We have a traffic bottleneck on the Interstate 5 highway corridor, as it crosses the Columbia River between Oregon and Washington, and it must be addressed.

Common Sense Alternative, Version II, is a cost-effective environmentally friendly solution for this bottleneck.

This presentation is brought to you by ***AORTA***, the Association of Oregon Rail and Transit Advocates. The proposal was primarily developed by Jim Howell, ***AORTA*** Director and Strategic Planner.

The "locally preferred alternative" for the Columbia River Crossing proposed in 2012 was not only destructive to the local environment, but also failed to address **serious** problems with the existing infrastructure.

AORTA's Common Sense Alternative, or CSA, does address these problems, offering far more effective and environmentally friendly solutions.

Note that all of the maps in this presentation include an arrow indicating which direction is north.

Common Sense Alternative II (CSA)

Includes Reusing the Existing Bridge for Local Traffic, Buses & Bikes

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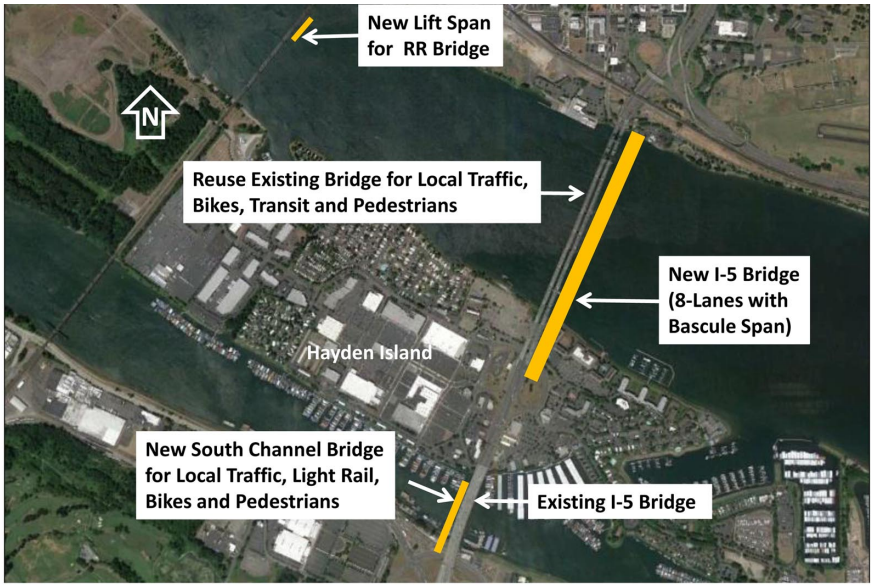
First, the CSA repurposes the existing I-5 bridge for local traffic between Hayden Island and Vancouver Washington, using the upstream span for autos and trucks and the downstream span for transit and bicycles. Both spans could also accommodate pedestrians. Retaining this existing bridge would avoid the costly demolition proposed in the 2012 “locally preferred alternative”.



Common Sense Alternative II

This slide shows an overhead view of the proposed bridge configuration, including both the repurposed existing bridge and two new bridges.

Yes, the CSA does call for a **new** I-5 freeway bridge, ***in addition to*** the existing bridge. This new bridge would be just upstream from the current bridge, and it would have 8 lanes for auto and truck traffic, a 72-foot river clearance and a bascule lift span.

The CSA II also includes a new, relatively short bridge over the South Channel, to accommodate MAX light rail and local traffic between Hayden Island and Expo Road in North Portland. MAX trains would cross this new bridge and connect with C-TRAN buses from Vancouver at a new Hayden Island Transit Center.

Finally, the CSA envisions changes to the BNSF railway bridge, farther downstream (near the center top of this photo). The 100-plus year-old swing span on this bridge would be replaced with a lift span that would be aligned with the high point of the current and new I-5 highway bridges. This alignment would eliminate over 90% of the lift events on the current bridge, as explained later in this presentation.

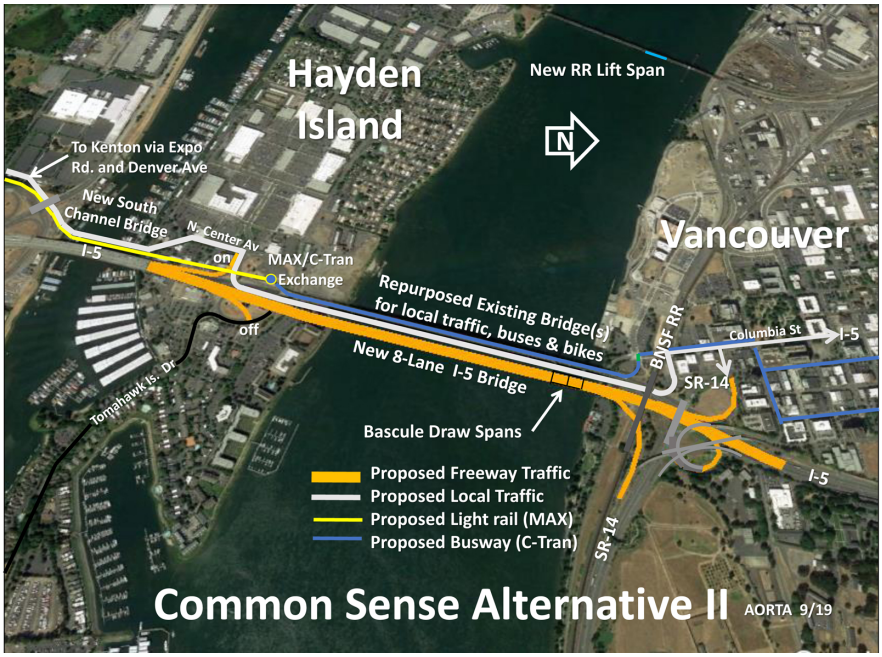
When ODOT initiated this project, six statements of purpose and needs were identified:

- Growing travel demand and congestion
- Impaired freight movement
- Limited public transportation operation, connectivity and reliability
- Safety and vulnerability to incidents
- Substandard bicycle and pedestrian facilities, … and
- Seismic vulnerability.

We have updated this list to add 'equity' to the third bullet point and a seventh statement: addressing GHG emissions and climate change.

The Common Sense Alternative, or CSA, meets ***all seven of these purpose statements***.

This slide shows a ground-level view of the bridges shown in the previous slide. Note that the new freeway bridge would diverge northbound from the current south channel bridge as it crosses Hayden Island. This new bridge is designed to carry primarily long-distance interstate traffic between Oregon and Washington, including most of the freight traffic.



