



Interstate  
**BRIDGE**  
*Replacement Program*



# IBR Program Progress

May 17, 2022

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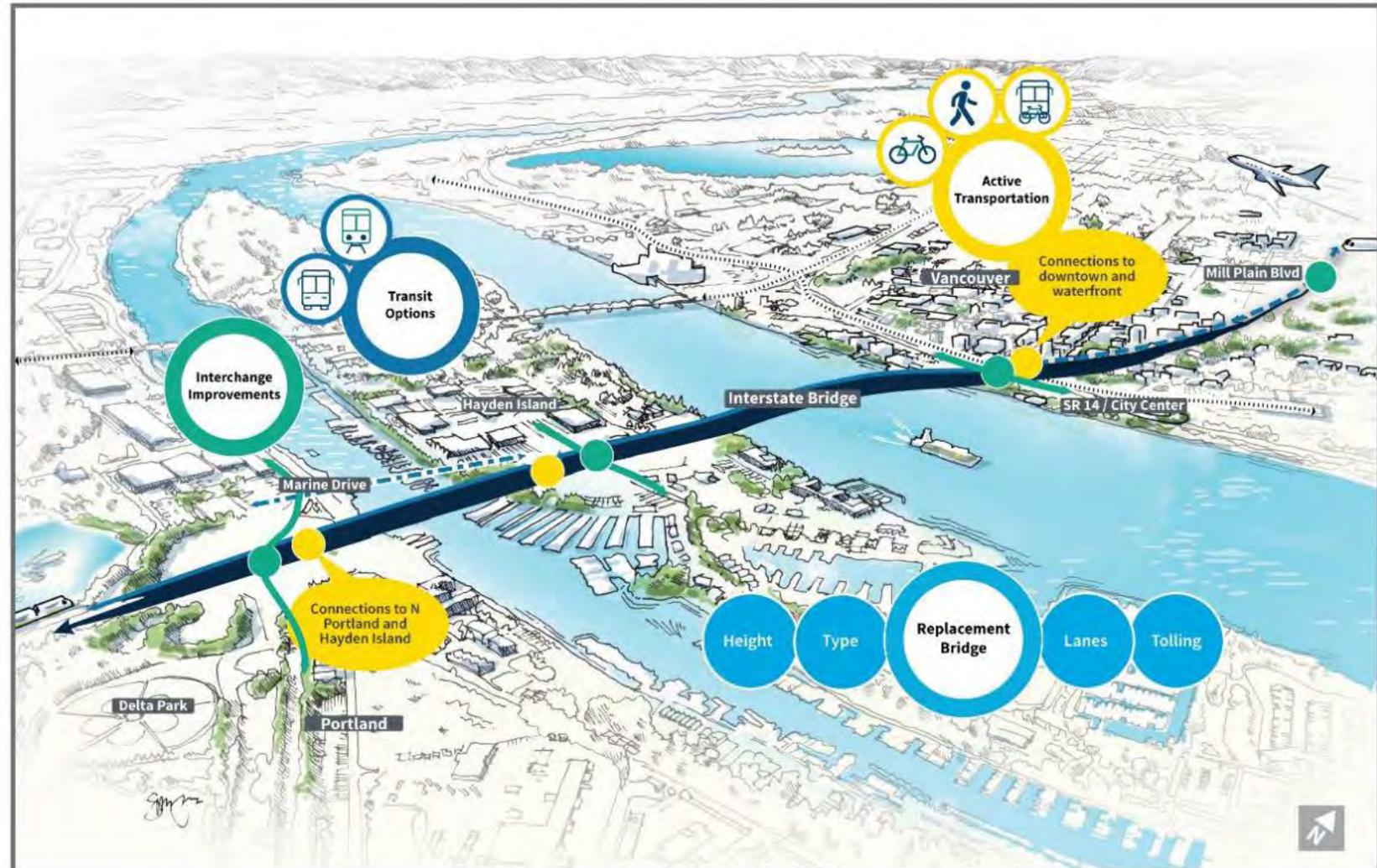
# Identifying the Modified Locally Preferred Alternative

## ► Key components of the Modified LPA:

- Transit Investments
- Hayden Island/Marine Drive Interchange
- Number of Auxiliary Lanes

## ► Other program area considerations:

- Variable rate tolling
- Bridge Crossing and Alignment
- Vancouver Interchanges
- All options assume replacement of North Portland Harbor Bridge. More work will be done to identify benefits and impacts.
- Active transportation improvements will be integrated into design options for all areas.



