February 23, 2024

Deep Dive 5 – Toll Rates

Special Subcommittee on Transportation Planning – Meeting #6

Travis Brouwer, Assistant Director for Revenue, Finance, and Compliance, ODOT (he/him)

Brent Baker, Senior Vice President, WSP USA (he/him)

Urban Mobility STRATEGY

Oregon Department of Transportation

Agenda

- Logistics of Toll Collection Wrap-up
- Rate-setting Overview
- Traffic and Revenue Studies
- Toll Rate Scenarios and Rate-setting
  - I-205 Toll Project
  - Interstate Bridge Replacement Program
  - Regional Mobility Pricing Project

How do we get from gross revenue to net revenue?

Adjusted Gross Toll Revenue & Fees → **Net Toll Revenue**

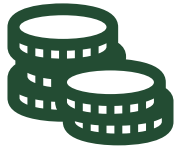
Minus toll operations and road maintenance:

- Credit card fees
- Toll tag purchase and distribution costs
- State and consultant operations
- Roadway toll systems O&M
- Customer service center vendor O&M
- Customer back-office system vendor O&M
- Road maintenance costs

How is net toll revenue used?

Debt service payments on toll bonds/federal loans

Rehabilitation and repair reserve account deposits



Revenue stabilization/debt service reserve account deposits

Other investments in the corridor

How much will operational costs be?

- We are developing estimates of administrative costs.
  - These account for the costs of **good customer service** and **administering discounts and exemptions**.
- Costs are typically contextualized as either an **average cost per transaction** or as a **percentage of the toll.**
  - In Washington, average toll across five facilities is $3.11. The average transaction cost is about 66 cents, meaning an administrative cost of about 20%.

How much will operational costs be?

Operational cost as a percentage of total revenue is **highly dependent on the toll rate.**

▲ **Higher tolls:** percentage of revenue that goes to administrative costs is lower

▼ **Lower tolls:** percentage of revenue that goes to administrative costs is higher

Economies of scale: As we add facilities and customers, costs will be spread over more facilities, customers, and transactions.

I-205 modeled toll rates are relatively low.

- Average toll less than $2
- Projected administrative costs ≈ 33% of total revenue

IBR modeled toll rates are higher.

- Projected administrative costs ≈ 20%

What's included in operational costs?

Investing in the toll system allows us to provide a **robust customer service** experience, a key priority heard from our engagement.

We are committed to implementing a **low-income toll program on day 1** of tolling. Configuring this system requires additional investment.

Investing in operations **upfront** allows us to stand up a toll system that will **reduce** regional traffic **congestion** and provide a **sustainable revenue** source.

Tolls **improve traffic flow** and help **reduce congestion**.

Tolling Rate (Usage Fee)

How much will I pay in tolls?

Facility used: I-205, IBR, and RMPP will all have their own toll rate structure and will operate as a seamless system.

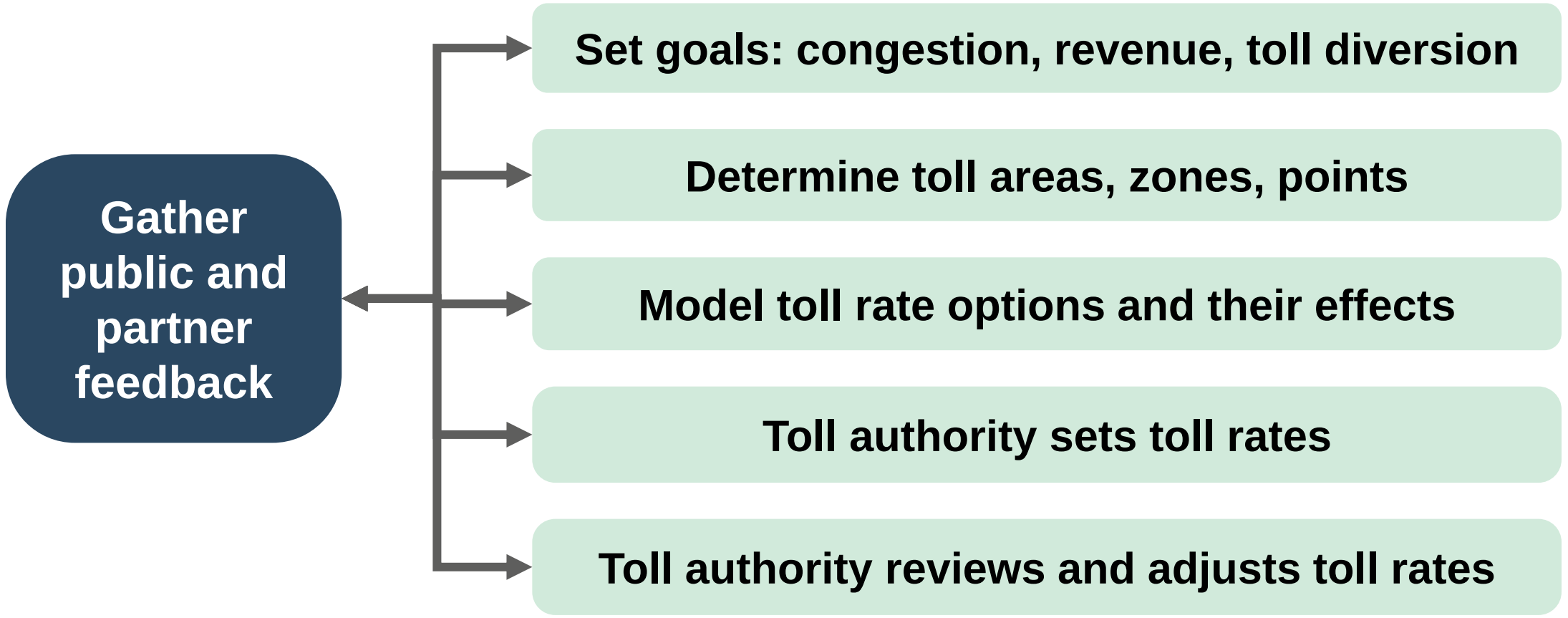
Time of day: Tolls will be higher during peak hours and lower or not charged at non-peak hours.

Vehicle size: Tolls differ by vehicle size. Most vehicles will fall into the small/light class.

Account holder or not: Those without an account are charged an additional processing fee.

Rate-setting Overview

How do we get to setting toll rates?



