



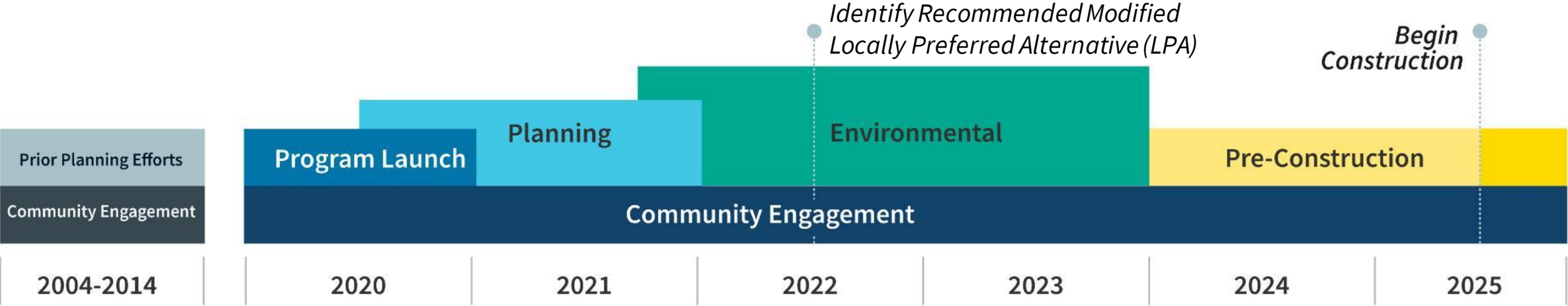
Greg Johnson, Program
Administrator

Interstate Bridge Replacement Program

May 25, 2022



Program Timeline



Initiating IBR efforts

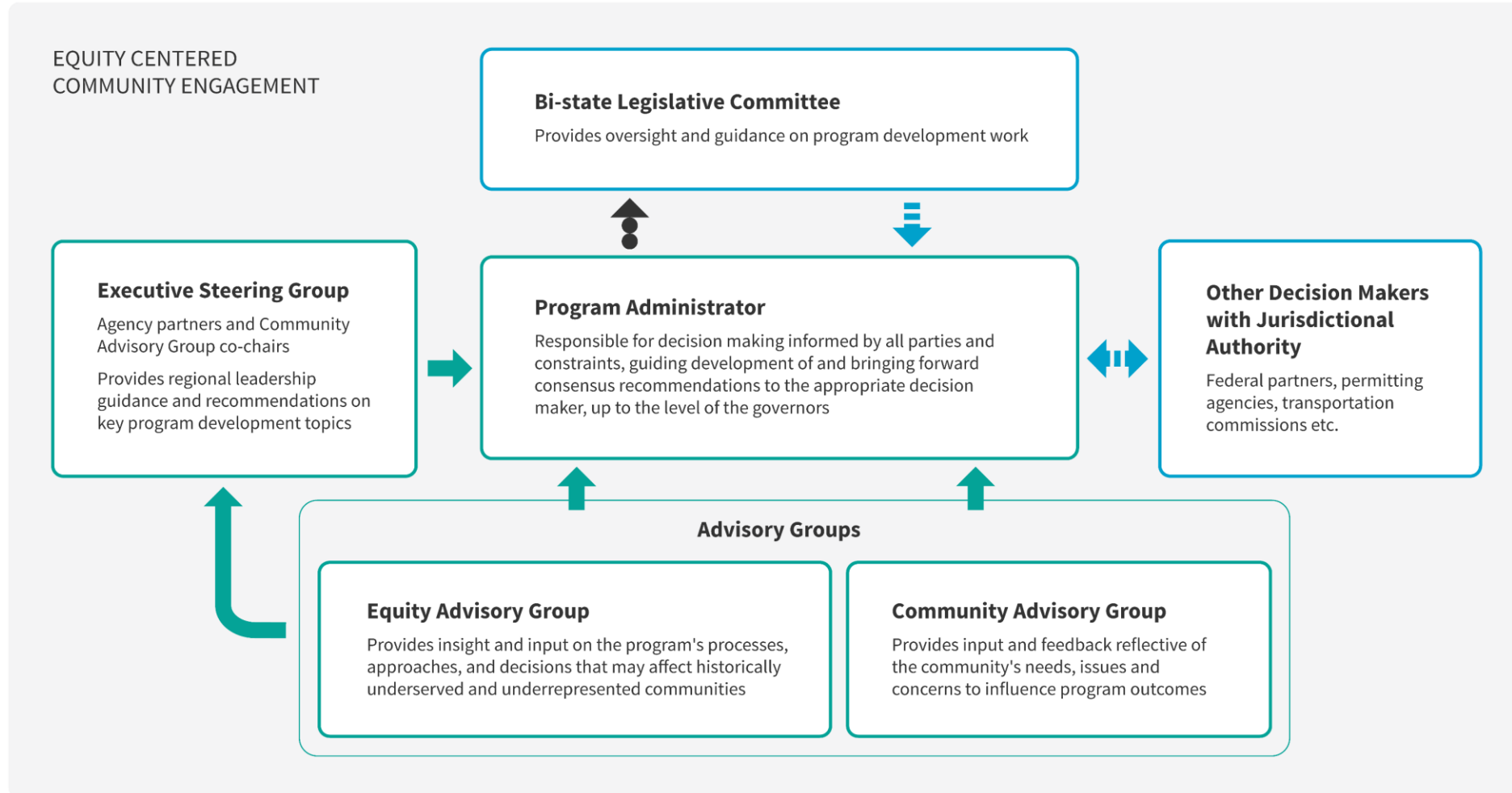
- ▶ Bi-state Memorandum of Intent signed by Governors Brown and Inslee in November 2019
- ▶ \$90 million in combined funding dedicated by OR and WA as of March 2022
 - Move Ahead Washington revenue package allocates \$1 billion to fund Washington’s share of the anticipated cost needed to complete the IBR program
- ▶ Bi-state legislative committee oversight and guidance to shape program work
- ▶ ODOT and WSDOT are jointly leading the program work in collaboration with eight other bi-state partner agencies:
 - TriMet
 - C-TRAN
 - Oregon Metro
 - SW WA Regional Transportation Council
 - City of Portland
 - City of Vancouver
 - Port of Portland
 - Port of Vancouver



