Interstate Bridge Replacement Program

River Crossing Review and Approach to Develop Alternatives

October 1, 2020

Oregon Department of Transportation

Washington State Department of Transportation

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Presentation Structure

1. Review river crossing development from previous planning efforts
2. Draft approach to develop river crossing alternatives/configuration
3. Discussion and feedback

Key Guidance and Feedback Sought

Discussion items:

- Feedback from committee members on approach
- Are there specific expectations that should be taken into consideration as river crossing alternatives are developed and analyzed?

Bi-State Legislative Committee Engagement Points

September 2020

- Review river crossing alternatives analysis from previous planning efforts
- Provide feedback on approach to identify river crossing alternatives/configuration

Winter 2021

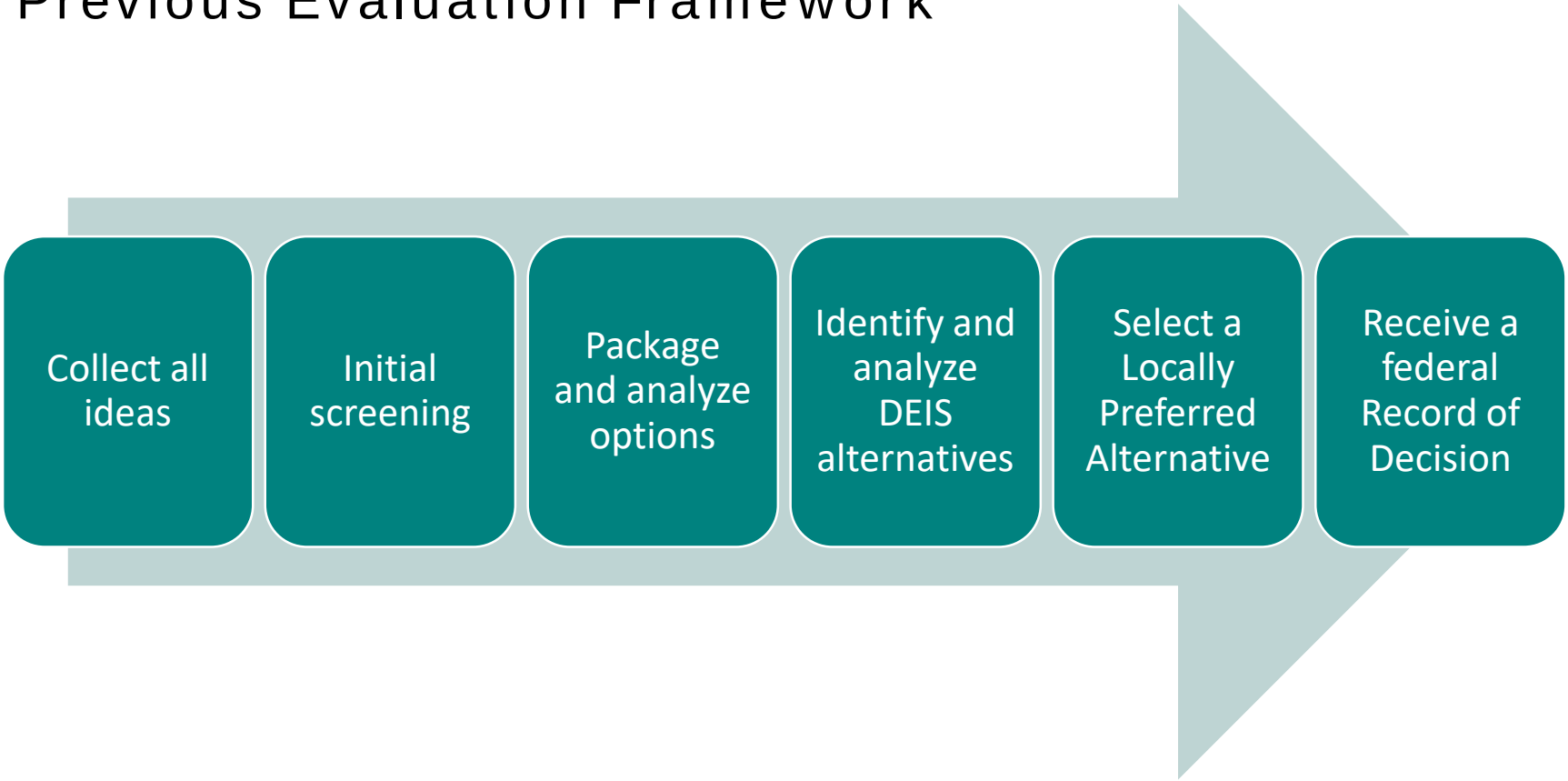
- Provide update and receive feedback on preliminary river crossing alternatives

