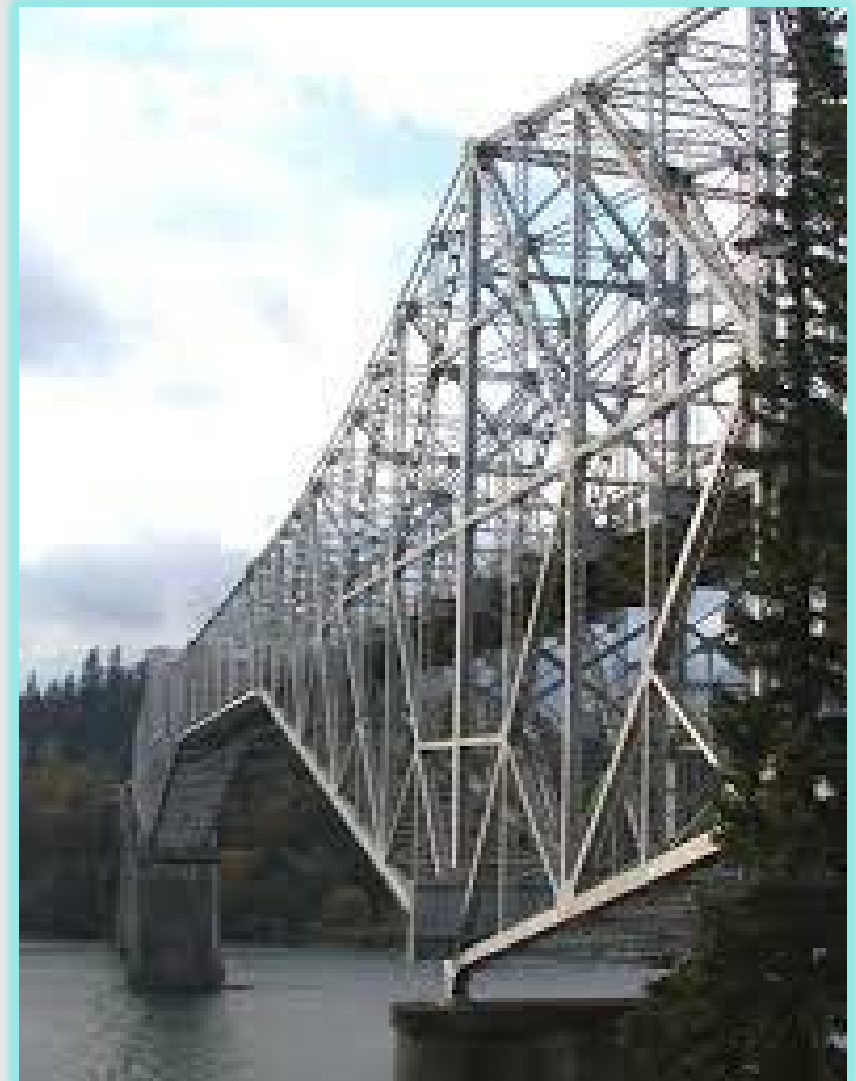
# Differentiating road usage charging from other funding methods

- All users pay the base rate  
*Like fuel taxes*
- Not variable by time of day  
*Unlike congestion pricing*
- Applicable to entire system  
*Unlike tolling*



# Tolling isn't new to Oregon

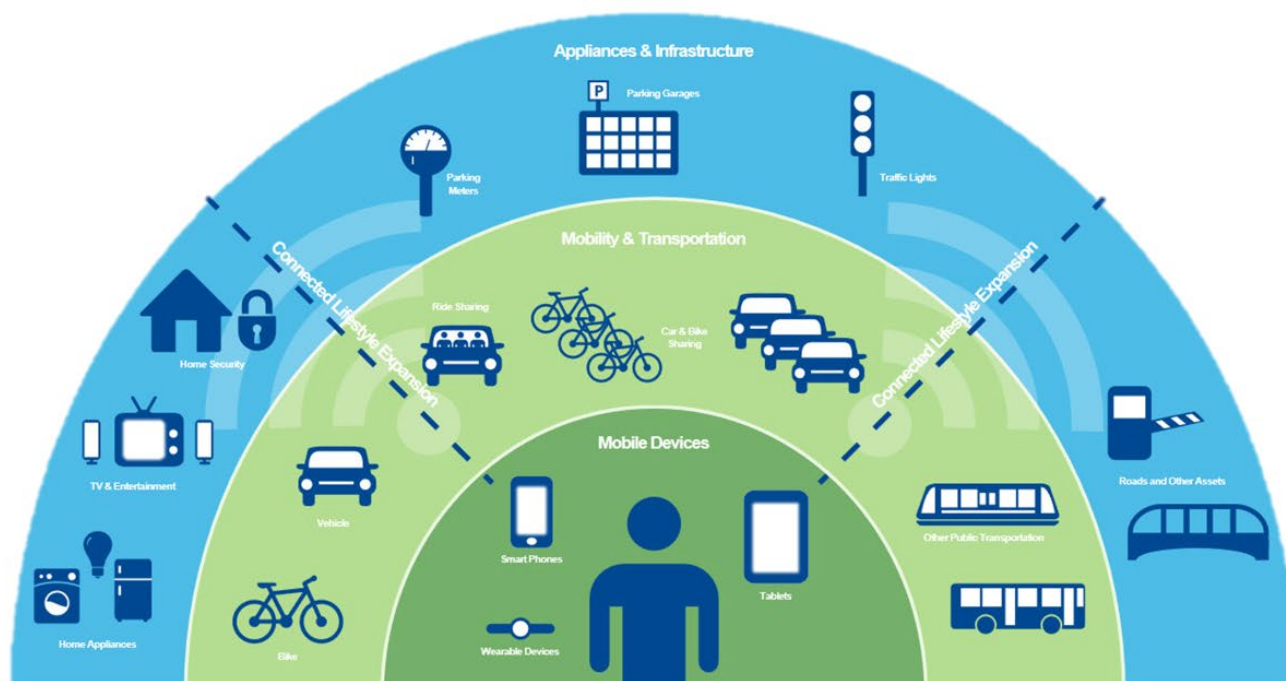
- Barlow Road – 1846
  - Saved a week of travel
  - Cost was \$5/wagon & 10 cents/animal
- Interstate Bridge (Northbound) – 1917
  - 1<sup>st</sup> automobile bridge to cross the Columbia between WA & OR
  - Cost was 5 cents/vehicle or horse
- Astoria – Megler – 1966
  - Took 4 years to complete
  - Cost was 50 cents/motorcycle up to \$4/truck
  - Tolls lasted until construction bonds were paid (27 years)
- Bridge of the Gods & Hood River Bridge





# Tolling – leverages new technology

Desired end state – more sustainable funding to fund a modern transportation system, that connects people and goods to places in the most safe, equitable, and climate-friendly ways



## Connected Ecosystem

“anything that can be connected  
will be connected”

- Forbes

The world is changing.

# Transportation funding should too. Questions?

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**Urban Mobility**  
STRATEGY

# The Engineering of Tolling

Monday, March 4th, 2024

## Northwest Transportation Conference

Atousa Gorg, PE



# Outline





# I-205 Toll Project

## Description

- Implementation of tolling at the Abernethy Bridge only
- Toll point at the I-205/OR 43 interchange
- Status: Design and NEPA in progress



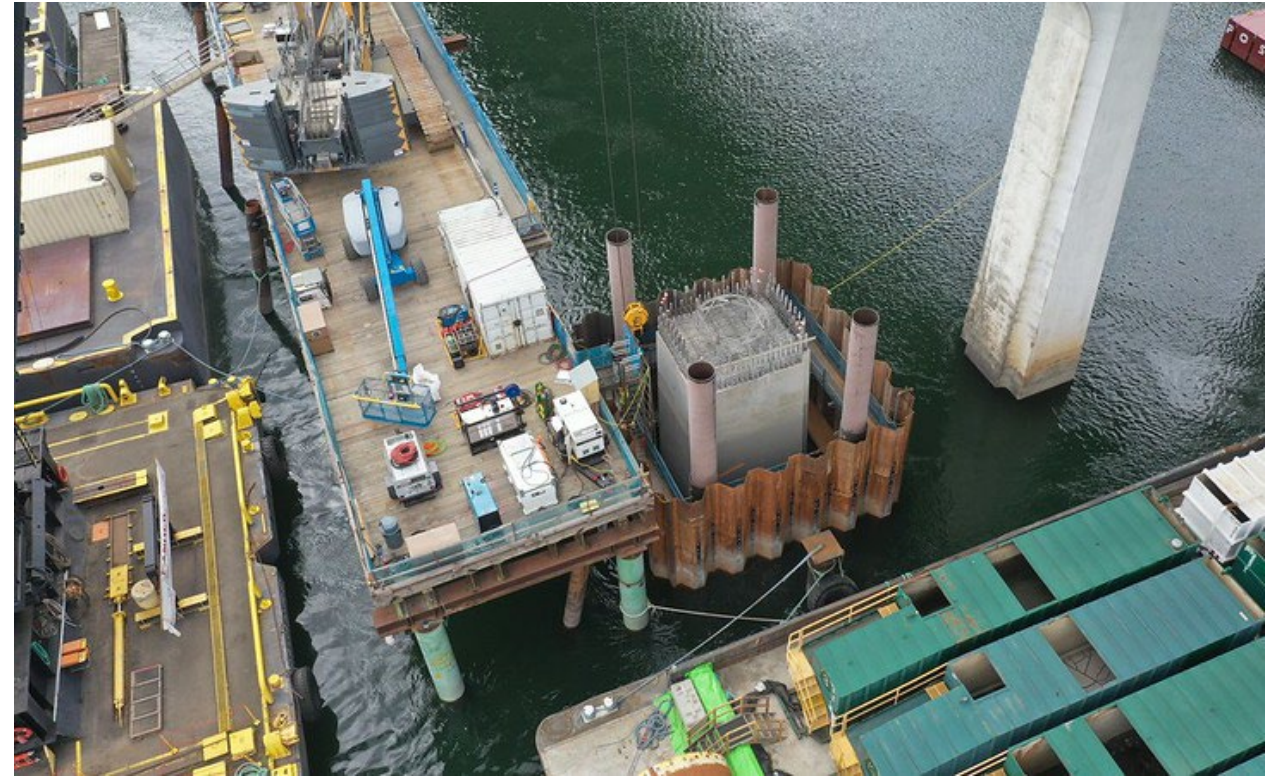
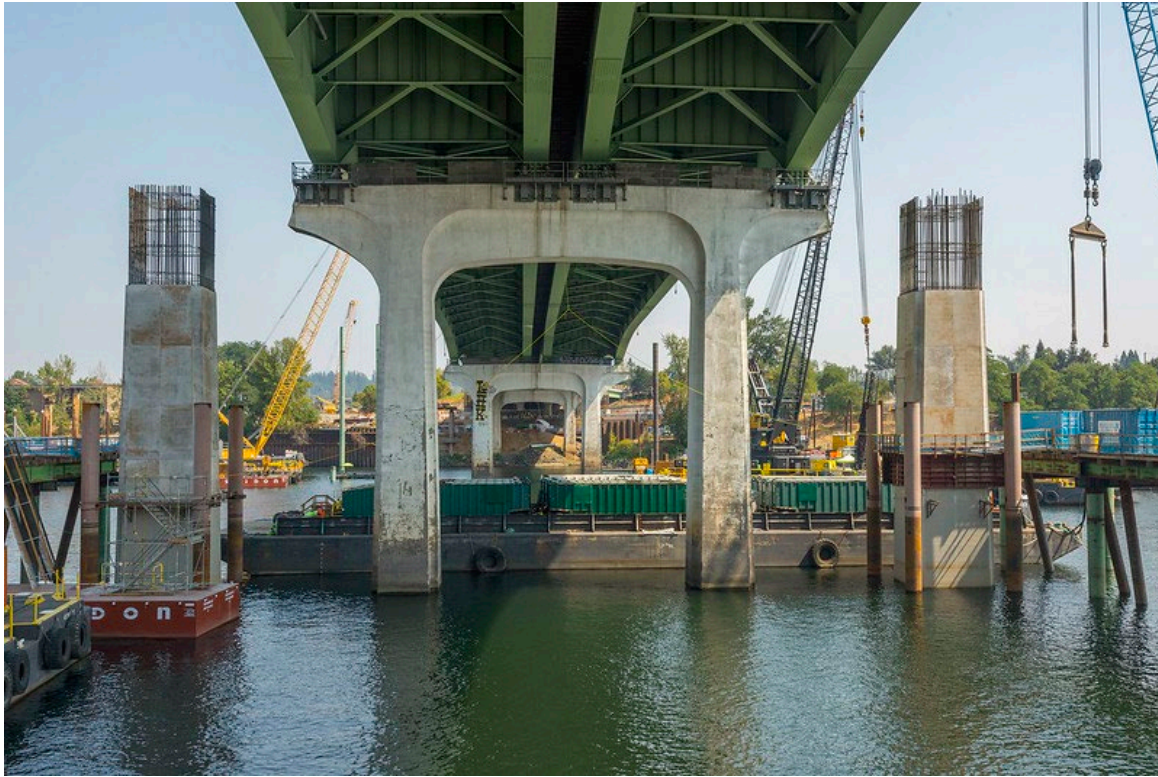
# I-205 Toll Project: Anticipated Benefits

