



The CHSR Miles from Portland, OR, to Seattle Central Station

- CHSR miles between Portland, Oregon, Rose Quarter, and Longview, WA, on the ground is 9.66 miles, on flyovers is 20.69 miles, and in tunnels is 12.81 miles, a total of 43.16 miles.
- CHS miles between Longview and Centralia, on the ground, is 11.82 miles, on flyovers are 17.62 miles, and in tunnels, it is 12.62 miles, a total of 42.06 miles.
- CHSR miles between Centralia and Tacoma, on the ground, is 17.36 miles, on flyovers are 7.73 miles, and in tunnels, it is 21.77 miles. A total of 46.86 miles.
- CHSR between Tacoma and Seattle Central station/hub, on the ground, is 4.06 miles; on flyovers, 17.81 miles, and in tunnels, 13.03 miles. A total of 34.90 miles. SEA/TAC link: on the flyover, 3.74 miles; in the tunnel, 4.00 miles. A total of 7.74 miles. The total from Portland to Seattle direct is 161.29 miles; via SEA/TAC, it is 140.63 miles.
- Portland, Amtrak Station to Seattle King Amtrak Station is 187.00 miles long, the CHSR direct is ± 25.71 (22.34) miles shorter, and via SEA/TAC, it is 3.37.

The CHSR Miles from Portland Rose Quarter Station/Hub, OR, to Seattle Central Station

- CHSR miles between Portland, Oregon, Rose Quarter, and Seattle Central station/hub on the ground is 42.90 miles, on flyovers is 58.16 miles, and in tunnels is 60.23 miles, a total of 161.29 miles.
- CHSR via SEA/TAC; on the flyover, it is 3.74 miles, and in the tunnel, it is 4.00 or 169.03 miles.
- Portland Rose Quarter to Portland Airport (PDX) on the ground, it is 0.61 miles, on flyovers, it is 7.46 miles, and in the tunnel, it is 1.43 miles.
- Amtrak to King Station is 187 miles long, the CHSR direct is ± 25.71 miles shorter, and via SEA/TAC, it is 17.97 miles shorter.

• Des by RN

Legend



CHSR Station in Tunnel





CHSR Station on Flyovers



CHSR Station on Ground

 On ground

 Cuts

 Fills

 Flyovers

 Tunnels

 Existing Freight Railroads, other than BNSF and UP RR

 Existing Freight Railroads

C-ICE: Cascadia Inter-City Express

CCE: Cascadia Commuter Express



General overview,
CHSR Portland, OR
to Seattle, WA
on Google



CHSR Corridor
between
Portland and
Seattle

The BNSF
freight corridor
is 150 years old
and has too
many tight
curves, grade
crossings, and
small towns to
develop HSR
technology.



Rose Quarter
Bullet Train
Station

Moda Center

N Interstate Ave

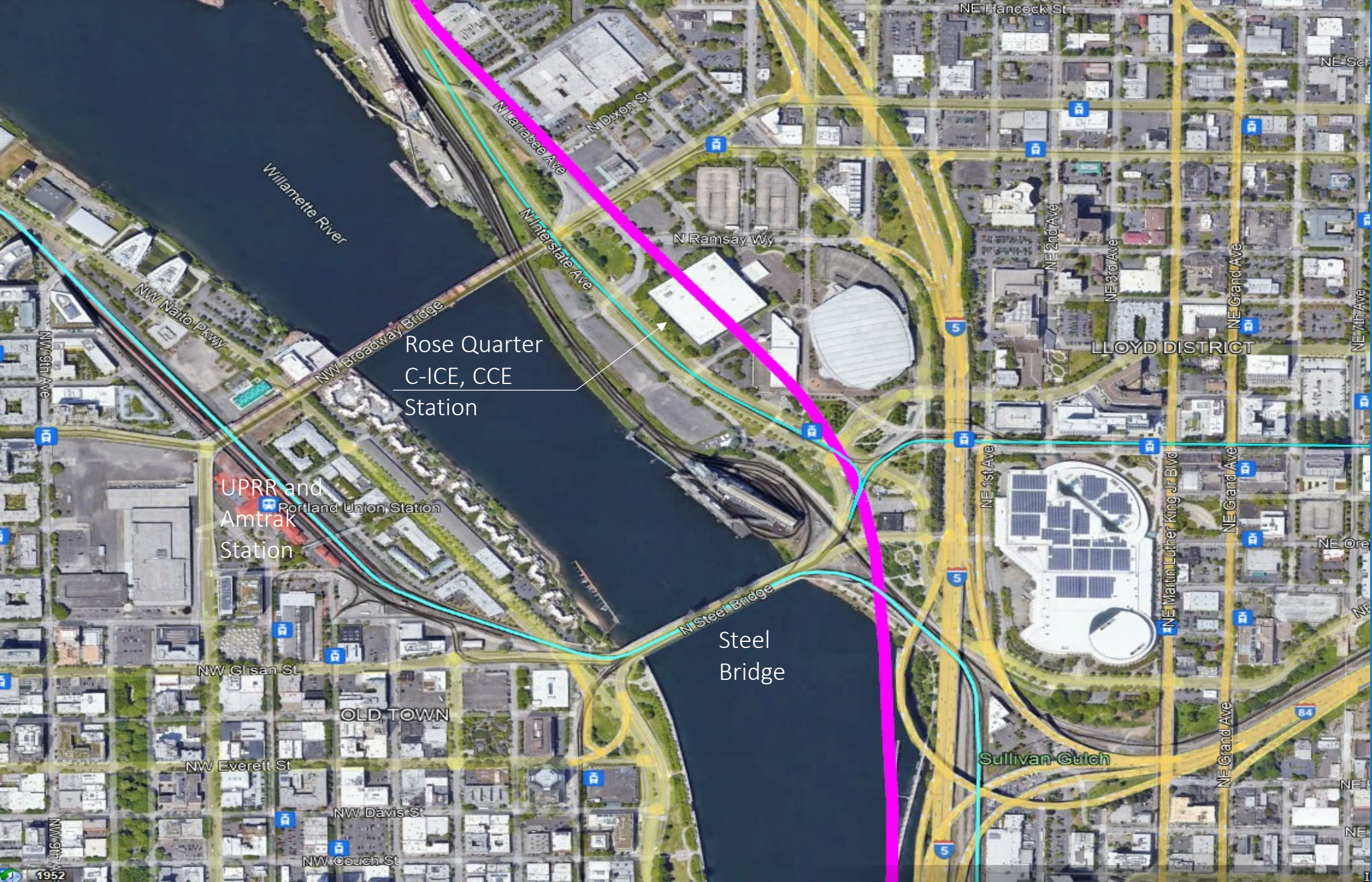
NE
Multnomah
St

Rendering by: Ankrom Moisan Architects and Planners

Rose Quarter
Bullet Train
Station, Former
Veterans
Memorial
Coliseum

This station will
serve Cascadia
Inter City Express
Trains (C-ICE) and
Cascadia
Commuter
Express Trains
(C-CE)

This station is
above ground to
eliminate all
roadway grade
crossings.



CHSR Corridor
at the Portland
Rose Quarter
Transportation
Hub

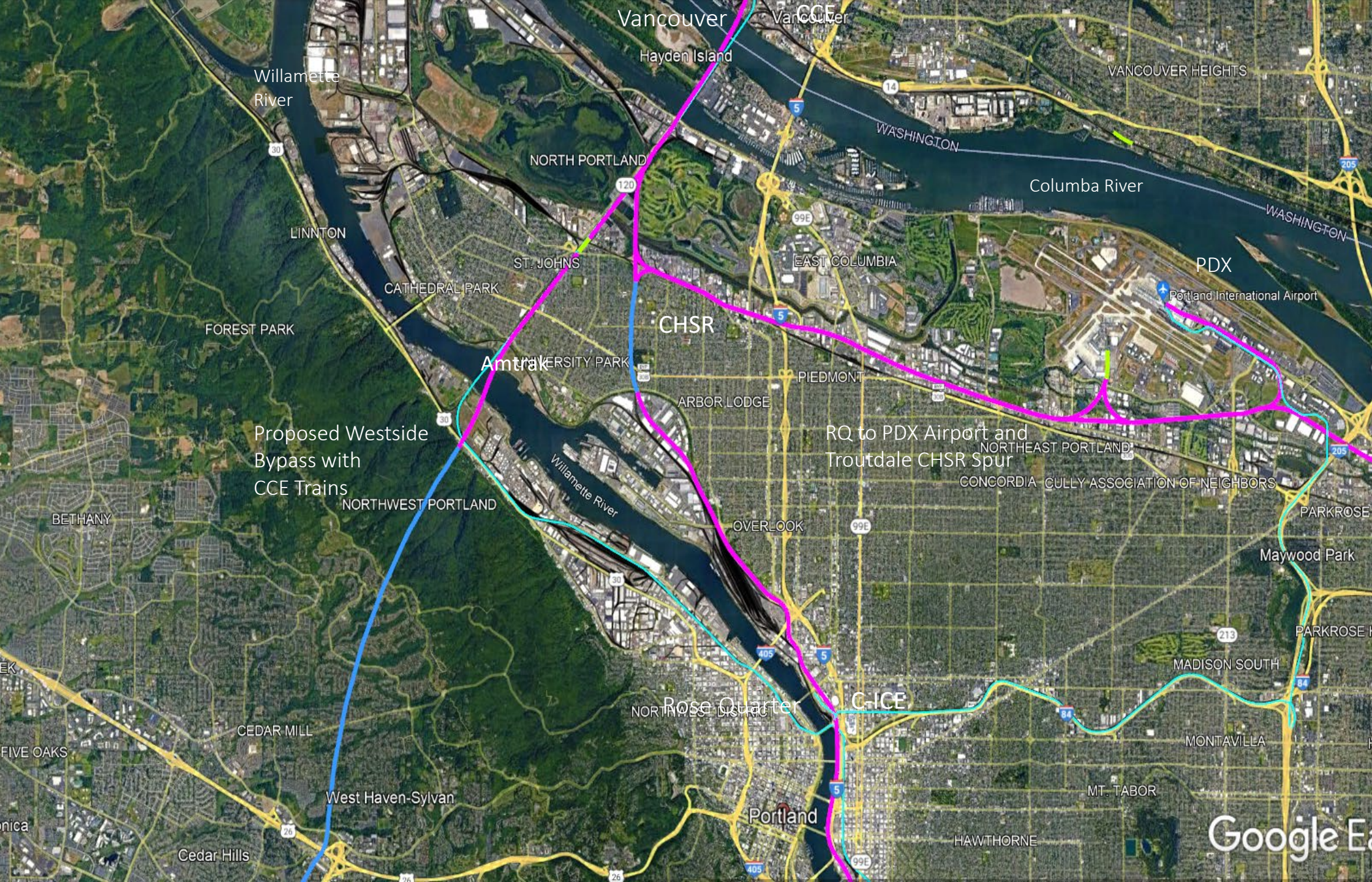
Rose Quarter
C-ICE, CCE
Station

UPRR and
Amtrak
Station

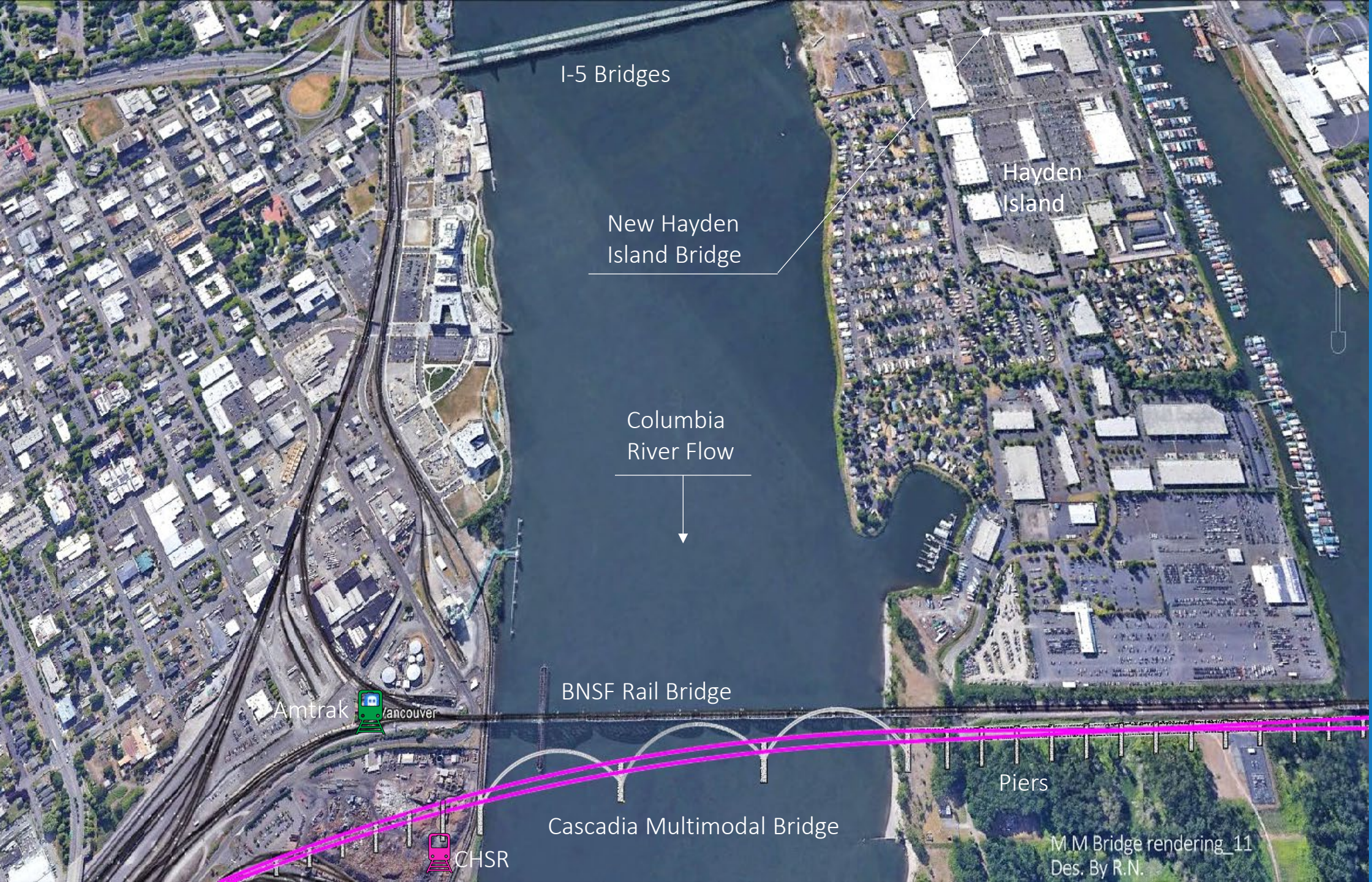
Steel
Bridge

Sullivan Gulch

LLOYD DISTRICT



CHSR
Corridor
between Rose
Quarter and
Vancouver,
WA, and
other Possible
Corridors