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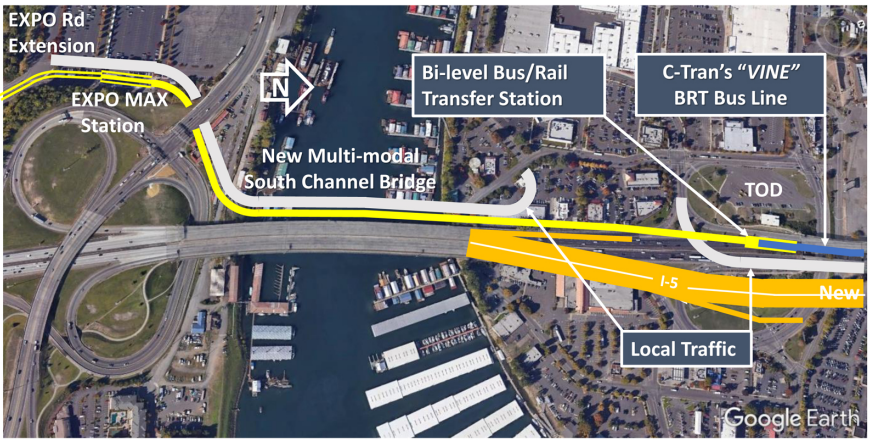
This is an aerial view of the proposed CSA solution for the full river crossing.

The wide gold line depicts the new 8-lane bridge that would carry interstate traffic between Portland and Vancouver. The alignment here is actually **straighter** than the **existing** I-5 alignment.

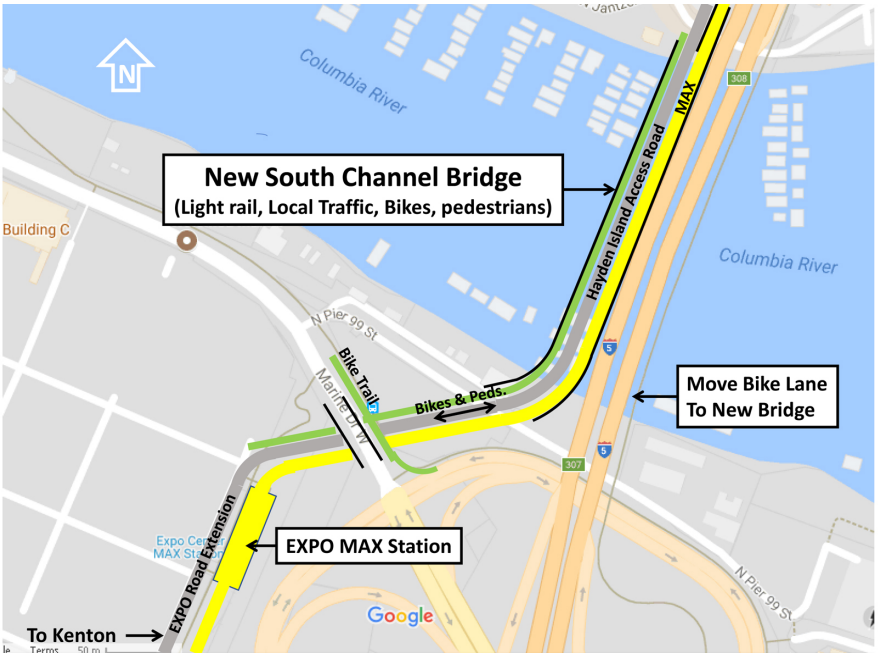
The white line depicts the route for local traffic, including pedestrians and bicyclists, that would be traveling between Portland and Hayden Island, over the new South Channel Bridge, and between Hayden Island and Vancouver, over the existing bridge. Note that the new South Channel Bridge provides two lanes for emergency vehicles to travel between Portland and Hayden Island.

The short yellow line on the left, between Portland and Hayden Island, denotes the extension of the MAX light-rail line. This also runs over the new South Channel Bridge. The blue line connects to this line at the new Hayden Island Transit Center. It carries C-Tran buses to and from Vancouver, over the existing I-5 bridge.

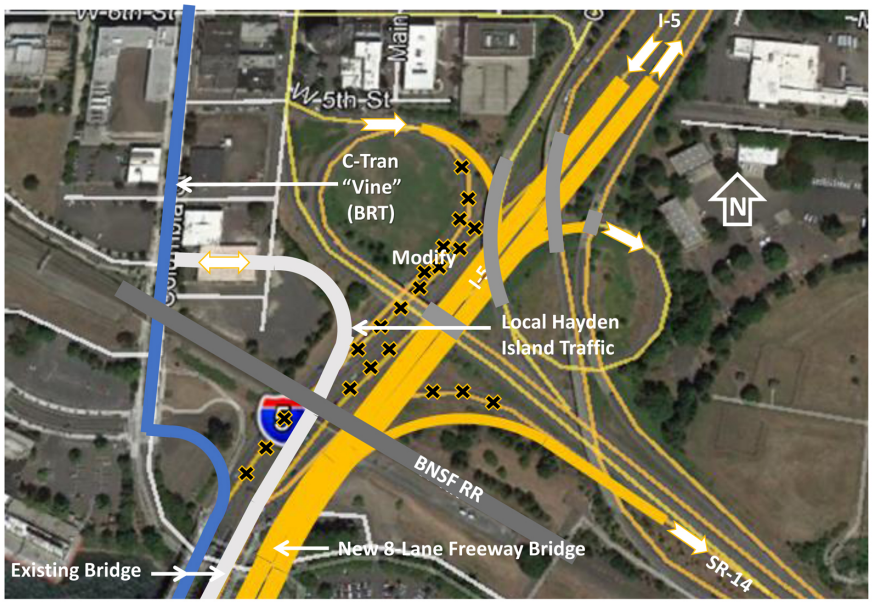


Existing I-5/Marine Drive Interchange with no I-5/Hayden Island Interchange

Here is a more detailed aerial view of the new South Channel Bridge, showing its connections both on the Portland side of the channel and on Hayden Island. The yellow line is the new extension of the MAX line, the short blue line on the far right is the C-TRAN bus route, and the curved pale gray lines denote the routes for auto, truck and bicycle traffic that would be traveling to and from Hayden Island.



This diagram shows the new South Channel Bridge in even more detail. The yellow line shows the MAX route, the gray line shows the auto and truck route and the green line shows a bike path, including access to the Marine Drive bicycle path.



At-Grade Vancouver Interchange

This illustrates the CSA interchange in Vancouver. Compared to the "Locally Preferred Alternative", the CSA has a much lower elevation and a modest footprint.

The gold lines here depict the landing for the new CSA eight-lane I-5 bridge, which would carry only interstate traffic. The curving pale gray line on the left indicates the on and off ramps for the upstream span of the existing bridge, which would carry local auto and truck traffic, with provision for bicycles and pedestrians as well.

The blue line depicts the on- and off-ramps for the downstream span of the existing bridge, which would carry transit vehicles—C-TRAN buses for now, but with an option to add light rail later. Bicycles and pedestrians could also use this section of the bridge.