- Funding for Abernethy Bridge seismic upgrades and safety improvements.
- Variable rate tolls will support reduced congestion.





# Abernethy Bridge will be first earthquake-ready interstate bridge across the Willamette River in the Portland area.



# I-205 Toll Project: 2023 engagement

## **Environmental Assessment**

*February to April*

- 2,800 comments
- 4 business districts canvasses
- 13 briefings
- 7 in-language discussion groups
- 7 tabling events

## **Summer tabling**

*May to October*

- 28 events
- 4,700 interactions
- 11 events coordinated with community-based organizations



# I-205 Toll Project: 2024 engagement

## Beginning this spring: *Toll Talks*

- Focused community tabling, coffee chat and presentation opportunities throughout the Portland metro area.
- Scheduling in-process

## Summer 2024: Supplemental Environmental Assessment

- In-person, online engagement and inclusive outreach to provide opportunities to answer questions and collect comments

## Member Representation

Washington County Community Engagement

Oregon Environmental Council

At-large member

Beyond Black/Play, Grow, Learn

WorkSystems Inc. Board

Disability Awareness Resource Team (DART)

At-large member; Columbia Distributing

TriMet

Clark County Juvenile Court

Clackamas County Public Health Department /  
Department of Transportation & Development

City of Vancouver

Fourth Plain Forward

At-large member

Ride Connection

# Equity and Mobility Advisory Committee (EMAC)







# Low-income toll program on day one

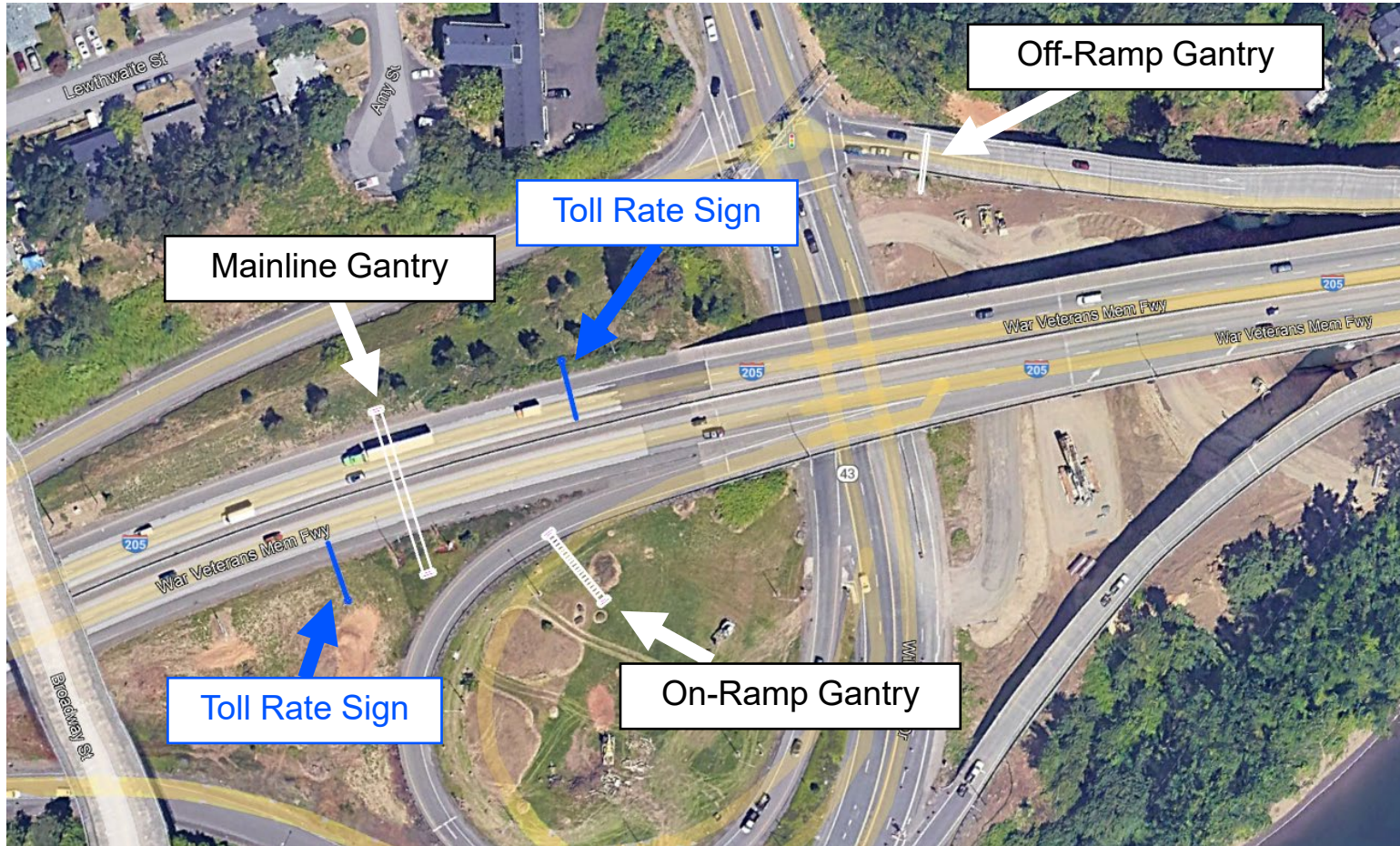
## Setting a national precedent:

- Four other low toll income programs currently exist
- Program will be the first in the nation operable on day one of tolling

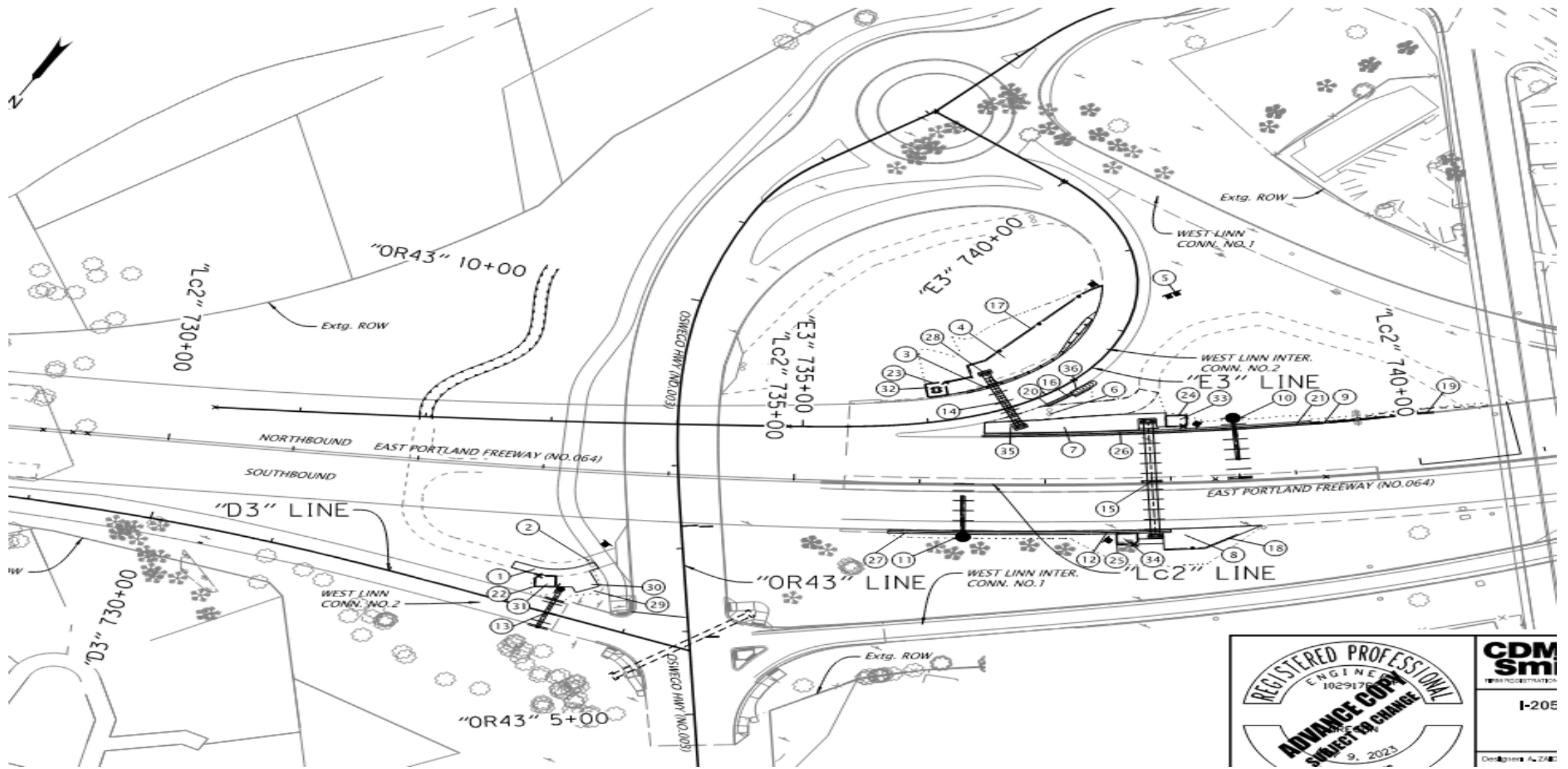
## Oregon Transportation Commission direction:

- Offer a **50% discount** for incomes up to **200% of the Federal Poverty Level** (~\$60,000 for household of four in 2023) on day 1 of toll collection
- Analyze potential future discounts for incomes up to **400% Federal Poverty Level** (~\$120,000 for a household of four in 2023)
- Extend eligibility to residents of both Oregon and Washington

# I-205 Toll Project Location



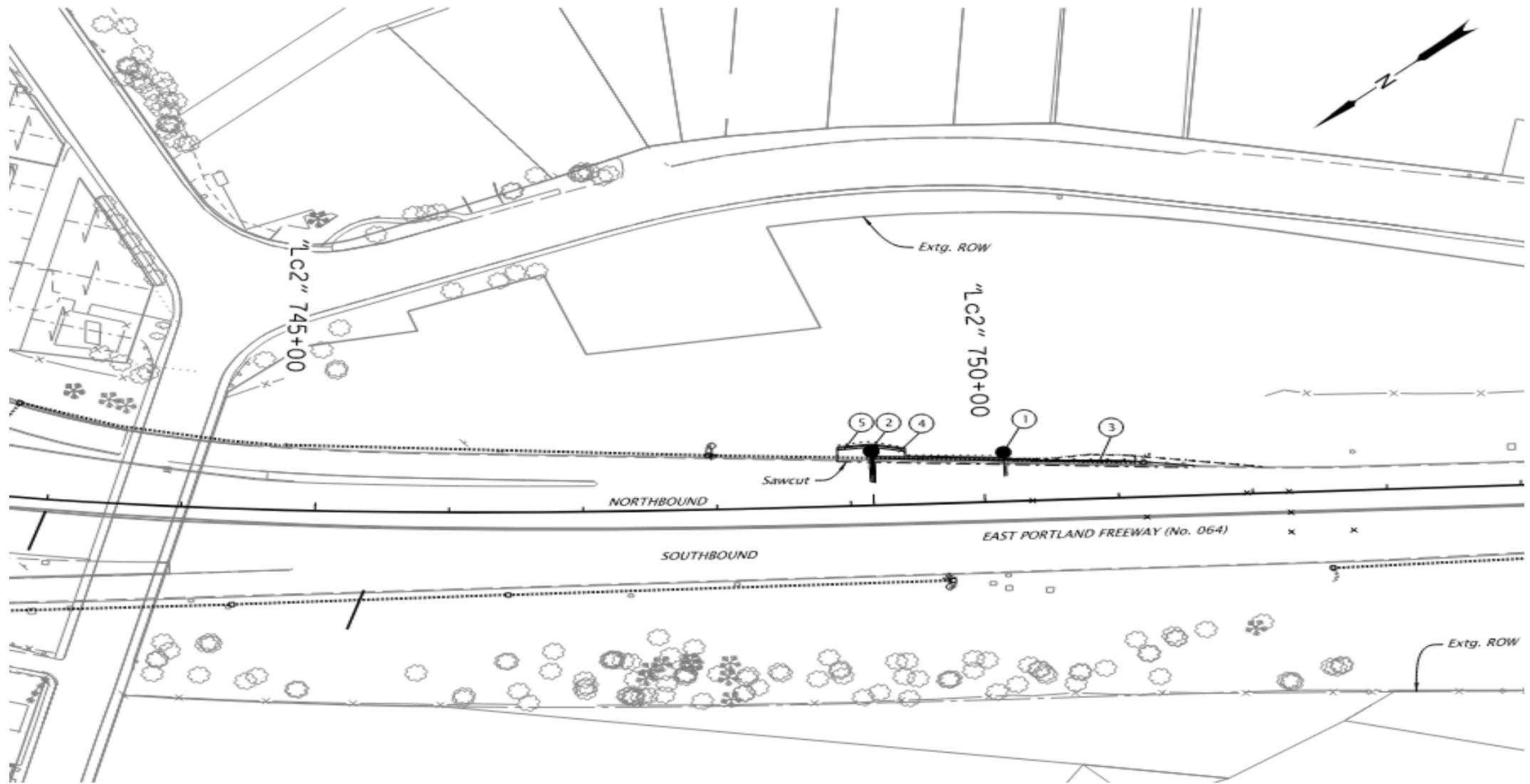
Disclaimer: Draft for visualization and final plans and road configuration are subjected to change.



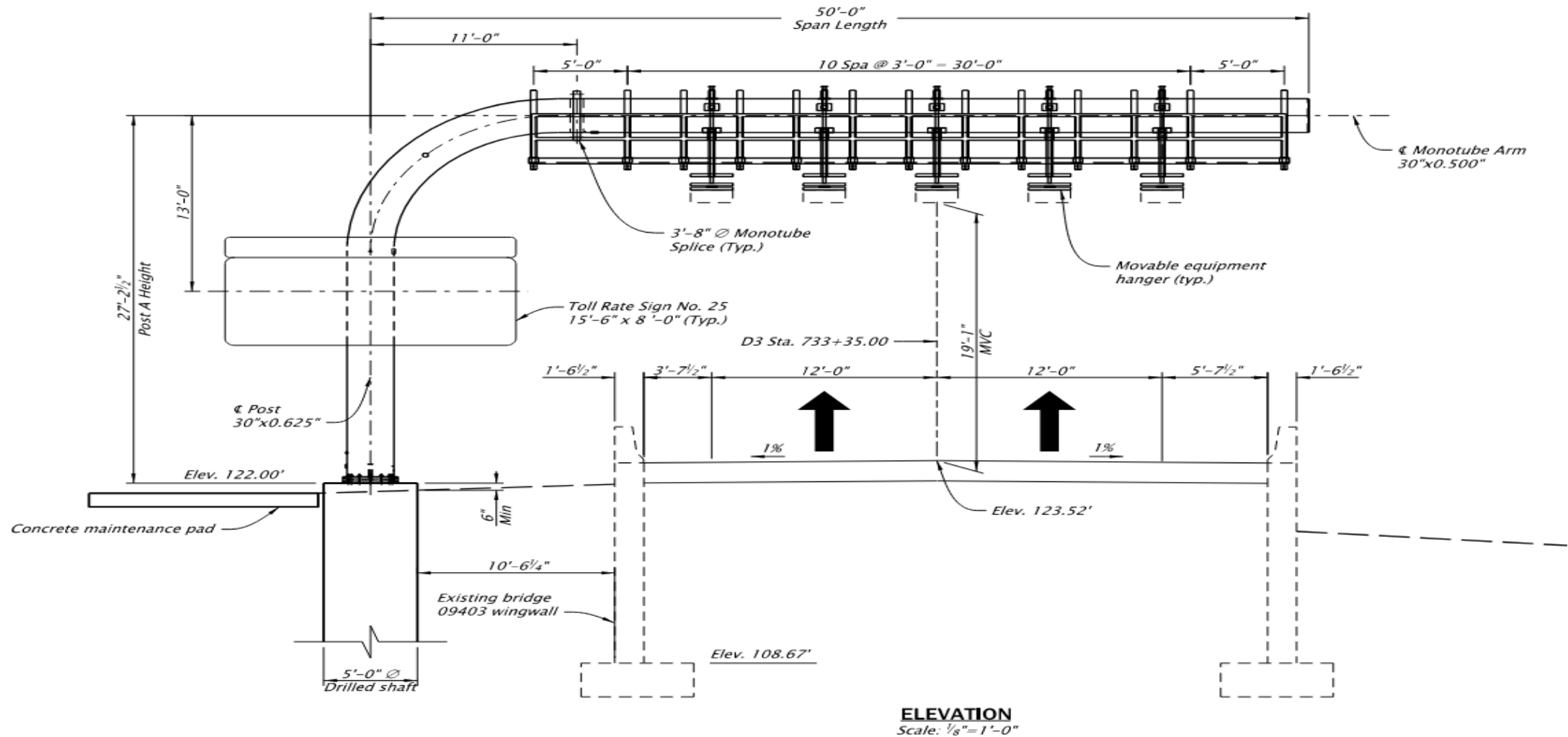
|   |   |
|---|---|
| <p>REGISTERED PROFESSIONAL<br/>ENGINEER<br/>1029175<br/><b>ADVANCE COPY</b><br/>SUBJECT TO CHANGE<br/>9. 2023</p> | <p><b>CDM<br/>Sm</b><br/>FIRM REGISTRATION<br/>I-205<br/>Designer: A. ZAR</p> |
|---|---|

