Oregon
Tina Kotek, Governor

Department of Transportation
Director's Office
355 Capitol St. NE, MS 11
Salem, OR 97301

April 20, 2023

Senator Chris Gorsek, Co-Chair
Representative Susan McLain, Co-Chair
Joint Committee on Transportation

Dear Co-Chairs Gorsek and McLain, and members of the committee,

During the Thursday, April 13th briefing on the Interstate Bridge Replacement Program, the committee asked ODOT to provide additional information on several topics. Answers to most questions were provided during the presentation given to the committee on Thursday, April 13th. Please find further information below.

1. How many hours of congestion are on the Interstate Bridge and the I-205 Bridge per day?

Currently, daily congestion on I-205 is seven hours, but is forecast to increase to 14 hours per day by 2045. The I-5 bridge has approximately 10 hours of congestion on an average weekday. In 2019 we had 3.5 hours of congestion southbound in the morning, and 7 hours of congestion northbound in the evening on an average weekday. For IBR, we are defining congestion as vehicles traveling below 35 miles per hour.

2. What will the total width of the existing Interstate Bridge and the replacement Interstate Bridge?

The existing Interstate Bridge was constructed over a hundred years ago during a time when travelers were largely still using horses and buggies and Model Ts to get around. In addition to being vulnerable in the event of an earthquake, it was not built to meet the needs of modern freight and commerce, bikes and pedestrians, those that rely on transit, or those that drive present-day vehicles. The current crash rate within the program area is over three times higher than statewide averages, with 55% of vehicle crashes a result of rear-end collisions, and 19% from sideswipe crashes (2015-2019). A replacement bridge will be multimodal as part of a holistic approach to address all of the transportation needs within the program corridor. IBR investments will provide more travel options across the river and will improve safety, reliability and efficiency of all transportation modes.

A replacement bridge will improve safety by providing sufficient lane widths for vehicle and freight comfort, and improved visibility by eliminating the existing hump in the middle of the bridge that drivers cannot see over. The addition of an auxiliary lane will improve both the safety and efficiency of the three through travel lanes by providing drivers with more distance to speed up or slow down before entering or exiting the roadway, reducing bottlenecks and helping to optimize traffic flow by giving drivers space to merge safely. The addition of full safety shoulders will provide faster crash recovery, improve access for emergency vehicles, and provide a safe space for travelers recovering from an incident. The safety shoulders will also be able to accommodate express bus service, while dedicated space for light rail transit will further ensure that transit operations are separated from general purpose traffic to improve the efficiency of operations. The replacement bridge will also include a shared use path that provides safe space for those who walk, bike, and roll.

The existing Interstate Bridge is 140 feet wide, including the northbound and southbound bridges plus other structures such as barrier and the bridge tender's house that is needed to operate the lift span. For the stacked and single level bridge configurations being considered for IBR, the overall surface area would be the same for transit, shared use path, general purpose lanes, auxiliary lanes, and shoulders. However, the width over the river would be

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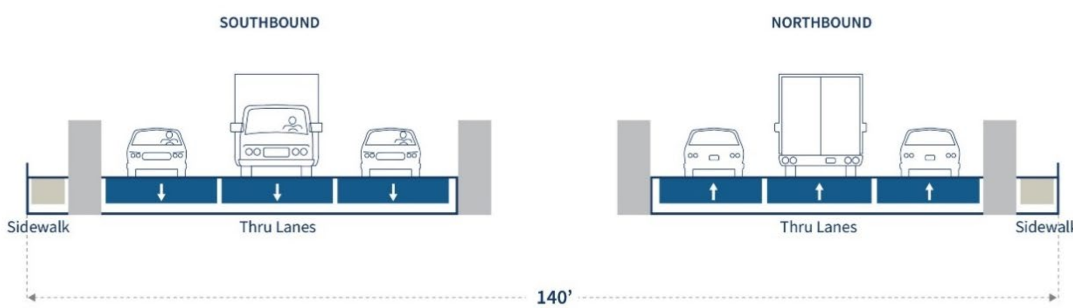
different between a stacked or single level configuration, as the transit and shared use path would be alongside the roadway in the single level bridge option. A stacked replacement bridge with one auxiliary lane would be 173 feet wide over the river, including structural elements and the width between the two bridges. A single level replacement bridge with one auxiliary lane would be 252-272 feet wide over the river, depending on bridge type, including structural elements and the width between the two bridges. Each structure of the existing bridge has 9 piers in the water. A replacement bridge for any of the configurations being considered would have 6 piers in the water per structure.