Note that the CSA utilizes much of the existing infrastructure, with moderate, safe grades. The wider radius of the curve of the on-ramp from West Fifth Street and SR-14 provides easy, safe merges with interstate traffic.

Local traffic moving between Hayden Island and Vancouver does not intermix with interstate traffic, avoiding many of the lane and speed changes required for merging and exiting, allowing interstate traffic to flow more freely.

And C-TRAN buses, as represented by the blue line, also reach Hayden Island without steep grades or intermixing with interstate traffic.

Also, if the interstate freeway is temporarily out of service for any reason, emergency vehicles and other traffic can still reach Hayden Island from Vancouver, utilizing the existing bridge.

And what is it that caused the "Locally Preferred Alternative" to propose massive, high-elevation, unsafe, noisy interchanges on the Vancouver side of the river? The

BNSF railway line, adjacent to the north bank of the Columbia, shown here as a dark gray line sloping from left to right.

In order to go ***over*** the railway, as the "Locally Preferred Alternative" proposed, I-5 would have to clear the rail line by a minimum of 23 and a half feet. But going ***over*** the railway is ***not*** necessary! The current freeway alignment goes ***under*** the railway. Keeping the I-5 alignment under the railway avoids the high costs as well as many of the problems with the proposed new Vancouver interchanges.

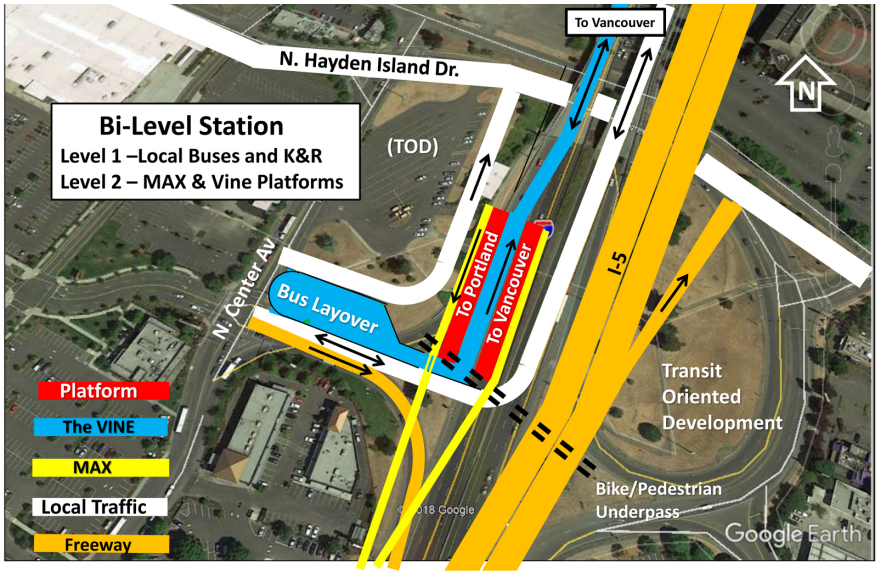
Here we see the current I-5 freeway as it crosses Hayden Island and starts across the Columbia River to Vancouver.

This the CSA proposal for the same area.

The gold line depicts the new 8-lane bridge, that will carry long-distance traffic, with the northbound off-ramp to Hayden Island and the southbound on-ramp to Portland.

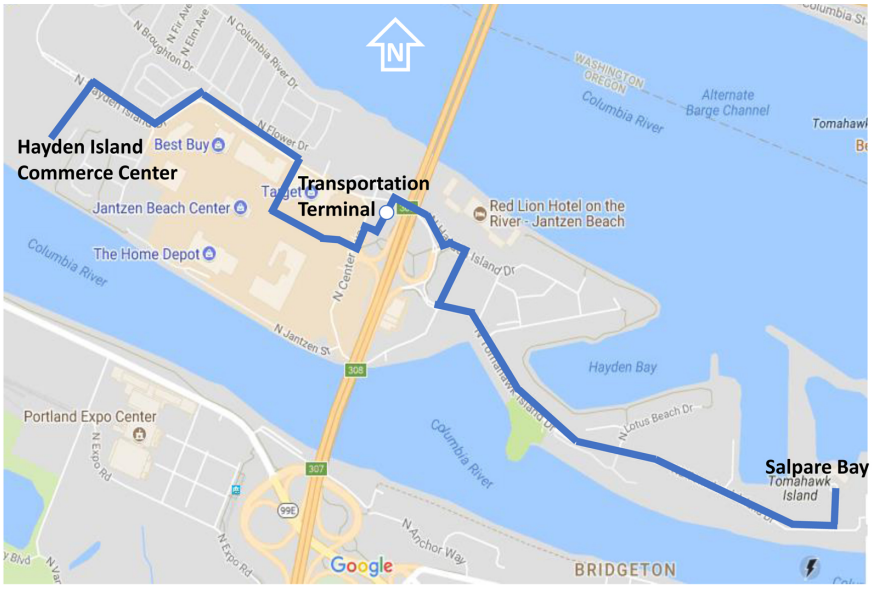
The white line left of the freeway depicts the existing bridge, which would carry local traffic between Hayden Island and Vancouver.

The green line indicates the new South Channel bridge that would carry MAX light rail, bicycles and pedestrians, and the blue line is where the C-TRAN buses would run, carrying passengers between Hayden Island and Vancouver.



Hayden Island Bus to Rail Transfer Station

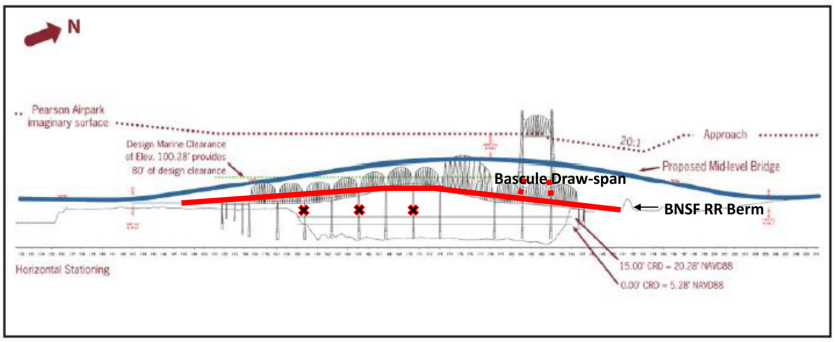
This shows the new Hayden Island Transit Center in more detail, with the passenger platforms in red, the bus lanes in blue and the MAX tracks in yellow. The white lines indicate the movement of local auto and truck traffic and the gold lines show the southbound freeway and its on- and off-ramps.



Hayden Island Shuttle Bus

The blue line here shows a new Hayden Island shuttle bus route. This shuttle could connect residents, employees and businesses with transit to and from Oregon and Washington, and also help revitalize businesses on the island. The shuttle would connect with Portland's MAX light rail and with Vancouver's Vine bus service at the Hayden Island Transit Center.