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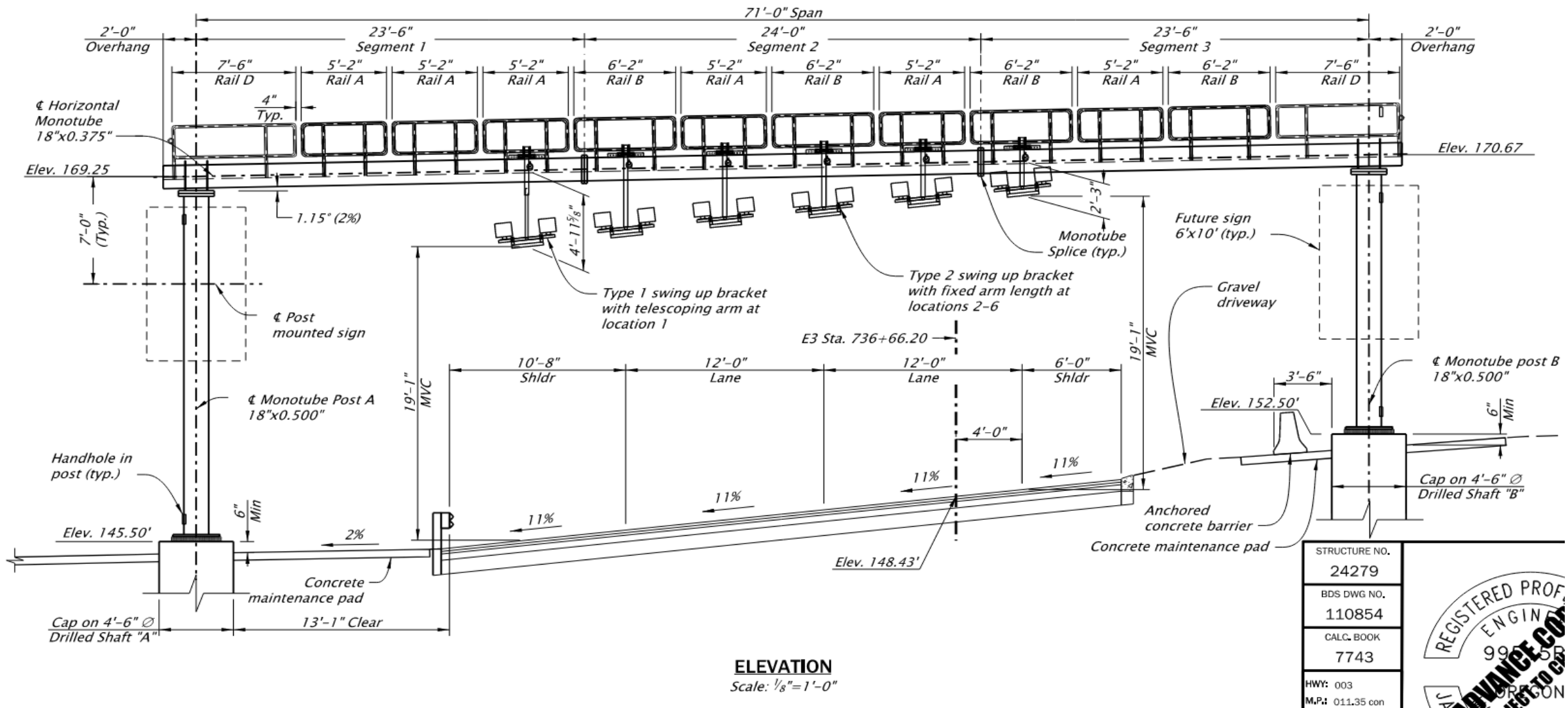




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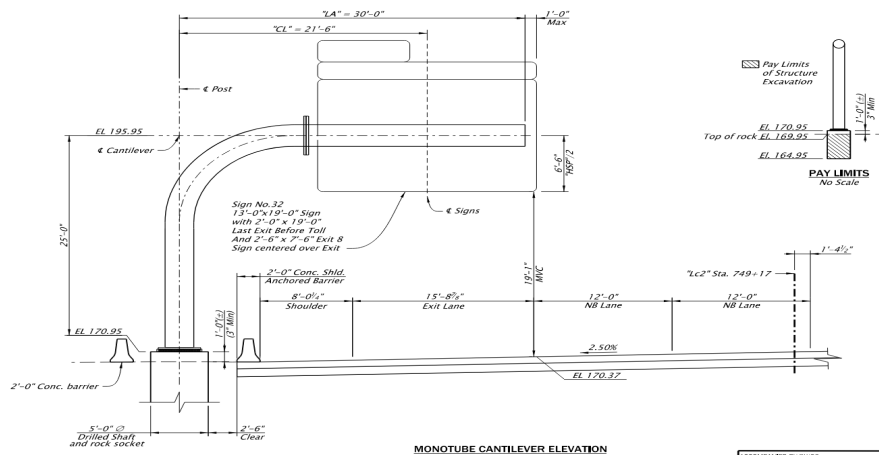
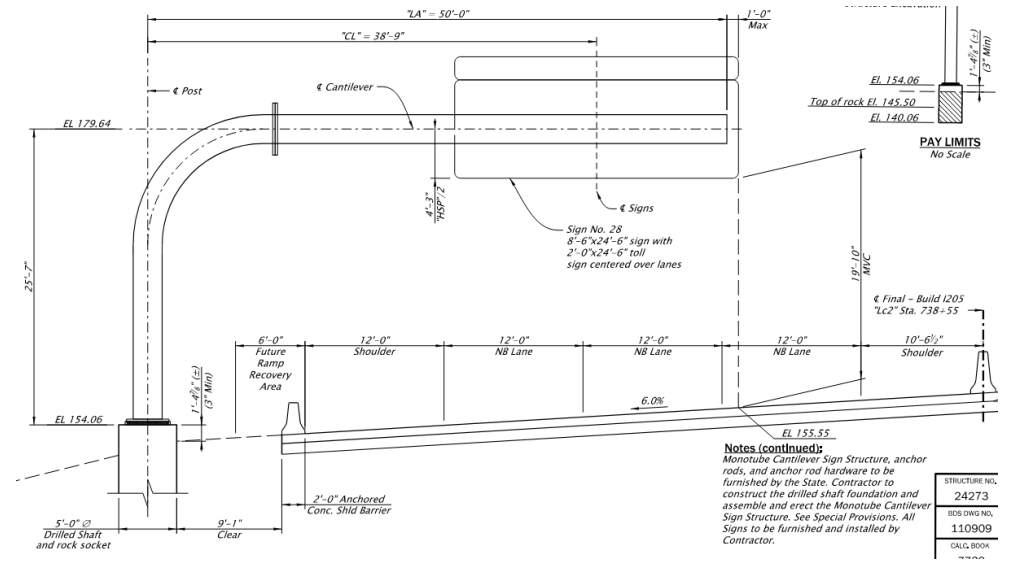
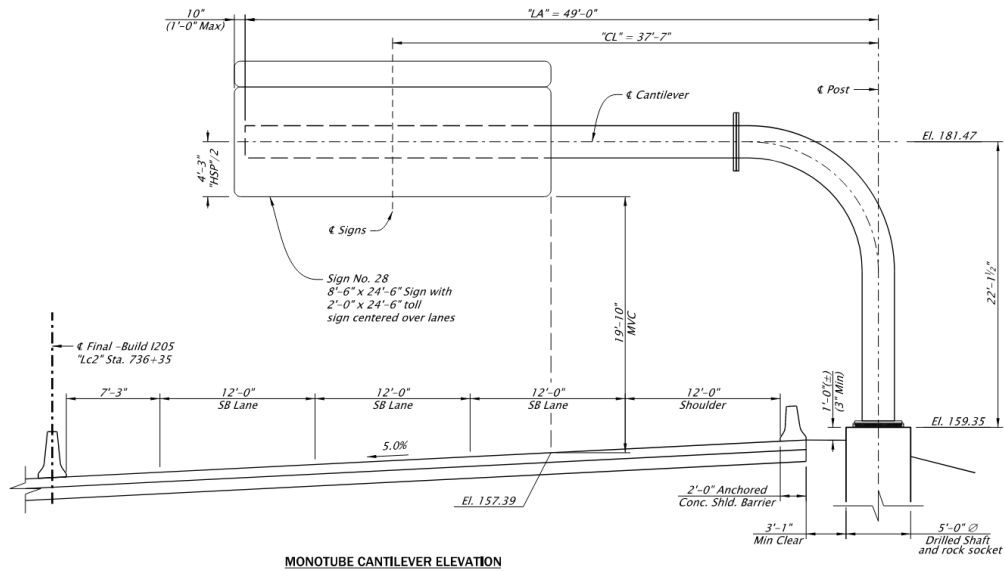
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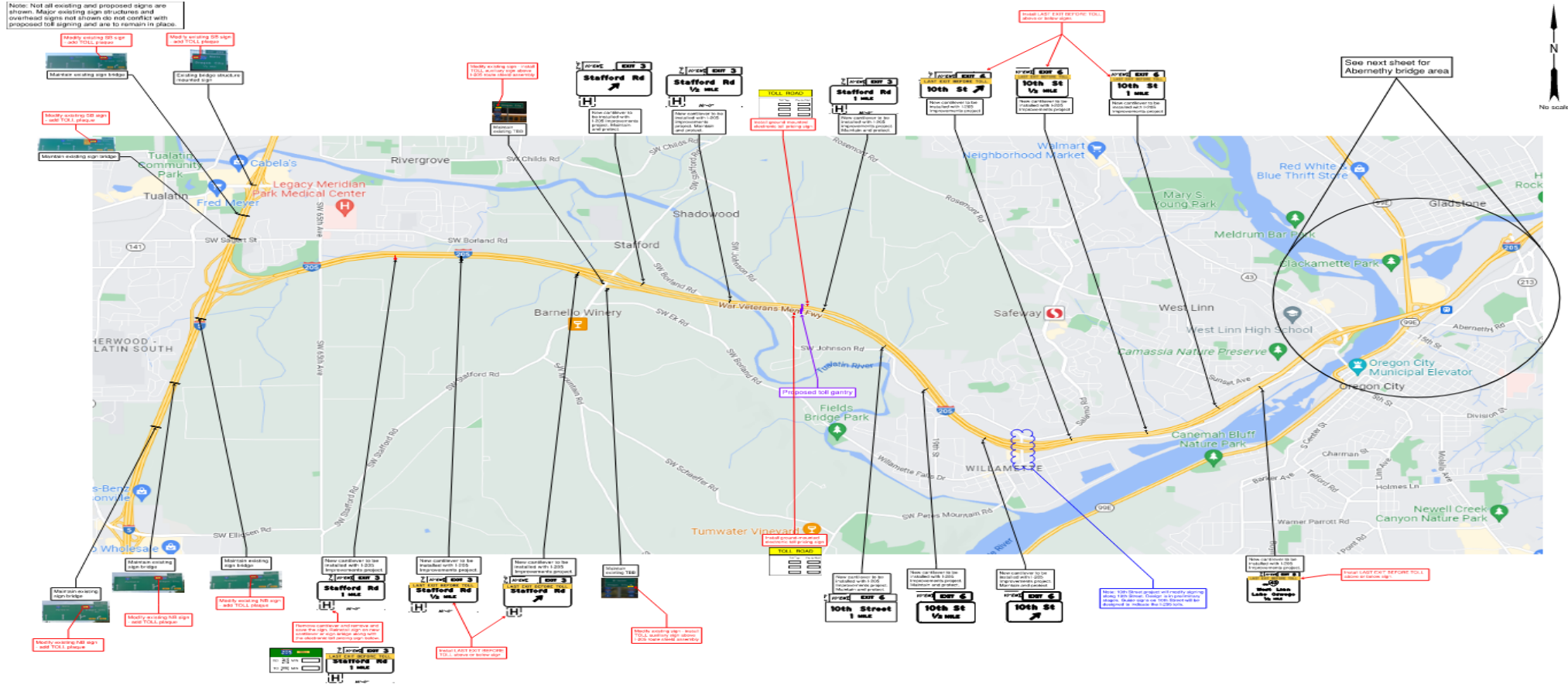