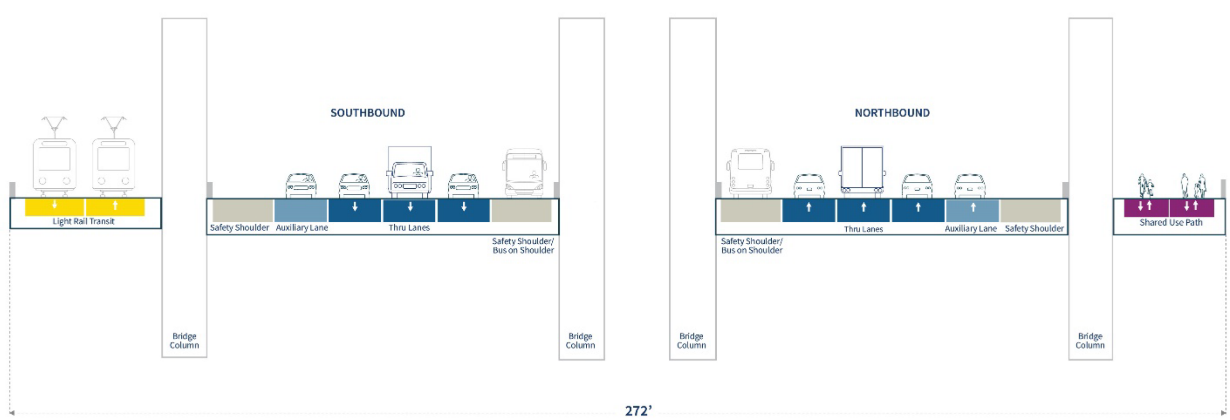
While the width of the overall bridge does increase with replacement, this reflects the expansion of multimodal travel options and improved safety features of the roadway design to ensure a safer and more efficient transportation system across the river:

- With a replacement bridge, 28% of the structure area would be dedicated to transit (including dedicated space for bus on shoulder), compared to zero dedicated transit space today.
- On the existing bridge there are two approximately 4-foot-wide sidewalks in each direction. The replacement bridge would have a 24 foot wide shared use path for those that walk, bike or roll, which is a 200% increase over existing conditions.
- Currently, the travel lanes take up 84% of the surface area on the existing bridge. With a replacement bridge the travel and auxiliary lanes would take up approximately 52% of the surface area.

Existing Interstate Bridge



IBR Single Level Configuration



One single level bridge type is shown as an example, other types would be less wide

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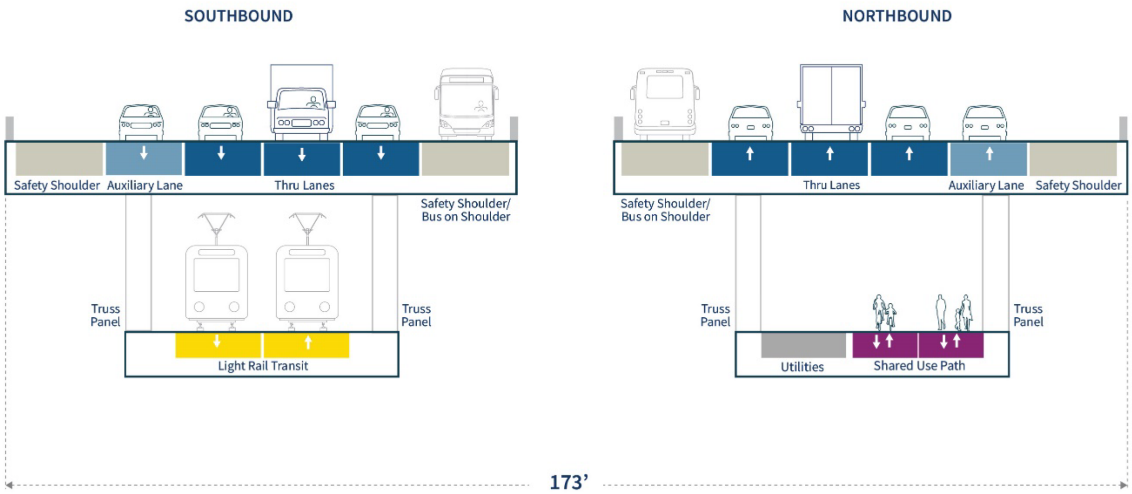
IBR Stacked Deck Configuration