I-5 Bridges

New Hayden Island Bridge

Columbia River Flow

BNSF Rail Bridge

Cascadia Multimodal Bridge

Hayden Island

Piers

Amtrak Vancouver

CHSR

Proposed Cascadia Multimodal Bridge, Hayden Island Bridge, I-5 Bridge, and BNSF Railroad Bridge

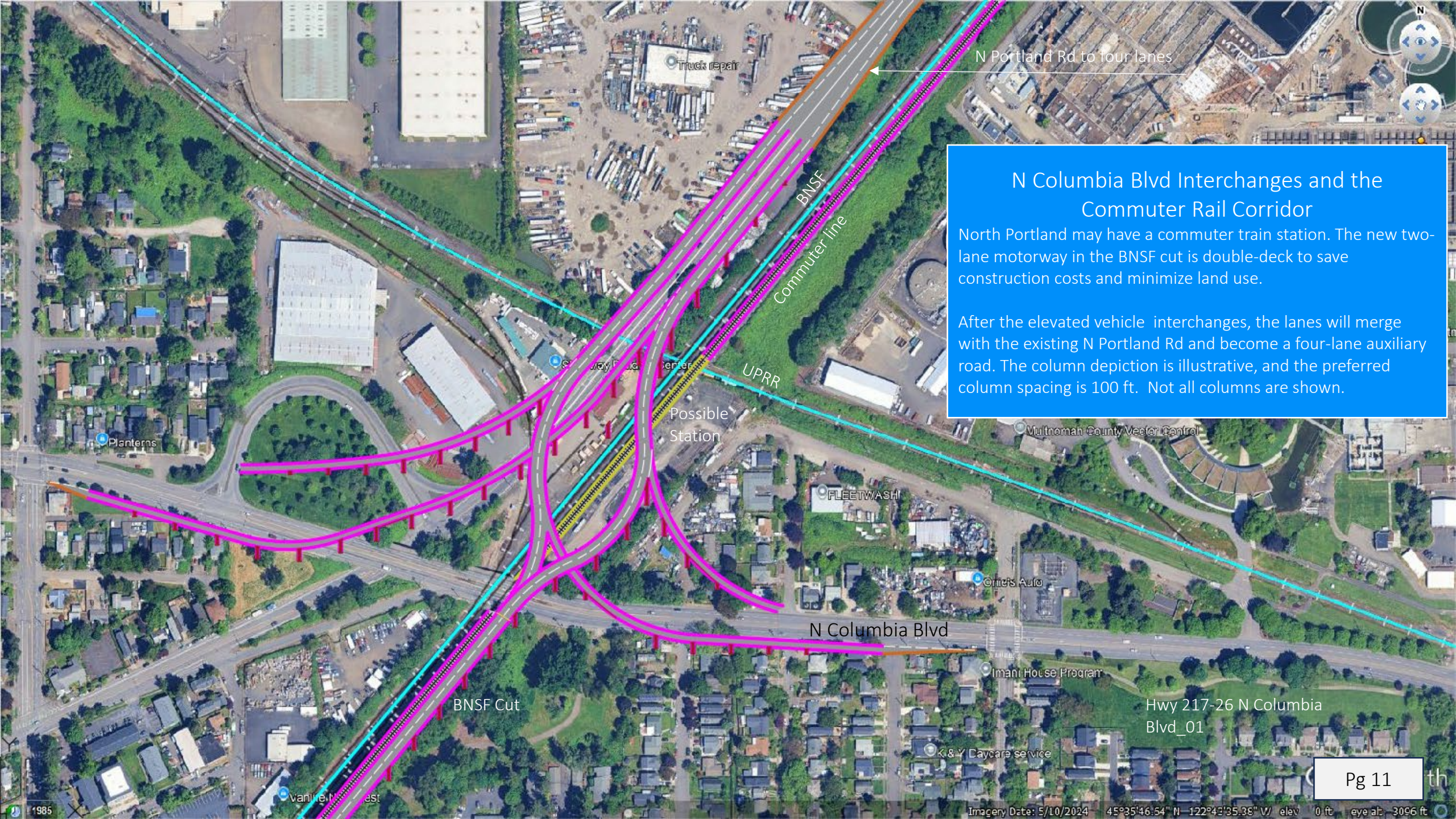
The possible CCE Waterfront Station is on the west side of the existing BNSF tracks. The Amtrak Station is on the east side. A pedestrian bridge over the BNSF tracks will provide a connection to the Vancouver Waterfront.

M M Bridge rendering_11
Des. By R.N.



Proposed Hayden Island Auxiliary Bridge

The MAX corridor will be between the north and south traffic lanes on the new bridge over the Columbia River Slough at the same elevation as I-5.



N Columbia Blvd Interchanges and the Commuter Rail Corridor

North Portland may have a commuter train station. The new two-lane motorway in the BNSF cut is double-deck to save construction costs and minimize land use.

After the elevated vehicle interchanges, the lanes will merge with the existing N Portland Rd and become a four-lane auxiliary road. The column depiction is illustrative, and the preferred column spacing is 100 ft. Not all columns are shown.

N Portland Rd to four lanes

BNSF
Commuter line

UPRR

Possible Station

N Columbia Blvd

BNSF Cut

Hwy 217-26 N Columbia Blvd_01



On-ramp to Vancouver, grade 0.55%

Off-ramp from Vancouver

Off-ramp from Vancouver

Existing BNSF/UPRR

On-ramp to Vancouver

N Portland Rd to four lanes

BNSF

BNSF

CHSR

BNSF

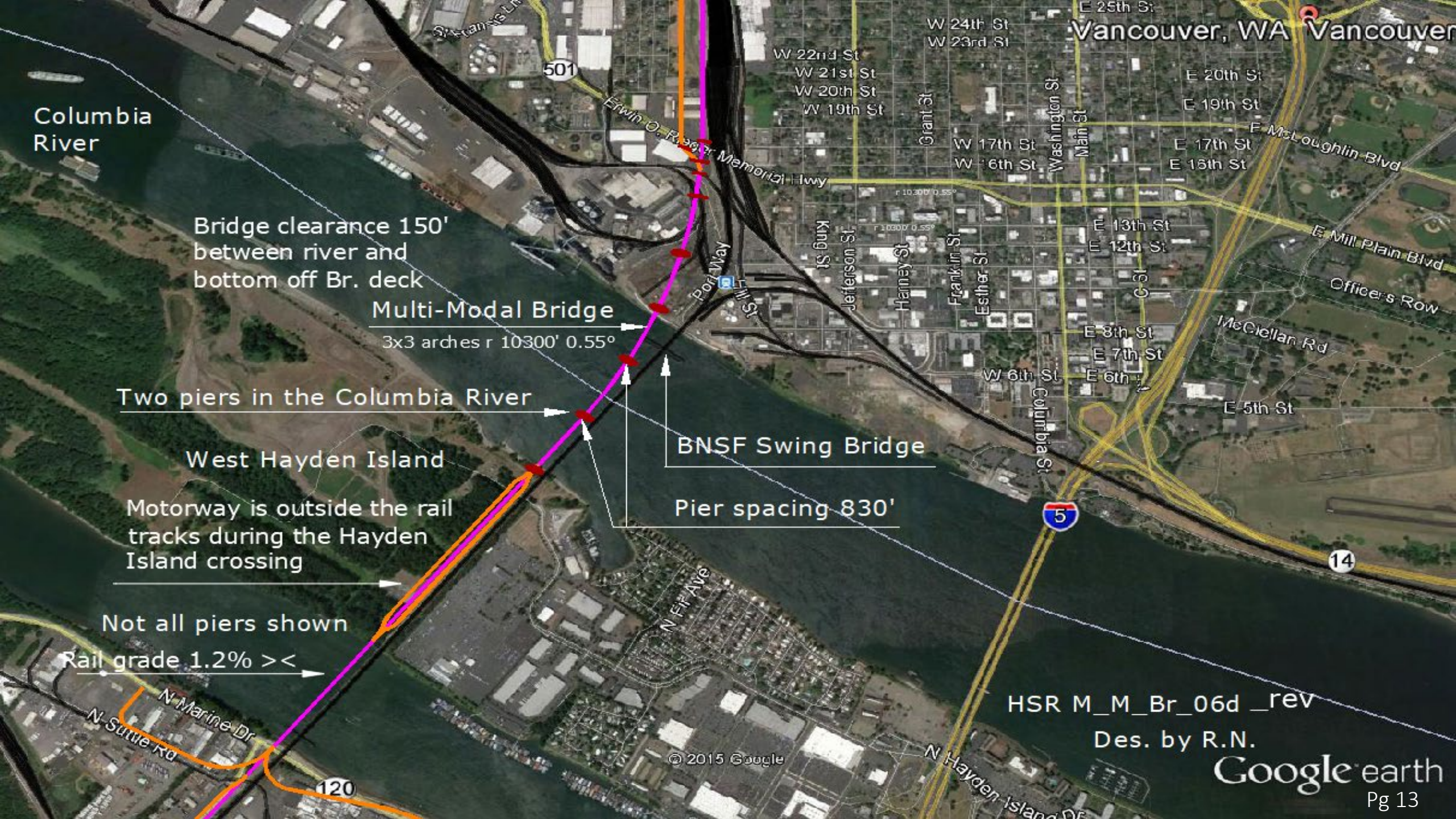
N Shuttle Rd

N Marine Dr

To Vancouver

To Rose Quarter

CHSR Multi-Modal Bridge, Revised version
The CHSR is above the BNSF/UPRR tracks.
The roadways go below the CHSR tracks to Hayden Island, where they will go above.
The N Portland Rd has single-lane on- and off-ramps.
N Marine Dr from the I-5 interchange has a single on-ramp to Vancouver.
The Vancouver-to-N Marine Dr has a single off-ramp.
This layout will reduce traffic on the I-5 bridge by 30%.



Vancouver, WA Vancouver

Columbia River

Bridge clearance 150'
between river and
bottom off Br. deck

Multi-Modal Bridge

3x3 arches r 10300' 0.55°

Two piers in the Columbia River

West Hayden Island

Motorway is outside the rail
tracks during the Hayden
Island crossing

BNSF Swing Bridge

Pier spacing 830'

Not all piers shown

Rail grade 1.2% ><

HSR M_M_Br_06d_rev

Des. by R.N.

Google earth

Pg 13

© 2015 Google

501

5

14

120

W 22nd St
W 21st St
W 20th St
W 19th St

W 24th St
W 23rd St

E 25th St
E 20th St
E 19th St
E 17th St
E 16th St

E 13th St
E 12th St

E 8th St
E 7th St
E 6th St

E 5th St

Erwin-O. Rogers Memorial Hwy

Port Way

King St

Jefferson St

Harney St

Franklin St

Esther St

Washington St

Main St

E McLoughlin Blvd

E Mill Plain Blvd

Officers Row

McClellan Rd

W 6th St

Columbia St

N Fir Ave

N Hayden Island Dr

N Marine Dr
N Sumie Rd



The Cascadia Multimodal Bridge Corridor Connections to Mill Plain Blvd in Vancouver, Washington

All three corridors are elevated above the existing freight rail yard and will not interfere with on-ground freight movements.

From Fruit Valley Rd
To Hwy 30

To Mill Plain Blvd

CHSR
BNSF/UPRR

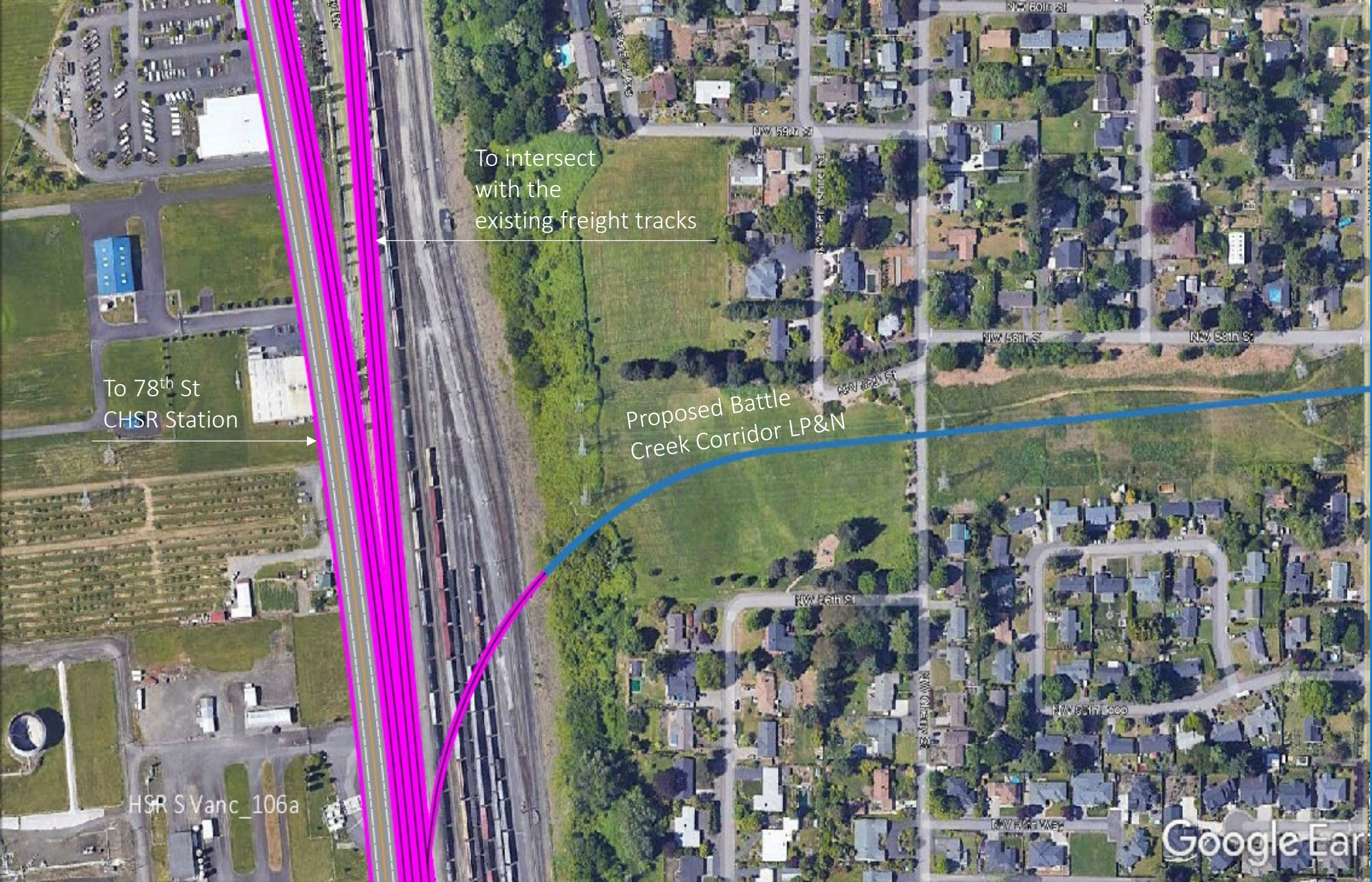
New CCE Station and Parking

New Vancouver Waterfront Area

Four Lane Vehicle Expressway

Columbia River

Rendering by: Ankrom Moisan Architects and Planners



To 78th St
CHSR Station

To intersect
with the
existing freight tracks

Proposed Battle
Creek Corridor LP&N

CHSR Corridor
1.6 Miles
North of 4th
Plain Blvd

At this point, the
CHSR corridor
will split. The
freight line will
reconnect with
the existing
freight tracks,
and the CHSR
will continue
north.