# Preferred Transit Investment

- ▶ The IBR Preferred transit investment components:
  - Mode – Light Rail Transit
  - Alignment – I-5 Running/Adjacent
  - IBR Terminus – Near Evergreen
- ▶ Other components that will be studied further:
  - General station locations
  - General Park & Ride location and size
  - Operations and maintenance facility
  - System improvements to transit speed and reliability
- ▶ After a preferred transit investment is selected project components will be optimized and refined as design advances and benefits and impacts are better understood.

# Transit Investments

## ► Key Takeaways:

- A combination of Vine BRT, LRT, and express bus service utilizing Bus on Shoulder, where available, will be needed to serve identified markets and demand.
  - *Transfers from other transit vehicles are the highest mode of access for all representative transit investments, highlighting the importance of connecting the existing systems.*
- An LRT extension of the Max Yellow Line from Expo Center into Vancouver best integrates existing transit investment in the region.
  - *LRT allows for preservation of the C-TRAN Vine and express bus current and future system while providing convenient connections to new LRT stations.*
- Capacity on LRT options allows the program to maximize trips.
- LRT provides more competitive travel time compared with trips that require a transfer at Expo.
- LRT investments improve access to jobs to a greater degree than BRT alone.
- LRT is more competitive for FTA discretionary funding.

# Hayden Island/Marine Drive Interchange: Partial Interchange

## ► Key Takeaways:

- Smaller footprint over North Portland Harbor.
- Fewer floating home impacts.
- Smaller scale/complexity of I-5 over Hayden Island provides higher quality experience for active transportation and transit access on east-west streets.
- Hayden Island vehicle/freight access to/from Portland via local roads and I-5 ramps that cross under Marine Drive.
- Hayden Island vehicle/freight access to/from Vancouver via Jantzen Drive I-5 ramps.

# What are Auxiliary Lanes?

- ▶ **Ramp-to-ramp connections** to facilitate acceleration and deceleration, weaving, merging, and diverging for automobiles and trucks between two or more interchanges.