Photo courtesy of Office of Governor Kate Brown



Oversight and Advisory Groups



KEY: Recommendations Oversight/Guidance
 Regular briefings on program work and advisory group recommendations

NOTE: Location on graphic does not indicate hierarchy. This diagram is intended as a high-level overview and does not show all engagement points.

Purpose and Need



Safety: Narrow lanes, no shoulders, poor sight distances, bridge lifts, and substandard ramp merging and diverging contribute to accidents.



Earthquake vulnerability: In a major earthquake, the bridge would likely be significantly damaged, potentially beyond repair.



Impaired freight movement: Congestion and bridge lifts slow down freight carrying goods along I-5, a critical economic trade route on the West Coast.



Inadequate bike & pedestrian paths: Narrow shared-use paths, low railing heights, and lack of dedicated pathways impede safe travel.



Congestion: Over 143,000 vehicles crossed the Interstate Bridge each weekday in 2019, resulting in 7 to 10 hours of congestion during peak travel times.



Limited public transportation: Limited transit options and existing bus service can be unreliable due to traffic congestion and/or bridge lifts.

Equity and climate are key priorities

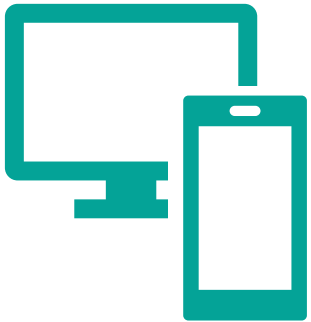
- ▶ **Maximize benefits and minimize burdens for equity-priority communities**
 - Black, Indigenous, and People of Color (BIPOC); people with disabilities; communities with limited English proficiency; persons with lower income; houseless individuals and families; immigrants and refugees; young people, and older adults
- ▶ **Center equity-priority community engagement and feedback**
- ▶ **Support state climate goals of reduction in greenhouse gas emissions and air quality improvements**
- ▶ **Improve infrastructure resilience to future climate disruptions**

Community Engagement



▶ Outreach + Notification

- 100,000 postcards mailed to zip codes within program area
- Monthly e-newsletter reaches 6,000+ subscribers
- Digital, print, and radio advertisements in multiple languages
- Media outreach
- Social media



▶ Engagement Methods

- Virtual public meetings
 - *Advisory groups meet at least once a month with opportunities for public comment*
- Community working groups
 - *Focus groups with 80+ community members*
- Online open house and community briefings during key milestones
- Surveys
 - *Two surveys complete with 18,700+ responses received*
- Ongoing community presentations
- Listening sessions

Modified Locally Preferred Alternative (LPA)

What it is

- High-level identification of the foundational components of an alternative such as mode, alignment, and other improvements
- Specialized term for projects with a transit component and/or pursuing CIG funding (compared to preferred alternative in other NEPA documents)
- Early agreement by local agencies

What it's not

- Fully defined alternative evaluated in the SDEIS
 - Conceptual design that integrates the fundamental components into a corridor-wide alternative
- Final design
 - Fundamental concepts will be refined through a stepwise design process (e.g., 30%, 60%, 90%, Issue for Construction)
- The end of technical analyses
 - More analysis and opportunities to shape what gets built
- Final approval
 - More opportunities to develop and approve final program components

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

What are desired outcomes?