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# Sign Design



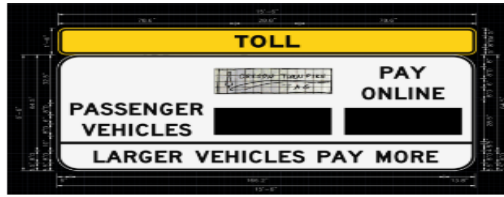
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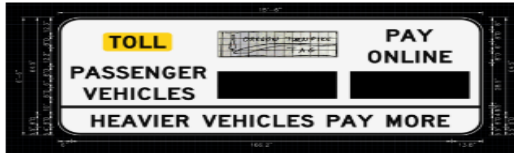
# Sign Design

Toll Rate Sign on I-205 SB/OR43 Exit Ramp Gantry

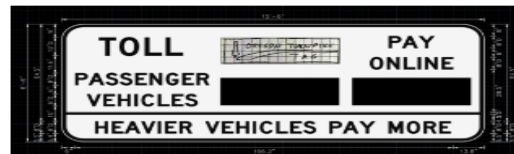
Current Design



- Replace "LARGER" with "HEAVIER"
- No increase in width
- Incorporate "TOLL" message in sign on standard warning plaque

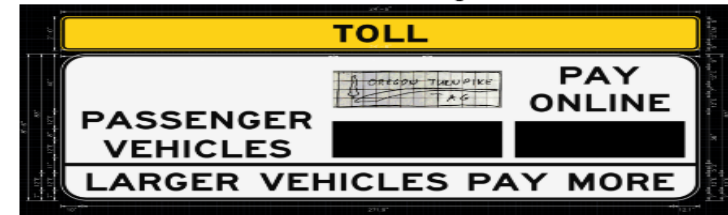


- Replace "LARGER" with "HEAVIER"
- No increase in width
- Incorporate "TOLL" message in sign (alternate design, more similar to standard MUTCD R3-28 toll rate sign)



Toll Rate Sign on I-205 Mainline (Overhead)

Current Design



- Replace "LARGER" with "HEAVIER"
- 6" increase in width
- Incorporate "TOLL" message in sign on standard warning plaque



- Replace "LARGER" with "HEAVIER"
- 6" increase in width
- Incorporate "TOLL" message in sign (alternate design, more similar to standard MUTCD R3-28 toll rate sign)



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# Sign Designs

Design Option A



12"E Font

Design Option B



10"E Font



8"E Font



Alternate Layouts



"NO CASH - DO NOT STO



E-Z Pass logo included



E-Z Pass logo included, stacked vertically



Modified message

Disclaimer: Draft for visualization and final plans and road configuration are subjected to change.

# I-205 Toll Schedule

Design and NEPA - 2024

Construction & Roadside  
Implementation - 2025

Go Live Date - 2026



# Current RMPP Design Options

\*currently undergoing refinements with partner input



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# Regional Mobility Pricing Project

## Design Options

- Peak hour toll zones in the most congested areas of I-5 and I-205
- A systemwide base toll on I-5 and I-205 with additional peak pricing

## Status

- Currently analyzing how well the toll options meet traveler and regional needs
- Environmental Assessment anticipated in 2025
- Planning and design to support the NEPA



# Regional Mobility Pricing Project: Anticipated Benefits

- More reliable trip times
- Reduced Vehicle Miles Traveled (VMT)
- Mode shifts and positive diversion
- Revenue for operations and maintenance
- Potential for excess net revenue to help fund UMS and gain additional safety, mobility and seismic benefits
- Local and regional economic benefits
- Cost savings for freight





# Thank You! Questions?

Atousa Gorg, PE

Resident Engineer – Consultant Projects  
Oregon Department of Transportation, UMO

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# The Business of Tolling

National Practice, Oregon Developments  
Northwestern Transportation Conference

March 4, 2024

Philip Miller, P.E.



# The Business of Tolling - Agenda

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- What's Old is New Again
- The US Tolls Industry Today
- Who, Why and How
- Focus Topics
- Wrap Up and Q&A

Photo: Astoria Bridge





# What's Old is New Again - Oregon Has Done Tolls Before

-  Historical tolls
-  Current tolls

Sources: [Hood River Bridge](#); [The History Museum of Hood River County](#); [Bridge of the Gods](#); [Tolls in Oregon \(Hadlow, 2023\)](#)

## Interstate Bridge

- Tolled 1917-1929 and 1960-1966
- Operated by Multnomah County and ODOT

## Morrison Street Bridge

- Tolled 1887-1895
- Operated by ODOT

## Barlow Road

- 1846-1912

## Bridge of the Gods

- Tolls began 1926
- Operated by Port of Cascade Locks
- System: BreezeBy

## Hood River-White Salmon Interstate Bridge

- Tolls began 1950
- Operated by Port of Hood River
- System: BreezeBy



# What's Old is New Again - Oregon Has Done Tolls Before

- Tolls financed construction of the original Columbia River bridges





# What's Old Was ... Not Always Customer Friendly

- Today, drivers don't like to stop...





# What's Old Was ... Not Always Customer Friendly

- ... and especially don't like to stop to pay money.
- To stay in business, the toll industry had to change.
- Needed to rethink the customer value proposition, re-structure, and re-imagine the US toll industry of today.



# The US Toll Industry Today - Relies on Non-Stop All-Electronic Tolling (AET)

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- Today's Challenges We Must Meet
  - Collect tolls without forcing vehicles to stop
  - Gain customer acceptance and confidence
  - Contain leakage
  - Contain costs
  - Manage future changes
  - Meet enduring financial commitments
- Who, Why, and How?



# The US Toll Industry Today - Who?

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Public Authorities dedicated to toll facilities

- Pennsylvania Turnpike
- Illinois Tollway
- Denver E-470
- Transportation Corridor Agencies (CA)

State Departments of Transportation

- Washington State DOT
- Massachusetts DOT
- (coming soon) Oregon DOT

**Private Concessionaires / Owner Operators  
(Public-Private Partnerships)**

- **States heavily involved: Indiana, Virginia, Texas, Florida**
- **Developers/ Operators include: Cintra Ferrovial, Brisa, Transurban, Vinci**



# The US Toll Industry Today - Who: Engineers, Accountants, or Retail Operators?

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- Engineering?
  - Highway
  - Structural
  - Traffic and Traffic Management
  - Highway Maintenance and Operations

- Finance?
  - Budget, Funding and Capital Planning
  - Account Management
  - Finance and Accounting

- Business Operations?
  - IT and Systems
  - Customer Relationship Management
  - Sales and Marketing

# The US Toll Industry Today - Who: Engineers, Accountants, or Retail Operators?

---

- Engineering?
  - Highway
  - Structural
  - Traffic and Traffic Management
  - Highway Maintenance and Operations
- Finance?
  - Budget, Funding and Capital Planning
  - Account Management
  - Finance and Accounting
- Business Operations?
  - IT and Systems
  - Customer Relationship Management
  - Sales and Marketing

YES - ALL  
of these!

# The US Toll Industry Today - Why: Critical for Delivery of Major Infrastructure

- Tolls: Public infrastructure meets private finance
- Needed to finance most major highway/bridge infrastructure today
- US tolls => \$25 billion per year - 50% of all FHWA highway funding
- Long-term investment funds such as pension funds like tolls. Example:
- State of Indiana raised \$3.85 billion to sell a concession in 2006.

