

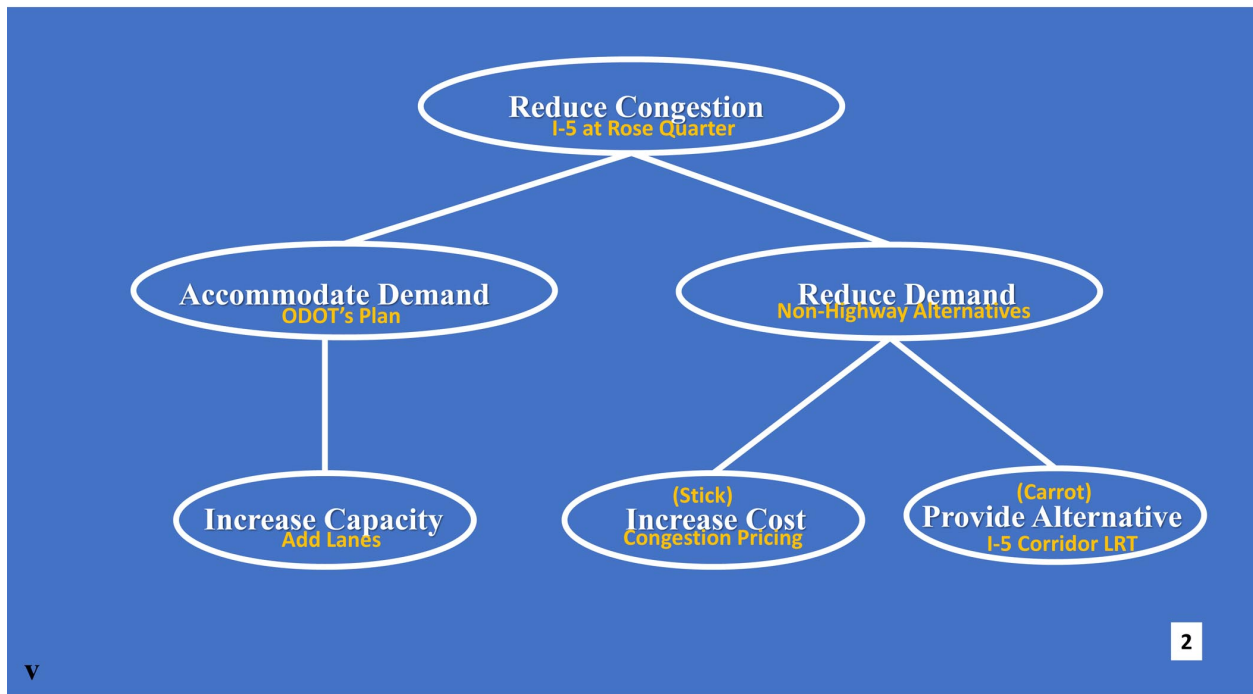
How to Reduce Congestion on I-5 at The Rose Quarter

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There is clearly a traffic congestion problem at the Rose Quarter/I-5 intersection in Portland—a critical portion of Interstate 5, and it must be addressed.

The currently proposed solution, however, is environmentally destructive and far too expensive, and—perhaps most importantly—does not include any improvements to public transit along the I-5 corridor here. This presentation proposes an alternate solution—a lower-cost one that is more environmentally friendly and increases public transit capacity.

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



Traffic congestion occurs when there is insufficient capacity to meet the demand. There are two possible approaches to correcting this problem: adding capacity or reducing demand.

The currently proposed solution for the congestion at the Rose Quarter/I-5 intersection focuses on only one approach: adding more capacity.

This approach, however, has been shown to fail, wherever it has been implemented, because increasing capacity only induces greater demand, thereby increasing traffic volume and bringing more congestion.



The solution proposed here rejects the 'increase capacity' approach, focusing instead on the 'reduce demand' approach by providing a transit alternative.



The portion of the I-5 corridor that runs through urban Portland is poorly served by public transit, accommodating only travel between the Rose Quarter and the Expo Center in North Portland. Travelers who want to continue on transit beyond this stretch of I-5—either farther north or farther south—are not adequately served.



AORTA proposes constructing a 19-mile regional I-5 corridor light-rail line—from Hayden Island on the north to Tualatin on the south, not only extending the length of the corridor served by transit but also addressing the congestion problem at the Rose Quarter/I-5 freeway intersection and providing increased mobility and better connections for existing TriMet routes.

The resulting increased frequency and increased connectivity will dramatically boost the speed and efficiency, and thereby the ridership, of public transit on Portland’s east side. The proposed light-rail line is referred to here as the MAX Purple Line, but it would utilize the existing Yellow Line track between Expo Center and the Rose Quarter, doubling train frequency on that stretch of track.