Spring 2021

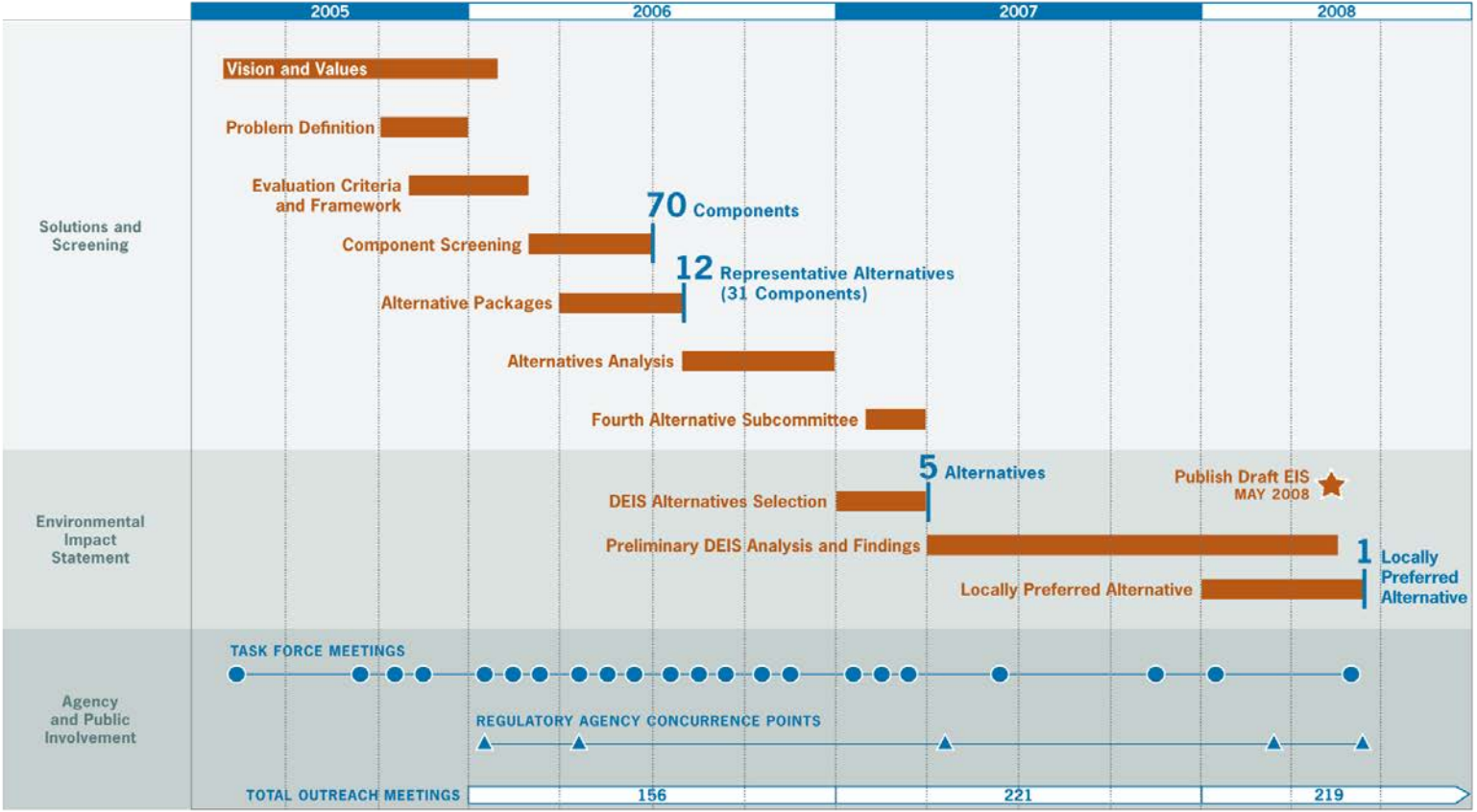
- Provide guidance and direct on range of alternatives to be analyzed in the Supplemental DEIS