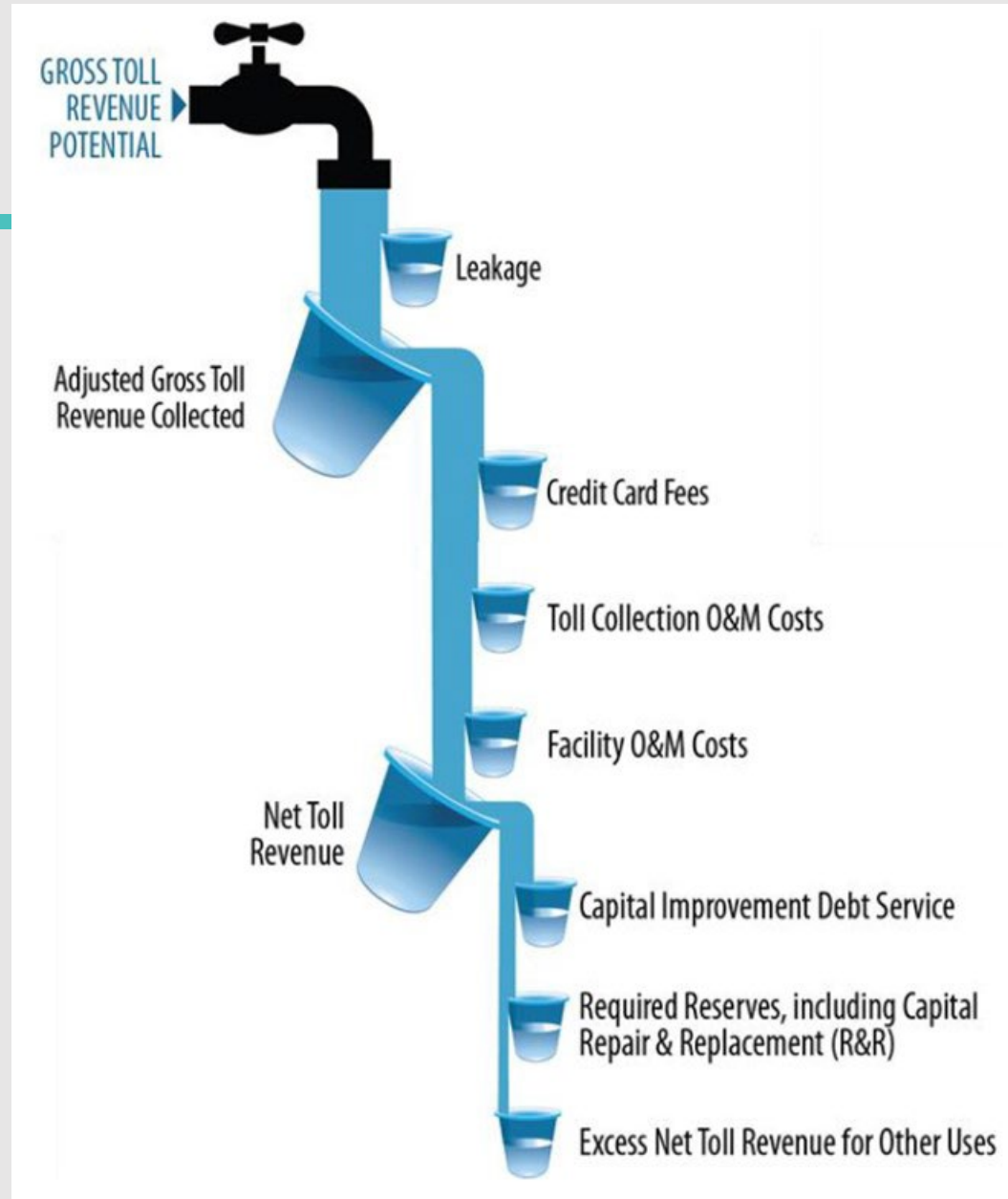
From Indiana Toll Road:  
[www.indianatollroad.org](http://www.indianatollroad.org)





# The US Toll Industry Today - Why: Financial Discipline

- Requires specific prioritization of toll revenues, “the waterfall”
- Operations and maintenance of the asset even before debt service
- Requires facilities to be kept in a good state of repair
- Studies show: toll facilities are the safest highways
- “Debt is your friend”



# The US Toll Industry Today - Why: Summary

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- Finance Major Capital Investments
- Leverage Private Capital in bonded debt and / or concession sales
- Ensure best facility maintenance
  - Minimizes long-term maintenance costs and disruption
  - Maximizes safe operating conditions
- Deliver projects more quickly than through normal DOT appropriation process
- Pricing effectively manages traffic – demonstrated in express lanes

# Toll Business Strategy - How: Non-Stop Tolls with ETC and License Plates

- “ETC” = Electronic Toll Collection
- Account-based, with different options for ETC devices or plates
- Run like a business:
  - Minimize costs
  - Minimize leakage
  - Prioritize customer service





# How do I pay tolls?

**A: (Hopefully) with an automated account:**

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## Account with toll tag

- Automatic account charge
- Online or cash payment option
- Likely frequent user

## No account

- License plate picture
- Mailed bill
- Online or cash payment option
- Additional processing fee
- Likely infrequent user



# How do accounts for electronic tolling work?

## A: Seamlessly

- **Prepaid balances** – Universal since electronic tolls began in 1989/1990
- Lowest cost for registered, prepaid accounts
- Small sticker-type toll tags are typically free or low cost
- **No monthly cost** to maintain account
- All accounts offer **auto-replenishment**
- ODOT will offer a **range of account options** for various customers

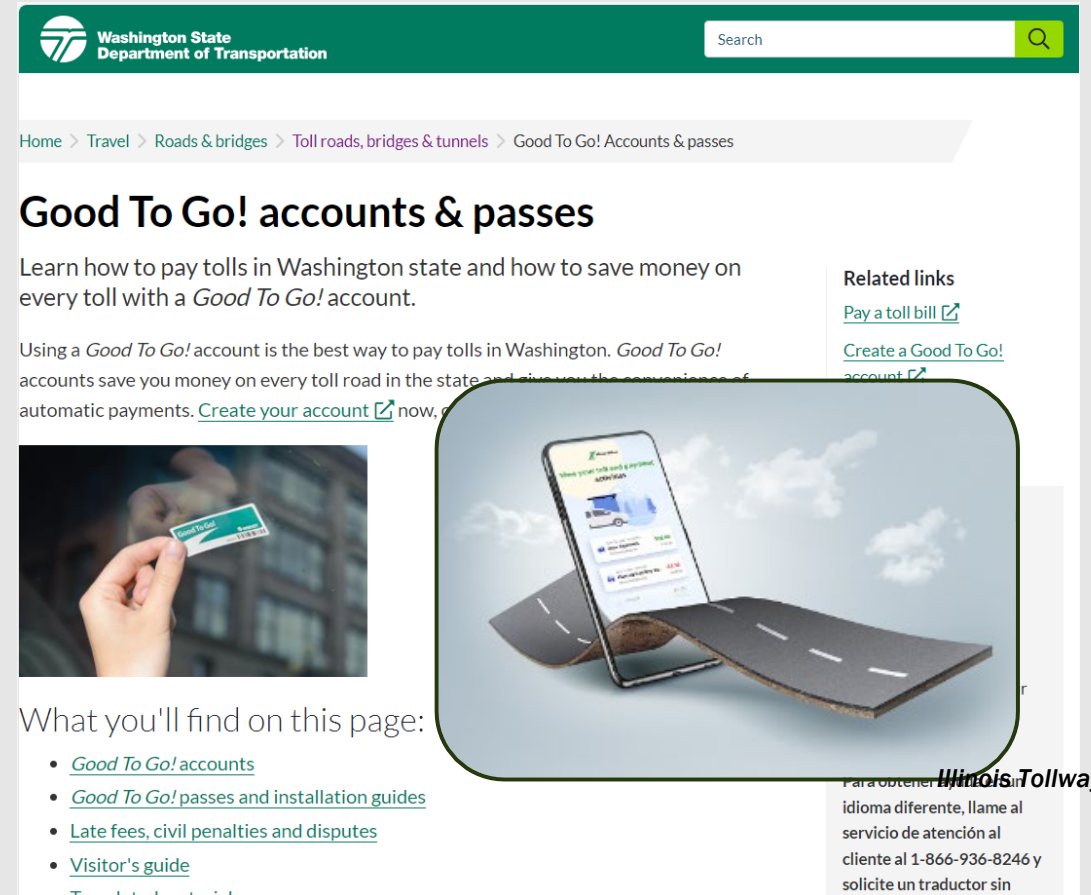


Having everyone sign up for an account and use a toll tag is the best way to keep toll rates and costs low.

# How do accounts for electronic tolling work?

## A: With multiple channels for customer service

- Online
- In-person customer service center
- Call center
- Cash payment option
- Multilingual services
- DMV kiosks
- Mobile application



The screenshot shows the Washington State Department of Transportation website. The header includes the logo and a search bar. The breadcrumb trail is: Home > Travel > Roads & bridges > Toll roads, bridges & tunnels > Good To Go! Accounts & passes. The main heading is "Good To Go! accounts & passes". Below it, there is introductory text: "Learn how to pay tolls in Washington state and how to save money on every toll with a *Good To Go!* account." and "Using a *Good To Go!* account is the best way to pay tolls in Washington. *Good To Go!* accounts save you money on every toll road in the state and give you the convenience of automatic payments. [Create your account](#) now." To the right, under "Related links", there are links for "Pay a toll bill" and "Create a Good To Go! account". Below the text are two images: one of a hand holding a Good To Go! card, and another of a smartphone displaying the app interface with a road graphic. At the bottom right, there is a section for "Illinois Tollway" with text in Spanish: "Para obtener el servicio de atención al cliente en un idioma diferente, llame al cliente al 1-866-936-8246 y solicite un traductor sin".



# Will the toll tag work with other toll systems?

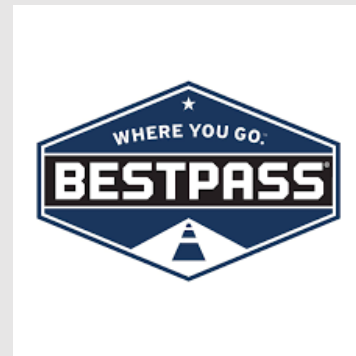
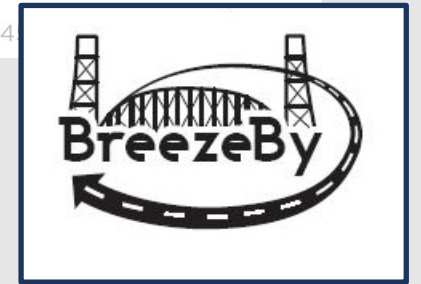
## A: YES

- ODOT's toll system will be interoperable with:

- Washington ("Good To Go!") and gorge bridges (BreezeBy)
- Over 20 states and 50 toll operators (E-ZPass)
- Other public and private entities

- Why bother?

- Per FHWA, we're supposed to anyway
- Benefit for ODOT customers in other states such as Washington
- Advantage for out-of-state customers – especially commercial shippers



-> Significant operational savings with less toll invoicing.