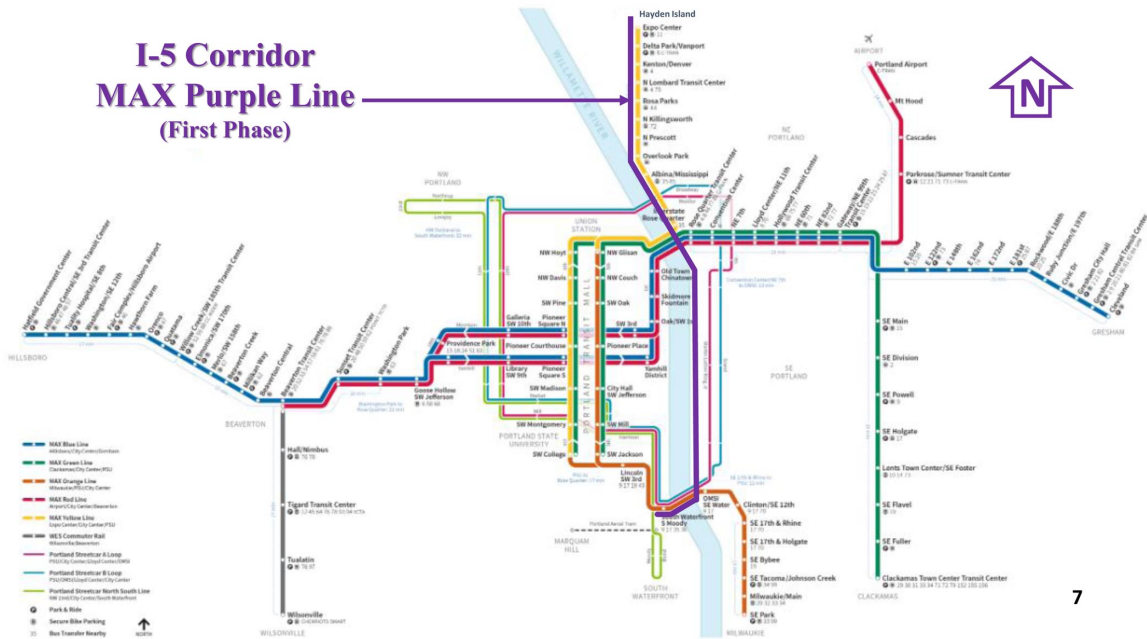
First Phase (8.5 miles)
I-5 Corridor MAX Purple Line
Hayden Island - Rose Quarter - South Waterfront

**A Low-Carbon, Congestion-Relieving Alternative to the
Rose Quarter I-5 Freeway Widening Project**

AORTA April 2021

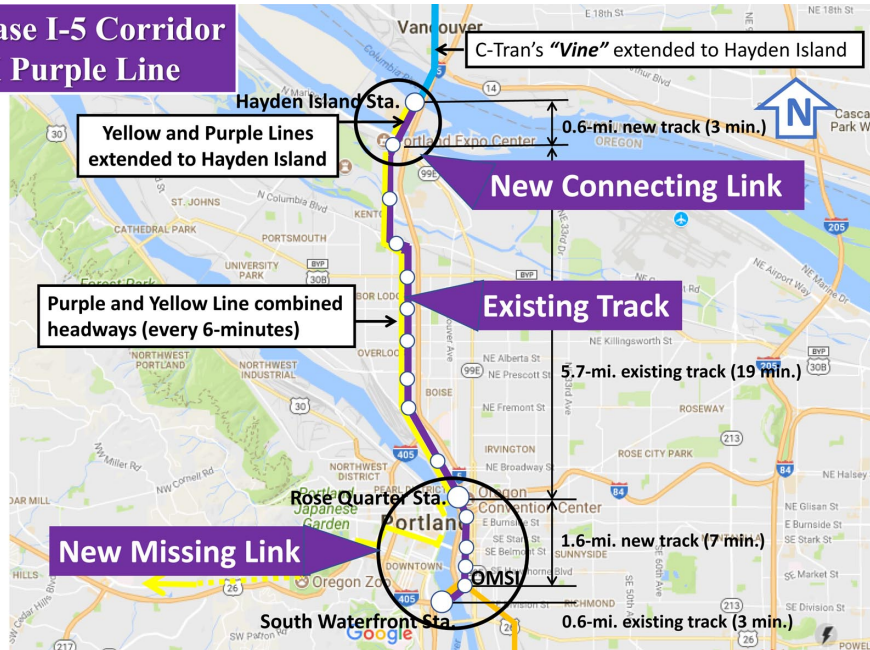
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The MAX Purple Line would be implemented in two phases. The first phase would create an eight-and-a-half-mile light-rail corridor, from Hayden Island, through the Rose Quarter, to the South Waterfront.



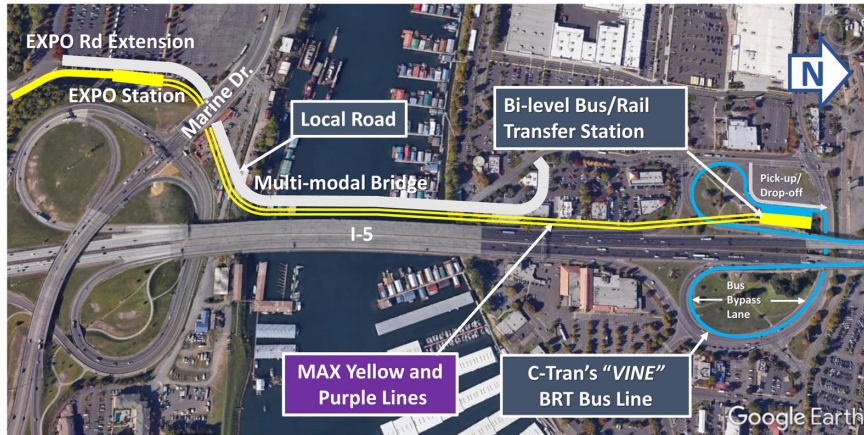
This first phase would add the missing links on the north—connecting with Hayden Island—and the south—extending transit across the Tilikum Crossing Bridge to South Waterfront.

First Phase I-5 Corridor MAX Purple Line



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This first phase would create an eight-and-a-half-mile light-rail corridor. It is a low-carbon congestion-relieving alternative to the proposed Rose Quarter/I-5 freeway-widening project, as it would reduce traffic demand on the freeway. Even a five-percent reduction in automobile traffic, during peak hours, would relieve congestion at this critical intersection.