The Battle Creek
Corridor is a
proposed line to
serve
commuters in
northwest
Vancouver.

HSR SVanc_106a

Google Earth



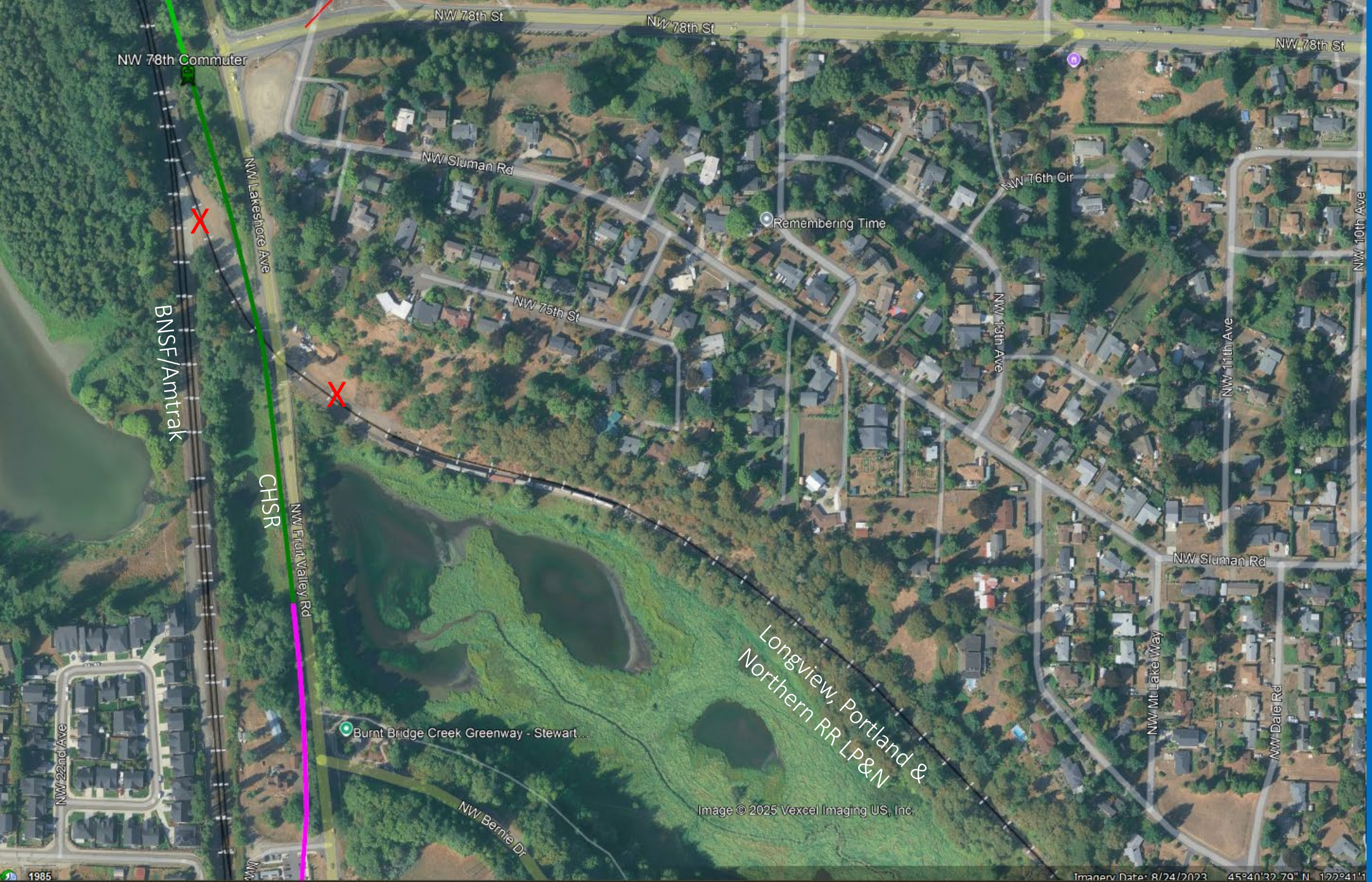
HSR S Vanc_107a

NW Lakeshore Overpass

CHSR Corridor at the Proposed Lakeshore Ave Overpass

The new NW Lakeshore Ave overpass will become a four-lane corridor.

The CHSR is in a short tunnel below the new NW Lakeshore Ave bridge.



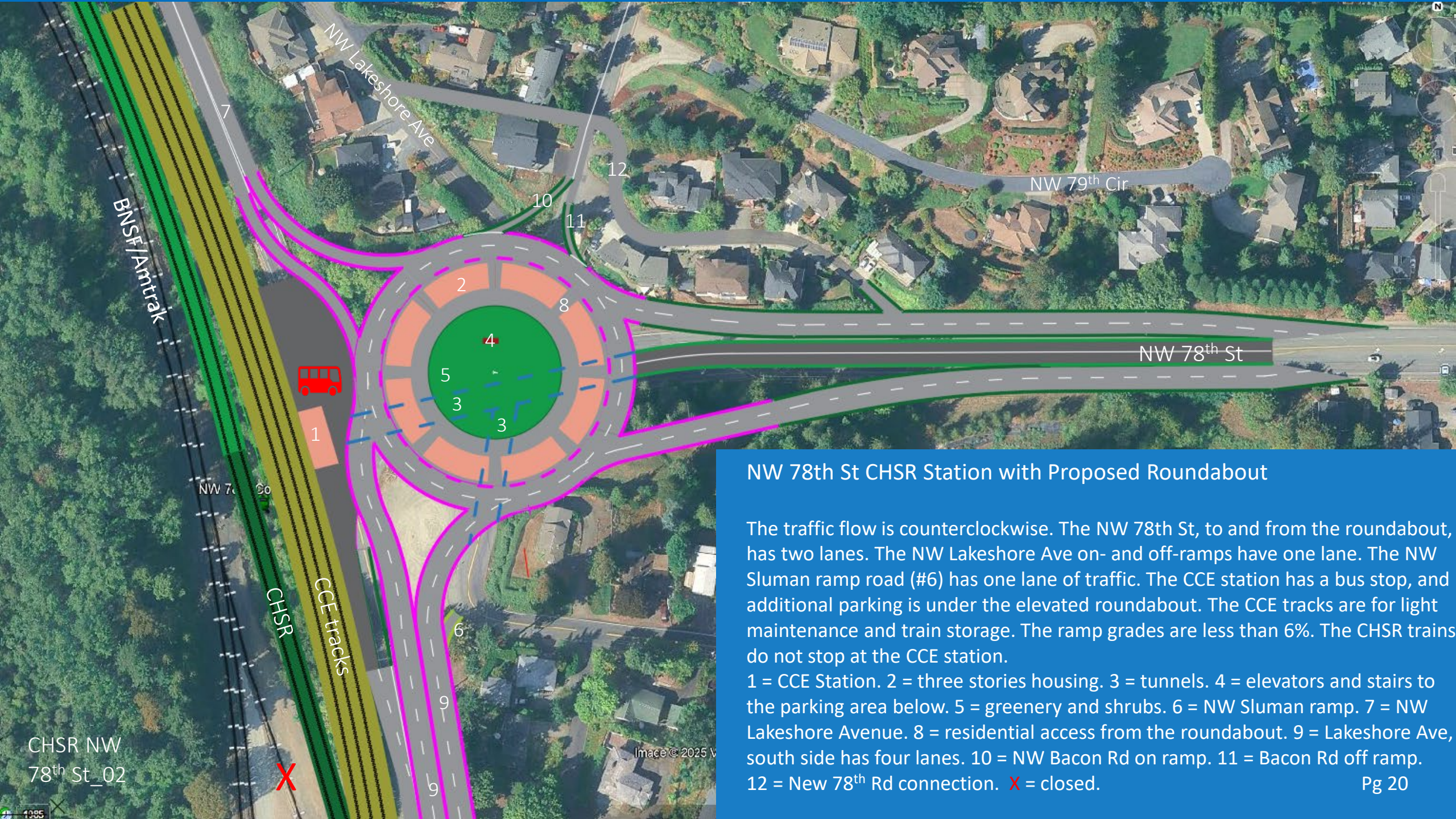
CHSR South of NW 78th St CCE Station

The existing LP&N freight RR corridor will be closed **X** and rerouted 1.26 miles to the south, just north of NW 56th St, and in a tunnel below the HV power lines.

The existing LP&N RR corridor can then be developed for housing.

Longview, Portland & Northern RR LP&N

Image © 2025 Vexcel Imaging US, Inc.



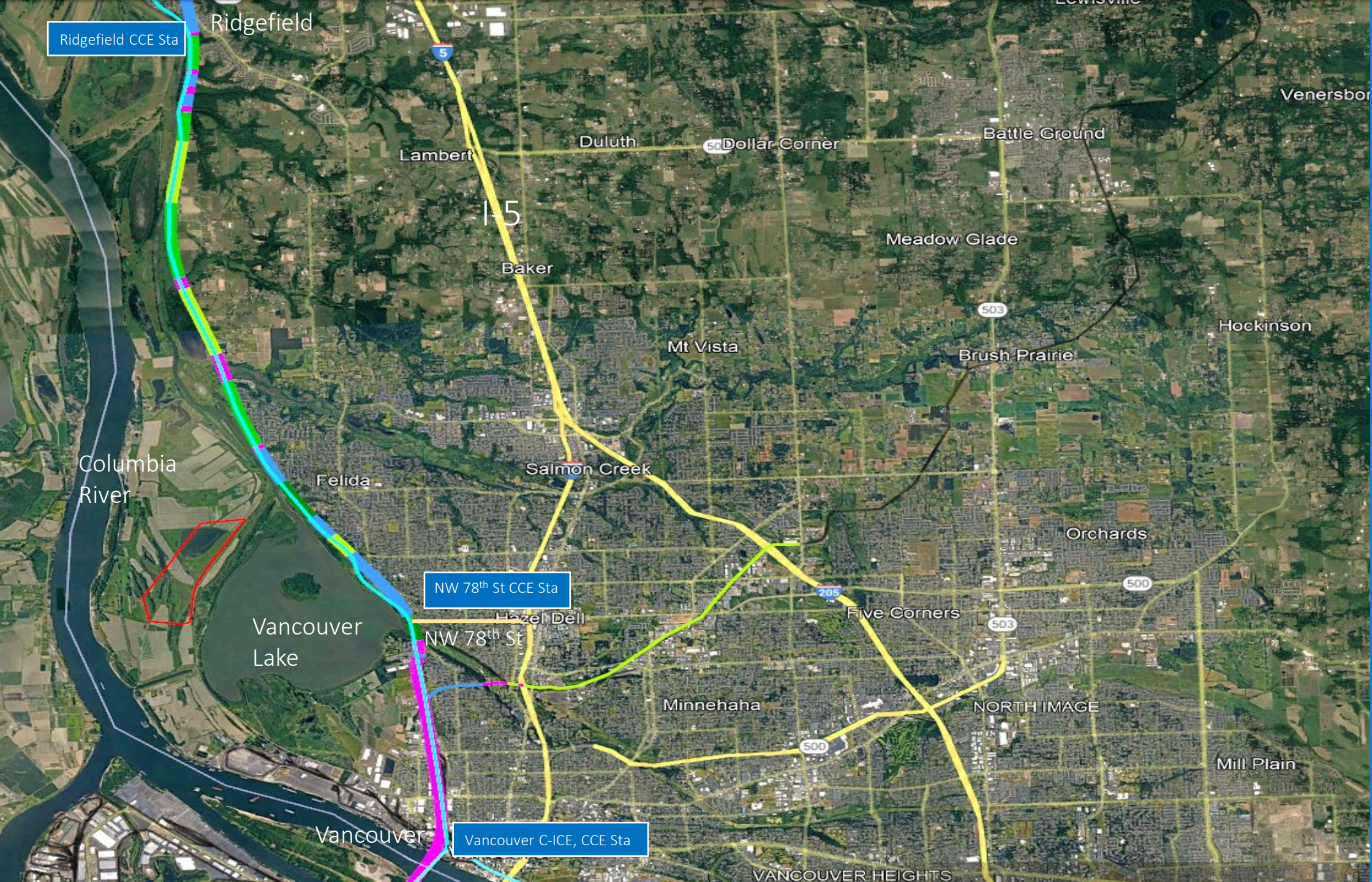
CHSR NW
78th St_02

Image © 2025 V

NW 78th St CHSR Station with Proposed Roundabout

The traffic flow is counterclockwise. The NW 78th St, to and from the roundabout, has two lanes. The NW Lakeshore Ave on- and off-ramps have one lane. The NW Sluman ramp road (#6) has one lane of traffic. The CCE station has a bus stop, and additional parking is under the elevated roundabout. The CCE tracks are for light maintenance and train storage. The ramp grades are less than 6%. The CHSR trains do not stop at the CCE station.