- ▶ **Observable and measurable accomplishments that the IBR program aspires to achieve at a program level**
- ▶ **Created by IBR program through input from partners, advisory groups, and the public**
- ▶ **Align with the the IBR program Purpose and Need statement, as well as community priorities and values adopted by the CAG, the equity objectives adopted by the EAG, and the IBR program's climate objectives.**

IBR Desired Outcomes

PURPOSE AND NEED

DESIRED OUTCOMES

1. Travel demand and congestion

More people can move through the program area.

Travel times through the program area are faster and more predictable.

People of all ages, abilities, and incomes have access to move through the program area, regardless of mode.

Regional trips stay on I-5.

2. Freight movement

Freight travel through the program area is more reliable.

Freight travel times through the program area are faster.

Accommodates high, wide, and heavy cargo in existing and future routes.

3. Public transportation

More people use transit.

Travel by transit is competitive with other modes.

Transit connects people to their origins and destinations.

Travel by transit is predictable, reliable, and consistent.

More people have access to high-quality, affordable, and reliable transit.

IBR Desired Outcomes

PURPOSE AND NEED	DESIRED OUTCOMES
4. Safety	Reduce overall crashes on I-5, including severe injury and fatal crashes.
	Reduce overall crashes, including severe injury and fatal crashes, on I-5 ramps, local streets, and active transportation networks in the program area.
	Fewer diverted trips from I-5 to local streets.
	Safety is reflected in designs for all modes.
5. Bicycle and Pedestrian	Active transportation is an attractive mode, and more people walk and cycle, both to access transit and instead of travelling by autos.
	Traveling by walking, biking, and rolling feels safe because facilities are separated from moving vehicles and the shared use path environment is visible and connected.
	The high-quality networks for walking/biking/rolling are convenient and connect destinations that are important for most trips.
6. Seismic	More people have access to high-quality active transportation facilities.
	Bridges will be designed and constructed so that they will not collapse and will remain operable in a Cascadia subduction zone earthquake.

IBR Desired Outcomes

CLIMATE CHANGE&RESILIENCY

ReduceGHGemissions in support of stateclimategoals.

Minimize operational and embodied carbon during construction.

All structures are resilient to and operable following anticipated climate disruptions (e.g., heat events, flooding, sea level rise).

Program limits other environmental impacts that exacerbate effects of climate change (e.g., heat island, runoff).

IBR Desired Outcomes

EQUITY (as excerpted from the Equity Framework and to be refined by EAG)

Improved mobility, accessibility, and connectivity especially for lower income travelers, people with disabilities, and communities who experience transportation barriers.

Fewer identity-based disparities in travel time, access, transportation costs, and exposure to air pollution, road noise, and traffic crashes.

Local community improvements are implemented in addition to required mitigations.

Economic opportunities generated by the program benefit minority and women owned firms, BIPOC workers, workers with disabilities, and young people.

Equity priority communities have access, influence, and decision-making power throughout the program in establishing objectives, design, implementation, and evaluation of success.

Disproportionate impacts on equity priority communities are avoided rather than simply mitigated.

IBR Desired Outcomes

COST EFFECTIVENESS AND FINANCIAL RESOURCES

Pursue and leverage any and all federal, state, and other funding sources that support all modes and address long-term needs.

Identify equitable tolling and pricing strategies supporting multimodal construction costs and improved operations and access, in coordination with statewide tolling programs and in support of each state's climate goals.

Consider fiscal responsibility across the program and into the future, including new technology to solve future problems.

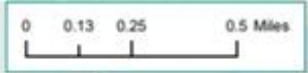
Transit Investments

Recommended Transit Investment

- ▶ IBR recommended 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



- Park and Ride
- LRT Station
- LRT in Dedicated Guideway
- CTRAN - 4th Plain Vine BRT Stations
- CTRAN - 4th Plain Vine BRT
- CTRAN - Mill Plain BRT Stations (Opening in 2023)
- CTRAN - Mill Plain BRT (Opening in 2023)
- CTRAN - Highway 99 BRT (Proposed)
- TriMet - Max Station
- TriMet - Max Yellow LRT
- Bus Line



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.