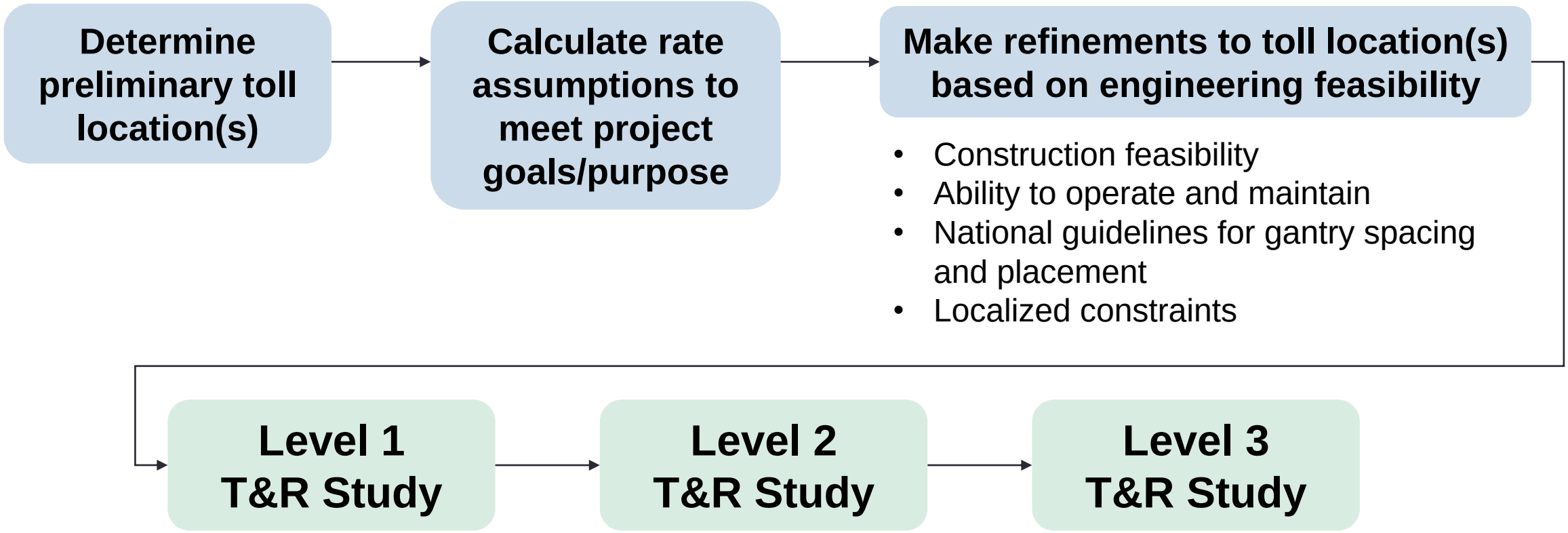
Who sets toll rates?

- Under state law (ORS 383), the **Oregon Transportation Commission** is the toll authority for state highways in Oregon and will make all final decisions, including **setting toll rates** for each toll project.
- In most states, toll rates are set by a **Board or Commission appointed by the Governor**.
- The state or territorial legislature was not directly responsible for setting toll rates in the 14 toll programs that ODOT researched.

Sources: Toll Facilities in the United States (FHWA, 2021); Toll Rate Setting and Adjustments (ODOT, 2023)

Toll Rate Analysis Process

Toll Rate Analysis Process



The I-205 Toll Project, Interstate Bridge Replacement Program, and the RMPP all have **dual goals** to generate revenue and manage congestion. However, there are some differences.

Project Goals	Project Design
I-205 Toll Project and **Interstate Bridge Replacement Program:** • Has a specific toll funding target to be met by borrowing against future toll revenues. • Variable tolls also help to manage congestion.	• Rates will be set to yield future net toll revenues sufficient to **meet the funding target**. • Rates also vary by time of day to help **manage congestion**.
Regional Mobility Pricing Project: • Being designed to manage congestion and also generate revenues.	• Rates will be set to **manage congestion**, varying by time of day. • **Net revenue generated** will be used to help fund future improvements.

Traffic and Revenue Studies

What is a Traffic and Revenue (T&R) Study?

A toll T&R study is used to estimate the **potential traffic and revenue outcomes** of a toll facility. The forecasting process is based on historical trends and anticipated future changes such as:

- Traffic counts and travel times on existing facilities
- Origin-destination patterns on existing facilities
- Traveler values of time (i.e., a traveler's willingness to pay for time saved)
- Projections of population growth
- Projections of employment growth
- Changes to future transportation infrastructure options
- Toll policies and pricing strategies

Traffic and Revenue Study – 3 Levels

RMPP

Level 1 Sketch

- Examines feasibility of tolling and **tests high-level alternatives**.
- Used for screening viable toll scenarios
- Usually takes 1-6 months.

IBR: Completed
I-205 Toll Project: Completed
RMPP: Ongoing

I-205

IBR

Level 2 Comprehensive

- More detailed evaluation of alternatives and toll scenarios that **support initial rate setting and policy development discussions**.
- Usually takes 6-9 months but may take longer with multiple iterations.
- Coincides with NEPA analysis.

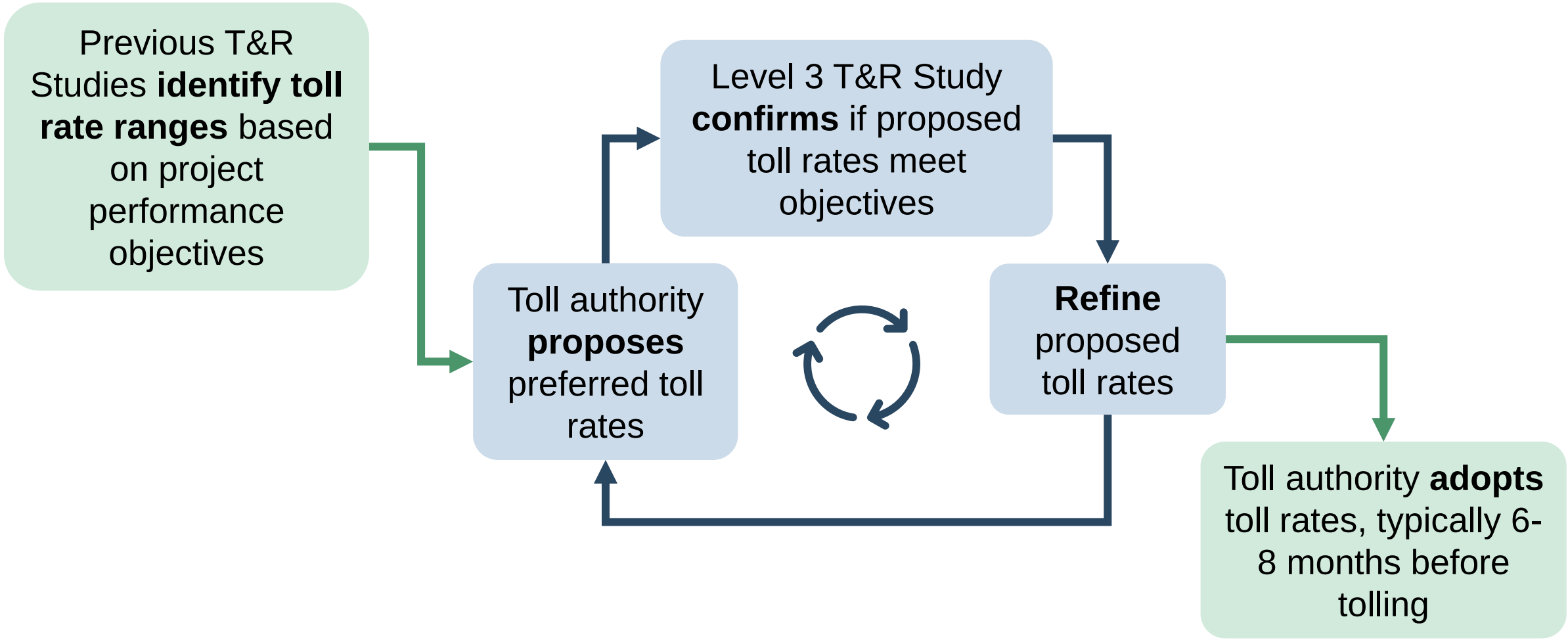
IBR: Nov. 2023
I-205 Toll Project: Mid-2024
RMPP: Mid-2025