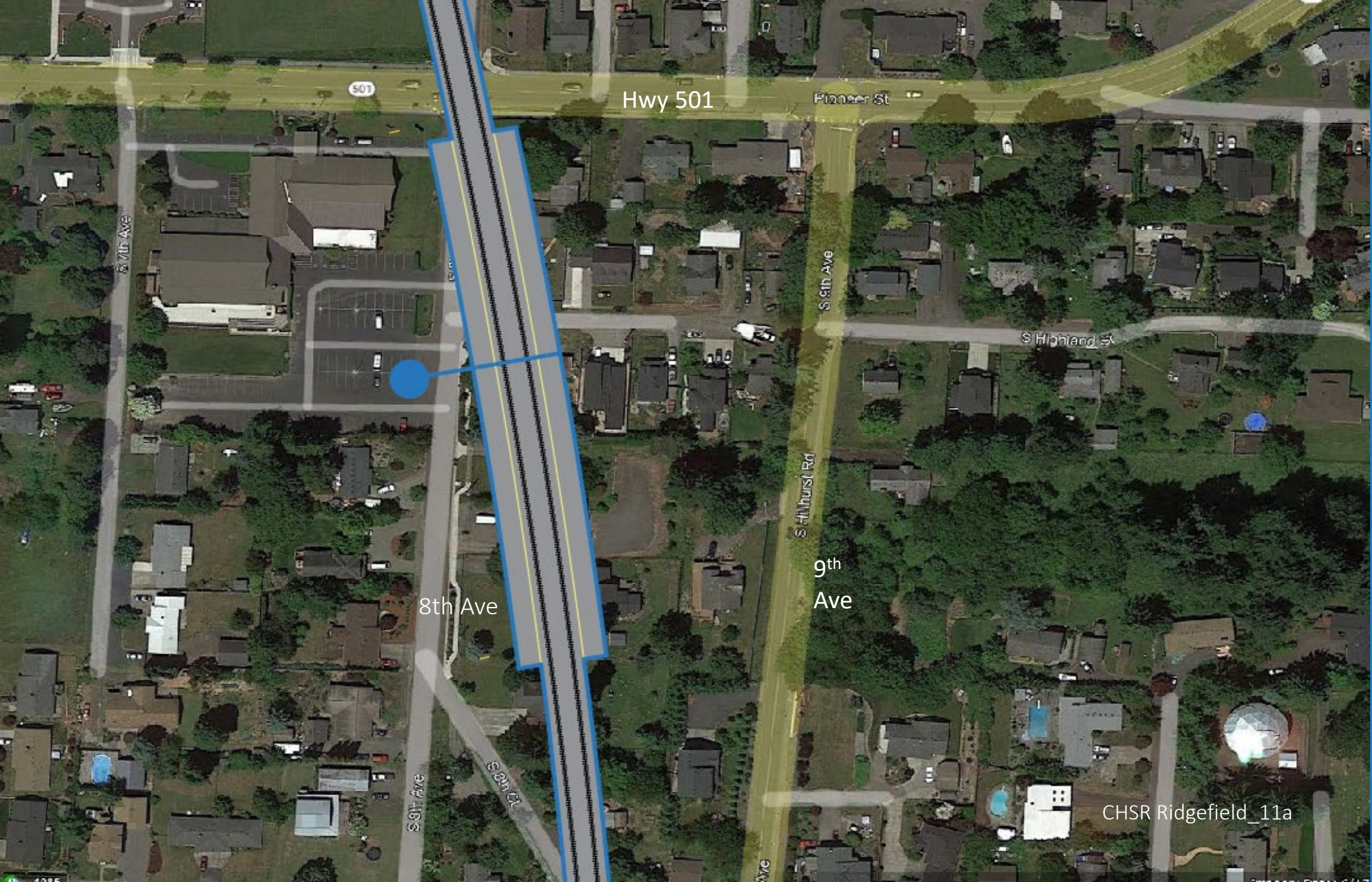
1 = CCE Station. 2 = three stories housing. 3 = tunnels. 4 = elevators and stairs to the parking area below. 5 = greenery and shrubs. 6 = NW Sluman ramp. 7 = NW Lakeshore Avenue. 8 = residential access from the roundabout. 9 = Lakeshore Ave, south side has four lanes. 10 = NW Bacon Rd on ramp. 11 = Bacon Rd off ramp. 12 = New 78th Rd connection. X = closed.



CHSR between
NW 78th St in
Vancouver and
Ridgefield

Several miles are
along a hillside
with a 9% slope.

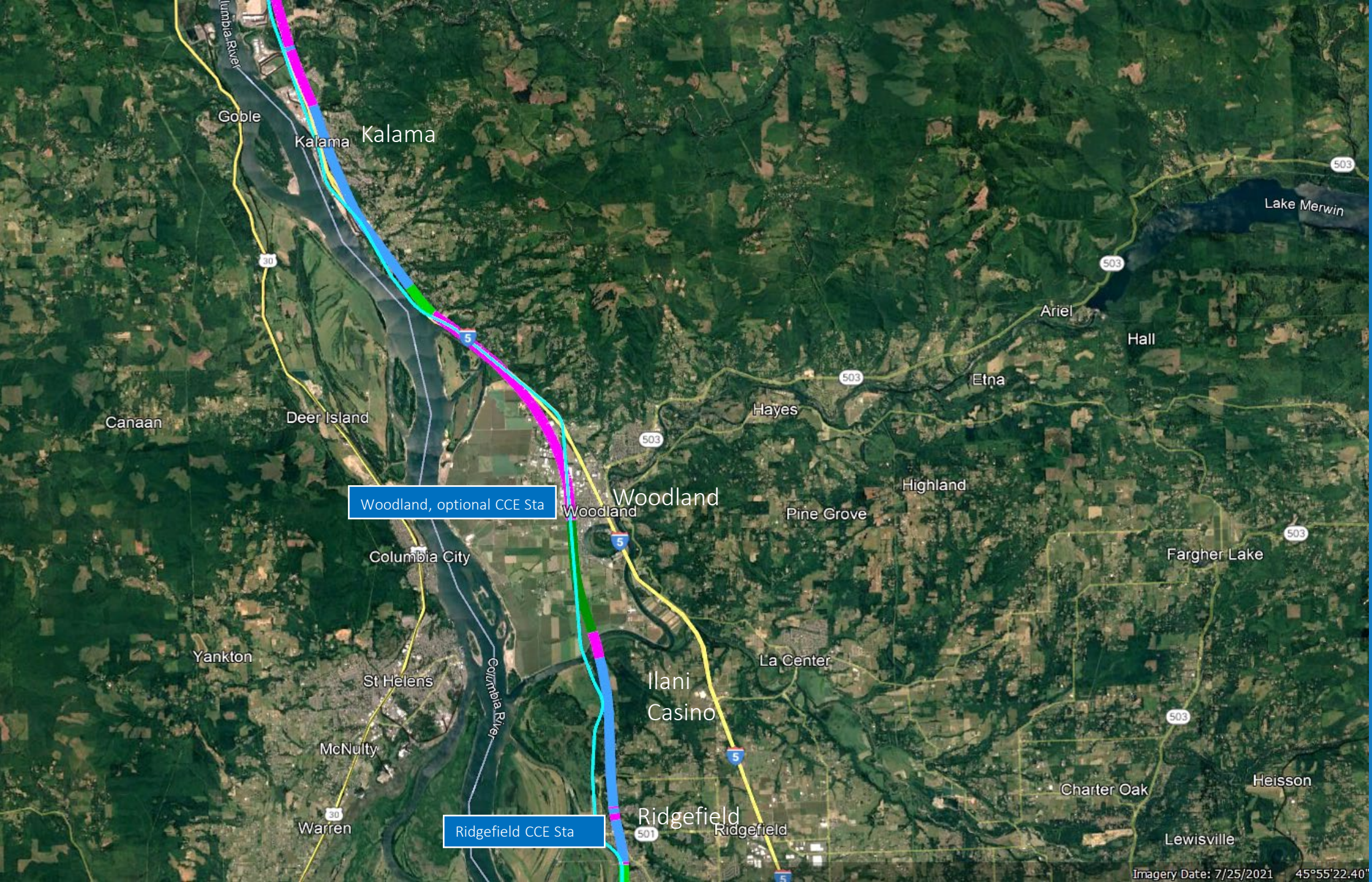
See Stabilization
Plan Addendum.



CHSR
Ridgefield CCE
Underground
Station

The overall
station width is
76 ft, and the
length is 750
feet.

Commuter trains
are shorter than
C-ICE trains.



CHSR Corridor between Ridgefield and North Kalama



CHSR Longview Yard

This is a new 9-acre CHSR light-duty yard.

This yard will provide the most-needed train maintenance and can store CHSR trains.

Express freight transit exchange can be done at this yard. This yard has no interchange with freight railroads.

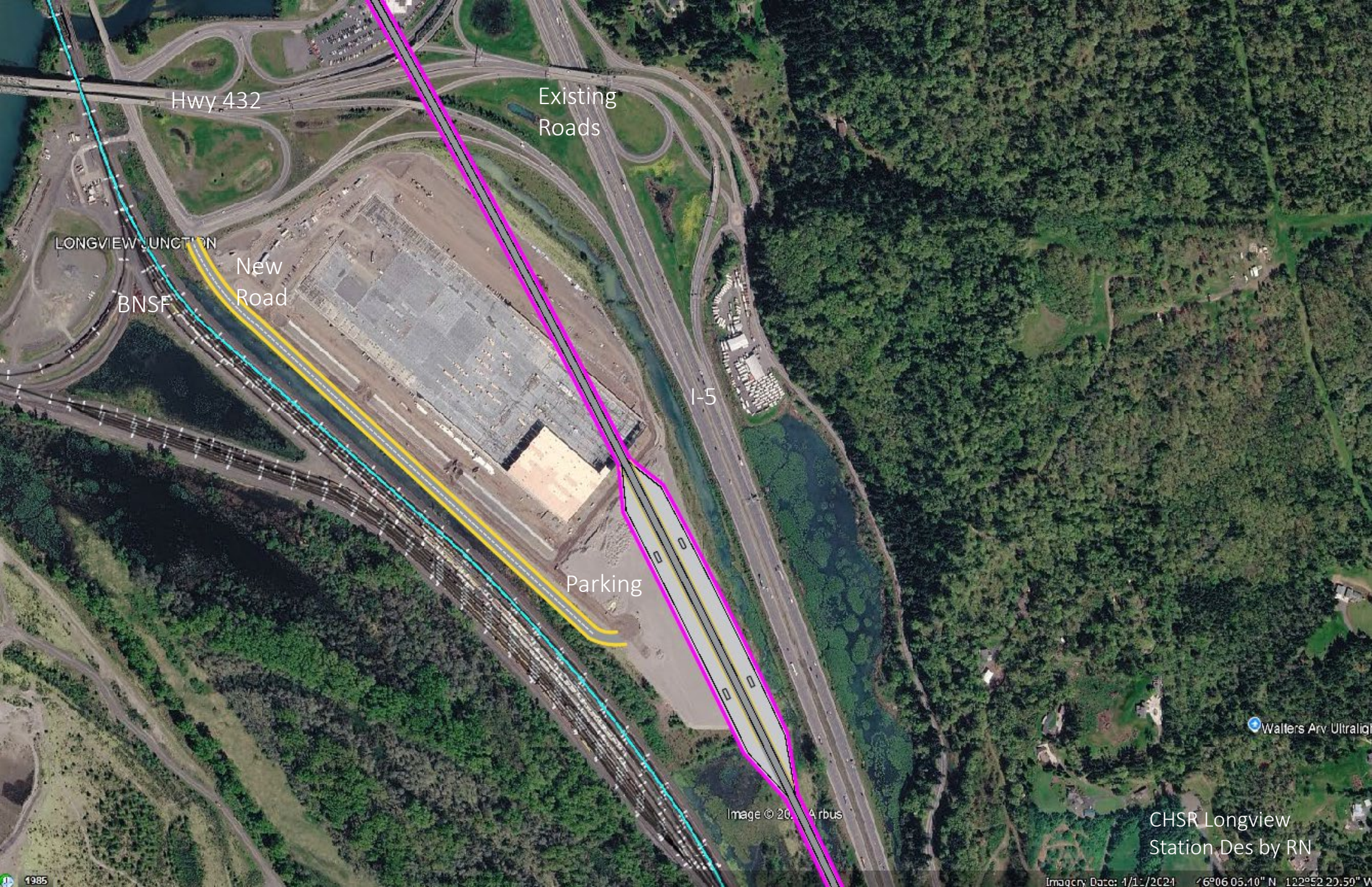
A new access road will be required.



CHSR Corridor Original CHSR Station Location

The original station plan can no longer be used due to insufficient consideration of the previously proposed corridor planning.

This is why long-term HSR planning is crucial for achieving the preferred results.



Longview CHSR Station

This is the new station location for the CHSR.

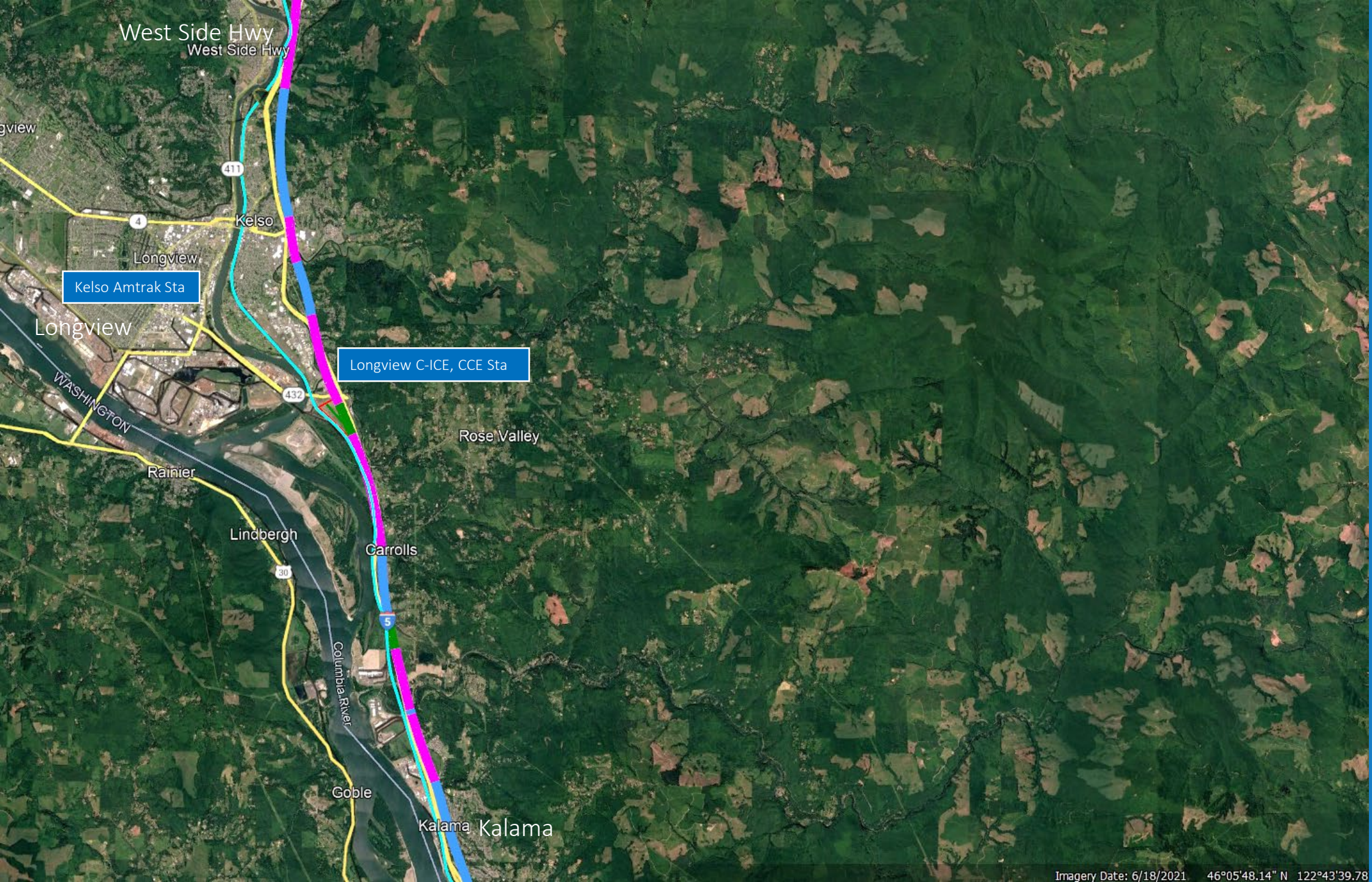
Parking area = 15 acres.