The "Locally Preferred Alternative," by contrast, would seriously degrade island livability.



ODOT's Preferred Alternative (95')
Common Sense Alternative II (72')

Profiles

This side profile contrasts the relative height of the CSA (in red) with the previously adopted "Locally Preferred Alternative" depicted by the blue line.

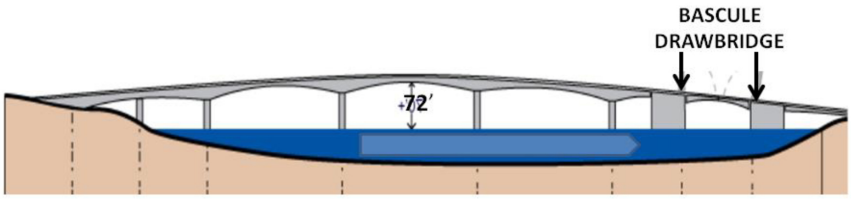
Note that the high point of the CSA is near the river's center channel, whereas the "Locally Preferred Alternative" shifted the high point north, closer to the location of the existing lift span.

Let's take a look at the bridge height targets proposed in the 2012 plan.

The first draft proposal in 2006 was 116 feet at the highest point of the bridge. But the final "Locally Preferred Alternative" was only 95 feet high, eliminating the ability of upriver businesses to continue navigating the river, and essentially forcing expensive taxpayer payouts for compensation of damages to those businesses.

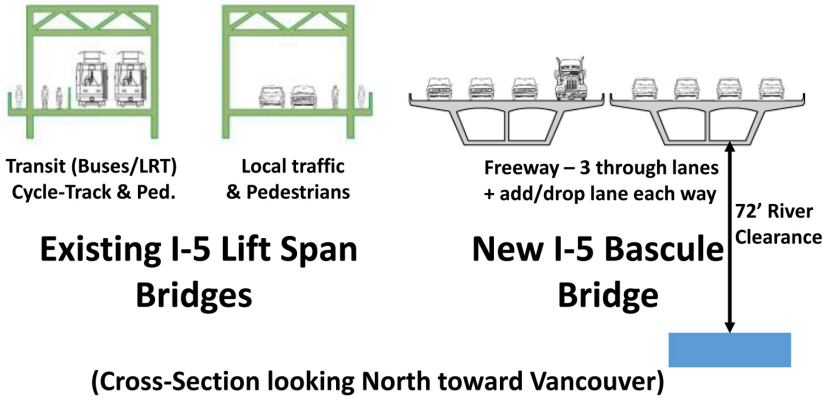
While the CSA has only a 72-foot highest point, it compensates for this lower height with its bascule draw span, which imposes no new restriction on the height of river traffic, greatly reducing these problems as well as the cost of the project. And since the CSA's bascule drawspan is lined up with the existing lift spans, with their 178-foot clearance, that will be the height limitation as long as the existing bridge remains in place.

Finally, since the CSA has a lower height than the proposed "Locally Preferred Alternative", it does **not** interfere with aviation from Pearson Field, and does **not** require distortion of the I-5 pathway. The "Locally Preferred Alternative," in a convoluted attempt to avoid conflict with Pearson Airfield, required ***increased*** curvature and increased project expense.



CSA II Bridge Looking West

This side profile of the new CSA 8-lane bridge shows the location of the new drawspan, which will be aligned with the lift spans on the current bridges. It also shows that the 72-foot high point of the new bridge is close to the center of the river channel, at its deepest point.



Common Sense Alternative II

This is a cross section of the existing and new I-5 bridges proposed by the CSA.

The green span on the left is for buses or light rail.

The other green span has one lane in each direction for local traffic.

These bridges also provide space for bicycles and pedestrians.

The CSA **avoids** the **excessively** long, steep inclines, and the unnecessary curvature, envisioned in the 2012 "locally preferred alternative."

Note that the new freeway bridge, shown here on the right, has eight lanes—four in each direction.

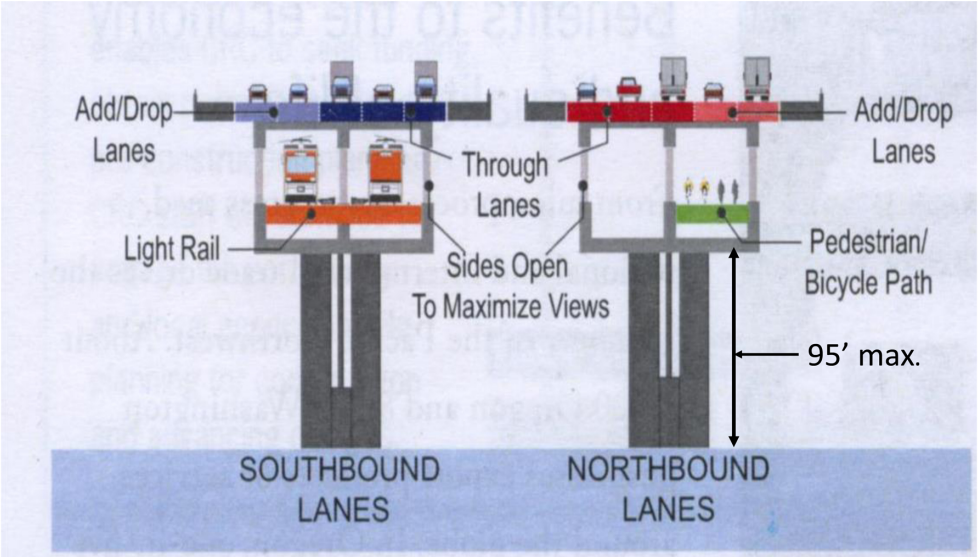
CSA PROPOSAL - Bascule draw span similar to this new Woodrow Wilson I-95 Bridge near Washington DC

Early in the CRC planning process there was some testimony that lift spans were no longer allowed in the interstate system. In fact there are multiple bridges with movable spans on that system.

This is a photograph of the Woodrow Wilson double-leaf bascule drawspan built in 2006 and 2008. This bridge has a high point of 70 feet.

This relatively new bridge carries traffic on I-95, the North-South interstate on the East Coast. It also carries Capitol Beltway traffic which circles Washington D.C.

The traffic on this bridge, and on the river, far exceeds the demands we encounter on our Columbia River crossing.