Review River Crossing Alternative Analysis from previous planning efforts

Previous Evaluation Framework



Project Development



23 Initial River Crossing Ideas

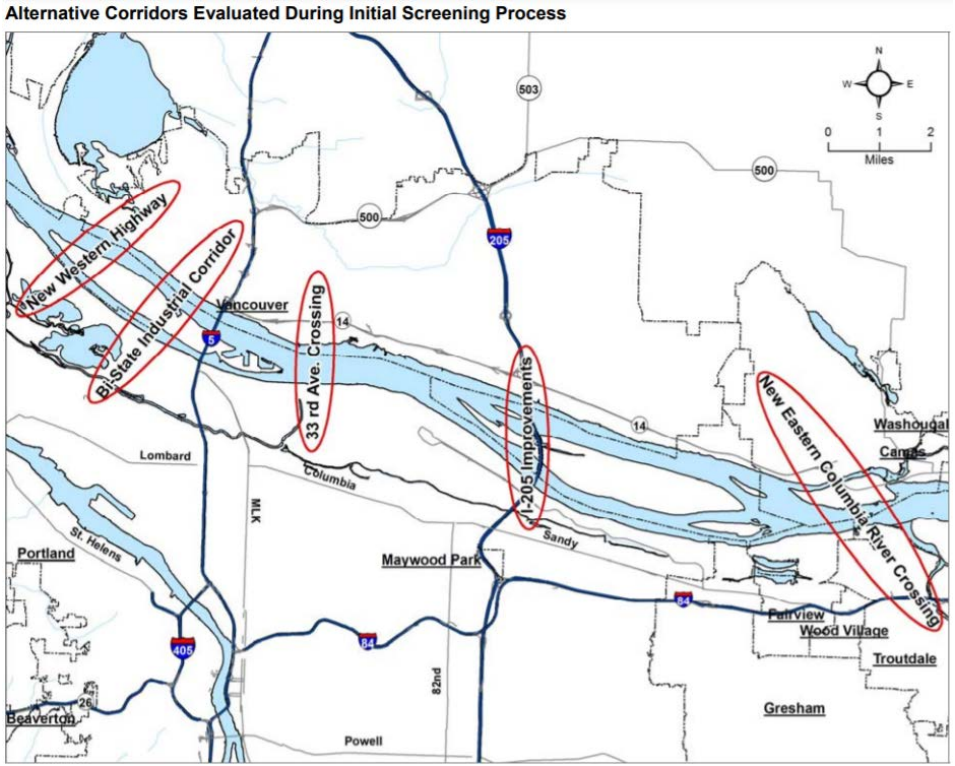
6 **Replacement bridge** ideas

6 **Supplemental bridge** ideas

2 **Tunnel** ideas

3 **Arterial crossing** ideas to supplement I-5

6 **Alternate bridge location** ideas including multimodal arterial bridge



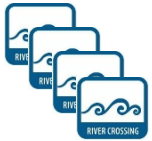
Narrowing Process

23

initial ideas screened

4

ideas for evaluation



River crossing ideas were screened based on:

- Purpose and Need
- Community Vision and Values
- Task Force recommendations
- Analysis including travel demand modeling, conceptual design refinement, and performance measures

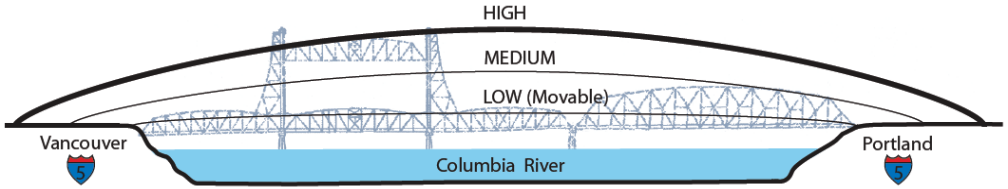
Purpose and Need Screening

River crossing ideas failed if they could not meet the following criteria *within the project area*:

- Reduce **seismic risk** of the I-5 bridge
- Increase **vehicular capacity** or **decrease vehicular demand**
- Improve **transit performance**
- Improve **freight mobility**
- Improve **safety** and decrease vulnerability to incidents
- Improve **bicycle and pedestrian mobility**

Ideas that Passed Initial Screening

9 **River crossing** ideas passed Purpose and Need screening:



Arterial crossing

- With I-5 improvements

Supplemental tunnel

Supplemental bridge:

- Downstream, low level, movable
- Upstream, low level, movable
- Downstream, mid level, fixed

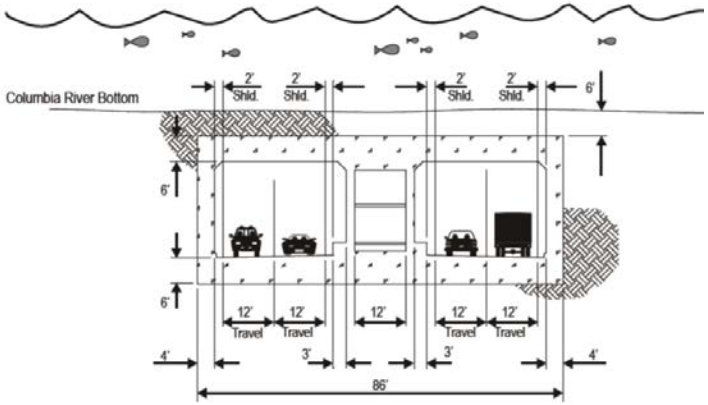
Replacement bridge:

- Downstream, low level, movable
- Upstream, low level, movable
- Downstream, mid level, fixed
- Upstream, mid level, fixed

Further Narrowing of Components

5 Additional ideas were eliminated due to performance concerns:

- **4 low-level replacement or supplemental bridge ideas**
  - Require moveable span, which contributes to higher accident rates and traffic/transit reliability disruptions during bridge openings
  - Continued restrictions on river traffic when bridge must remain closed
- **Supplemental tunnel**
  - Safety – current roadway deficiencies would remain on existing bridges
  - Marginal transportation benefits
  - High community impacts



Performance Measures

☑ **Replacement bridge options performed the best**

✖ **Supplemental** bridge options were found to:

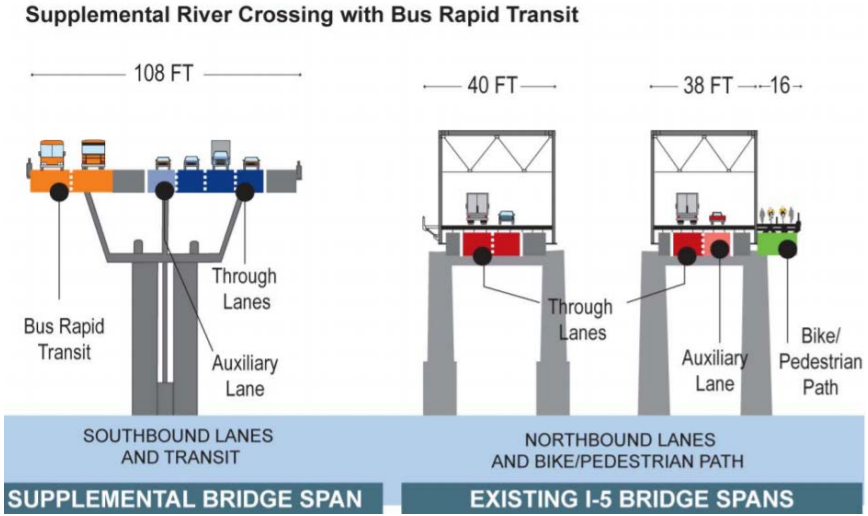
- Impact river navigation due to pier placement
- Have greater impact on Hayden Island and the Fort Vancouver National Historic Reserve
- Retain the existing encroachment into Pearson Field airspace (from lift spans)
- Leave aging structures in place – retrofit, ongoing maintenance, etc.