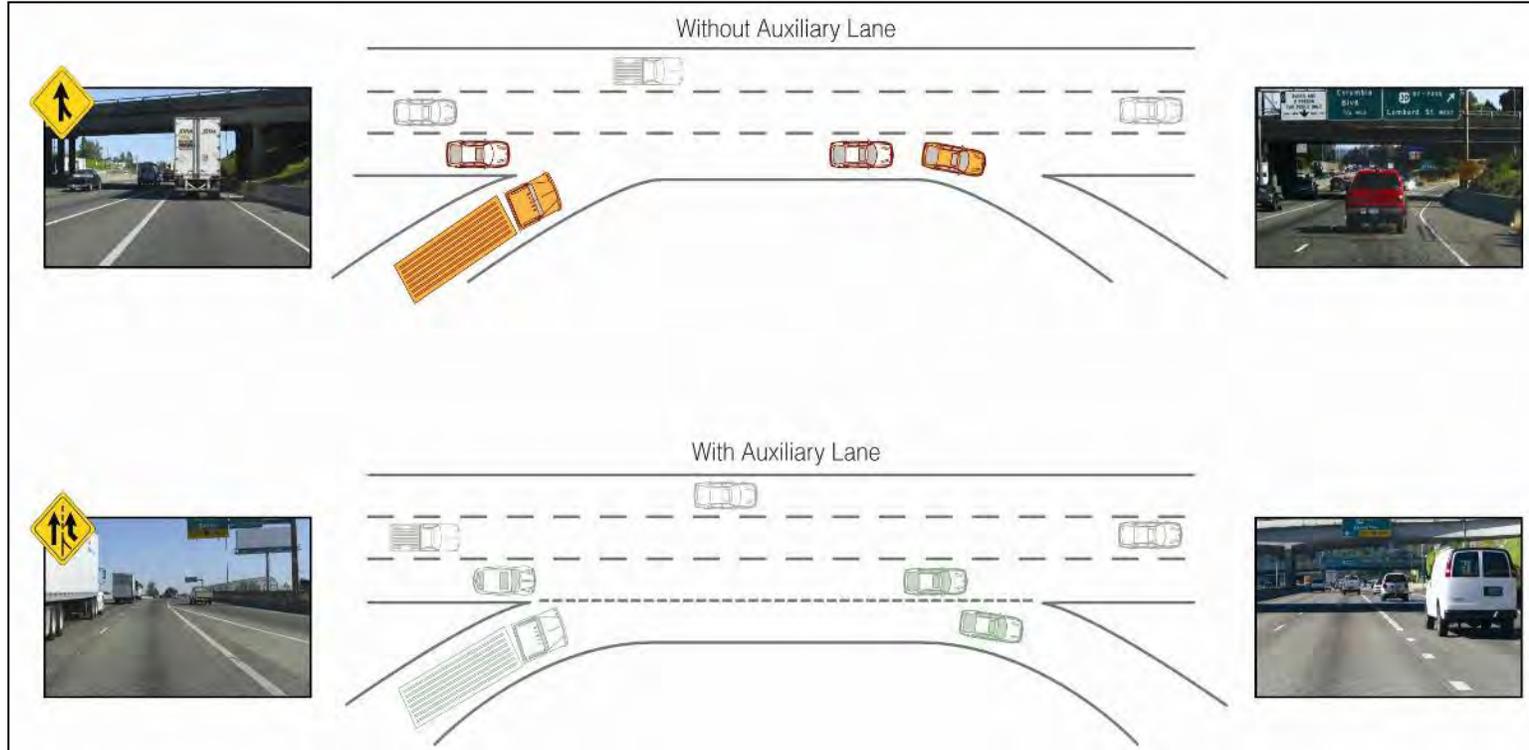
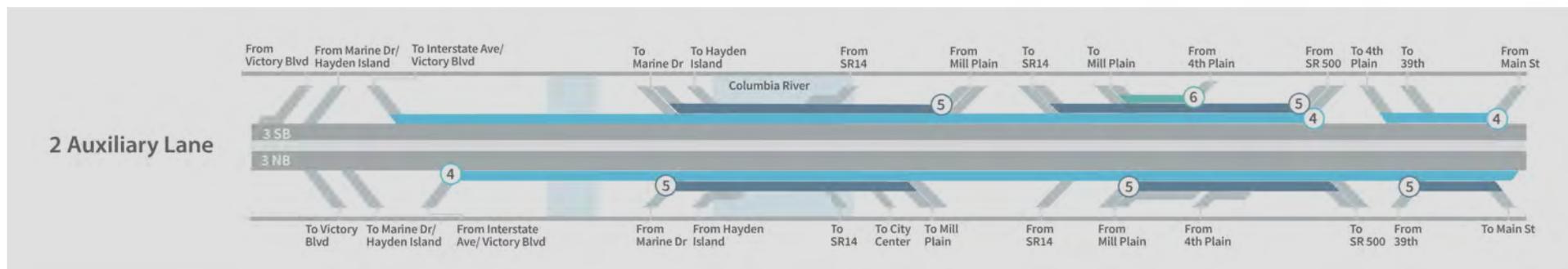
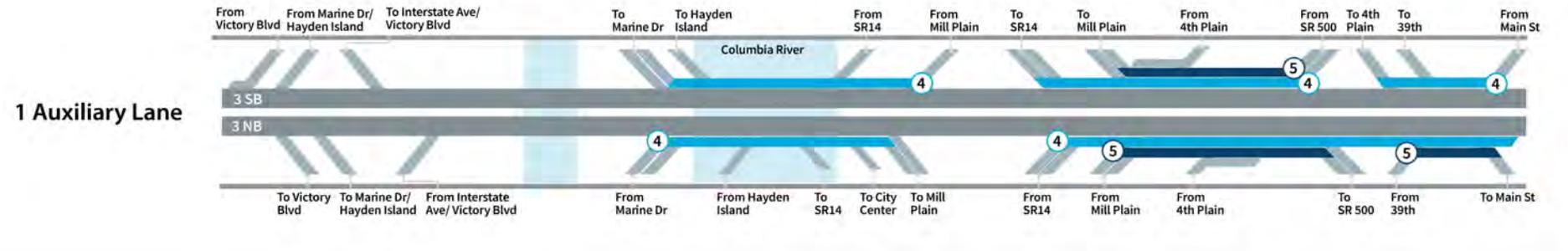
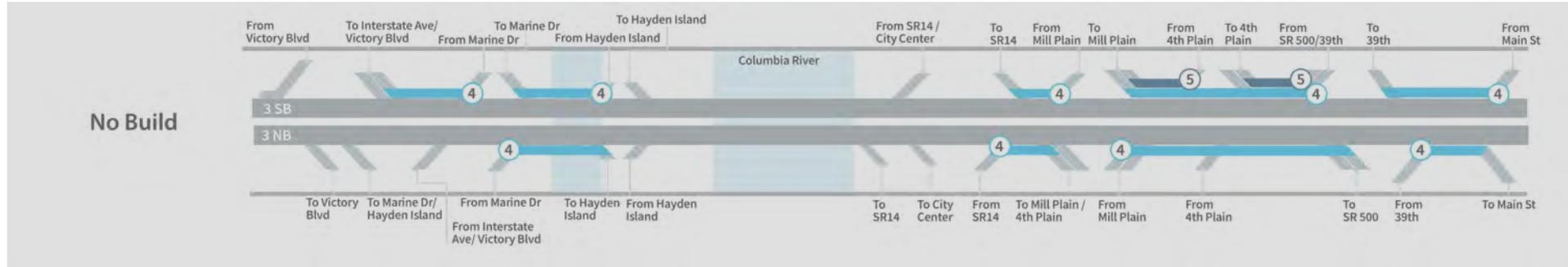