Level 3 Investment-Grade

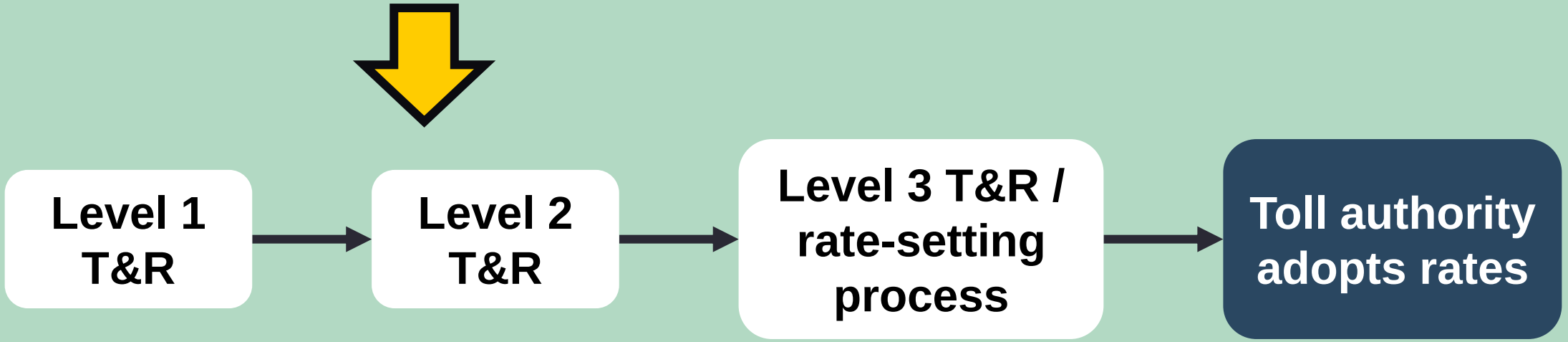
- Deeper evaluation of fewer toll scenarios to **support formal rate setting, inform investors and lenders, obtain a credit rating, and secure financing**.
- Usually takes 12 months. May be refreshed periodically.
- Completed soon before rate setting and/or bond sale due to short shelf life.

IBR: Late 2025
I-205 Toll Project: Late 2025
RMPP: TBD

How does the Level 3 T&R study help the toll authority set initial toll rates?