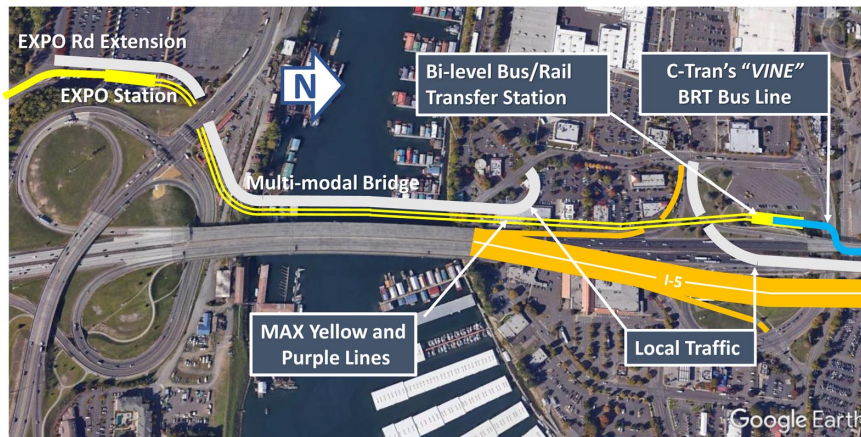


Max/C-Tran “Connecting Link” at Hayden Island Station 9

This slide shows how the Purple Line would extend to Hayden Island, over a new local bridge between the Expo Center and the island, carrying bicycles, pedestrians and local auto traffic as well as MAX light rail.

The white line on the left depicts the route for local traffic, including pedestrians and bicyclists, that would be traveling between Hayden Island and Expo Road in North Portland, over this new South Channel Bridge.

The double yellow line between Portland and Hayden Island denotes the extension of MAX from the Expo Center station, for —both the existing Yellow Line and the new Purple Line. This also runs over the new South Channel Bridge to a new Hayden Island Transit Center. The blue lines on the right side of the picture show the connecting route of C-TRAN buses to and from Clark County Washington.



MAX Line Extension with Common Sense Alternative

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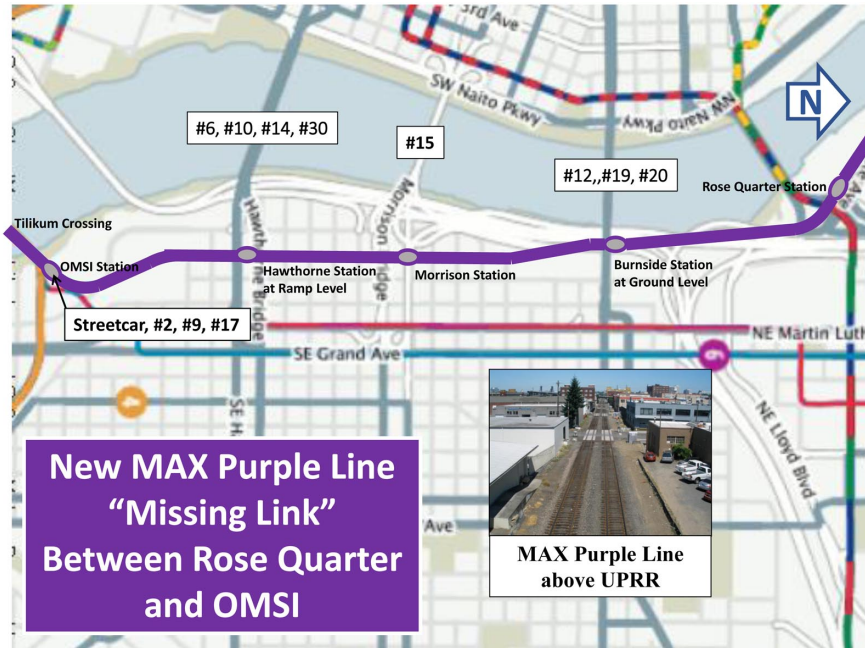
This slide shows details of the northern connection of the new Purple Line, on Hayden Island, if AORTA's Common Sense Alternative for the Interstate Bridge Replacement were also implemented.

The white line on the right side of the picture depicts the route for local traffic, including pedestrians and bicyclists, that would be traveling between Hayden Island and Vancouver, over the existing I-5 bridge, which does NOT need to be demolished. This bridge can continue in service, connecting Hayden Island with downtown Vancouver, I-5 and SR-14 in Washington.

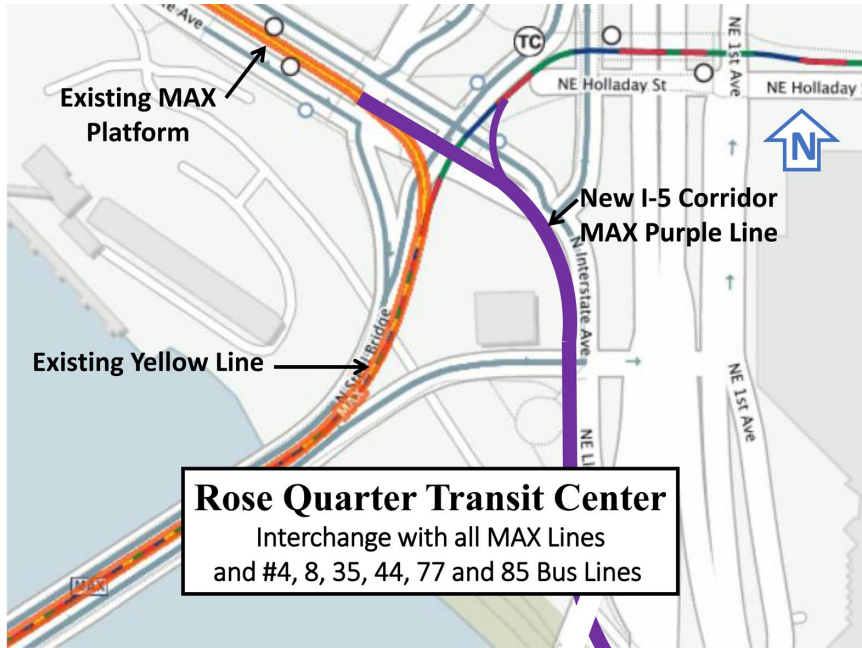
The wide gold line here depicts a new 8-lane bridge across the Columbia River, that would carry interstate traffic between Portland and Vancouver, but would not be burdened with local traffic traveling between Hayden Island and Vancouver.