Figure shows typical highway Merge and Diverge Conditions, with (top) and without (bottom) an auxiliary lane.

# Ramp to ramp connections (auxiliary lanes) for IBR are proposed to address:

- ▶ **Close interchange spacing**
  - All interchanges are spaced below **minimum interchange spacing standards** which doesn't allow adequate time for vehicles to make on/off decisions
- ▶ **Short Merges, weaves & diverges**
  - **Example Short Merge:** Northbound Hayden Island On-Ramp acceleration distance is not long enough to get up to freeway speeds
- ▶ **High on-ramp & off-ramp volumes**
  - **Example:** Southbound Marine Drive Off-Ramp is 1,400 – 1,800 vehicles per hour
- ▶ **High vehicle crashes**
  - **Example of Importance:** Substandard merge, diverge, weaving lengths combined with heavy volumes lead to more crashes, and crashes, of any severity increases congestion & impact reliability
- ▶ **Lane balancing**
  - Proper arrangement of traffic lanes on the freeway and ramps to realize efficient traffic operations by **minimizing the required number of lane shifts**

# IBR Program - Auxiliary Lane Options



All options, have 3 lanes thru traffic Northbound and Southbound

- Through lanes
- Auxiliary lane 4
- Auxiliary lane 5
- Auxiliary lane 6
- Collector-distributor roads and ramps

# IBR Recommendation: Modified LPA

Hayden Island/  
Marine Drive:

**Partial  
Interchange**

Transit:

**Light Rail to  
Evergreen near  
I-5**

River Crossing  
Auxiliary Lanes:

**1**

Variable Rate

Tolling:

**Yes**



## Partial Interchange Summary

Hayden Island Drive local-only trips and Tomahawk Island Drive extension increase Hayden Island east-west connectivity



Smaller interchange leaves space for a comfortable pedestrian environment and opportunities for open space

Addresses safety and congestion by improving active transportation, adding shoulders, increasing lane widths and improving ramp merges



## Benefits of Expanding LRT from Expo to Evergreen

**4** Stations\* 

**3,000+** Residents are within a half mile walk

**26%** BIPOC  **41%** Low-income

\*Includes the existing Expo station and 3 new stations

## Equity - Jobs Accessible via Transit (% increase)\*

**68%** General **73%** BIPOC

**59%** Low-income **71%** People w/ disabilities

\*Increase in jobs accessible from the program area within a 45 minute midday transit ride. Percent increase determined by adding LRT Expo to Evergreen compared to 2045 No Build.

## Climate - GHG Reduction\*

**36,000** metric tons/year  
or the equivalent of



**7,000**  
homes' electricity  
for one year

OR



**89,400,000**  
miles driven by gas  
powered car

\*GHG reduction is an estimate calculated from the displacement (or avoidance) in the shift from cars to transit.