Transit Investments

▶ Additional Considerations:

- Evergreen terminus has fewer potential property impacts and connects directly to the downtown library, the Historic Reserve, jobs, services, and amenities.
- Evergreen terminus maximizes transfer opportunities given direct connections to several local routes as well as planned BRT routes.
- The City of Vancouver has worked with C-TRAN to design robust station environments for the Vine system on Broadway and Washington in the Central Business District.
- The City of Vancouver has seen substantial growth in the Waterfront District as planned for in the Waterfront Development Plan.

Transit Investments – What We’ve Heard

▶ Community Advisory Group Feedback:

- Overall, Community Working Groups were supportive of HCT options, with many preferring LRT or a combined LRT/BRT option.
- Congestion relief is a top priority.
- Reliability of mode is important.

▶ Equity Advisory Group Feedback:

- Equity-priority communities expressed high interest in accessible and dependable transit options, including:
 - *Desire for multiple transportation options that are efficient, reliable, and user-friendly.*
 - *Support for infrastructure that promotes HCT and low-stress active transportation options.*

Transit Investments – What We’ve Heard

▶ Community Survey Feedback:

- Overall support for implementation of a HCT system, with noted interest in LRT specifically.
- Desire for greater connectivity from Clark County into Portland and the regional transit system.
- Travel time ranked as most important transit priority.
- Highest preferences for potential transit stations located at or near Vancouver Waterfront, Clark College, Expo Center, Hayden Island, Vancouver Library (Evergreen).

▶ Community Opinion Polling Results:

- There is strong support among residents in the entire region and solid majority support throughout Clark County for the concept of extending the Max Yellow Line from Expo Station to Vancouver in a dedicated space across the new I-5 bridge.
 - *79% of total respondents strongly or somewhat support light rail across the bridge:*
 - Portland Metro Area (OR): 84%
 - City of Portland: 90%
 - Clark County: 61% (Clark County excluding Vancouver: 57%)
 - City of Vancouver: 69%

Other Components of the Modified LPA

- ▶ **Assumptions that are expected to be included in the recommendation for the Modified LPA:**
 - Replace the current I-5 bridge over the Columbia River with a seismically sound bridge
 - Replace the North Portland Harbor Bridge with a seismically sound crossing
 - The construction of three through lanes northbound and southbound throughout the BIA (Bridge Influence Area)
 - Include active transportation and multi-modal facilities that adhere to universal design principles and facilitate safety and comfort for all ages and abilities
 - Study improvements of other interchanges within the BIA
 - Implement a variable rate toll on motorists using the river crossing, with a recommendation to the Oregon and Washington State Transportation Commission to consider a low-income toll program, including exemptions and discounts
 - Establish a GHG reduction target relative to regional transportation and land use impacts, and to develop and evaluate design solutions that contribute to achieving program, regional, and state-wide climate goals
 - Evaluate program design options according to their impact on equity priority areas including developing a Community Benefits Agreement

Hayden Island / Marine Drive Interchanges

Recommended HI/MD interchange configuration

- ▶ IBR recommended interchange configuration:
 - **Hayden Island - Partial Interchange**
 - **Marine Drive – Full Interchange**
- ▶ Interchange design will minimize impacts while making improvements to freight and workforce traffic and active transportation on Hayden Island and Marine Drive.
- ▶ Design assumptions:
 - North Portland Harbor bridge replacement
 - Local auto access bridge between North Portland and Hayden Island
 - Local pedestrian/bicycle connections with shared use path
 - High-Capacity Transit station on Hayden Island

Recommendation: Hayden Island/Marine Drive Interchanges

Partial Interchange



Partial Interchange



*Visualization is intended as a high-level example for illustration purposes only and does not reflect property impacts or indicate that decisions on design options have been made.

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Hayden Island 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.

Hayden Island/Marine Drive Interchange: What We've Heard

▶ Community Advisory Group Feedback:

- Preference for option with smallest footprint over Hayden Island.
- Important to consider freight needs.
- Consider active transportation safety and access.

▶ Equity Advisory Group Feedback:

- Screening summary demonstrates that **equity was incorporated** into the process. However, it is difficult to understand all the information and tradeoffs.
- Crucial to focus on the **human experience** and impact.
- **Wayfinding** signage needs to be a priority given the complexity.