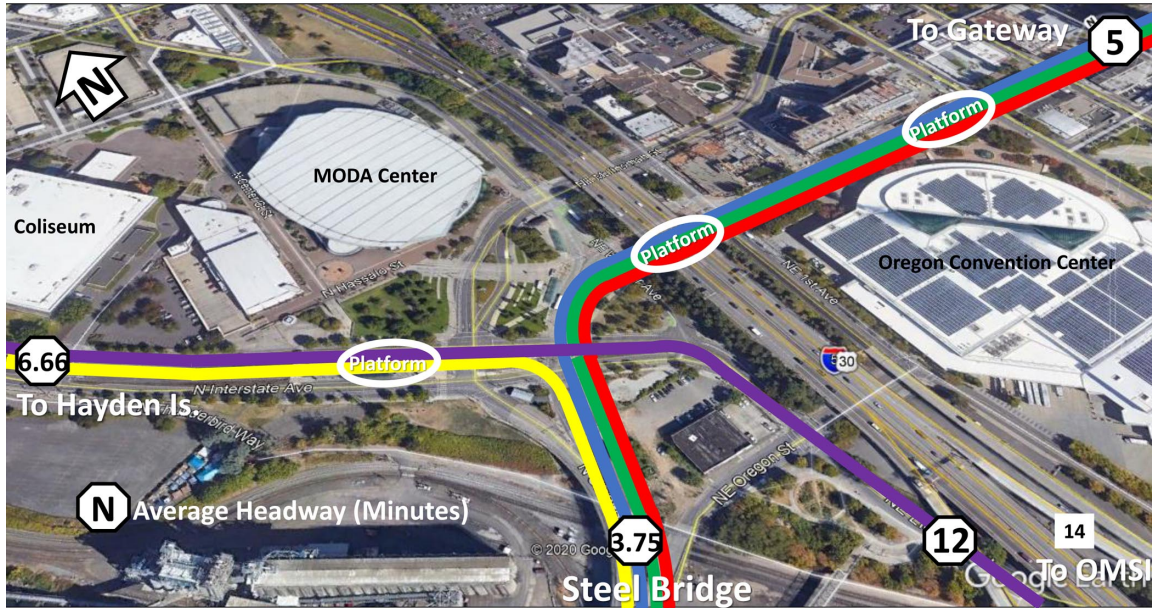
Furthermore, the new Purple Line would maintain existing connections to many TriMet routes, both buses and MAX lines, at Lombard, Rosa Parks, Killingsworth, and the Rose Quarter, as well as to C-TRAN buses and TriMet line #6.



The new southern extension of the Purple Line would add even more connections, with TriMet routes 2, 6, 9, 10, 12, 14, 15, 17, 19, 20 and 30, and with the A- and B-loop streetcar routes. This would greatly shorten travel time for riders between North and Southeast Portland.



Let's look now at the beginning of the southern section of the corridor, at the Rose Quarter Transit Center. The Purple Line would extend south from the existing Yellow Line Rose Quarter station, on down Interstate Avenue and Lloyd Boulevard, Interstate Avenue and along Luther Road, under the I-84 on-ramp and over the Union Pacific Railroad. Existing connections at the Rose Quarter, with other MAX and bus lines, would remain.



Rose Quarter MAX Station with New Purple Line

This slide shows the average weekday headways (the numbers in the hexagonal boxes) of all MAX lines at the Rose Quarter junction with the addition of the Purple Line, assuming that this line would run with a frequency of 12 minutes.

You may note that the current average 3.75-minute headway in each direction across the Steel Bridge is close to the bridge capacity. The frequencies on all the existing MAX routes cannot be reduced below 15 minutes with this routing configuration.

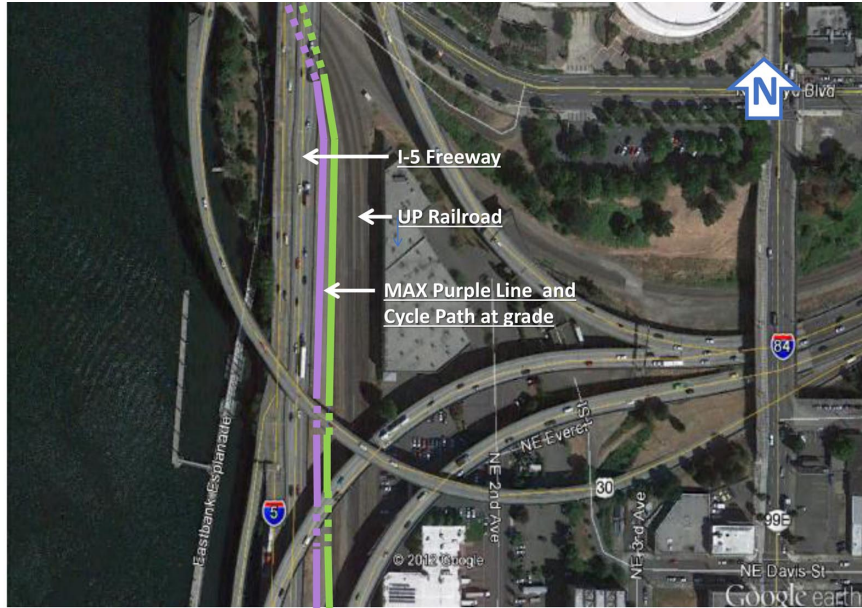
The next 10 slides show a possible route of the Purple Line “Missing Link” along with an adjacent “express” inner eastside cycle path, in more detail.