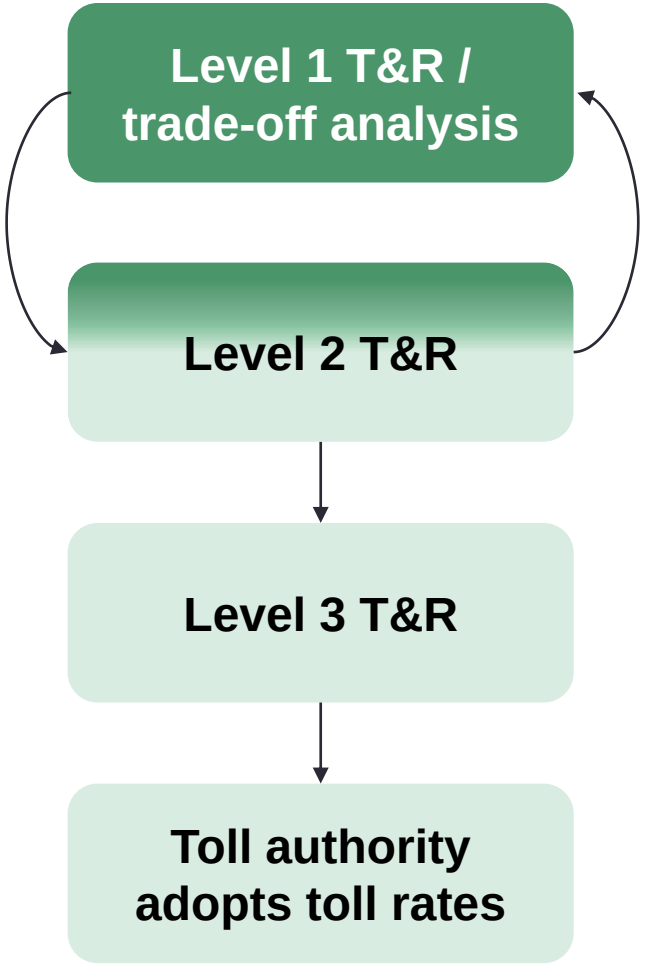


I-205 Toll Project

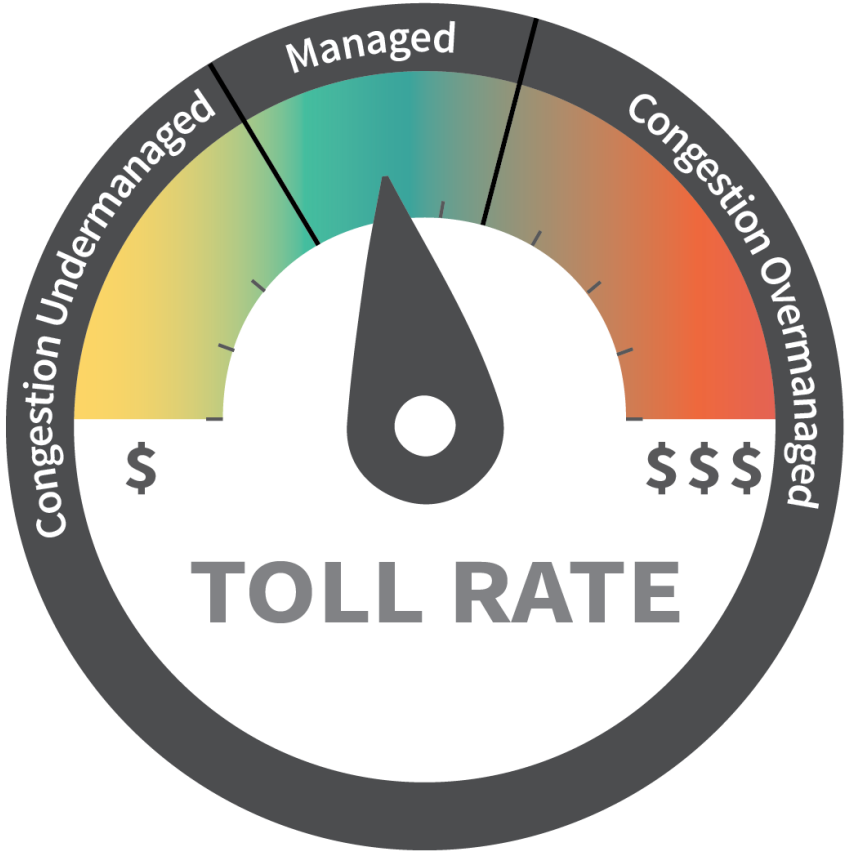


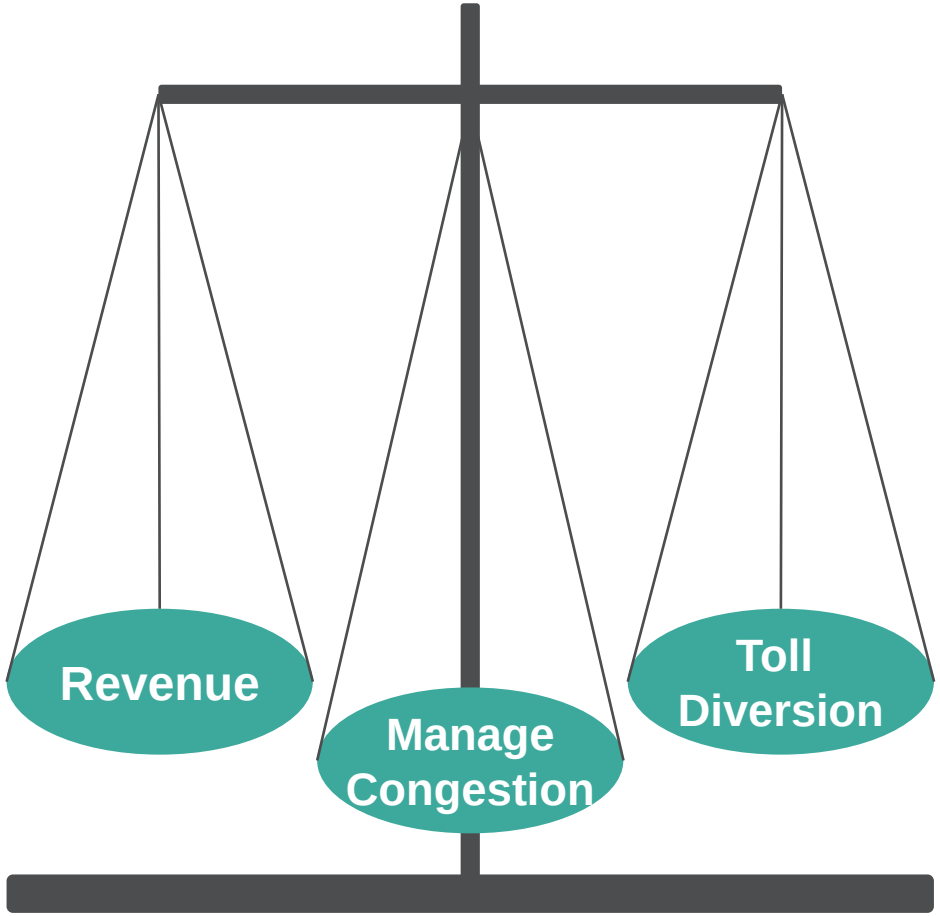
I-205 Toll Project: Status

- [x] **October 2022: Completed** Level 2 Traffic & Revenue Study for original project
- [x] **Fall 2023:** Conducted "**trade-off**" or **Level 1-type** analysis of scenarios for the revised project. **Regional conversation** about I-205 scenarios and brought input back to OTC
- [x] **January 2024:** OTC gave direction on **scenarios to move forward** into the updated Level 2 Traffic & Revenue Study
- [ ] **Late 2024:** Begin **Level 3 Investment Grade Traffic & Revenue Study** and share results with OTC in late 2025