# What happens if I don't pay my toll bill?

## A: We reach out and send an invoice.

**ODOT's goal is to make sure users pay tolls, not to incur additional fees and penalties.**

- Invoicing is costly and time-consuming for both the customer and ODOT.
- ODOT will not suspend a driver's license for unpaid tolls.
- Civil penalty process and registration holds are used to ensure payment



# How much will I pay in tolls?

## A: It Depends

Toll rates will vary by:

- Facility
- Time of day
- Vehicle size
- Account holder or not





# Focus Topic: Toll System Rates by Vehicle Classification

FHWA combines vehicle classes into three weight general categories:

- Light
- Medium
- Heavy

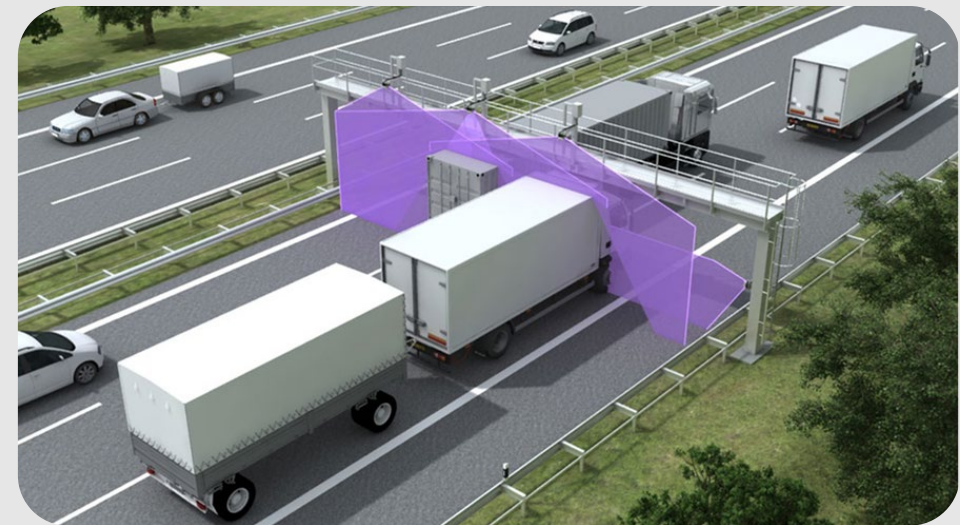
| Gross Vehicle Weight Rating (lbs) | Federal Highway Administration |                                    | US Census Bureau                         |
|-----------------------------------|--------------------------------|------------------------------------|--|
|                                   | Vehicle Class                  | GVWR Category                      | VIUS Classes                             |
| <6,000                            | Class 1: <6,000 lbs            | Light Duty<br><10,000 lbs          | Light Duty<br><10,000 lbs                |
| 10,000                            | Class 2: 6,001 – 10,000lbs     |                                    |  |
| 14,000                            | Class 3: 10,001 – 14,000 lbs   | Medium Duty<br>10,001 – 26,000 lbs | Medium Duty<br>10,001 – 19,500 lbs       |
| 16,000                            | Class 4: 14,001 – 16,000 lbs   |                                    |  |
| 19,500                            | Class 5: 16,001 – 19,500 lbs   |                                    |  |
| 26,000                            | Class 6: 19,501 – 26,000 lbs   | Heavy Duty<br>>26,001 lbs          | Light Heavy Duty:<br>19,001 – 26,000 lbs |
| 33,000                            | Class 7: 26,001 – 33,000 lbs   |                                    | Heavy Duty<br>>26,001 lbs                |
| >33,000                           | Class 8: >33,001 lbs           |                                    |  |

# Focus Topic:

## Toll System Rates by Vehicle Classification

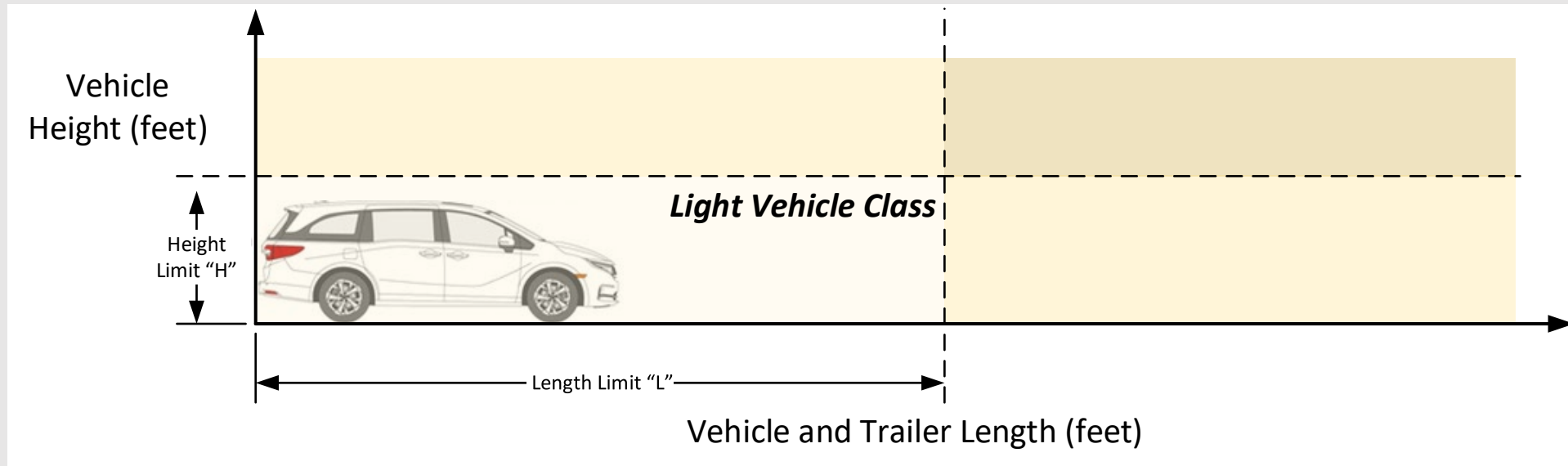
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- Three different toll rates:
  - Passenger and small, medium, or large vehicles,
  - Lowest, medium, highest toll rates
  - All major North American toll facilities in US charge more for larger vehicles
- **Sensors** measure vehicles as pass underneath the gantry



# Focus Topic: Vehicle Classification by Shape

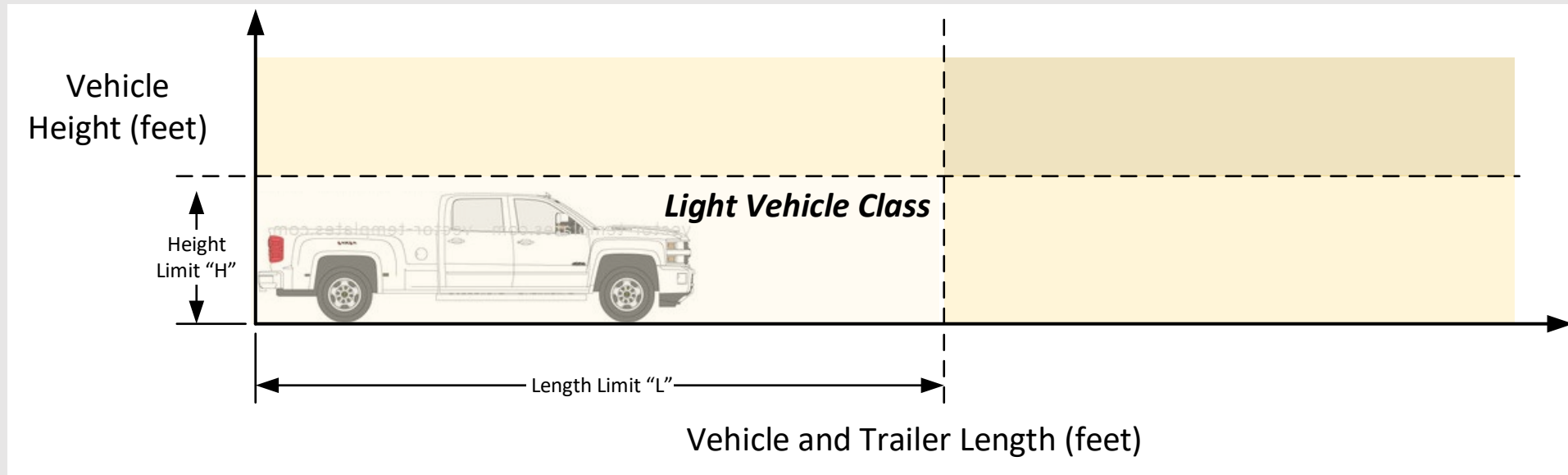
All light passenger cars and trucks on the market today would be detected as a light duty vehicle:





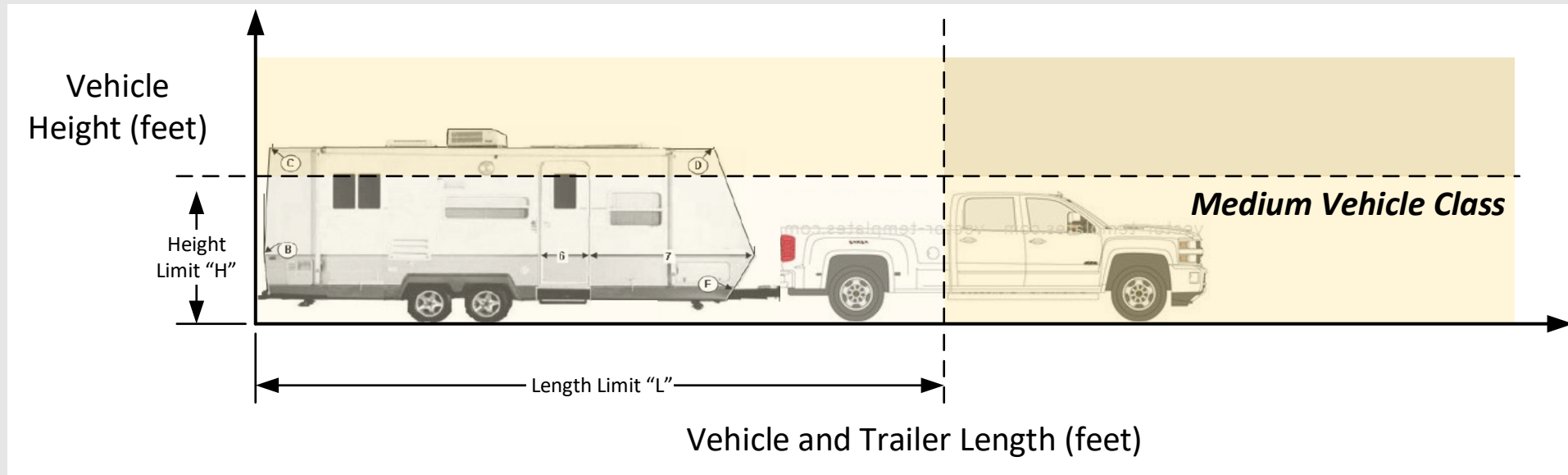
# Focus Topic: Vehicle Classification by Shape