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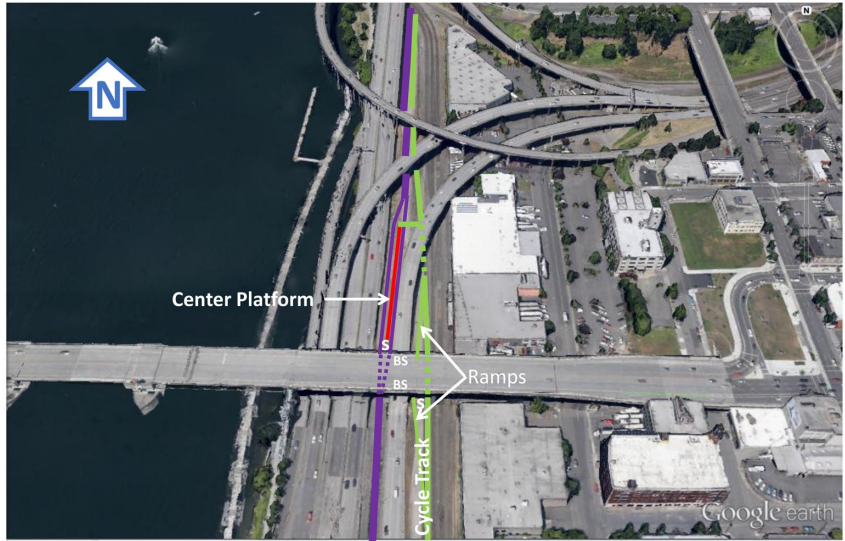
Purple Line, Oregon Street to I-5

This first slide shows the segment from Lloyd Boulevard, under the I-84 on-ramp and I-5 and over the Union Pacific Railroad tracks. The green line here depicts the new cycle path, parallel to the Purple Line, providing an alternate bicycle route along the east side of the river.



Purple Line, at I-5 / I-84 Interchange

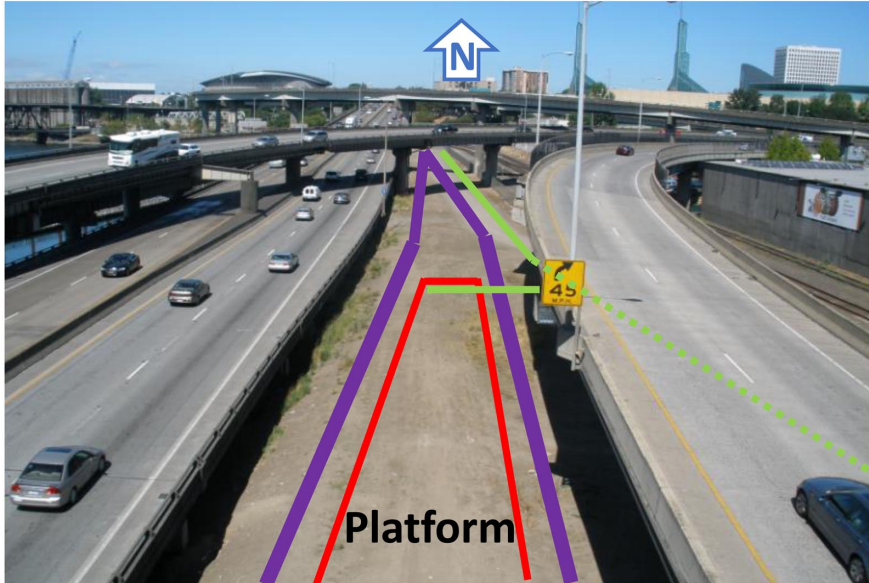
Here the line descends to grade level after crossing over the railroad, and then parallels the south branch of the railroad on the vacant property under the I-84 ramps between the railroad and I-5, just to the north of Burnside.



Purple Line at Burnside Bridge Station

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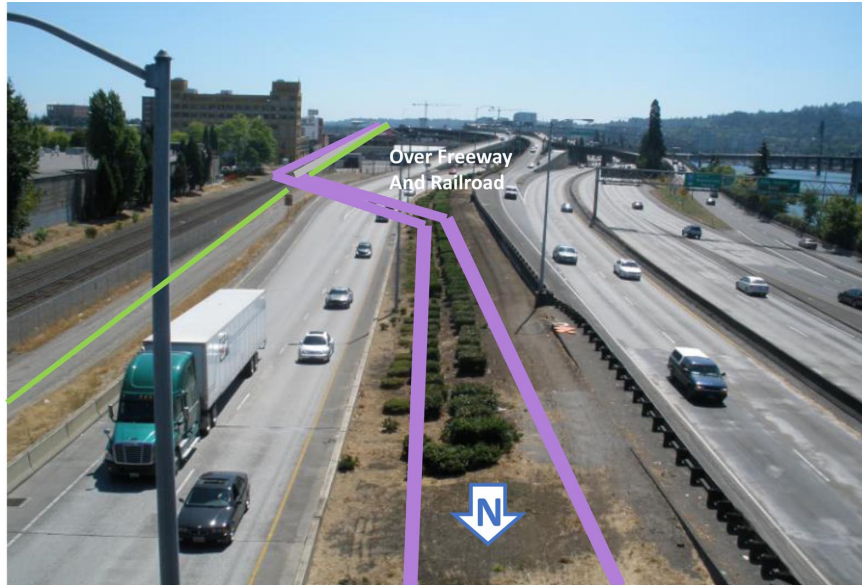
This shows the location of the proposed Burnside Bridge Station over the same alignment, looking north. This station will serve the recently developed East Burnside Project and will connect to both sides of Burnside with elevators and stairs to provide access to bus stops for the #12, #19 and #20 bus lines.