## Strategies to Combat Climate Change



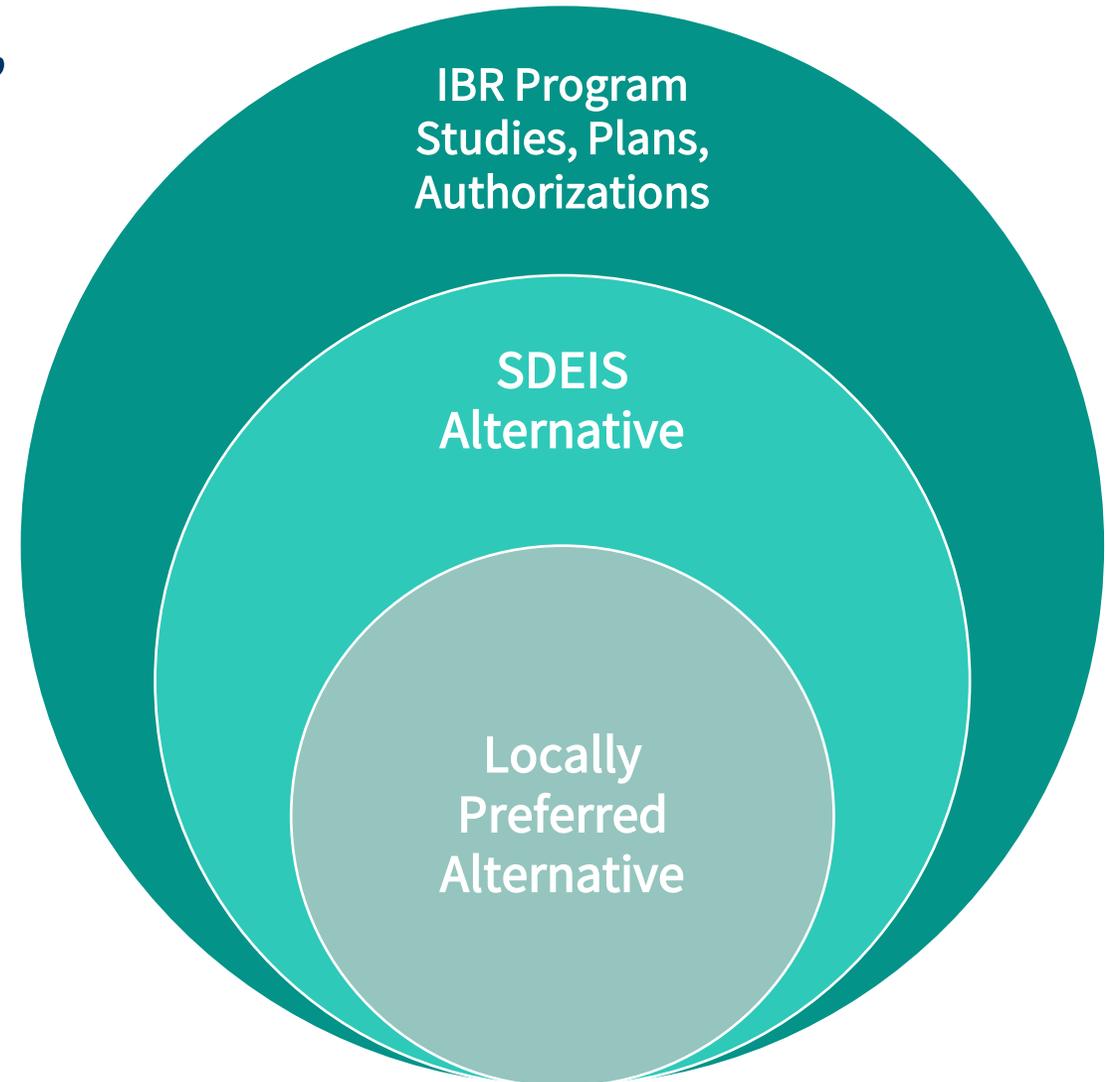
- Demand Management, including Variable Rate Tolling (tolling will consider price reductions for low-income users and low-carbon vehicles)
- Increase traffic operation efficiencies (ramp metering and auxiliary lanes)
- Mode shift from cars to active transportation and transit
- Low-carbon emission construction strategies

# Other Components of the Recommended Modified LPA

- ▶ Current I-5 bridge replacement with a seismically sound bridge with three through lanes northbound and southbound.
- ▶ Prioritizing a comprehensive transit network.
- ▶ Safe and comfortable active transportation.
- ▶ Replacement of the North Portland Harbor Bridge with three through lanes, northbound and southbound.
- ▶ Assumption that Variable Rate Tolling will be used for funding, such as constructing the program, managing congestion, and improving multimodal mobility within the I-5 corridor.
- ▶ Improvements to additional interchanges within the program corridor.