Even larger  $\frac{3}{4}$  ton pickups (ex: Chevy 3500HD or Ford F-350) with dual rear tires are about 250", and would be a light duty vehicle:



# Focus Topic: Vehicle Classification by Shape

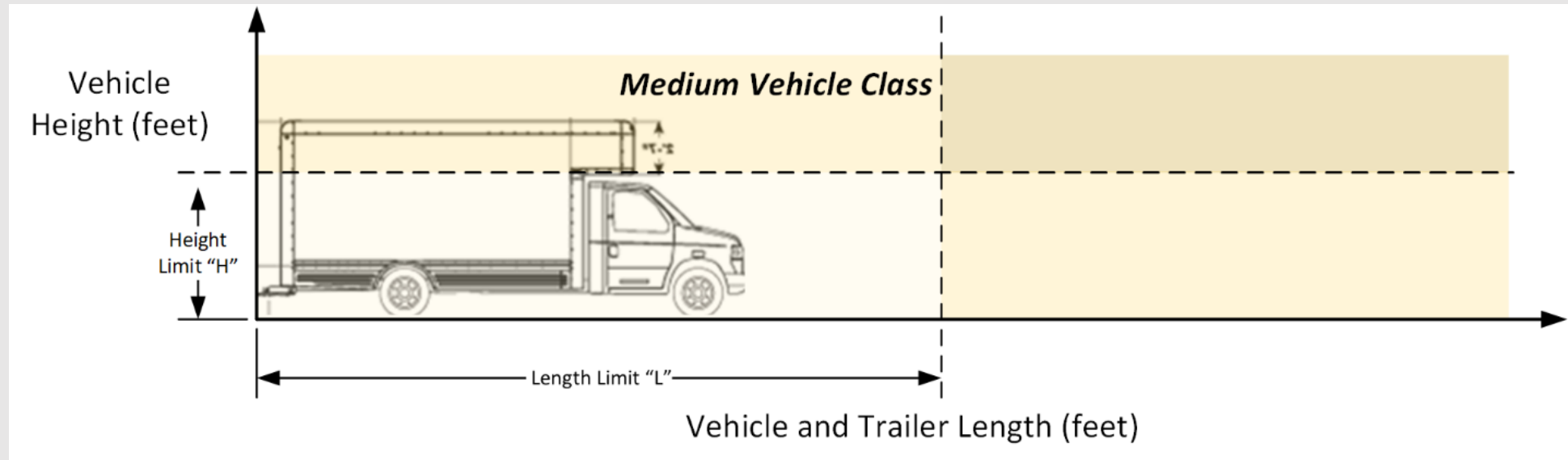
However, a large pickup with trailer would be classified as medium duty. Note the trailer height does not impact vehicle class:



# Focus Topic:

## Vehicle Classification by Shape

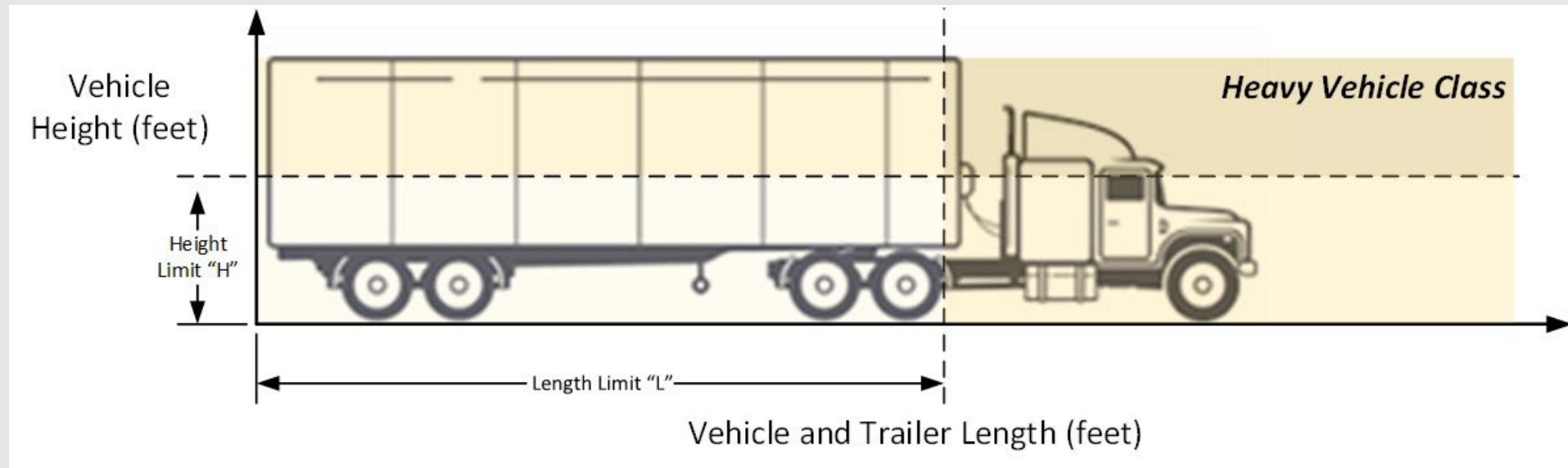
Vehicles under 35' but higher than the H limit such as panel trucks or delivery vans would be detected as medium duty vehicles:





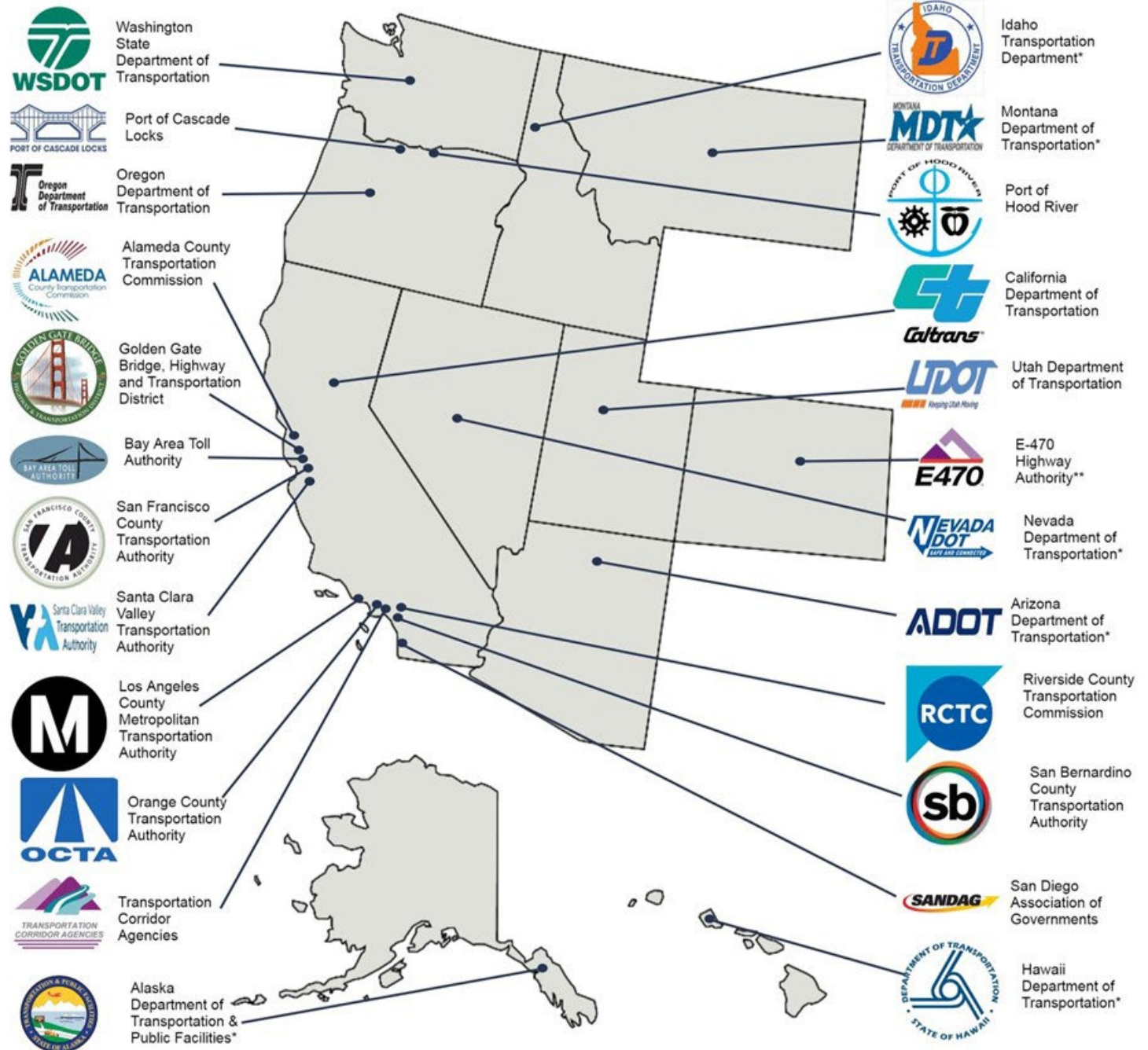
# Focus Topic: Vehicle Classification by Shape

Virtually all articulated units exceed 35' in length. This scheme does not distinguish between single and multi-trailer vehicles:



# Focus Topic: Interoperability

Our initial focus is naturally our shared customers with WSDOT and the Port of Cascade Locks







# Focus Topic: Signing – to MUTCD and beyond

- Example of cross-discipline and cross-organization impacts
  - Traffic engineering
  - Business model
  - Marketing

## Sign Designs

Design Option A

Design Option B

Alternate Layouts

12"E Font

10"E Font

8"E Font

\*NO CASH - DO NOT STOP

E-Z Pass logo included

E-Z Pass logo included, stacked vertically

Modified message

# Who will operate the toll system?

## A: We're working on that now.

- ODOT will contract with firms specializing in developing and operating toll systems.
- **Customer service center** will generate invoices, collect money, interact with customers, and provide in-person customer service.
- **Roadside systems** vendor will operate cameras, toll tag readers, and other technology to identify vehicles.



# In Conclusion...

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Thank you for your time and attention. Please feel free to follow up on any questions or concerns you might have:

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