Purple Line alignment north of the Burnside Bridge

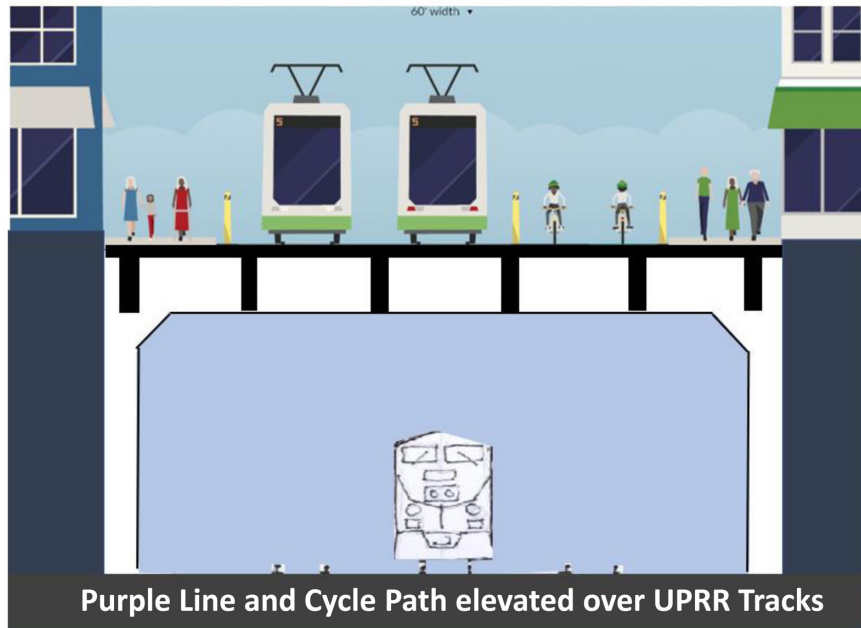
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Here is another view of the Burnside Bridge MAX station, with the cycling lane continuing south on the right (east side) on an elevated route.

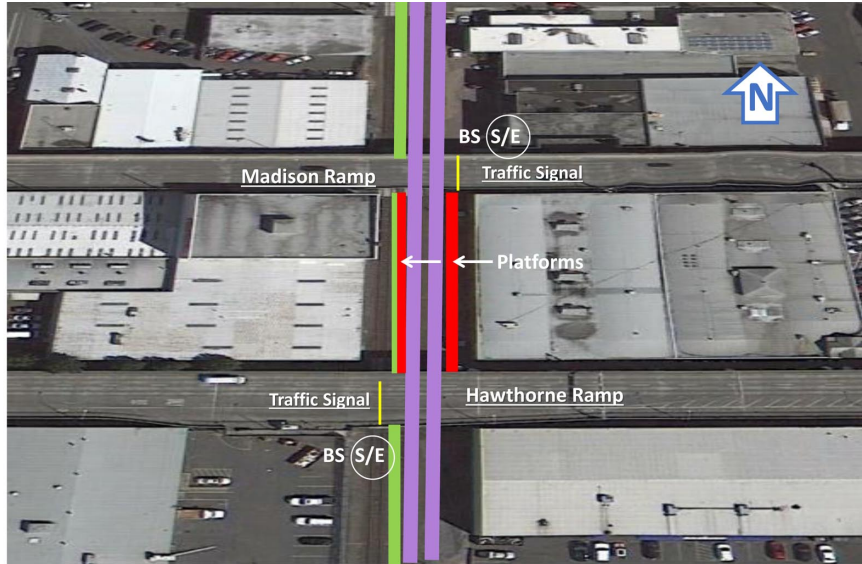


Purple Line South of the Burnside Bridge

This slide shows the same station and the continuation of the line, looking south. The line would cross over the I-84 freeway connection and the railroad tracks.

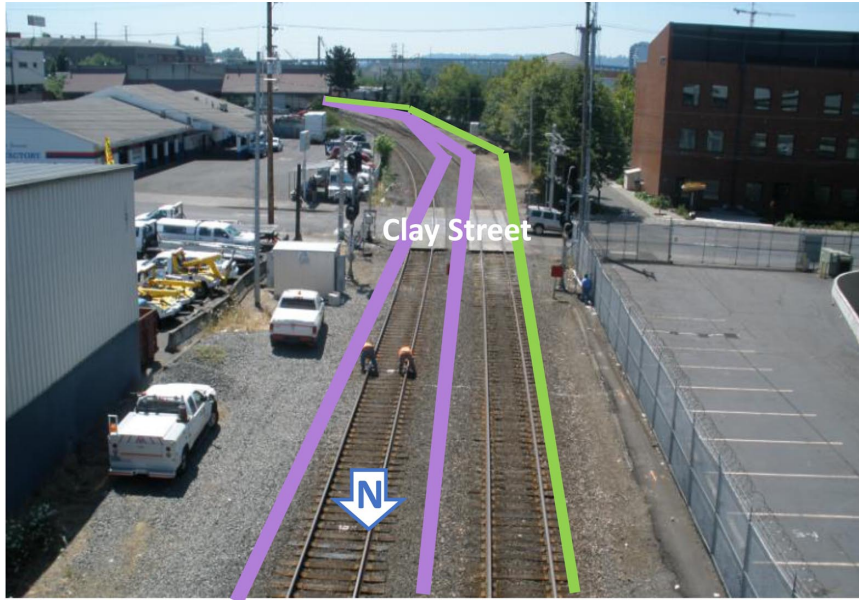


This is a cross section of the Purple line and cycle track, elevated above the Union Pacific Railroad tracks that occupy city-owned Southeast First Avenue right-of-way.. The cycle track, and the sidewalks for pedestrians, create additional convenience and safety by avoiding the need for these users to descend to river level along the East Bank Esplanade, or to cross the UP railroad tracks at street level, as they do today. Furthermore, the elevated alignment opens up development opportunities at the Hawthorne Bridge approach level over the inaccessible railroad.