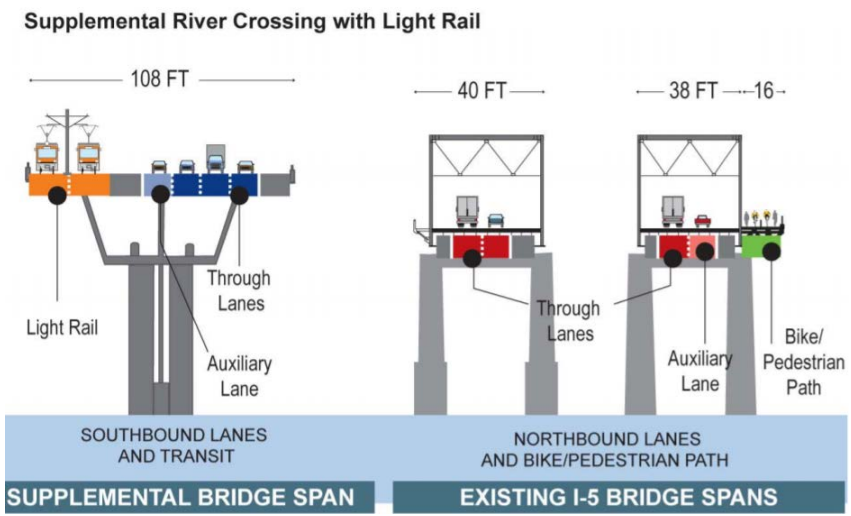
✖ **Arterial** options would have all of the drawbacks of supplemental options

- They would also increase congestion in downtown Vancouver, on Hayden Island and in the vicinity of Marine Drive

Identifying Draft EIS Alternatives

Revised supplemental alternatives were developed for inclusion in the DEIS based on Task Force recommendation



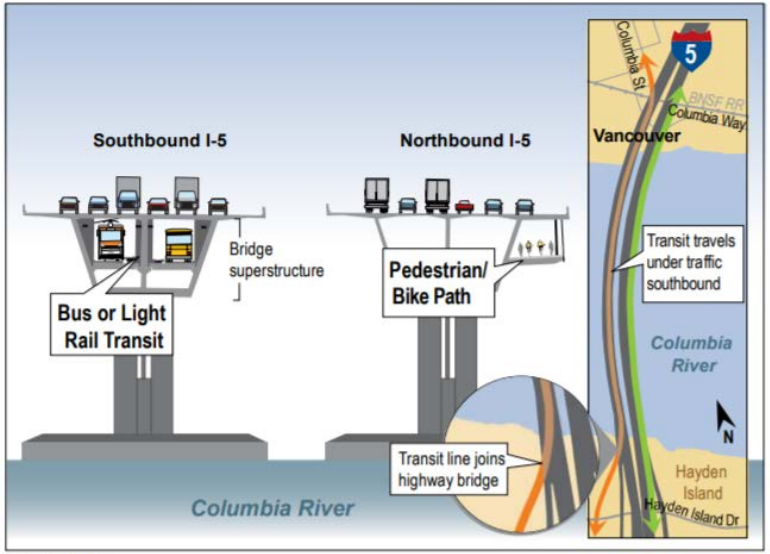


DEIS Alternatives Evaluated

1. No Build
2. Replacement bridge with bus rapid transit
3. Replacement bridge with light rail transit
4. Supplemental bridge with bus rapid transit
5. Supplemental bridge with light rail transit

All "build" alternatives included interchange, freight and pedestrian/bicycle improvements between SR 500 and Delta Park

Conceptual Design of Stacked Transit/Highway Bridge Design



NOT TO SCALE

Analysis of DEIS Alternatives

Technical analysis found that a **replacement crossing** again outperformed a supplemental crossing:

- Less future congestion predicted (5 hours vs. 11 hours)
- Less cut-through traffic on local streets
- Greater improvement to traffic safety
- Improved marine mobility and safety due to elimination of “S-curve” and height restrictions
- Better bicycle and pedestrian connections on Hayden Island and over North Portland Harbor
- Greater improvement to water quality
- Less expensive to operate and maintain over the long run