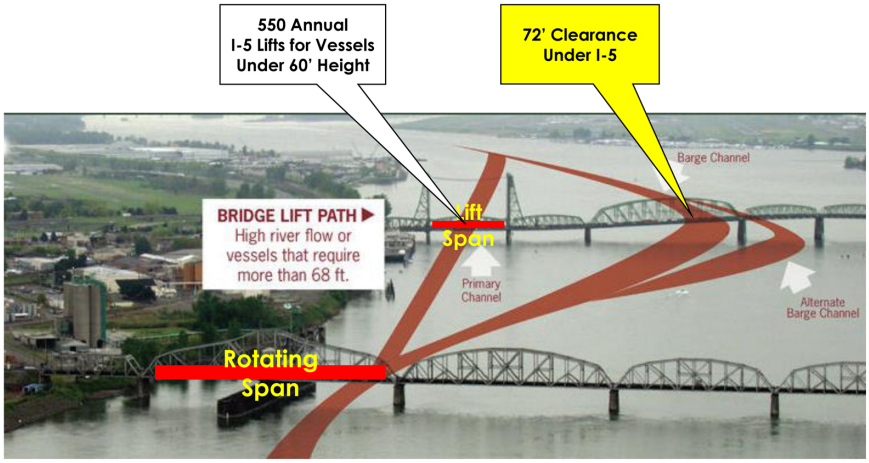


(ODOT's Proposal)

This ODOT slide illustrates a cross section of the "Locally Preferred Alternative" new 10-lane I-5 bridge far above the river, mixing local traffic with interstate traffic. There is no alternative route available here, should there be a serious traffic issue on the interstate.

Imagine the noisy, dark environment for pedestrians and bicyclists, after they have struggled up a long corkscrew ramp to attain the height of an 8-to-10-story building in order to reach the bridge deck. Light rail has also had to negotiate steep grades and a forward-view-blocking curve, increasing operational costs and transit time, ***and*** decreasing ridership because of those longer transit times.

All these problems are avoided with the Common Sense Alternative.



Existing Barge Traffic

Let's turn our attention now to the BNSF railroad bridge, downriver from I-5, completed in 1908.

Early in the original CRC process ODOT carefully and purposefully identified the scope of the process by drawing arbitrary borders to exclude the railway. But … are a railway line and river traffic corridor components of a transportation system? Absolutely, and these modes of transport have significant relevance to the I-5 freeway river crossing. A department of ***transportation*** should most certainly give consideration to all modes of transport.

Viewed from downriver with the railway bridge in the foreground, this photo illustrates the difficult right-turn maneuver heavy barge traffic would have to negotiate in order to go under the high point of the existing I-5 bridge. Note that passage through the narrow opening in the swing span of the railway bridge includes negotiating a long concrete barrier on one side, complicating the maneuver even further. It is particularly difficult when water levels are high.

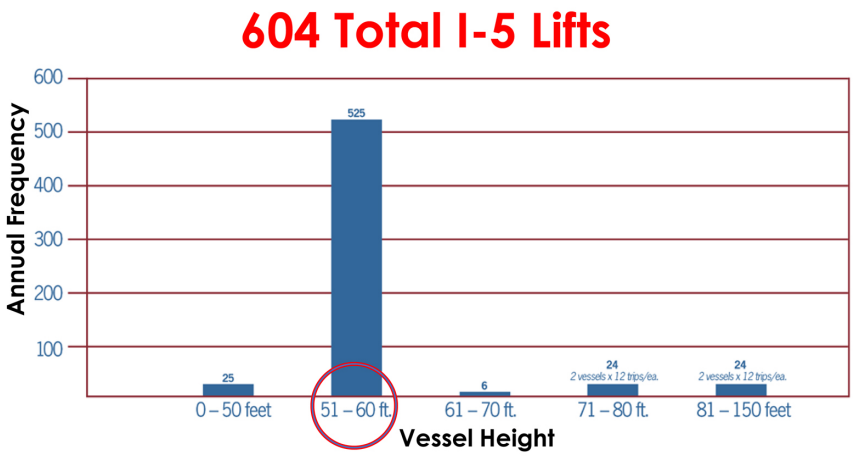
The straight brown line shown on the left here provides a safe, relatively easy path between the railroad bridge and the I-5 bridge. **BUT** it requires a bridge lift on the existing I-5 bridge, and this is the reason tugboat operators must frequently request bridge lifts on I-5, during all hours of the day. Swinging over to the 72-foot high point of the existing I-5 bridge is too difficult a maneuver for these large ships.

This configuration, in other words, forces river traffic to request I-5 bridge lifts, even though over 90% of the river traffic could easily fit under the high point of the existing I-5 bridge, if it were not for the sharp turn required to do so.

BNSF Railroad New Lift Span

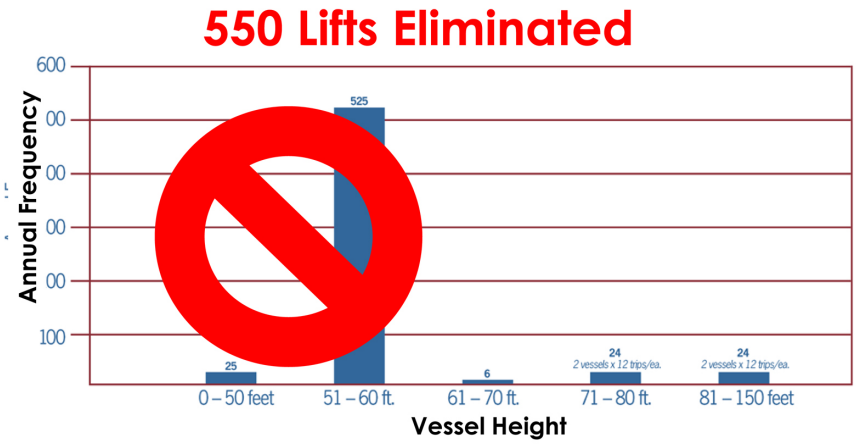
This picture shows a barge being pushed downriver after passing under the I-5 lift span. Traffic is no doubt still backing up in Oregon and Washington, waiting for the lift span to lower into place and for the gates to be raised. Maneuvering a heavy barge downriver is no easy task. Guiding it through the long narrow swing-span opening in the railway bridge, with concrete piers on one side, is difficult and dangerous.

The CSA's proposed new lift span, south of the swing span and located near the central channel of the river, would provide a much safer course for tugboat operators.