3. Could ODOT alter its lift bridge alternative to study one that connects to the existing roadway?

The Interstate Bridge Replacement program must identify a comprehensive solution that is required by the federal process to address all six of the following transportation problems: seismic vulnerability, inadequate active transportation facilities, limited public transportation, impaired freight movement, safety concerns with existing roadway design, and congestion and reliability. All elements of the IBR program are needed to ensure a safe and effective multimodal corridor, including improvements to the interchanges within the program area. Just replacing the bridge and not incorporating other aspects of the comprehensive multimodal solution does not address the needs identified.

The program is currently coordinating with federal partners to confirm the details of the moveable span design option being studied in the Draft Supplemental Environmental Impact Statement process to meet the U.S. Coast Guard's preliminary navigation clearance determination (PNCD) for at least 178 feet of vertical clearance. The height for the moveable span option is expected to fall in between the height of the existing bridge (72 feet of clearance at the highest point when the lift is closed) and the 116-foot fixed span configuration being studied. The program is simultaneously continuing the work necessary to seek a revised preliminary navigation clearance determination from the U.S. Coast Guard for a vertical clearance of 116 feet, including ongoing conversations with potentially impacted users.

Many considerations must be taken into account in determining the bridge height, including the potential impacts to river, air, active transportation, highway, and transit travelers. The lower the vertical clearance of the bridge, the more bridge lifts could potentially be needed, which has an impact on safety, mobility and reliability for all modes of travel across the bridge. Replacing the bridge at the current height would require the same number of lifts for river traffic that we have today. Any changes to the operating hours of existing bridge lift restrictions

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would require federal coordination to determine the process to change this regulation and would need to consider the tradeoffs of impacts to highway traffic, transit operations, and aviation as well as river users.

The program must also account for roadway constraints which prohibit the replacement bridge from simply being dropped in the existing locations without modification to I-5 and the interchanges adjacent to the bridge. The width and location of the existing BNSF bridge that crosses over I-5 through Vancouver will not accommodate the width of the modified LPA, nor is it in the right place to facilitate the new downriver alignment needed to tie into the replacement bridge. The BNSF bridge is privately owned and efforts to reconstruct or move the existing rail line would be cost and time prohibitive.

This means that the program must rebuild that segment of I-5 to be tall enough to pass over the BNSF rail, while also taking into consideration the grade for freight and transit. Maintaining I-5 traffic operations during construction is also not feasible using the existing location where I-5 goes under the BNSF railroad because the replacement bridge will need to be constructed alongside the existing bridge in order to maintain the use of I-5 during the multiyear construction of the new bridge. Building a replacement bridge in the same location as the current bridge would remove access during the time of construction and would gridlock regional traffic, even more than travelers already experience. With this alignment shift, the SR 14 and Hayden Island interchanges will need to be rebuilt regardless of the height of the new bridge.

Construction of a moveable span bridge is estimated to cost approximately $430-630 million more than a fixed span bridge, depending on the type of moveable span. A lift span is the least expensive moveable span option, estimated to cost approximately $430 million more than a fixed span. That amount is not escalated to account for risks and cost escalation factors. A moveable span would also require an additional $0.5 million to $1 million a year in estimated ongoing operations and maintenance costs.

As always, please let me know if I can answer additional questions or provide more information.

Thank you,

Lindsay Baker
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Oregon Department of Transportation