I-205 Toll Objectives and Trade-offs

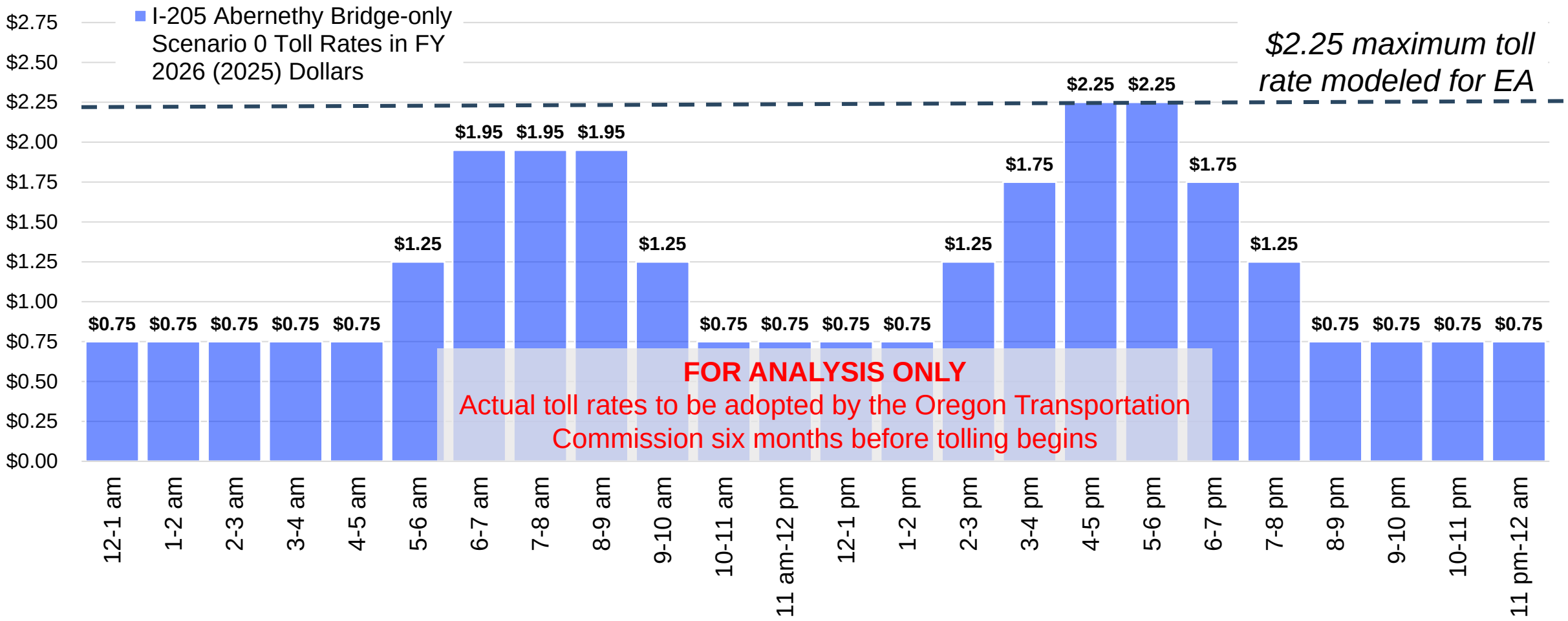




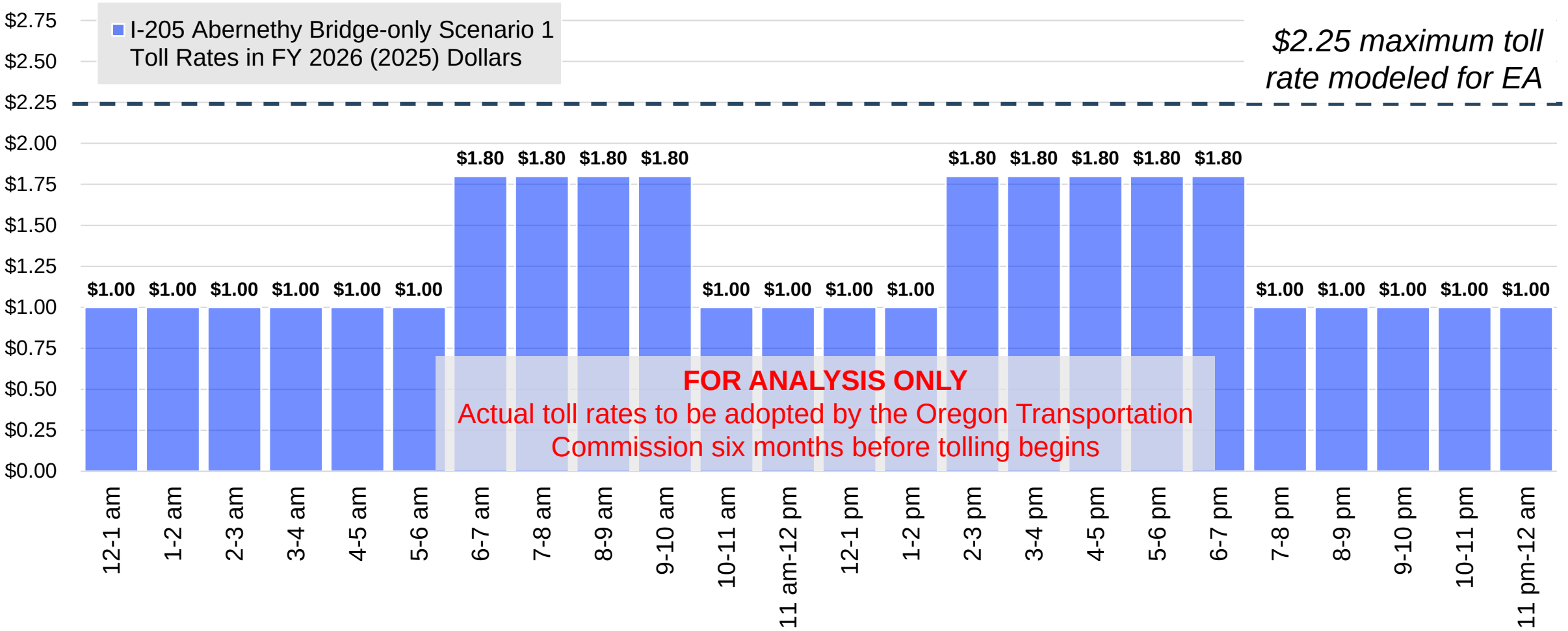
I-205 Toll Scenarios for Trade-Off Analysis

#	Scenario	Description
0	**Base scenario**: Abernethy Bridge-only Base Toll Rates	2022 Level 2 T&R study toll rates with minor adjustments (including $0.75 minimum toll) to adapt for one bridge
1	**Flatter toll scenario**: two toll rates only at peak and off-peak	Generate same net revenue with simpler toll rate schedule
2	**Congestion management scenario**: highest peak period and no overnight tolls	Manage congestion in the entire project area/corridor (Abernethy Bridge to Stafford Road) with peak toll rates
3	**Revenue emphasis scenario**: Higher variable tolls than Scenario 0	Increase net revenue / provide more capital funding