Hayden Island/Marine Drive Interchange: What We've Heard

▶ Community Survey Feedback:

- Prioritized congestion relief on I-5 near Hayden Island, safe intersections and road improvements, and convenient access to services, shopping, and restaurants.
- Survey respondents who indicated they live in Washington were more likely to prefer direct access to Hayden Island.
- Oregon residents more likely to prefer island access via Marine Drive and local access bridge.

▶ Community Opinion Polling Results:

- Oregon residents drive to Hayden Island only a few times a year, if at all. They don't express much interest in what happens regarding the highway interchange options.
- Washington residents are more likely to drive to Hayden Island and are more likely to be interested in the highway interchange options.

Auxiliary Lanes

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.

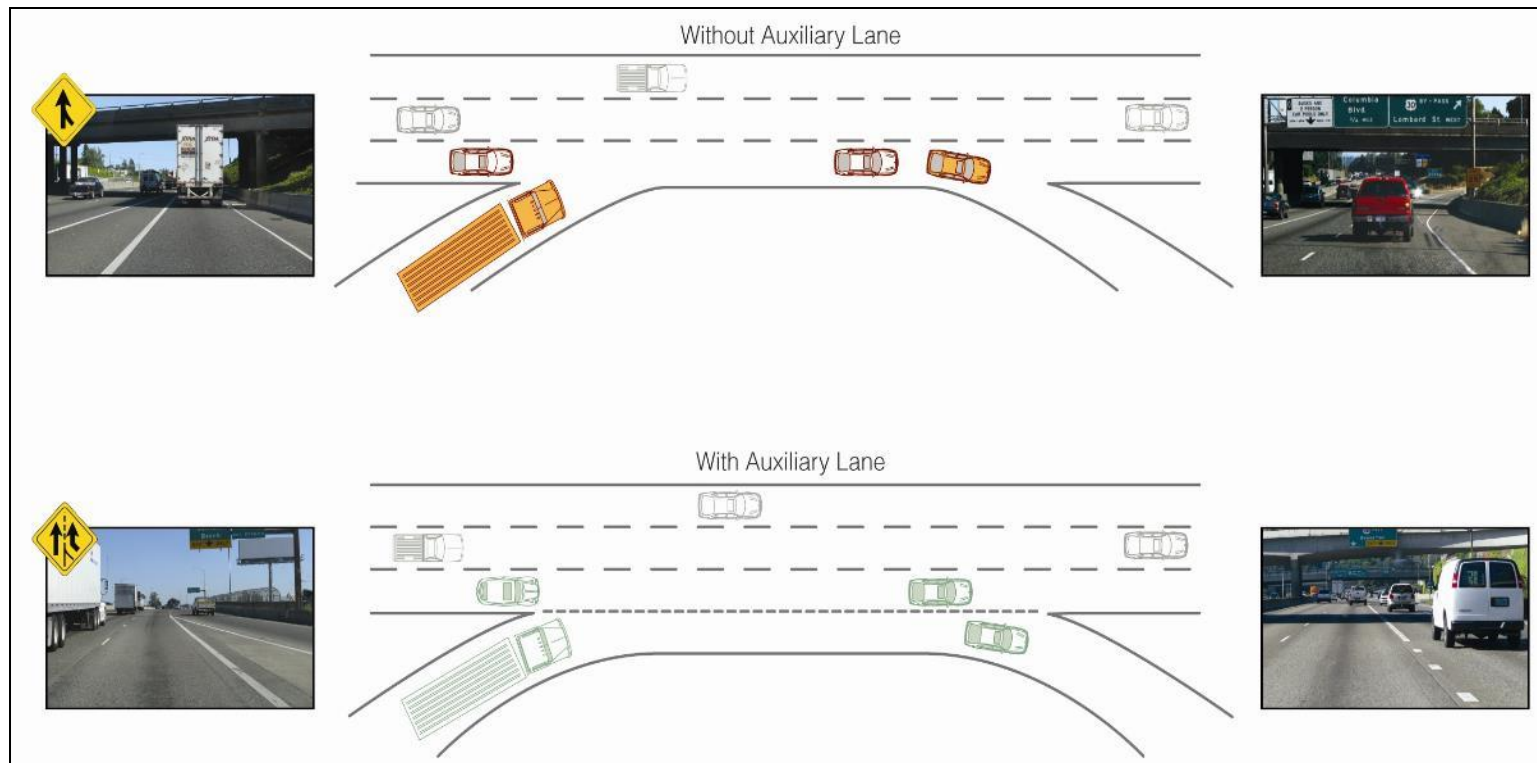
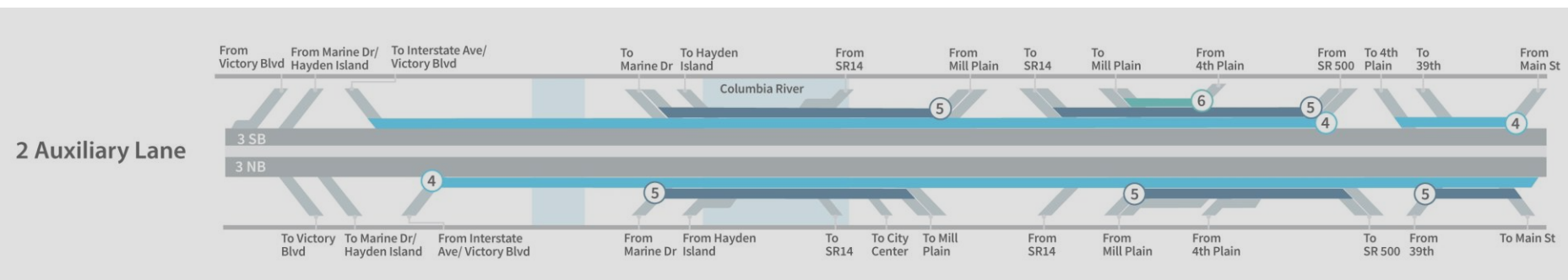
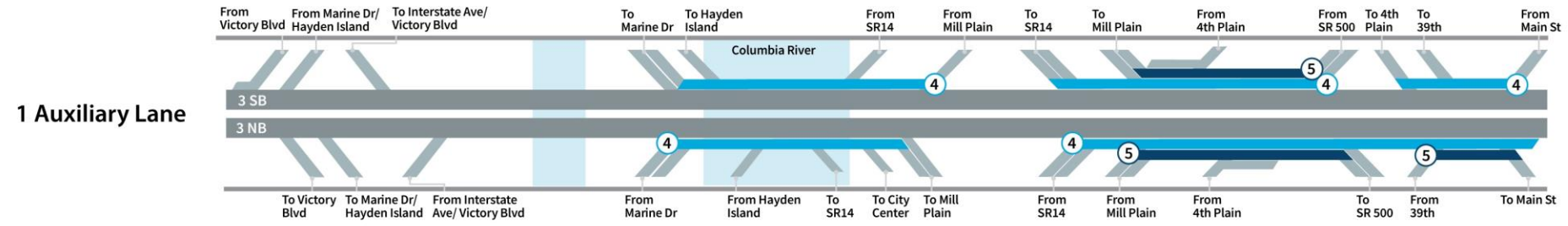
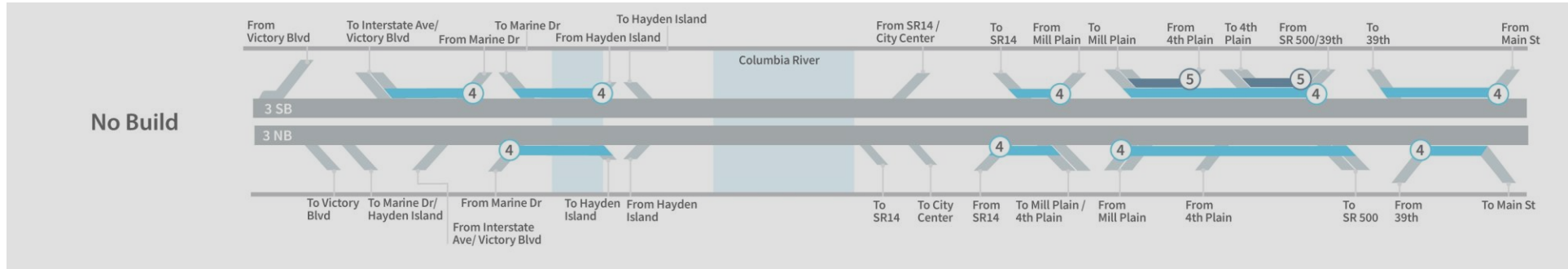


Figure shows typical highway Merge and Diverge Conditions, with (top) and without (bottom) an auxiliary lane.