The platform is 40 feet above ground. The station tracks are 1300 feet long.

This station has four tracks at the platform. There are two 20-foot-wide platforms between the tracks.

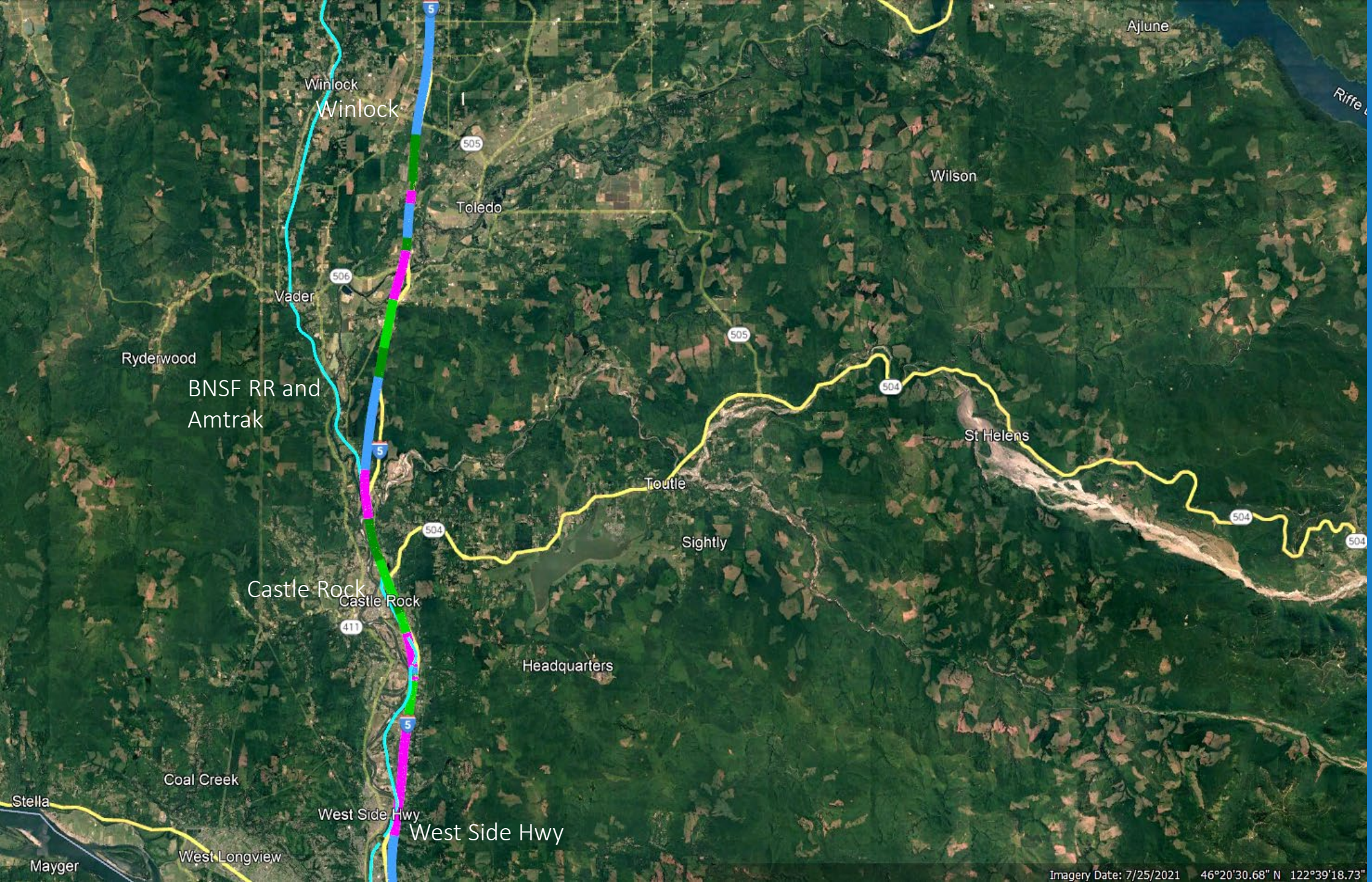
Access is available via elevators, escalators, and stairs.

CHSR Longview Station Des by RN

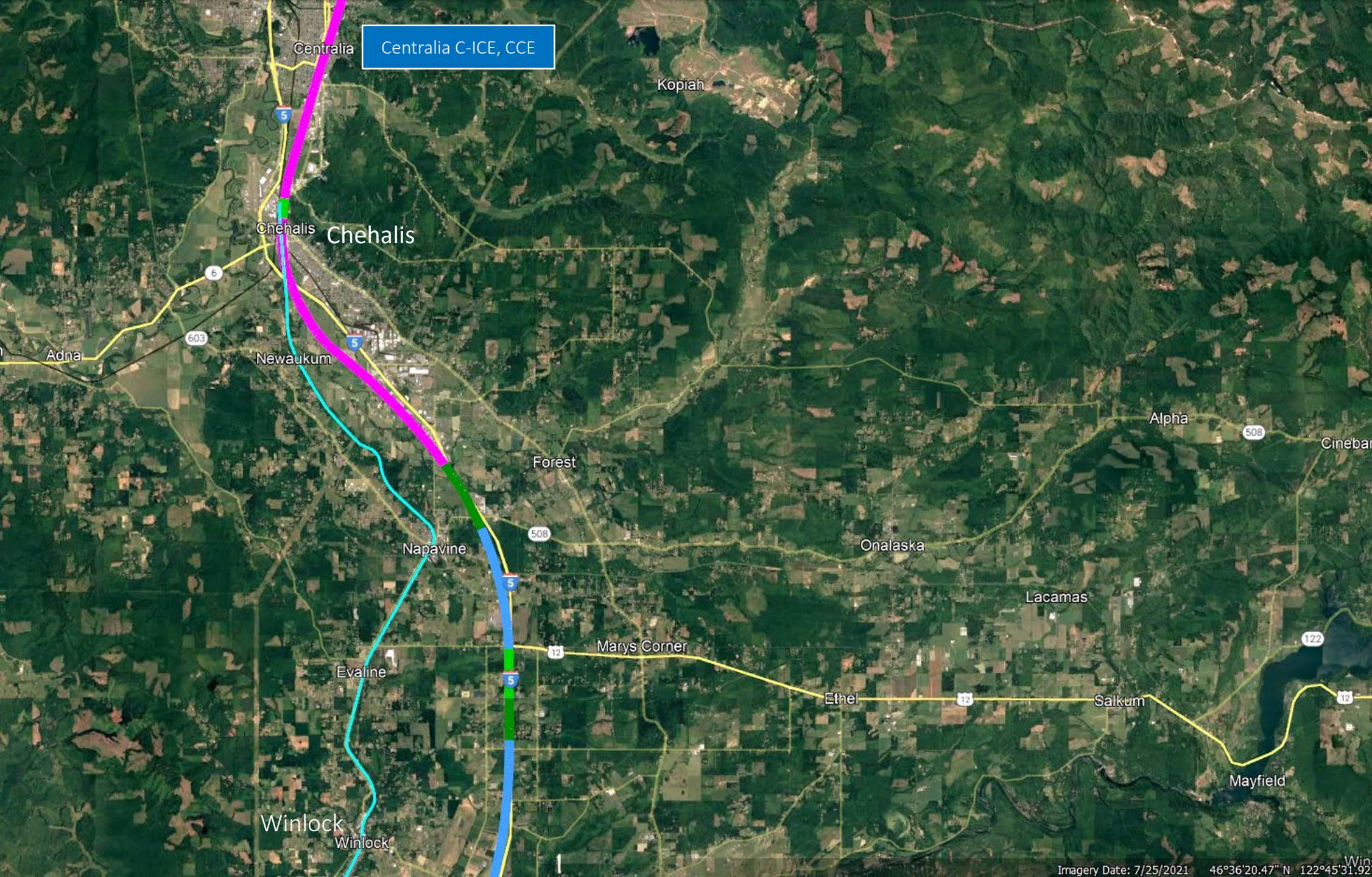


CHSR Corridor
between Kalama
and Longview
CHSR Station

This corridor
section has
flyovers, fills,
tunnels, and a
full-service
CHSR yard.



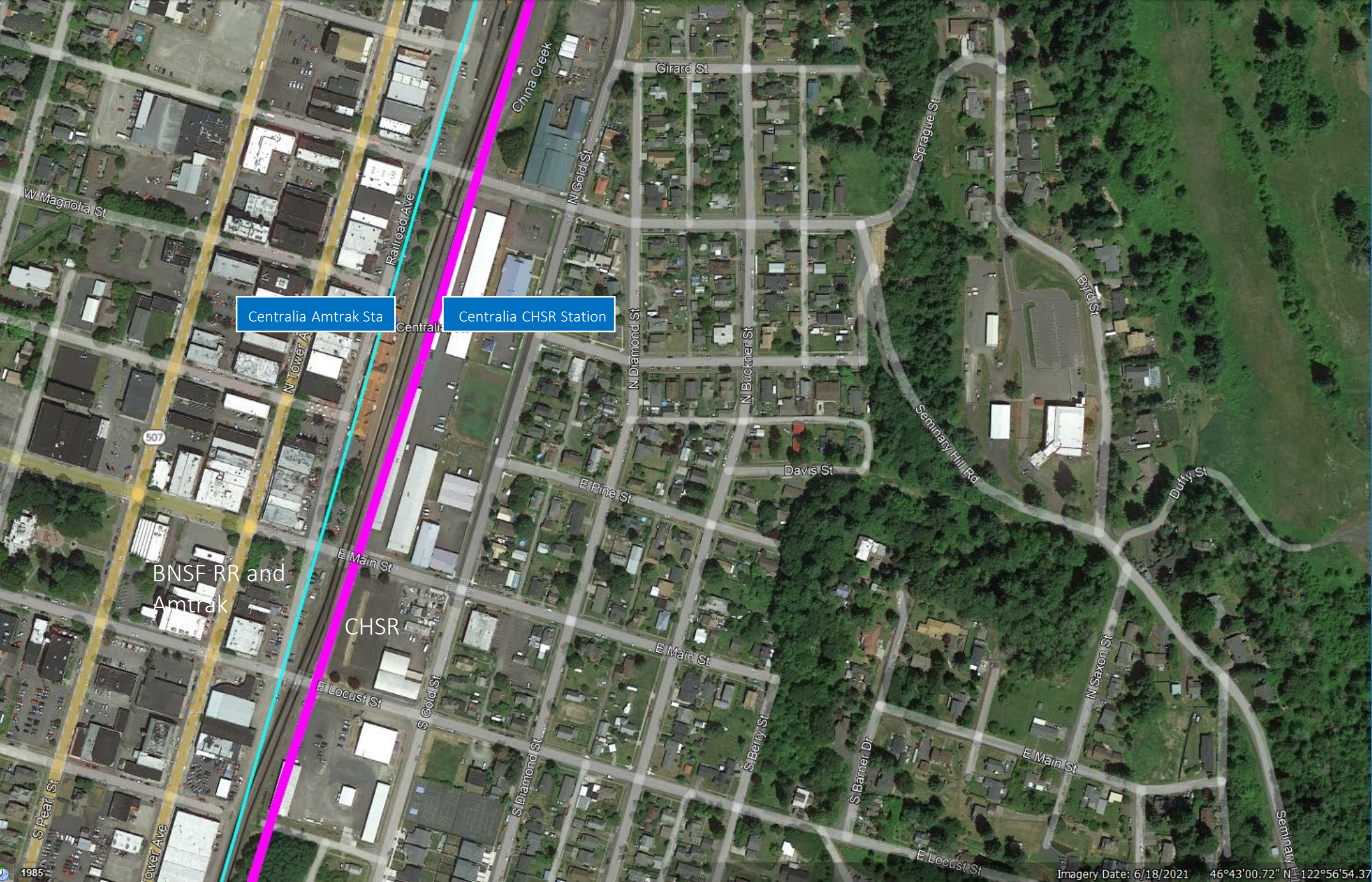
CHSR Corridor
between West
Side Hwy and
East of Winlock