Locally Preferred Alternative

- Replacement I-5 bridge
  - 3 through lanes & up to 3 auxiliary lanes
- Light rail transit to Clark College
- Highway and pedestrian/bike improvements

- *Adopted by the CRC Task Force by a 37-2 vote on June 24, 2008*
- *Endorsed by project stakeholders: ODOT, WSDOT, RTC, Metro, C-TRAN, TriMet*

From LPA to Federal Approval – Refining Details

- Worked to address 129 partner agency conditions on Locally Preferred Alternative
    - Number of lanes—through and auxiliary
    - Cost-efficient bridge design
    - Create plan for sustainability during design and construction
    - Develop program to encourage more efficient use of roadway
- Bridge review panel
- Governors selected bridge type

From LPA to Federal Approval - Authorizations

- Received Biological Opinion from National Oceanic and Atmospheric Administration
- Published Final EIS
- Received federal approval (Record of Decision)
- Received authorization for tolling in both states
    - WA Legislature
    - Oregon Transportation Commission
- Received US Coast Guard General Bridge Permit

Approach to develop river crossing (RC) alternatives

State Direction to Bi-State Program Office

WA Substitute Senate Bill 5806 (2017)

WA 2019-2021 transportation budget (ESHB 1160)

Bi-State Memorandum of Intent (Nov. 2019)

- Established bi-state project office to replace the I-5 bridge
- Set milestone goals for program work
- Emphasized public involvement and efficient decision making utilizing relevant existing data and prior work
- Established assumption that tolls may be used and any plan for a new bridge will include high capacity transit

Photo courtesy of Office of Governor Kate Brown

Foundation for Alternatives Analysis

Key early discussions that will set the foundation for criteria against which alternatives will be measured include:

- **Purpose and Need** - explains what must be addressed from a transportation perspective
- **Vision and Values** - identifies specific regional values and goals related to potential transportation improvements that will be used to screen alternatives

Conceptual River Crossing Development Approach

River crossing alternatives will be developed and analyzed with guidance from bi-state legislative committee members, advisory groups, and the public

- Program work will utilize:
  - Transparent, data-driven process with extensive opportunities for meaningful community engagement
  - Previous planning work that supports efficient decision-making to the extent feasible and within current context

Conceptual River Crossing Development Approach

Determine range of river crossing alternatives that meet the IBR Program Purpose and Need and program constraints

- Consider changes to the existing transportation system and potential constraints since previous alternatives analysis
- Opportunities to expedite:
  - Confirm breadth of alternatives to be analyzed (ie: replacement bridge)
  - What data/conclusions from previous analyses are still valid?

Conceptual River Crossing Development Approach

Determine potential bridge configurations within program constraints

- River navigation and vertical clearance (USACE and USCG)
- FAA clearance (Pearson and PDX)
- Configuration
  - Shared Highway/Transit bridge
  - Interchange configuration options/number of lanes
- Bridge type

Conceptual River Crossing Development Approach

Identify and analyze the potential impacts for each alternative as part of the Supplemental DEIS, including:

- In-water construction impacts
- In-water permanent impacts (navigation, fill in water, shipping industry, etc.)
- Visual impacts for improvements (from waterfront, downtown, NPS, etc.)

Conceptual River Crossing Development Approach

Evaluate each alternative with screening criteria developed using the program Vision & Values:

- Identify quantifiable performance measures
- Collect data to analyze range of alternatives based on screening criteria

Conceptual River Crossing Development Approach

River crossing alternative that best meets the Purpose and Need / Vision and Values will be selected with guidance from bi-state legislative committee, advisory groups and community engagement

- Selected river crossing alternative will be further analyzed and documented in Supplemental FEIS and Record of Decision
- Selected alternative is assumed to include:
  - I-5 alignment, interchange and lane configurations
  - River Crossing structure type and size
  - Vertical clearance over river

DISCUSSION:

- Feedback on approach
- Are there specific expectations that should be taken into consideration as river crossing alternatives are developed and analyzed?

Questions?