Recommended Number of Auxiliary lanes

- ▶ **IBR recommends:**
 - **1 auxiliary lane in each direction (northbound and southbound)**
 - **Located between Marine Drive and Mill Plain Blvd to accommodate the safe movement of vehicles and freight**
- ▶ **Maintain the 3 existing through traffic lanes in each direction to remain consistent with the existing system on either side of the bridge.**

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

Auxiliary Lanes

► Benefits of one auxiliary lane compared to 2045 No Build:

- Travel time improvements:
 - *SB AM travel time is reduced by 3 minutes (5% faster) between I-5/I-205 split and I-405.*
 - *NB PM travel time is reduced by 11 minutes (30% faster) between Broadway Ave and SR-500.*
- Reduces overall congestion:
 - *While congestion is similar in the AM/PM peak, there are off-peak benefits, including weekends.*
 - *Less diversion to local streets.*
 - *Faster congestion recovery from crashes and incidents.*
 - *Decrease in crashes, improving safety.*
- Mode shift—daily transit share is expected to increase from 7% in No Build to 11% in the Build.
- Fewer lane changes required (i.e. lane balance).
- Climate—GHG reduction due to less congestion, VMT reduction, mode shift, and tolling.
- Large safety improvements:
 - *Lane widths to allow for current vehicle widths, turning, and comfort.*
 - *Fewer sideswipe crashes.*
 - *Full shoulders to recover from breakdowns and allow for emergency vehicle access and Bus on Shoulder.*
 - *Improved visibility.*
 - *No bridge lifts.*

Auxiliary Lanes – What We’ve Heard

▶ Community Advisory Group Feedback:

- The option that maximizes capacity and minimizes congestion.
- Two auxiliary lanes seems like the right decision.
- Combined with transit considerations, one auxiliary lane is appropriate.
- Two auxiliary lanes addresses congestion and is the best value.
- Congestion and safety are major CAG values and priorities, having auxiliary lanes addresses these priorities.

▶ Equity Advisory Group Feedback:

- Want to understand differences in property impacts & displacements between one and two auxiliary lanes.
- Both travel time and environmental impacts are important from an equity standpoint.
- Consider projected demographic changes.

Auxiliary Lanes – What We’ve Heard

▶ Community Survey Feedback:

- Desire to both relieve congestion and reduce greenhouse gas emissions.
 - *Mixed feedback on the number of lanes (some want to see the number of lanes increased, other do not due to environmental concerns).*
- Concern around potential impacts to residences, businesses, and neighborhoods.

▶ Community Opinion Poll Results:

- Large majorities of support overall, with one auxiliary lane receiving slightly more support than the two auxiliary lane option:
 - *85% of total respondents strongly or somewhat support the one auxiliary lane option.*
 - *74% of total respondents strongly or somewhat support the two auxiliary lane option.*
 - *After hearing potential tradeoffs, respondents tended to favor the two auxiliary lane option by a slim majority:*
 - Clark County residents were more likely to select the two auxiliary lane option.
 - Oregon residents were more split with the two auxiliary lane option slightly more preferred by those living outside of Portland city limits.

Other Components of the Modified LPA

- ▶ **Assumptions that are expected to be included in the recommendation for the Modified LPA:**
 - Replace the current I-5 bridge over the Columbia River with a seismically sound bridge
 - Replace the North Portland Harbor Bridge with a seismically sound crossing
 - The construction of three through lanes northbound and southbound throughout the BIA (Bridge Influence Area)
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 - Establish a GHG reduction target relative to regional transportation and land use impacts, and to develop and evaluate design solutions that contribute to achieving program, regional, and state-wide climate goals
 - Evaluate program design options according to their impact on equity priority areas including developing a Community Benefits Agreement