Scenario 0 | Base Scenario

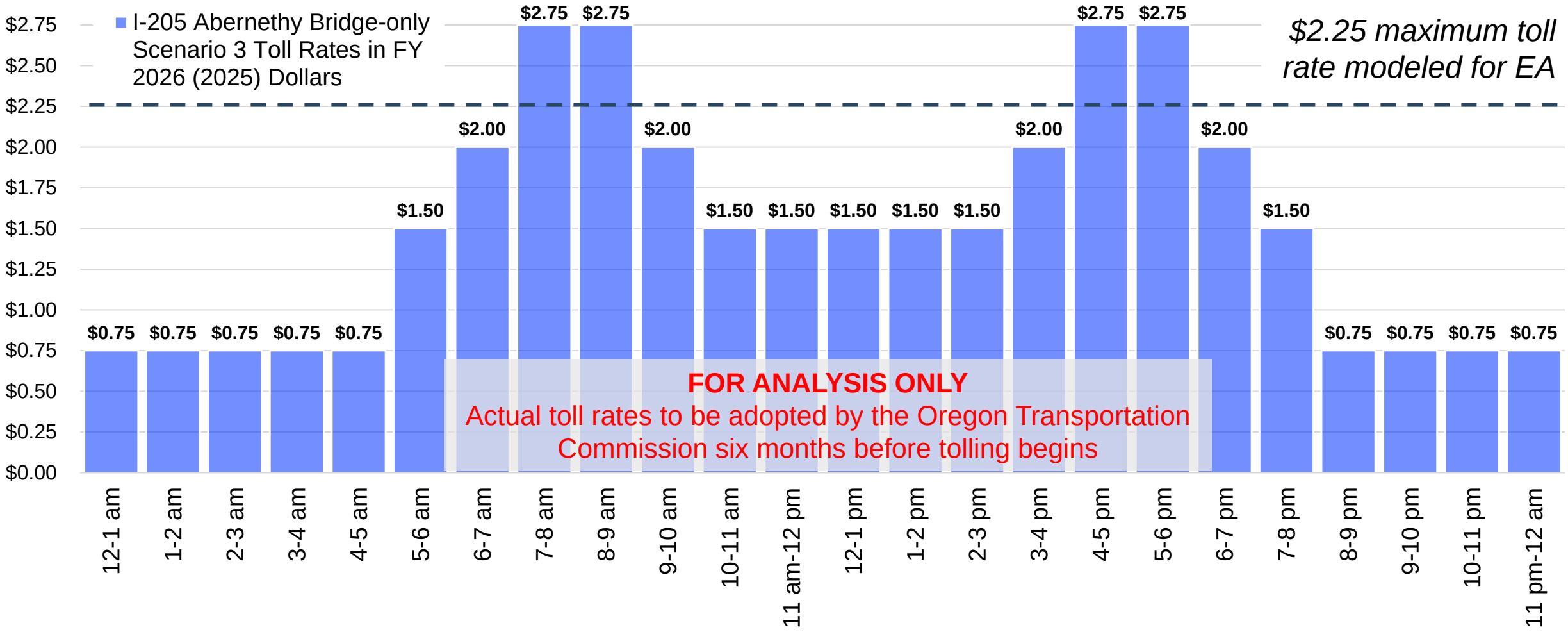


Scenario 1 | Flatter Toll Scenario



Scenario 2 | Congestion Management Scenario

Scenario 3 | Revenue Emphasis Scenario



I-205 toll rates for customers with a registered account

	12-1 am	1-2 am	2-3 am	3-4 am	4-5 am	5-6 am	6-7 am	7-8 am	8-9 am	9-10 am	10-11 am	11 am-12 pm	12-1 pm	1-2 pm	2-3 pm	3-4 pm	4-5 pm	5-6 pm	6-7 pm	7-8 pm	8-9 pm	9-10 pm	10-11 pm	11 pm-12 am
Scenario 0	0.75	0.75	0.75	0.75	0.75	1.25	1.95	1.95	1.95	1.25	0.75	0.75	0.75	0.75	1.25	1.75	2.25	2.25	1.75	1.25	0.75	0.75	0.75	0.75
Scenario 1	1.00	1.00	1.00	1.00	1.00	1.00	1.80	1.80	1.80	1.80	1.00	1.00	1.00	1.00	1.80	1.80	1.80	1.80	1.80	1.00	1.00	1.00	1.00	1.00
Scenario 2						1.50	4.25	4.90	4.00	1.50	1.50	1.50	1.50	1.50	1.50	4.00	4.70	5.60	4.00	1.50	1.50			
Scenario 3	0.75	0.75	0.75	0.75	0.75	1.50	2.00	2.75	2.75	2.00	1.50	1.50	1.50	1.50	1.50	2.00	2.75	2.75	2.00	1.50	0.75	0.75	0.75	0.75
Scenario 3b					0.75	1.50	2.00	2.75	2.75	2.00	1.50	1.50	1.50	1.50	1.50	2.00	2.75	2.75	2.00	1.50	0.75			

Gray cell means $0 tolls
All rates shown in year-of-opening (FY2026) dollars

Current assumptions, subject to change during analysis.

I-205 Scenarios: Summary of Key Findings

Scenario	Approximate Average Peak Hour Speeds in I-205 Corridor (2027)	Hours with Stop and Go Traffic in I-205 Corridor (2027)	Arterial Impacts / Diversion Due to a Toll	Net Toll Revenue (% change vs. Scenario 0)
No Build	30-35 mph	7	N/A	N/A
Scenario 0	35-40 mph	6	Least diversion due to a toll	-
Scenario 1	35-40 mph	5	Least diversion due to a toll	Negligible difference
Scenario 2	45-50 mph	0	Most diversion due to a toll	+50-70%*
Scenario 3	35-40 mph	4	Medium diversion due to a toll	+35-40%

* Scenario 2 tolls may change travel behavior other than route choice, which could lead to lower revenue and would need additional analysis to estimate.

Source: I-205 Toll Project Trade-off Analysis

I-205 Scenarios: Toll Revenue Debt Capacity

Scenario	Description	Annual Net Revenue $ Millions (FY 2030)	Funding: Toll Revenue Bonds + TIFIA Loan
Scenario 0	Abernethy Bridge-only Base Toll Rates	$33 M	$369 M
Scenario 1	Scenario 0 + less variable (flatter) toll rate schedule (peak/off-peak)	$33 M	$371 M
Scenario 2	Scenario 0 + higher peak tolls for project area congestion relief	$52 M	$592 M
Scenario 3	Scenario 0 + higher tolls for more capital funding	$42 M	$469 M

Source: I-205 Toll Project Trade-off Analysis

Takeaways from I-205 Toll Trade-off Analysis

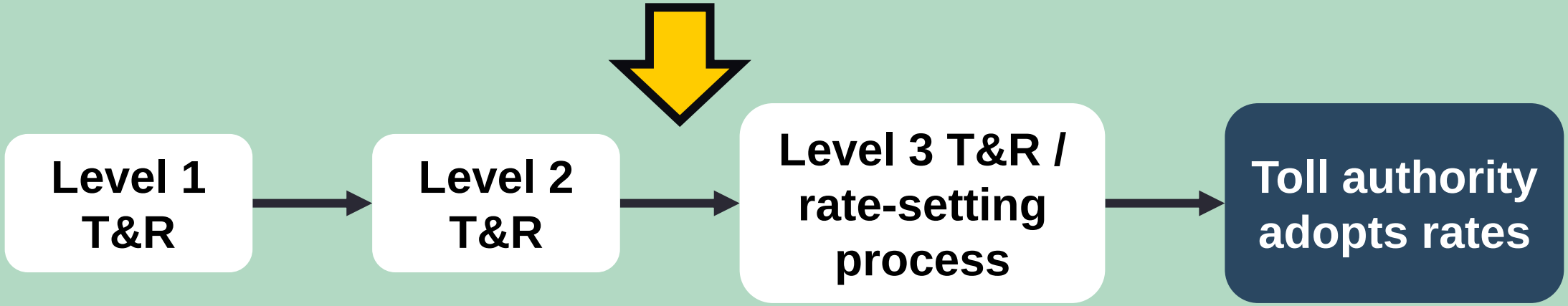
- There is no perfect toll rate structure. Trade-offs between congestion relief, toll diversion, and revenue generation need to be balanced.
- Similar revenue and funding levels can be achieved with different rate structures.
- Toll at Abernethy Bridge will manage congestion around the bridge, and RMPP will manage congestion through the whole corridor.
- Heard desire for $0 overnight tolls.

OTC directed ODOT to analyze Scenarios 0, 1, and 3, and evaluate no tolls overnight.

I-205 Toll Project: Next Steps

- [x] **October 2022:** Completed **Level 2** Traffic & Revenue Study for original project
- [x] **Fall 2023:** Conducted “tradeoff” or Level 1-type **analysis** of scenarios for the revised project. **Regional conversation** about I-205 scenarios and brought input back to OTC
- [ ] **Mid-2024:** Complete updated **Level 2** Traffic & Revenue Study and share results with OTC
- [ ] **Late 2024:** Begin **Level 3 Investment Grade Traffic & Revenue Study** and share results with OTC in late 2025.

Interstate Bridge Replacement Program



Interstate Bridge Replacement Program

- The IBR program and the Oregon Toll Program are separate but **coordinated efforts**.
- IBR and the Oregon Toll Program are coordinating for **consistency** in **traffic modeling** across projects.
- IBR and ODOT are coordinating to implement an **interoperable back-office** and **tolling system** on the IBR facility.
- ODOT will administer tolls on the I-5 bridge to ensure a **seamless experience** with other toll facilities in Oregon.