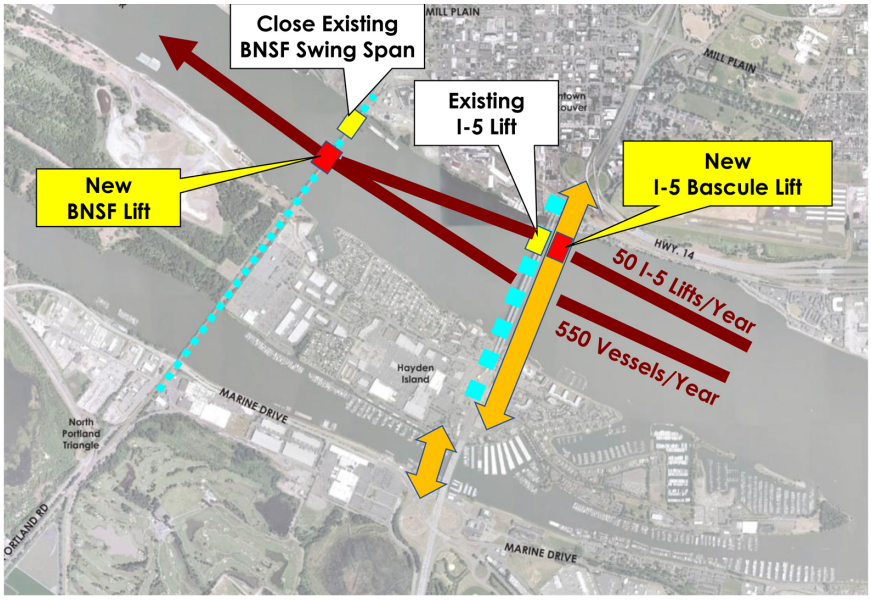
I-5 Bridge Lift Frequency (2004 Averages)

This chart identifies I-5 bridge lifts in 2004. It shows how vessels between 51 and 60 feet above water level resulted in 525 bridge lifts in 2004.



I-5 Bridge Lift Frequency (2004 Averages)

This chart shows the number of I-5 bridge lifts that could be eliminated with the replacement of the swing span on the railroad bridge with a better-placed lift span: 54 lifts versus 604 lifts, in 2004—a 91% reduction.



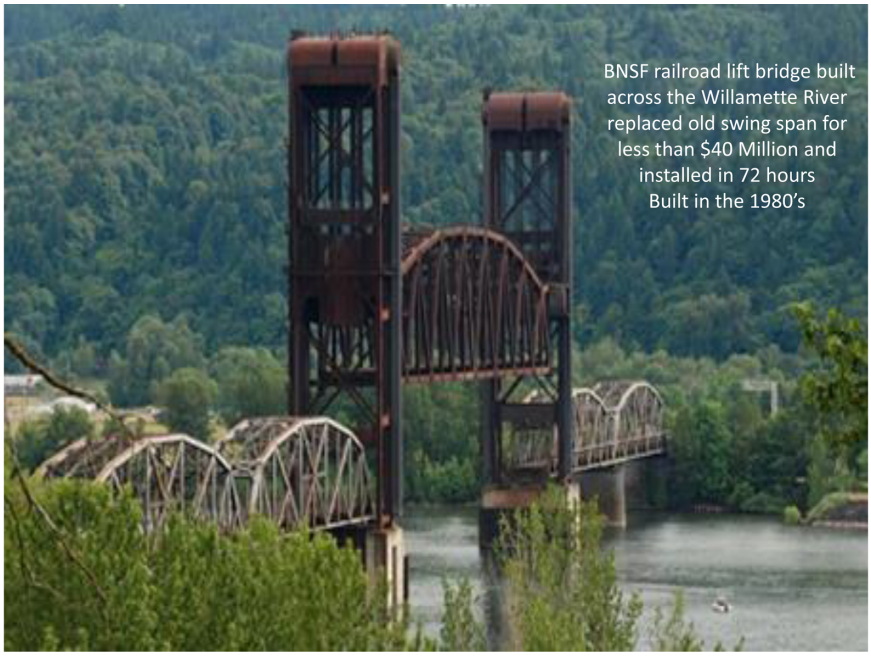
Barge Traffic With New Bridge

This diagram shows how a new lift span on the BNSF Bridge would provide a much easier-to-negotiate path for barges and other large ships, allowing them to pass under the 72-foot high points of both the existing bridge and the new CSA bridge. Note that the new opening on the railroad bridge is much wider and closer to the center of the river channel, and no longer has the long concrete wall on one side of the opening.

This new lift span on the railroad bridge would eliminate about 90% of the bridge lifts that tie up I-5 traffic today. It would benefit interstate road traffic, river traffic and railway traffic. It is truly a ***transportation*** project.

This project could be completed in a relatively short time. The cost could possibly be covered in part, or in whole, by funds allocated through the 1940 Truman-Hobbs Act. Oregon is powerfully positioned to leverage federal funds for such a project.

Keep in mind that the BNSF railroad bridges over both the Willamette and the Columbia are a decade older than the oldest Columbia River I-5 freeway bridge, yet these railroad bridges continue to safely carry heavier loads than the two I-5 bridges, every day.

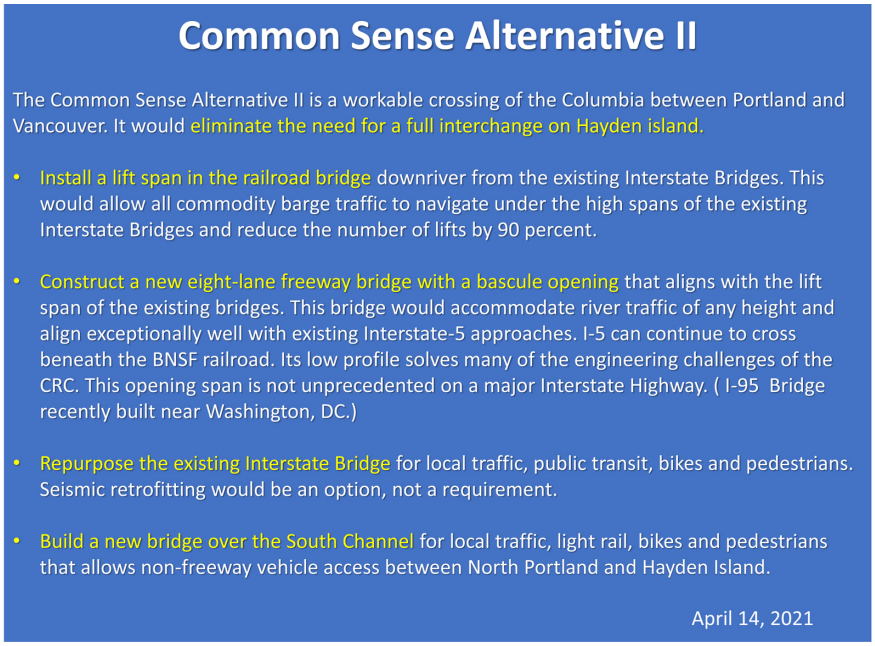


23

This photo shows another BNSF railroad bridge on the same rail corridor, crossing the Willamette River just upstream from St. Johns.

This 1908 bridge originally had a swing span similar to that on the rail bridge over the Columbia. That old swing span was replaced with a lift span in 1989. When this lift span was installed, rail traffic was disrupted for a mere 72 hours.

The 1989 cost was about $40M ($87M in 2021 dollars), less than half (in 2021 dollars) of what has already been wasted on the 2006-2012 CRC design.



The Common Sense Alternative II is a workable crossing of the Columbia River between Portland and Vancouver. It would eliminate the need for a full interchange on Hayden Island and be over a billion dollars less expensive than the formerly approved "locally preferred alternative".