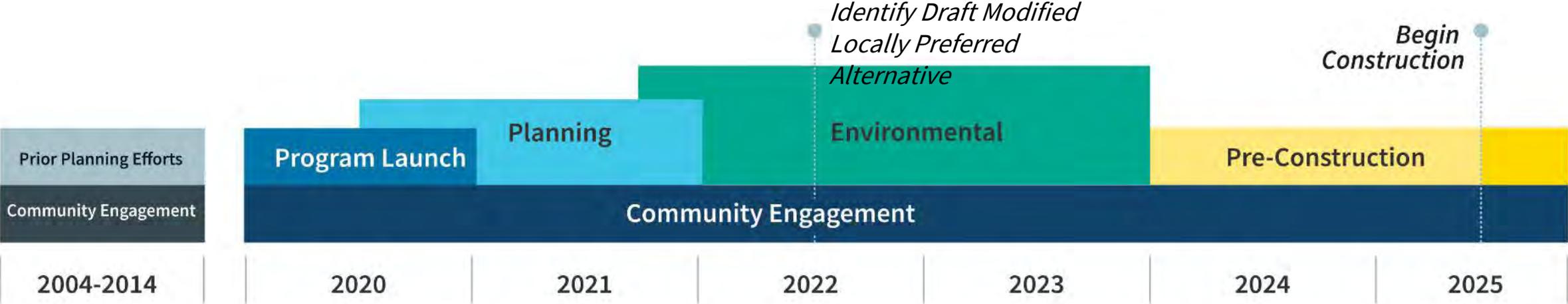
# Next Steps – How They Fit Together

- ▶ Program requires numerous studies, plans, analyses, authorizations, etc.
- ▶ Supplemental Draft Environmental Impact Statement (SDEIS) is a study where benefits and impacts of the Modified Locally Preferred Alternative will be evaluated for public review and comment.
  - A Locally Preferred Alternative (LPA) identifies the foundational elements of the alternative to be studied in the SDEIS process.



# Tolling Updates

# Program Timeline



# Toll Administrator Decision and Justification

- ▶ In early March, a decision was reached between the DOTs that ODOT should administer tolls on the I-5 bridge.
- ▶ This is an administrative decision regarding which agency will be responsible for toll collection and customer service.
  - Both states will be involved in determining future policy and implementation of tolling for IBR, developed separately from Oregon Tolling.
- ▶ This decision was needed to allow ODOT to account for IBR in its upcoming process to seek tolling vendors.
- ▶ The customer experience, ease of use, and support in learning a new system were the primary drivers for the decision:
  - The proximity of the I-5 bridge to other Oregon facilities will allow for consistent communications about customer service, accounts, and payment options.



# Tolling Implementation Commitments

- ▶ **IBR tolling will be implemented in a bi-state environment:**
  - Toll revenue collected on the bridge will be dedicated to the IBR facility, including construction, operations and maintenance, and collection and customer support associated with tolling.
  - Each state’s legislative requirements and framework for transportation policy and investments will be accounted for as the IBR tolling approach is developed.
    - *The OTC and the WSTC will jointly set rates, exemptions and discounts, and consider low-income discounts.*
  - The tolling system will be interoperable with other regional toll systems.
  - Oregon will continue to be responsible for the costs to set up the Oregon toll program. Additional costs required to implement tolls on IBR will be shared by both states.

# Timeline Beyond Summer 2022

## ▶ Late 2022 through 2023:

- Updates to the Conceptual Finance Plan once details of the Modified LPA are confirmed.
- Additional tolling and funding discussions as part of the 2023 legislative sessions.
- Anticipate applying for federal grant funding opportunities in 2023.

## ▶ Ongoing through 2024:

- Additional analysis and continued community engagement as part of the federal environmental review process.
- Additional development of design details such as bridge type, active transportation facilities, transit details, etc.

## ▶ Construction anticipated to begin by late 2025.



For more information contact:

[info@interstatebridge.org](mailto:info@interstatebridge.org)

360-859-0494 or 503-897-9218

888-503-6735

<https://www.interstatebridge.org>

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# Thank you!

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