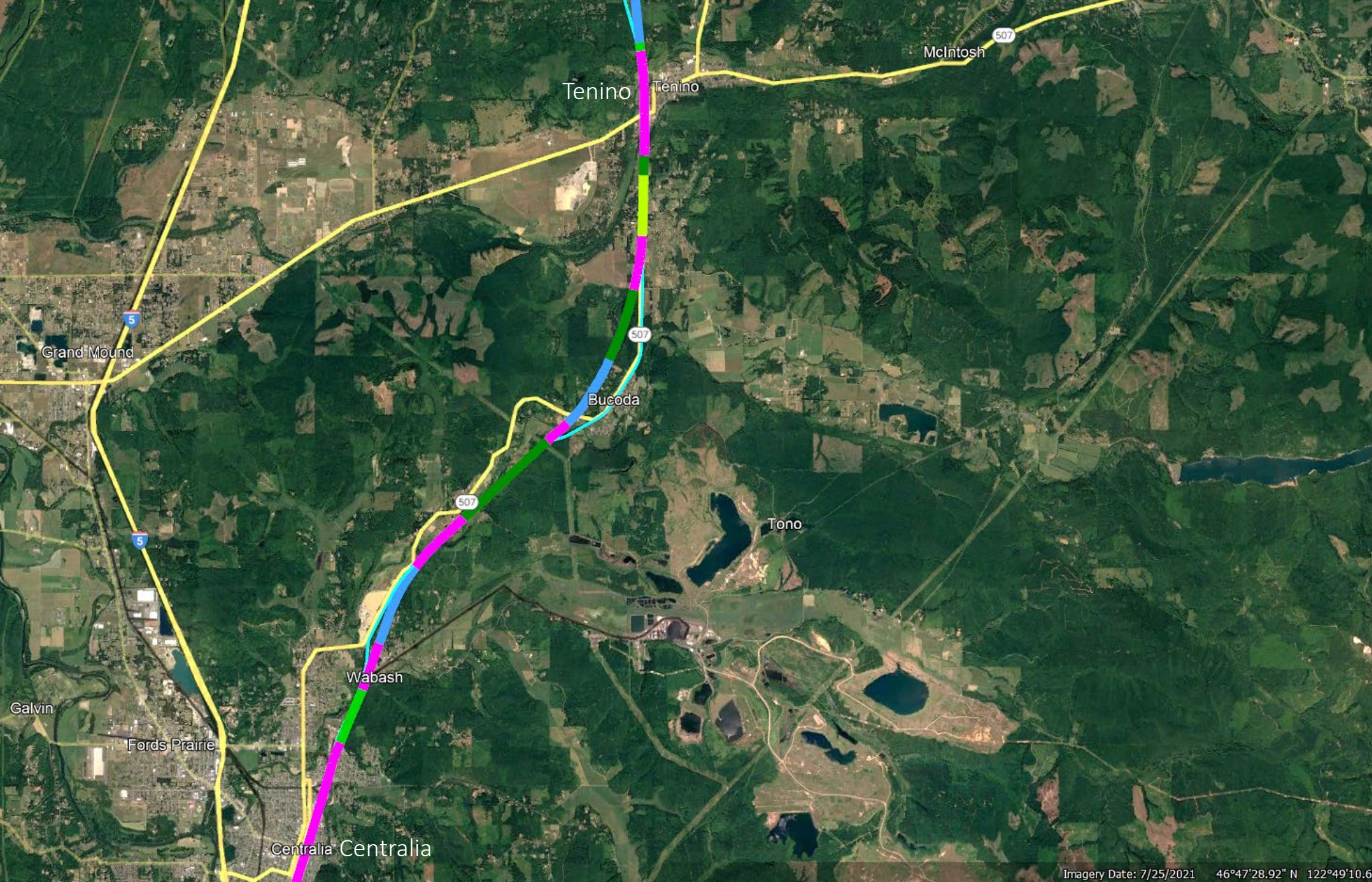


Centralia C-ICE, CCE

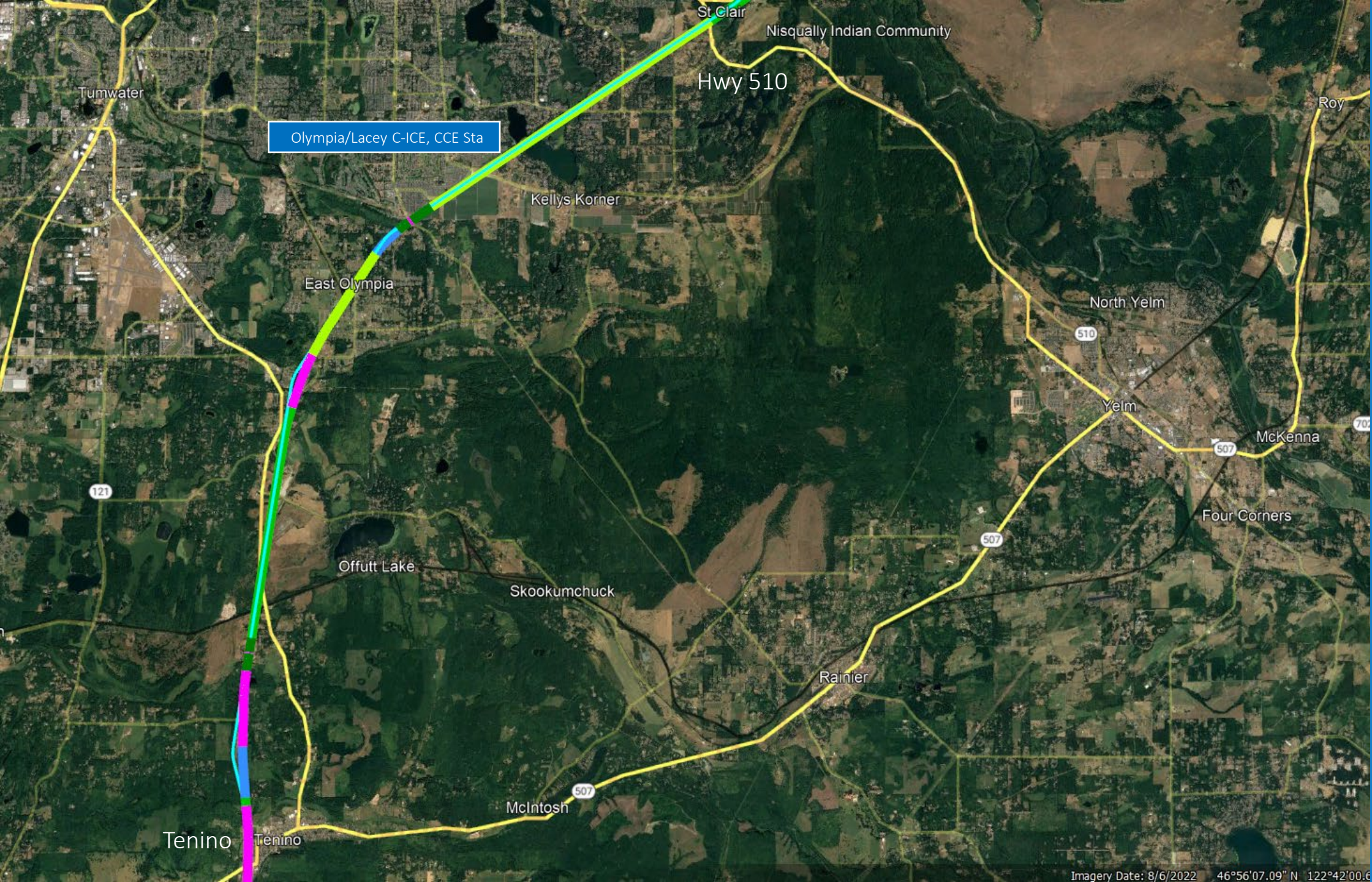
CHSR Corridor
between East
of Winlock and
Centralia

Cascadia High Speed Rail and Amtrak Station in Centralia





CHSR Corridor between Centralia and Tenino



CHSR Corridor between Tenino and Hwy 510



Olympia/Lacey Amtrak Station

Olympia/Lacey C-ICE, CCE CHSR Station

Yelm Hwy SE to Olympia

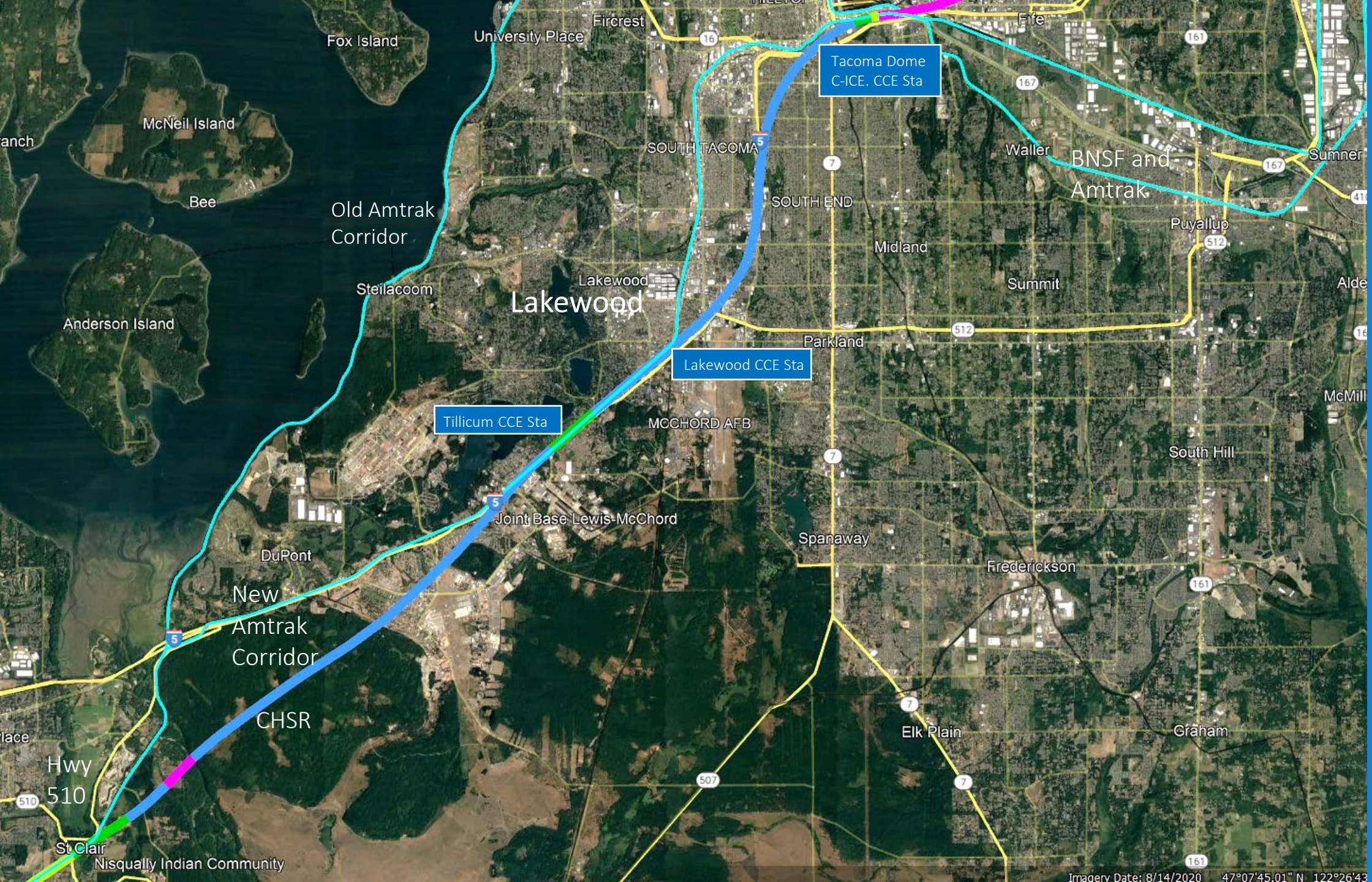
Possible new Town Center

CHSR train service and express freight transfer

Lacey/Olympia Proposed CHSR and Existing Amtrak Stations

The CHSR corridor is in a widened cut under Yelm Hwy SE and at the same level as BNSF/Amtrak tracks.

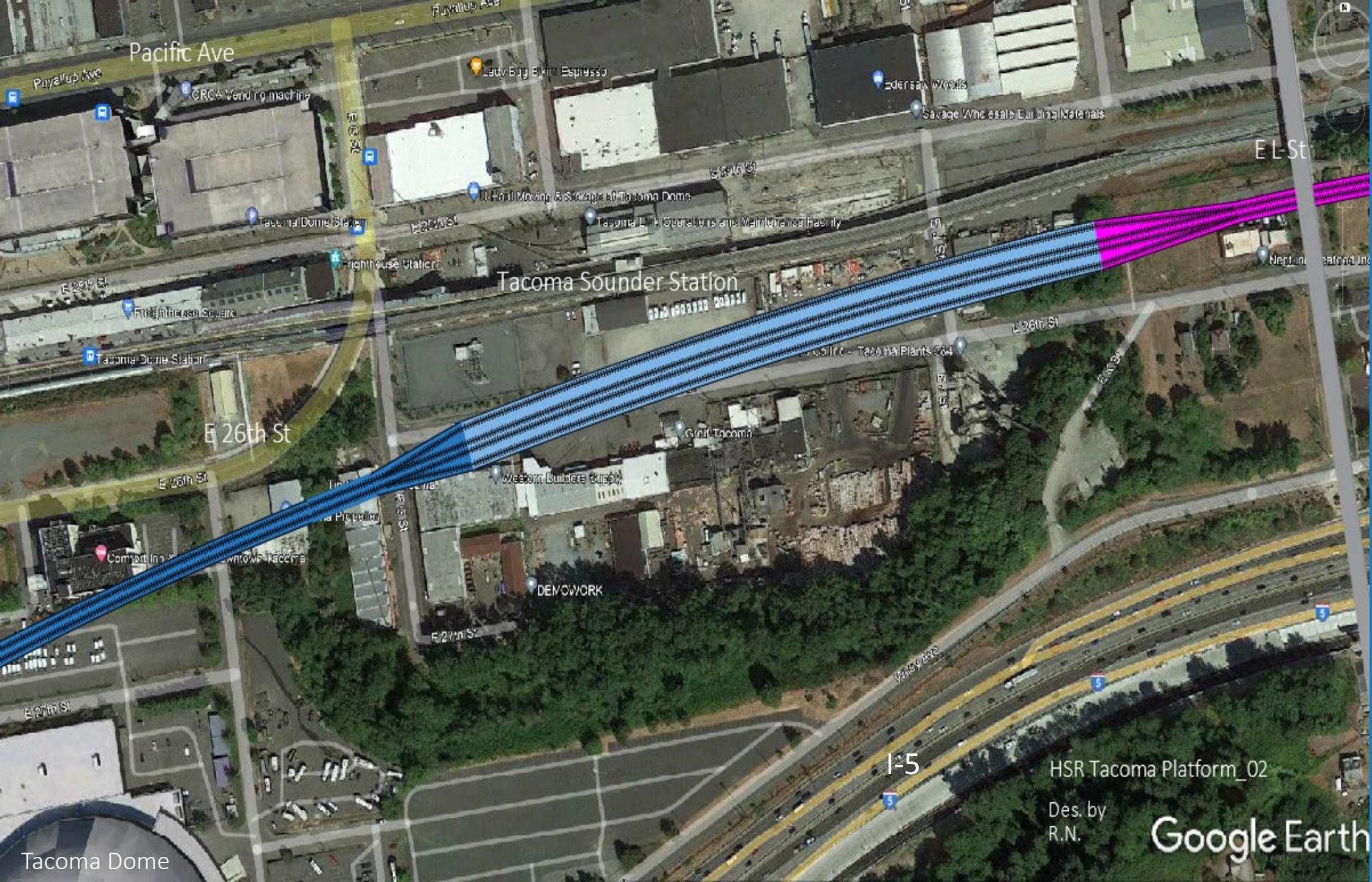
Farmland to the east is a good location to rezone for a new town center.



CHSR Corridor between Hwy 510 and Tacoma

The existing BNSF freight rail corridor has many tight curves that are unsuitable for CHSR trains.

The Tillicum station is in the cut-and-cover. The Lakewood and Tacoma stations are in the underground tunnels.