The CSA II proposes the following steps:

1. Install a lift span in the railroad bridge downriver from the existing interstate bridges. This would allow barge traffic to navigate under the high spans of the existing interstate bridges and reduce the number of lifts by 90 percent.

2. Construct a new eight-lane freeway bridge with a bascule opening that aligns with the lift span of the existing bridges. This bridge would accommodate river traffic of any height and align exceptionally well with the existing Interstate-5 bridge approaches. I-5 can continue to cross ***beneath*** the BNSF railroad along the Vancouver side of the river, and its low profile solves many of the engineering challenges of 2012's "locally preferred alternative". The proposed bascule lift span is not unprecedented on a major interstate highway (note the I-95 bridge recently built near Washington, D.C.)

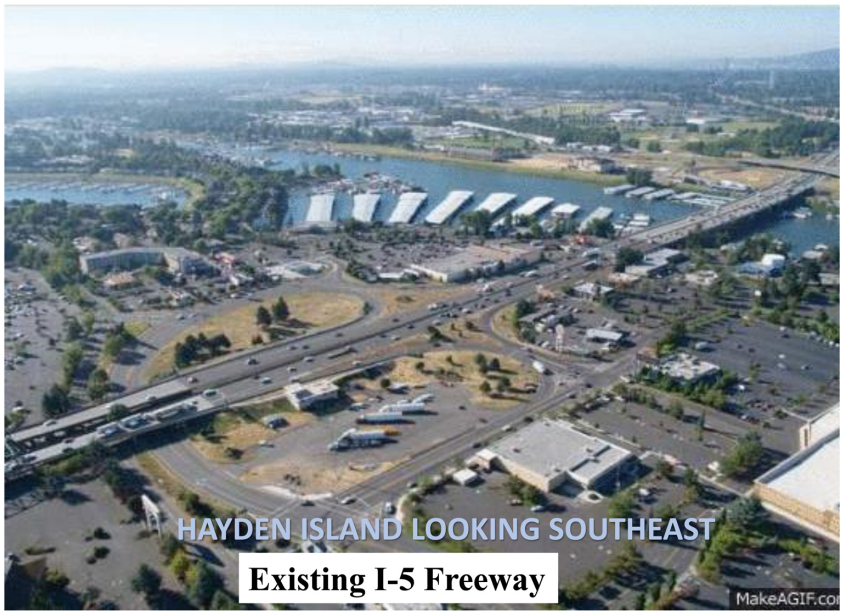
3. Repurpose the existing interstate bridges for local auto and truck traffic, public transit, bikes and pedestrians. Seismic retrofitting would be an option, not a requirement.

4. Build a new bridge over the South Channel for local traffic, light rail, bikes and pedestrians, that allows non-freeway travel between Hayden Island and Portland.

The Next Slides Compare the Common Sense Alternative II To the CRC Preferred Alternative

25

This concludes Part I of the Common Sense Alternative presentation: the proposed solution. The following slides present a more detailed comparison of the CSA to the "locally preferred alternative" proposed in 2012.



This illustration shows Hayden Island, looking southeast toward the Portland side of the river, as it exists today.

The I-5 freeway does not cast an enormous, towering and noisy shadow over Hayden Island, as it would in the "Locally Preferred Alternative". There is no concrete cloud blocking the sun here.

Columbia River Crossing conceptual drawing, looking south, showing the new bridge with light rail access along the west (lower right in drawing) side.

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This ODOT illustration shows the "Locally Preferred Alternative" towering over Hayden Island. The opportunity for transit-oriented development on the island would be destroyed by these multiple, towering, massive overhead concrete structures.

Imagine the view from below as this enormous dark, noisy shadow towers high above the island.

The view is gone.

28

This illustration depicts the CSA II on Hayden Island, with the North Portland landing at the far right. Note there is ***no*** need for an expensive, high-level concrete platform towering above the Island, as seen in the previous slide.

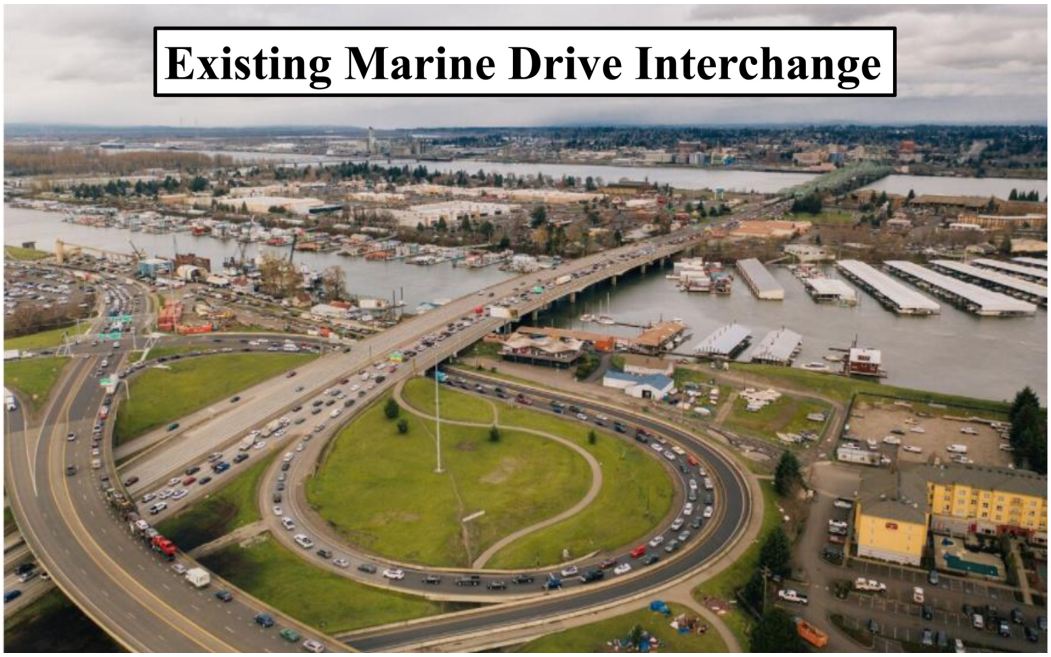
The gold lines here represent the new 8-lane I-5 bridge, that would carry interstate traffic between Hayden Island and Vancouver.

The yellow line depicts the extended MAX light rail line on the new South Channel Bridge. The broad yellow band shows the location of the new Hayden Island Transit Center, where MAX would connect with C-TRAN buses serving Vancouver, shown by the blue line representing the downstream span of the existing bridge.

The white L-shaped lines are the existing bridges, ramps and overpasses that would carry local auto and truck traffic between North Portland and Hayden Island, and between Hayden Island and Vancouver.

Extending MAX from the current Expo Center station, connecting to businesses and residential areas on Hayden Island, will dramatically increase ridership on the MAX Yellow Line **seven** days a week.