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I-5 Bridge Bi-State Toll Subcommittee

Composition:

- 2 Oregon Transportation Commission members
- 2 Washington State Transportation Commission members

Purpose: Recommend toll rates and policies to their respective full Commissions for initial rate-setting and periodic review

I-5 Bridge Bi-State Toll Subcommittee

Toll rates and policies:

- Must be **adopted** by a **majority vote** of each state's Commission
- Must ensure **compliance** with both states' **laws and bond covenants**
- Must generate **sufficient revenue** to meet all toll facility **financial obligations** in each year of the forecast horizon

Interstate Bridge Replacement Program

What will the Commissions decide?

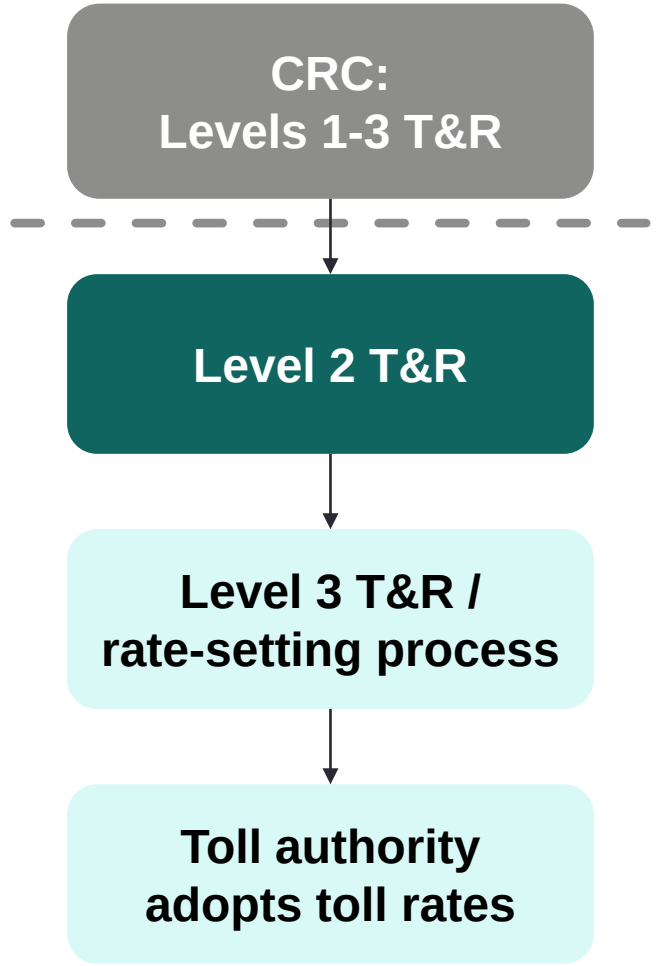
The Commissions will jointly determine issues such as:

- Toll rates by time of day and payment method
- Toll rate multiples for trucks
- Hours of operation
- Toll escalation
- Potential discounts and exemptions

Following ongoing commission discussions, toll rates and policies are expected to be set about 6-8 months before tolling begins.

IBR: Status and Next Steps

- [x] **November 2023:** Published IBR **Level 2** Traffic & Revenue Report
- [ ] **Mid-2024 to late 2025:** Conduct IBR **Level 3** Traffic & Revenue Study (investment grade analysis)
- [ ] **Late 2024 to late 2025:** Formal **rate-setting** process by Oregon and Washington Transportation Commissions
- [ ] **Mid-2025:** Oregon and Washington Transportation Commissions **adopt toll rates**
- [ ] **2026:** Begin pre-completion **toll collection**



IBR Toll Rate Scenario Factors: Summary

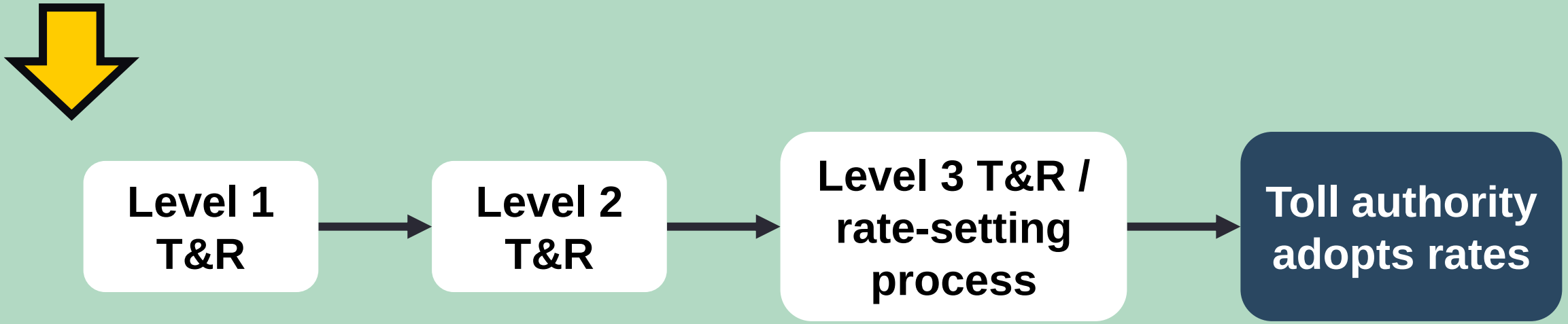
Toll Rate Range	Description
Base Rates	Designed to reach the IBR Program's preliminary funding target.
Lower Rates	Tested how traffic and revenue estimates would differ from base schedule. Used for environmental analysis.

Variable	Description
Toll Rate Range (FY 2026 $)	*Lower:* $1.50 – $3.15 *Base:* $2.15 – $3.55
Annual Toll Escalation	2.15% or None
Low Income Discount	25%, 50%, or None
Medium/Heavy Truck Tolls	2x/4x or 1.5x/2x
Other Regional Toll Facilities	I-205 Toll Project or RMPP + I-205 Toll Project

Level 2 T&R Study analyzed **7 scenarios**, each with a different combination of factors.

All factors and scenarios are subject to change per direction from the **Commissions**.