**Hawthorne Bridge Station
(At Ramp Level)**

The Hawthorne Bridge MAX station, between Madison and Hawthorne streets, provides easy access to bus stops on the Hawthorne and Madison ramps, for connections to the #2, #6, #10, #14 and #30 bus lines. It could also have stair and elevator access to grade level.



Purple Line South of the Hawthorne Bridge Ramps

The Purple Line and the cycle track would continue south of the Hawthorne Bridge, still elevated over the railroad tracks.



Purple Line - SE Mill Street to OMSI Station

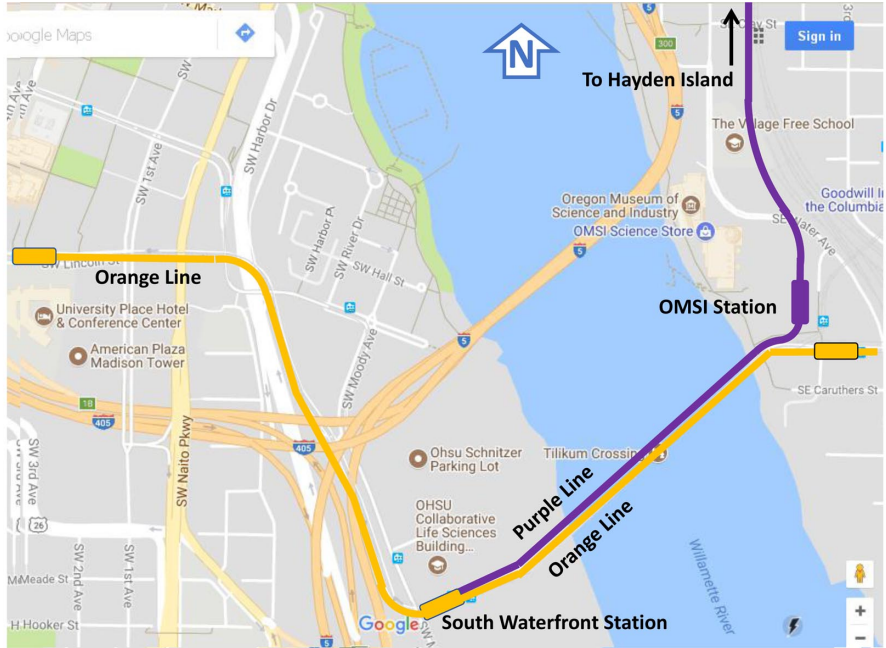
The Purple Line and the cycle track would diverge from the railroad tracks just north of the existing streetcar line, joining that line at the OMSI streetcar stop.



Purple Line Junction with Orange Line at OMSI

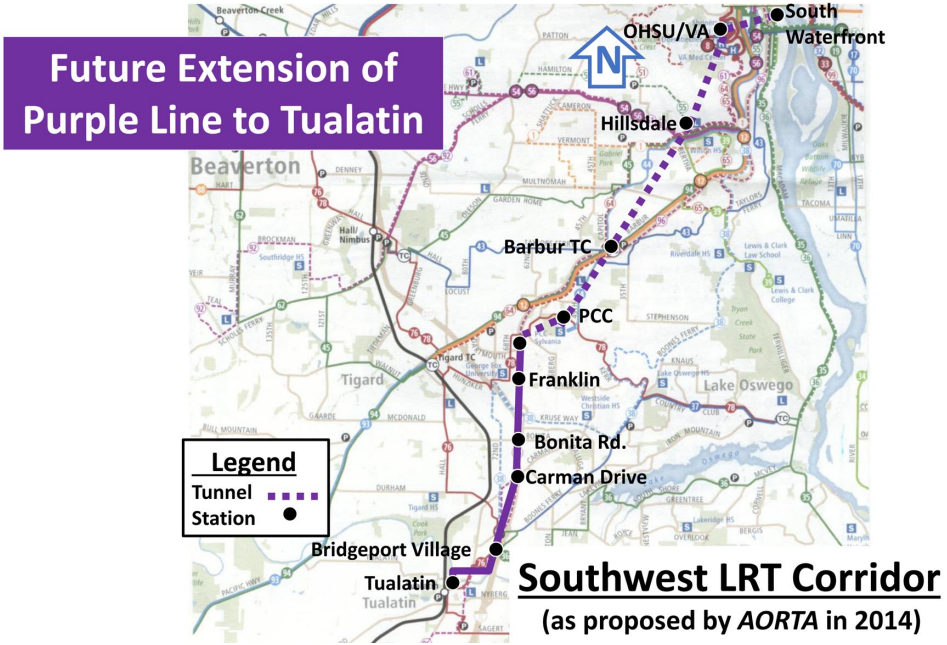
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The Purple Line would join the Orange Line at the OMSI MAX station and proceed over the Tilikum Crossing Bridge to South Waterfront. This station would provide connections to the Orange MAX Line, and to buses #9 and #17 as well as the #2 when that route becomes the FX Bus Rapid Transit line and is re-routed over the Tilikum Crossing Bridge.