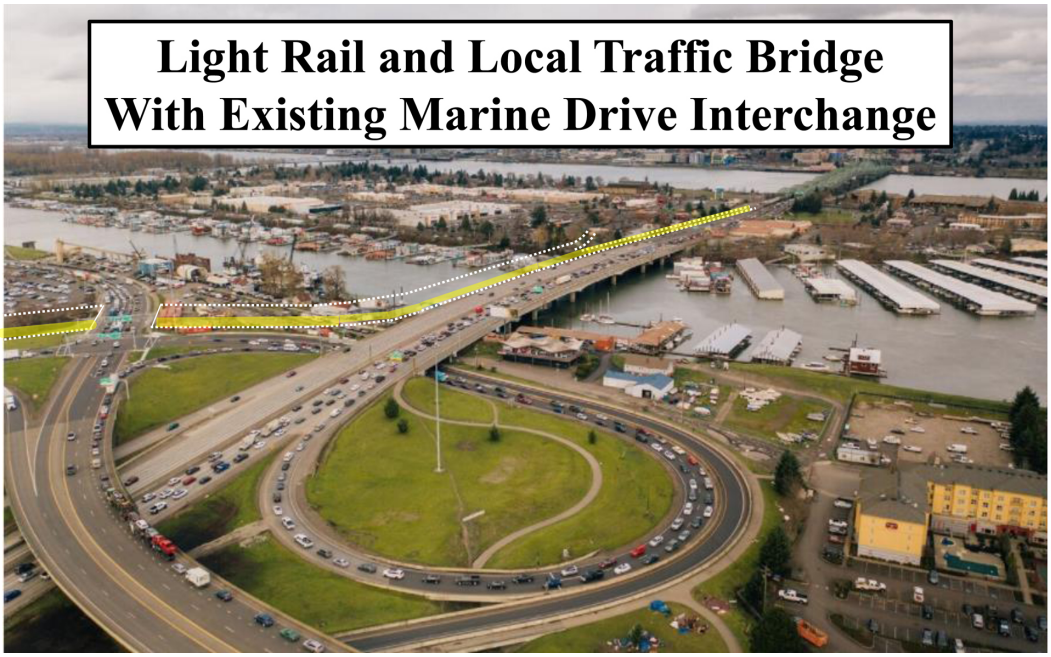
Note also that local traffic no longer intermixes with interstate traffic, avoiding the traffic turbulence and safety issues that such mixing would entail. That violation of fundamental traffic planning was essentially ignored by highway department planners in 2012.



29

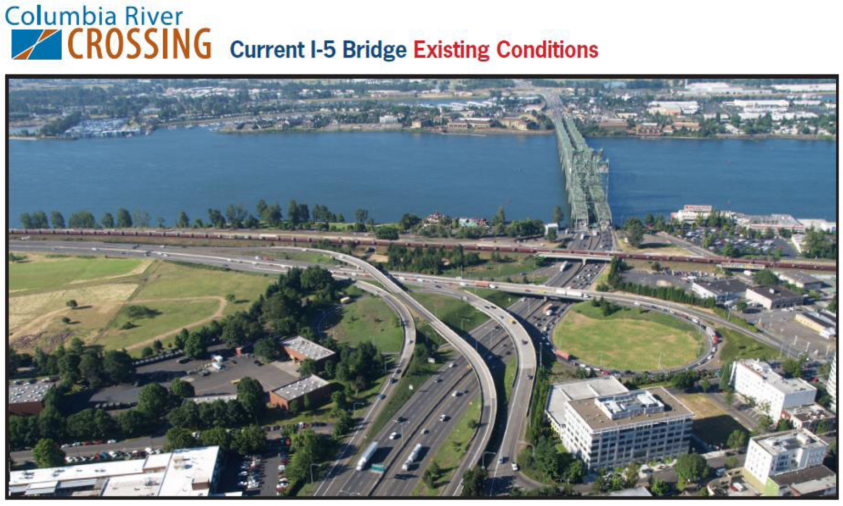
Here is the Marine Drive interchange with the Hayden Island-to-Vancouver crossing in the distance, as they exist today. Note the low profile, which maintains views on Hayden Island and on both sides of the river.

Here is the proposed 2012 design for the same interchange and river crossing. Note the increased complexity and increased heights of the bridges, blocking much of the view near the river edges and on Hayden Island. This is not a new bridge; it is a major freeway expansion project, that just happens to cross a river.



31

The CSA design of this interchange retains the existing infrastructure. The only difference is the extension of the MAX light-rail line and the addition of the new South Channel bridge, which is at the same level as the existing bridge.



Looking South from Vancouver

32

This is a view of the bridges as they exist today, looking south from Vancouver. It shows the investment taxpayers have already paid for. Demolishing these bridges is a wasteful, unnecessary, and completely avoidable expense.

Should we claim that the existing bridges, completed in 1917 and 1958, need to be demolished simply because they are older and not seismically sound? If we were to apply that standard to all bridges in Oregon, we would find **very** few bridges remaining. In fact, applying that standard would leave very few bridges remaining anywhere in the world. We cannot afford to employ that standard, nor is there any need to.

33

This is ODOT's illustration of the "Locally Preferred Alternative" looking south from Vancouver, showing the high-level approach to the bridge from Vancouver, and the steep, high-level on-ramps and off-ramps, towering above local buildings.

Imagine the heavy shadows, the sounds of traffic and heavy trucks struggling to ascend and descend the steep grades as you sit in a nearby office building or walk along the riverfront or even on a more distant sidewalk.

Imagine the carbon footprint left behind as these steep grades are negotiated.

Furthermore, this interchange, along with the one on Hayden Island, adds over a billion dollars to the cost of the project—a totally unnecessary expense.

Common Sense Alternative II

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Here we view the CSA from the Washington side.

Note the new, straight freeway bridge on the left, completely free of local traffic. (Local traffic would travel over the new South Channel Bridge and the existing I-5 bridge.) Problems associated with traffic turbulence, speed variance, capacity constraints and safety are gone. These problems were ***not*** resolved with the far more expensive "locally preferred alternative."

Also note that the CSA does ***not*** tower high above the Vancouver office buildings shown here. It does ***not*** cast dark shadows over the buildings and living space in the foreground.

The CSA does ***not*** interfere with aircraft using nearby Pearson Field.

Costs for demolition of old ramps, and construction of new ramps, are dramatically reduced. The long, steep grades envisioned by the rejected 2012 proposal are avoided.

It is clear from these comparisons that the CSA offers a far better solution to the Oregon-Washington I-5 river crossing, than the "Locally Preferred Alternative" proposed in 2012. It is safer, more esthetically pleasing and better for the environment, while still fulfilling all the purposes and needs identified for the project.

Thank you for viewing this presentation. AORTA appreciates your attention, and we hope you will support and advocate for this sensible option for the interstate highway crossing of the Columbia River.