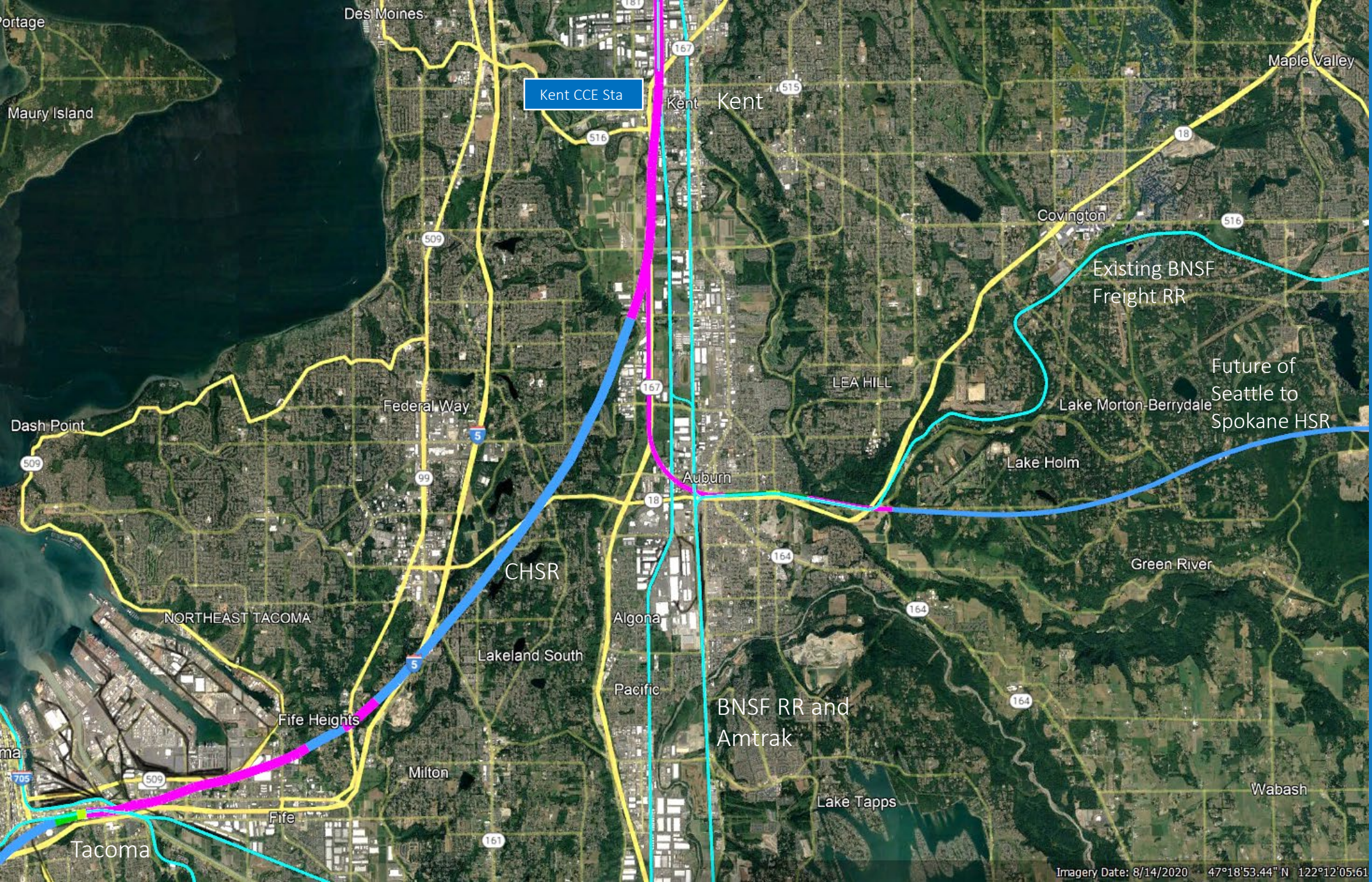


CHSR at the Tacoma Dome Station

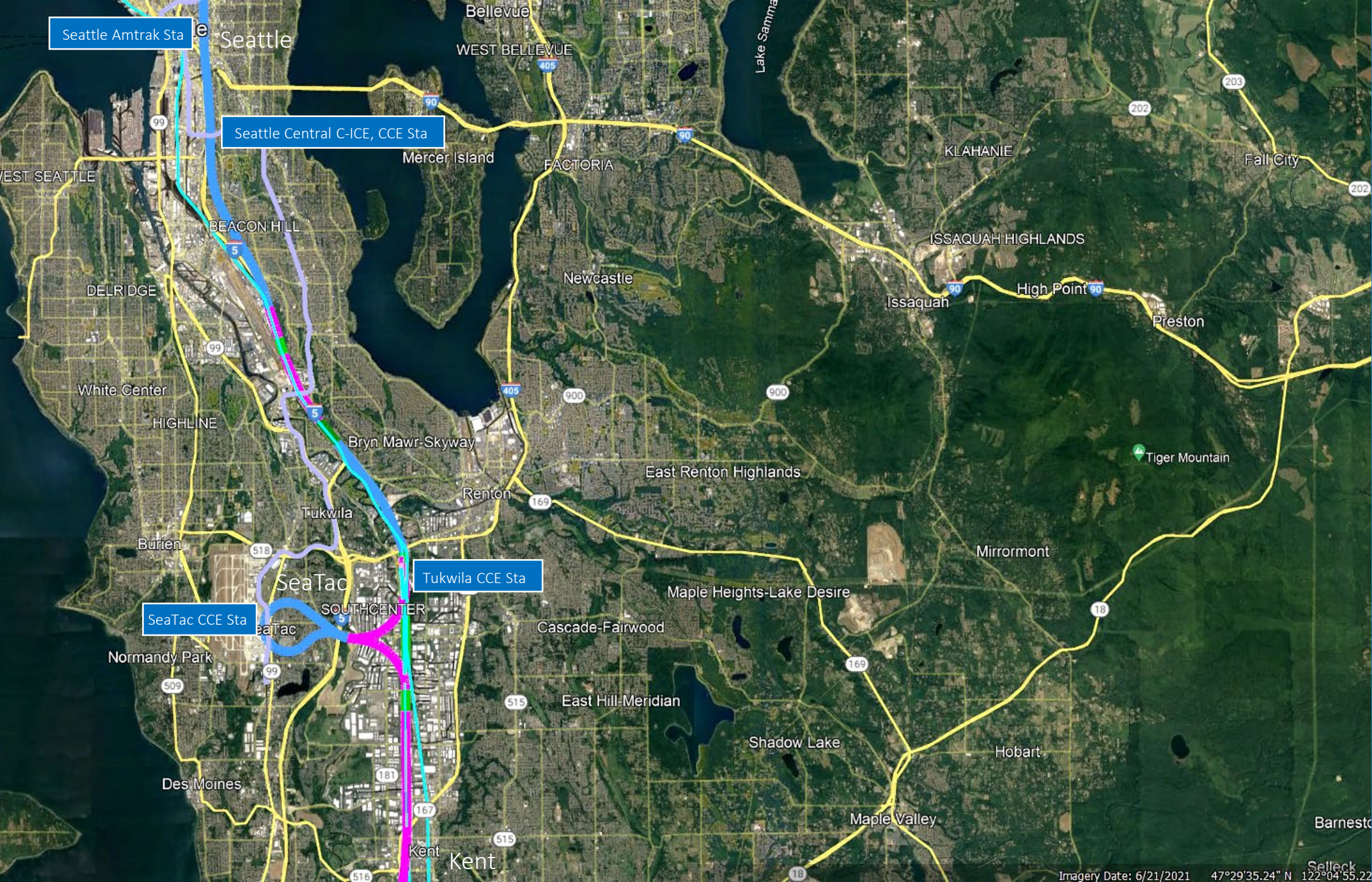
The CHSR C-ICE CCE corridor is part tunnel and part cut-and-cover.

The station is below the city streets to the west and a flyover to the east. The CHSR will underpass E L Street.

The land surrounding the new C-ICE CCE Station is well-suited for a town center. (see next page)



CHSR Corridor between Tacoma and Kent



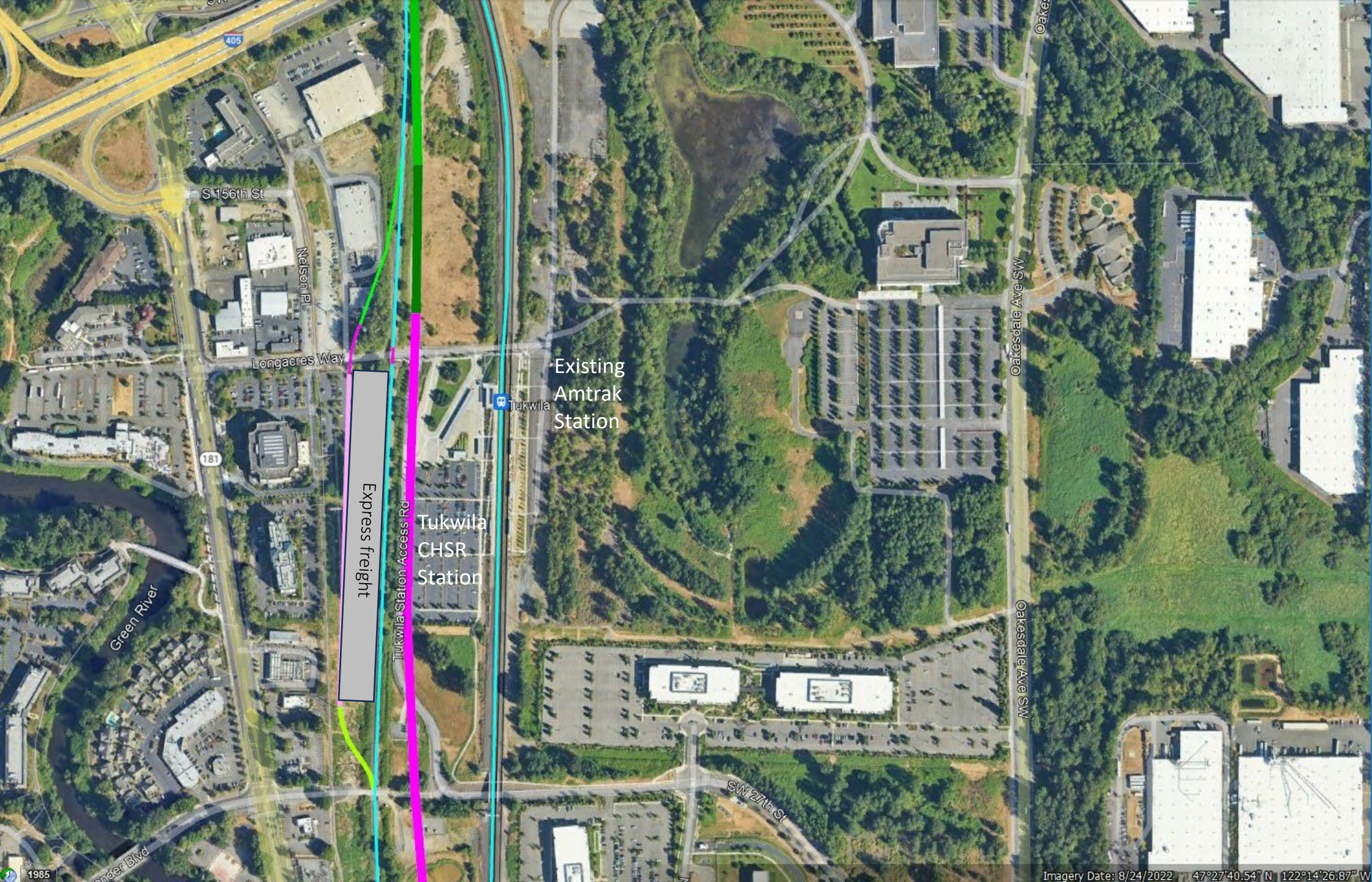
Seattle Amtrak Sta

Seattle Central C-ICE, CCE Sta

SeaTac CCE Sta

Tukwila CCE Sta

CHSR between
Kent and Seattle



HSR at Tukwila

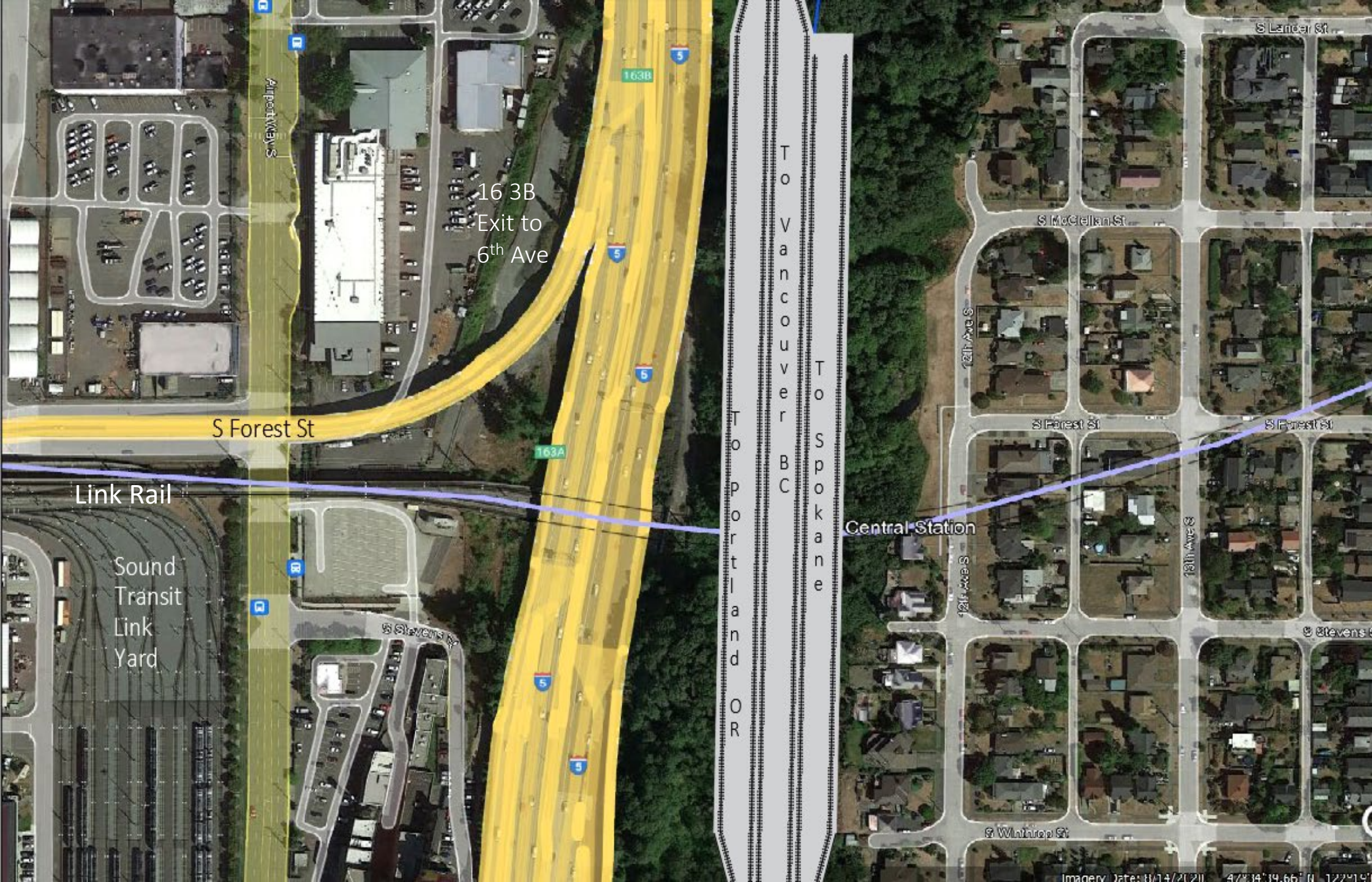
Here we have express freight. Station to load/unload containers.