Costs, Funding and Next Steps

Costs and Funding

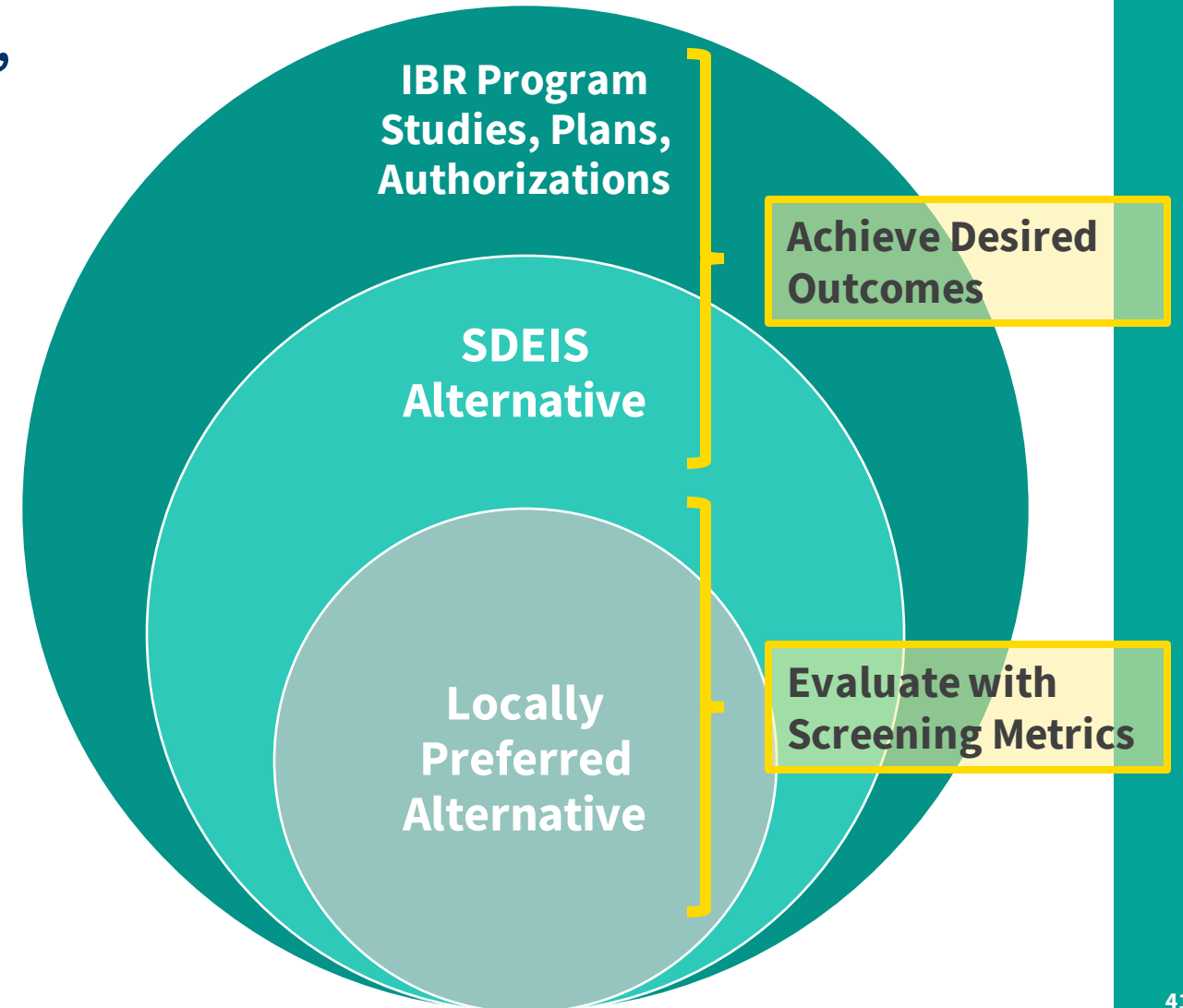
- ▶ **The program identified a conceptual cost estimate as a preliminary range of \$3.2 to \$4.8 billion.**
 - Cost estimates will be updated this fall once a Modified LPA is identified.
- ▶ **The program is pursuing a variety of funding sources including state, federal, and tolling sources.**
 - The Move Ahead Washington transportation package, recently signed by the Governor, allocates \$1 billion in IBR construction funding.
 - IBR anticipates applying for federal grant funding beginning in 2023.
 - The FTA Capital Investment Grants (CIG) Program, along with the Competitive Bridge Investment Program and/or the National Infrastructure Project Assistance Program appear to be the best fit for IBR to apply.

Variable Rate Tolling

- ▶ IBR program and ODOT toll program are separate but related efforts
- ▶ Tolling objectives include revenue generation, managing congestion, and improving multimodal mobility in the corridor
- ▶ Expected to vary by time of day, and day of week based on a set schedule so the cost is predictable for the traveler.
- ▶ The program is committed to recommending an equitable tolling system informed by national best practices for tolling in urban areas
 - Oregon Transportation Commission and the Washington State Transportation Commission will determine exemptions and discounts
- ▶ Soonest tolling could begin on Interstate Bridge is in late 2025/early 2026

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.



Timeline

▶ This summer

- Gather feedback from program partner boards, councils, and commissions regarding recommended Modified LPA
- Executive Steering Group consider adoption of Modified LPA recommendation
- Bi-state Legislative Committee consider and respond to Modified LPA

▶ Fall/winter 2022

- Begin SDEIS process
- Update conceptual finance plan

▶ 2023

- Additional tolling and funding discussions as part of the 2023 legislative sessions
- Anticipate applying for federal grant funding opportunities

Questions and Discussion



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Thank you!

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