Regional Mobility Pricing Project

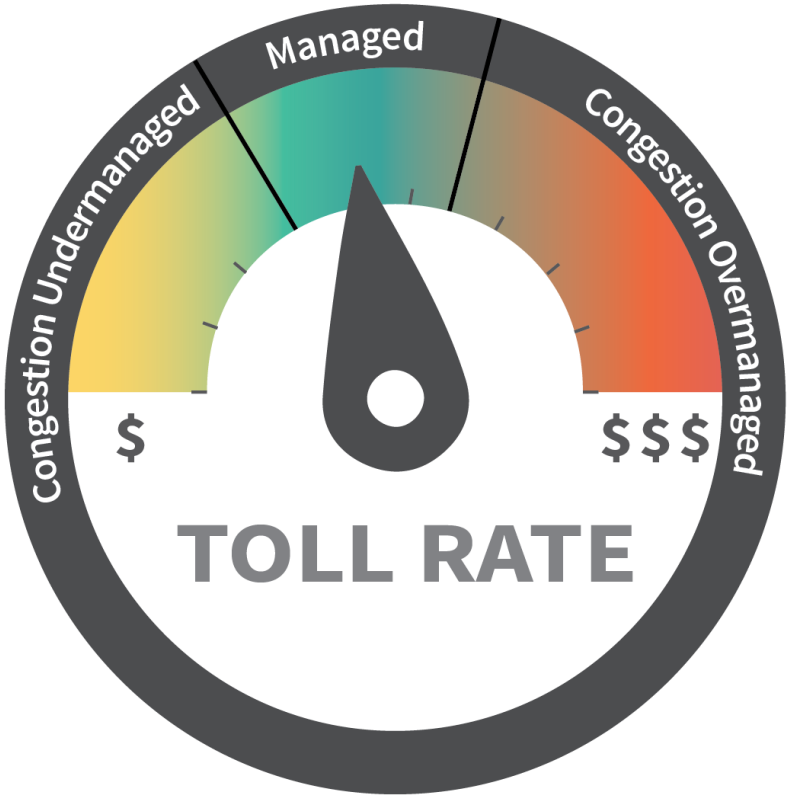


Considerations in developing RMPP policies

Congestion Relief

Travel Time Savings / Reliability

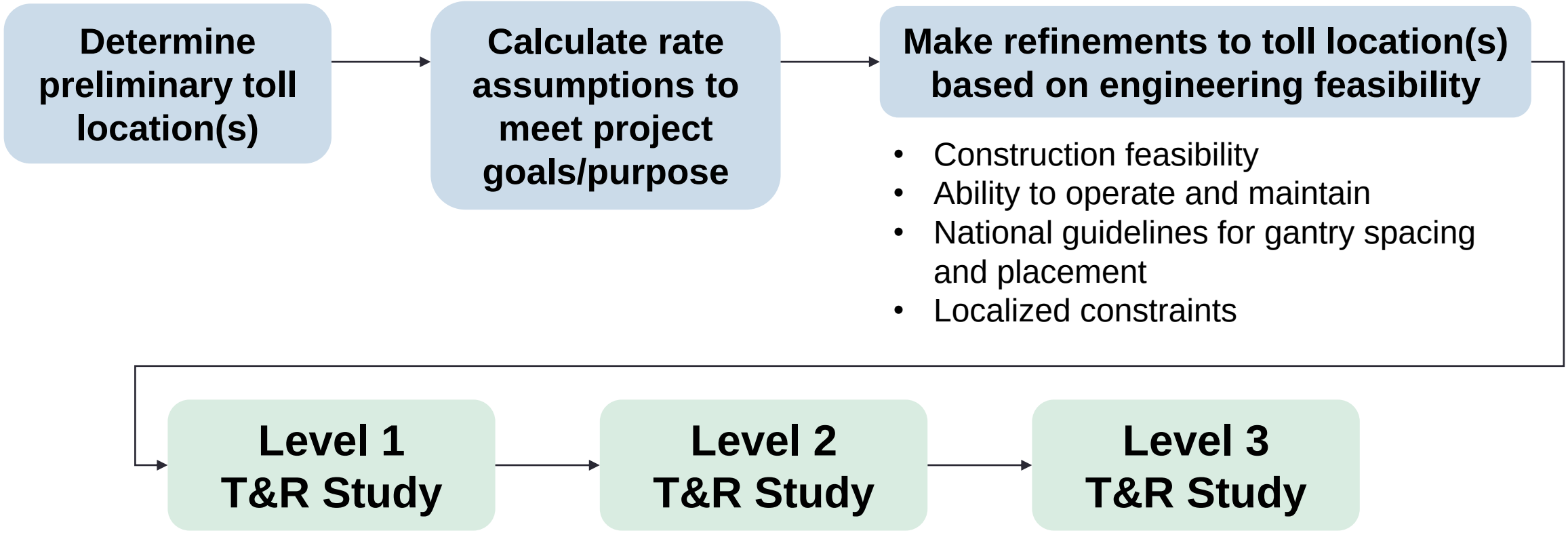
Revenue & Funding Objectives



Minimizing Toll Diversion Impacts

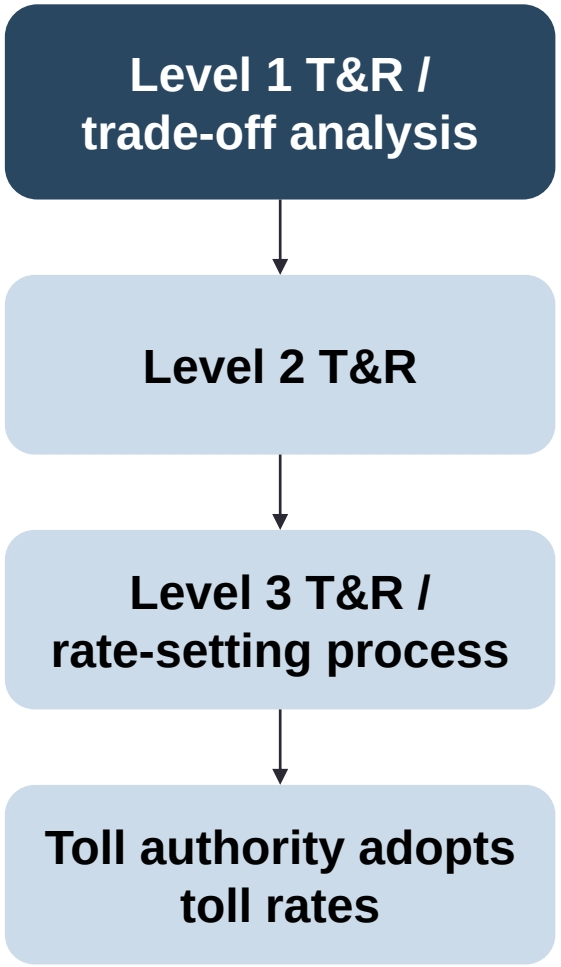
Pricing Simplicity for Customer Understanding

Toll Rate Analysis Process



RMPP: Status and Next Steps

- ☐ **March 2024:** Present RMPP scenarios to OTC
- ☐ **May 2024:** Share findings from **Level 1** trade-off analysis with OTC
- ☐ **Summer 2024: OTC provides recommendation** for refining toll rate scenarios for Level 2 analysis
- ☐ **2025:** Publish **Level 2** Traffic & Revenue Report



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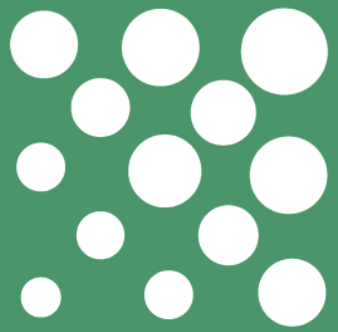

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