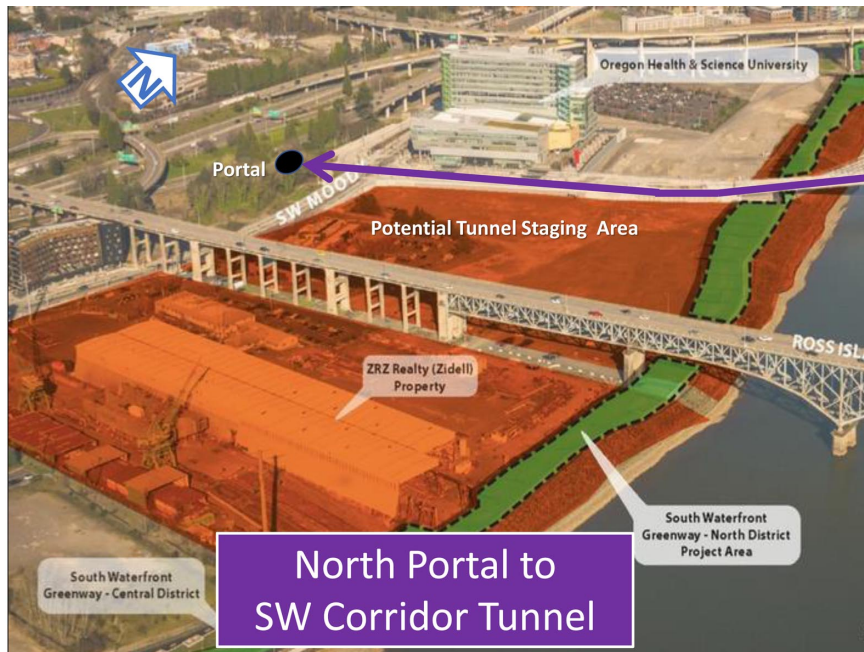
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This slide shows how the new Purple Line will merge with the existing Orange Line, crossing the Willamette River on the Tilikum Crossing Bridge, connecting the South Waterfront with the inner east side.

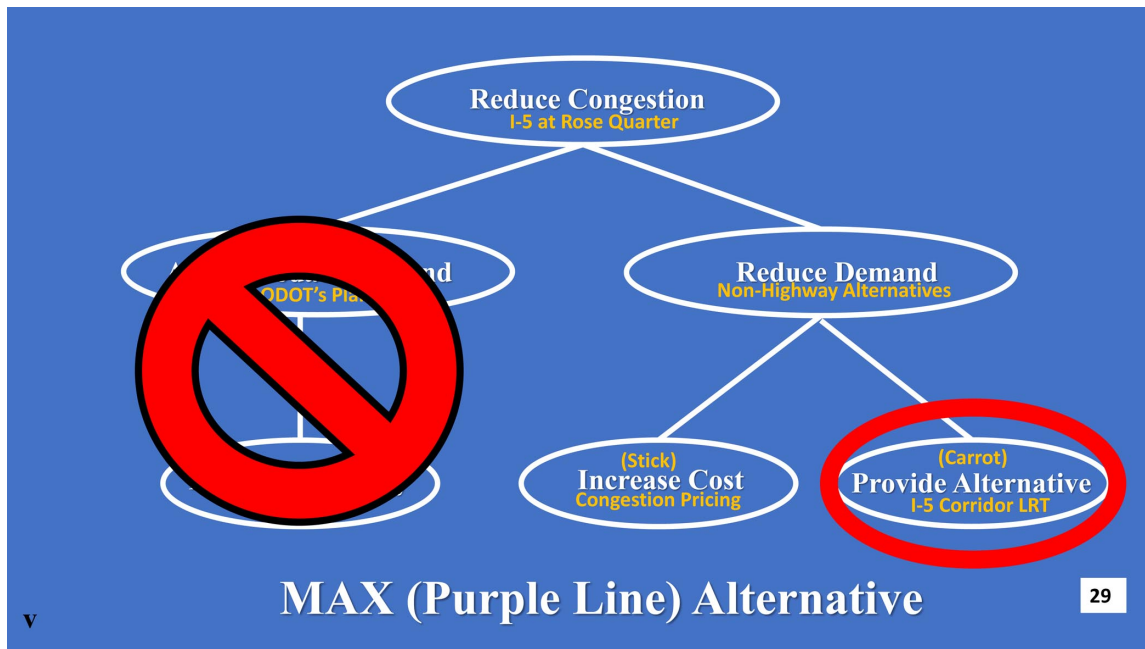


The second phase of the Purple Line implementation would be to extend the line southwest to Tualatin. The new Purple Line would run through an underground tunnel starting at the South Waterfront, serving OHSU and the VA hospital on the hill, with additional stops at Hillsdale, the Barbur Transit Center and PCC Sylvania, then emerge to run above ground, with stations at Franklin, Bonita Road, Carmen Drive and Bridgeport Village. This solution was originally proposed by AORTA in 2014.

This extension of light rail—the Southwest Corridor—has already been proposed, but the designs that have been put forth have been inadequate to address the real transportation needs here.



This shows how the tunneling process could be begun south of the South Waterfront. There is plenty of room for a staging area here, without disrupting current traffic patterns.



Thank you for viewing this presentation which shows how substituting a less costly, road-traffic-free, well connected environmentally responsible light-rail line for an expensive and disruptive freeway widening project can permanently mitigate traffic congestion on I-5. It is the CARROT that pairs well with the Congestion Pricing STICK.

AORTA appreciates your attention, and we hope you will support and advocate for this sensible alternative.