Not all trains will stop at Tukwila.

Express freight

Tukwila CHSR Station

Existing Amtrak Station



CHSR at the new Seattle Central Station

This station is below ground and above the Link-Rail Line.

The station has six tracks: two to Vancouver, BC, two to Portland, and two for a future Spokane connection.

Mixed-use development and parking are above the new underground Link Rail Station and CHSR Station.



VARIETY OF HOUSING OPTIONS

DEVELOPMENT BOUNDARY

15,300,000 SF

(2:1 FAR) = 10,200,000 SF

(1:1) = 5.1 mil. SF

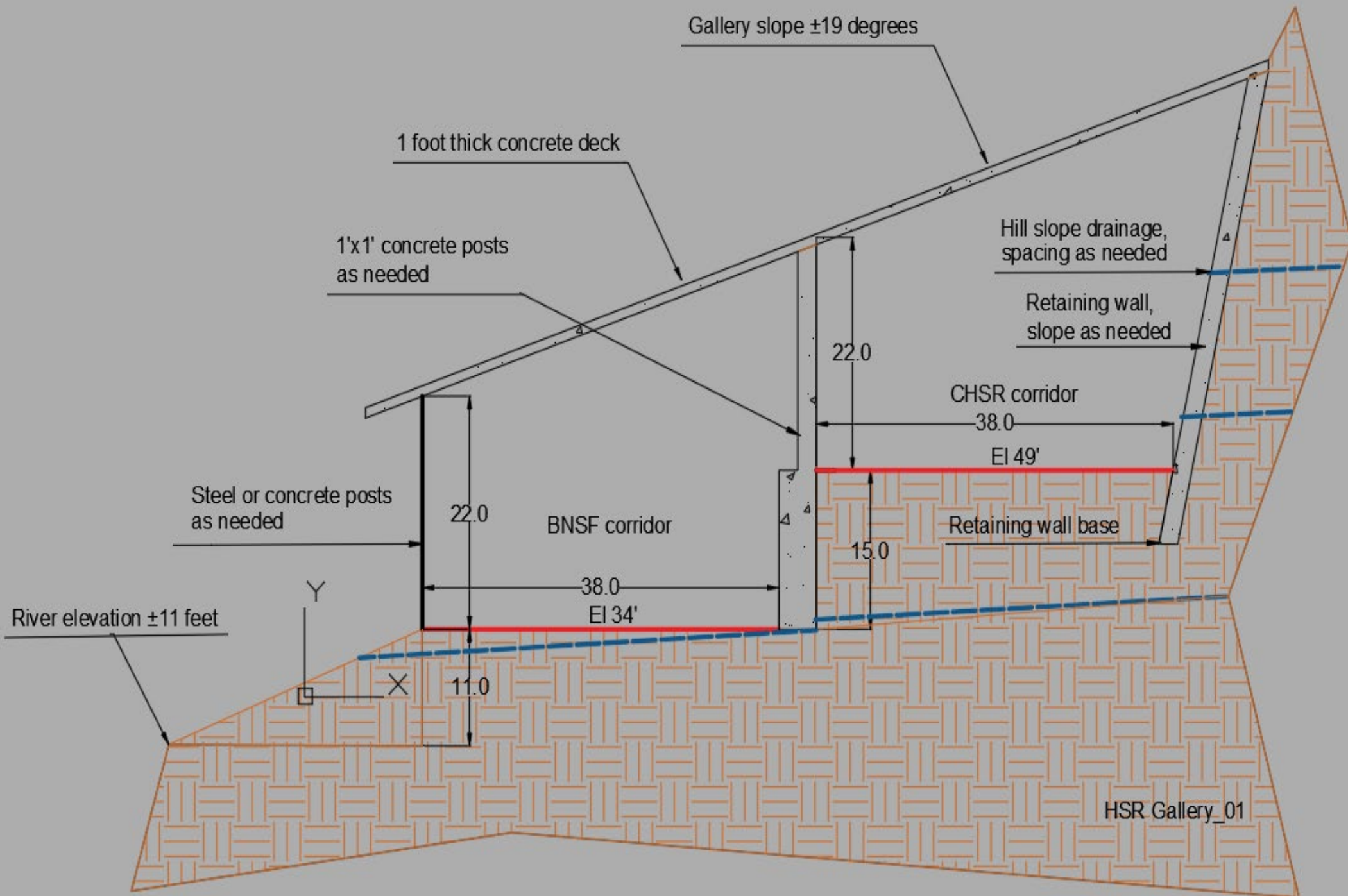
Portland CHSR Station to Olympia/Lacey CHSR Station Mileage and Times

Number One = Priority, Number two = Secondary Stops

Station to Station	CHR Corridor Milage	Estimated Travel Times
Portland-Vancouver, OR # 1	7.38 miles	7 minutes
Vancouver-NW 78 th St # 2	3.98 miles	5 minutes
78 th – Ridgefield # 2	10.28 miles	8 minutes
Ridgefield-Woodland # 2	5.84 miles	6 minutes
Woodland-Long View # 2	15.66 miles	10 minutes
Portland-Long view Direct # 1	43.14 miles	19 minutes
Long View-Centralia # 1	44.61 miles	18 minutes
Centralia-Olympia/Lacey # 1	24.26 miles	12 minutes
Via C-ICE with three stops	Portland-Olympia/Lacey	49 minutes
Via C-ICE with one-stop	Portland-Tacoma-Seattle Central	58 minutes

Olympia/Lacey CHSR Station to Seattle Central CHSR Station Mileage and Times

Station to Station	CHSR Corridor Milage	Estimated Travel Times
Olympia/Lacey-Tillicum	15.22 Miles	10 minutes
Tillicum-Lakewood	2.66 Miles	4 minutes
Lakewood-Tacoma Dome Sta	7.60 Miles	7 minutes
Tacoma Dome Sta-Kent	13.85 Miles	9 minutes
Kent-Tukwila	5.81 Miles	7 minutes
Tukwila-Seattle Central	8.81 Miles	7 minutes
Transportation Mode Comparison	Stop to Stop	Estimated Travel Time
Portland-Seattle King Station	187 miles (Amtrak)	3hr 45 minutes
Portland-Seattle	173.7 miles (Automobile)	2hr 56 minutes
Portland-Seattle Central Station	167 miles (CHSR)	58 minutes



Stabilization Plan, Ridgefield Section Plan, and Sounder Corridor between Seattle and Everett

The slope-drainage pipes prevent landslides.

Falling trees and debris will slide over the gallery roof without damaging the rail tracks.



CHSR Wildlife Under Crossing as Needed

This is an example of providing wildlife under passing. The underpass has open access with trees, shrubs, and greenery to copy the approach sides.

Freight Rail

CHSR

HSR wildlife underpass



CHSR
Wildlife
Crossing as
Needed

This is an example to provide wildlife overpassing. The overpass is fenced with trees, shrubs, and greenery to copy the approach sides.

CHSR Miles between Portland and Centralia, WA

On Ground	Cut/Fill	Flyover or Bridges	Tunnels or Underpass
0.23 Mi Po_013 BNSF *	0.27 Mi Po_010 new	0.70 Mi Po_001 new	1.10 Mi Po_003 new
1.16 Mi Po_020 BNSF	0.12 Mi Po_011 new	3.00 Mi Po_002 new	0.10 Mi Po_008 new
		3.82 Mi Po_004 UPRR/BNSF	
	0.10 Mi Po_015 BNSF	1.32 Mi Po_006 BNSF	1.11 Mi Po_012 new
	0.57 Mi Po_016 BNSF	0.79 Mi Po_007 BNSF *	0.51 Mi Po_014 new
	1.00 Mi Po_018 BNSF	0.20 Mi Po_009 new	0.56 Mi Po_017 new
	2.10 Mi Po_021 BNSF *	0.39 Mi Po_019 BNSF	0.79 Mi Po_025 new
	0.44 Mi Po_022 new	0.17 Mi Po_020a BNSF	0.10 Mi Po_027 new
	0.16 Mi Po_022b new	0.10 Mi Po_022a new	2.82 Mi Po_029 new
	0.19 Mi Po_022d new	0.12 Mi Po_022c new	4.43 Mi Po_034 new
	0.45 Mi Po_023 BNSF	0.10 Mi Po_022e new	0.10 Mi Po_036 I-5
	2.18 Mi Po_031 BNSF *	0.13 Mi Po_024 new	1.00 Mi Po_039 new
	0.39 Mi Po_033 new	0.12 Mi Po_026 new	0.84 Mi Po_043 new
	1.14 Mi Po_035a new	0.10 Mi Po_028 new	2.00 Mi Po_045 new
	0.56 Mi Po_038 I-5	0.51 Mi Po_030 new	0.20 Mi Po_050 new
	0.53 Mi Po_041 new	4.51 Mi Po_032 new	2.70 Mi Po_058 new
	1.17 Mi Po_047 I-5	0.99 Mi Po_037 I-5	0.98 Mi Po_063 I-5
	0.10 Mi Po_049 new	1.92 Mi Po_040 I-5 *	3.47 Mi Po_068 new
	0.60 Mi Po_052 new	1.48 Mi Po_042 new *	2.42 Mi Po_071 new
	0.39 Mi Po_053 I-5	0.76 Mi Po_044 new *	
	1.25 Mi Po_054 I-5	3.35 Mi Po_046 I-5 *	
	0.71 Mi Po_055 I-5	0.13 Mi Po_048 new	
	0.55 Mi Po_056 I-5	1.00 Mi Po_051 new	
	0.87 Mi Po_059 I-5	1.41 Mi Po_057 new *	
	1.42 Mi Po_060 I-5 *	1.47 Mi Po_061 new	
	0.38 Mi Po_062 I-5	0.39 Mi Po_064 I-5	
	0.26 Mi Po_065 I-5	6.00 Mi Po_073 new	
	0.80 Mi Po_066 new	3.13 Mi Po_075 BNSF	
	0.64 Mi Po_067 new		
	0.83 Mi Po_069 I-5		
	0.97 Mi Po_070 I-5		
	1.45 Mi Po_072 I-5		
	0.39 Mi Po_074 new		
1.39 Miles 1.58 %	22.98 Miles 26.20 %	38.11 Miles 43.45 %	25.23 Miles 28.76 %
			87.71 Miles Total HSR
			93 Miles Total Amtrak

New and existing Right of Way (RoW)

49.47 miles in a new corridor	38.24 miles in an existing right of way, BNSF, or Hwy
56.40 % of this CHSR RoW must be acquired	43.60% may be shared
Tunnel miles may be excluded from the RoW purchase.	

* = Some deviations, as some miles are aside from the named corridor segment.

CHSR Miles between Centralia, WA, and Seattle Central Station

On Ground	Cut/Fill	Flyover or Bridges	Tunnels or Underpass
0.77 Mi Po_086 Hwy 507	0.74 Mi Po_077 new	1.34 Mi Po_076 BNSF	1.14 Mi Po_079 new
1.56 Mi Po_097 BNSF	1.45 Mi Po_081 BNSF	0.62 Mi Po_078 new	0.96 Mi Po_083 new
2.42 Mi Po_102 BNSF	0.94 Mi Po_084 new	0.82 Mi Po_080 BNSF *	0.68 Mi Po_090 new
0.22 Mi Po_102b BNSF	0.26 Mi Po_087 Hwy 507	0.35 Mi Po_082 new	0.55 Mi Po_098 new
0.43 Mi Po_102d BNSF	0.11 Mi Po_089 new	0.72 Mi Po_085 new	0.91 Mi Po_104 new
	0.24 Mi Po_092 BNSF	1.33 Mi Po_088 BNSF *	8.59 Mi Po_106 new
	0.20 Mi Po_094 BNSF	1.00 Mi Po_091 new	1.66 Mi Po_108 Pac Hwy
	3.22 Mi Po_095 BNSF	0.05 Mi Po_093 BNSF	3.67 Mi Po_109 PC/I-5
	0.21 Mi Po_099 new	0.79 Mi Po_096 new	3.58 Mi Po_110 new *
	0.34 Mi Po_101 BNSF	0.05 Mi Po_100 BNSF	0.57 Mi Po_114 new
	1.74 Mi Po_103 BNSF *	0.10 Mi Po_102a BNSF	6.53 Mi Po_116 new
	1.00 Mi Po_107 I-5	1.13 Mi Po_102c BNSF	2.42 Mi Po_122 new
	0.32 Mi Po_111 new	0.71 Mi Po_105 new	3.51 Mi Po_127 new *
	1.48 Mi Po_118 SP&S	0.77 Mi Po_112 new	
	1.10 Mi Po_119 SP%S	2.64 Mi Po_113 new	
	0.10 Mi Po_120 new	0.59 Mi Po_115 new	
		6.10 Mi Po_117 new, Hwy 167 and former SP&S	
	0.12 Mi Po_121 new	1.42 MI Po_124 I-5, BNSF	
	0.53 Mi Po_123 I-5, BNSF	0.59 Mi Po_126 I-5, BNSF	
	0.33 Mi Po_125 I-5, BNSF		
5.40 Miles 7.13 %	14.43 Miles 19.06 %	21.12 Miles 27.89 %	34.77 Miles 45.93 %
			75.72 Miles Total CHSR
			(79.72 via SeaTac) CHSR
		SeaTac Corridor	
		1.64 Mi Po_127a3 new	
			4.00 Mi Po_127a2 new
		2.11 Mi Po_127a1 new	
		3.75 Miles SeaTac CHSR	4 Miles
			7.75 Miles Total
			94 Miles Amtrak

New and existing Right of Way (RoW) declaration.

39.84 miles in a new corridor	39.88 miles in an existing right of way, BNSF, or Hwy
49.98 % of this CHSR RoW must be acquired.	50.03 % may be shared
Tunnel miles may be excluded from RoW purchase.	

* = Some deviation, as some miles are aside from the named corridor segment.

Please see below the educational videos of tunnel-boring machines for different geology. (Skip advertising)

[\(25\) TBM Variable \(25\) TBM Variable Density® EN - YouTube® EN - YouTube](#)

[Tunnel Boring Machine \(TBM\) animation. - YouTube](#)