Hwy 217 and 26 Bypass

- The proposed solution for the Portland Downtown traffic congestion is to build a western bypass through Forest Park Hill.

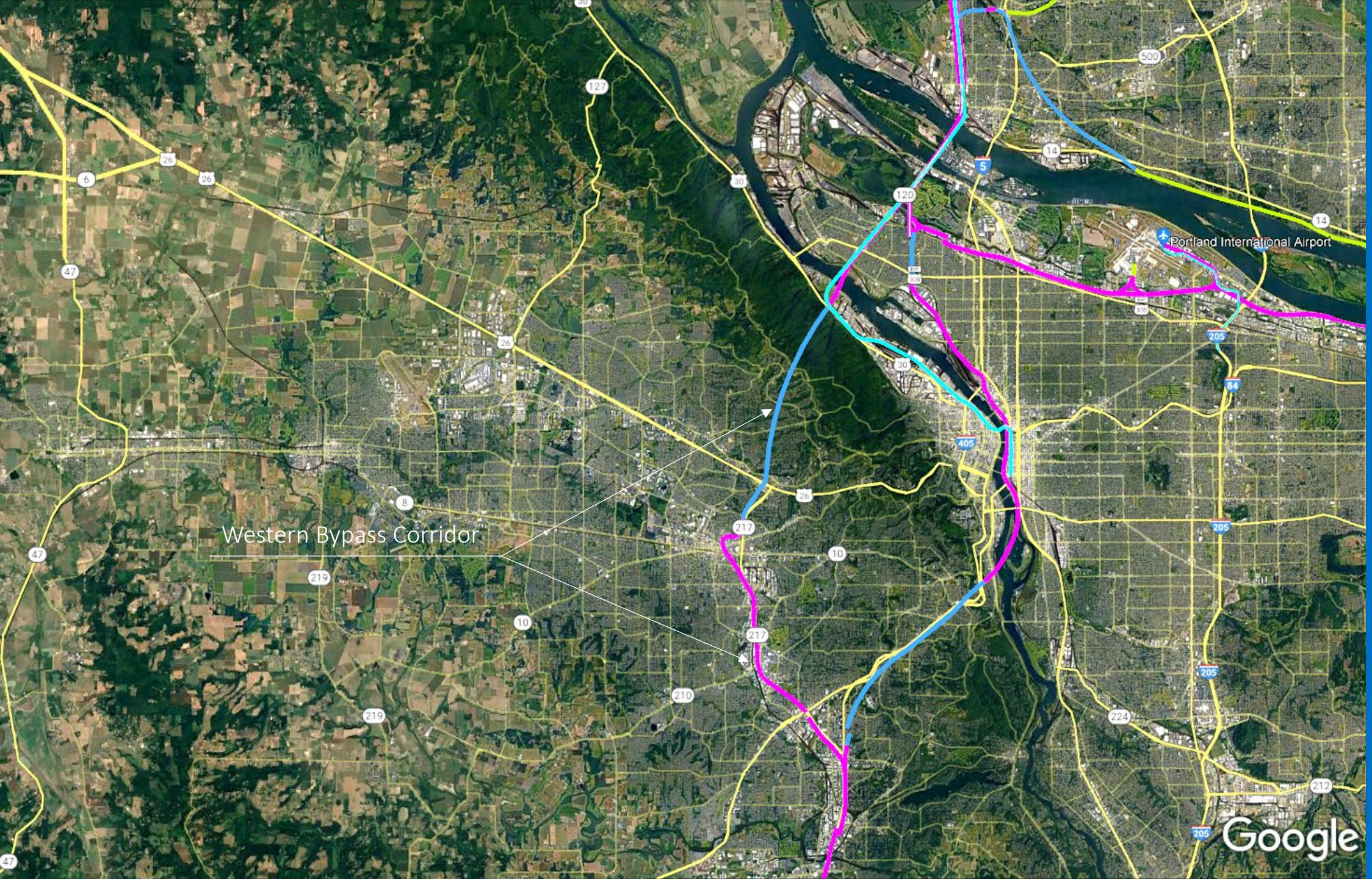
- This bypass will accommodate two motorways, one north, the other south, and a single-track commuter train in the center of the western bypass corridor.

- This commuter corridor is from Tualatin/Lower Boones Ferry Rd to Vancouver ± 18 miles. Tualatin to Beavertown may be double-tracked. Beaverton to the Multi-Modal Bridge may be single-tracked.

- This proposed plan will also address the freight rail crossing at the steel bridge. The rail freight interchange between the UP and the BNSF will now use the north crossing at the BNSF Willamette River. The CHSR will use the new Rose Quarter Transit Station.

- Hwy 217 and 26 Bypass_05

- Des. By R.N.

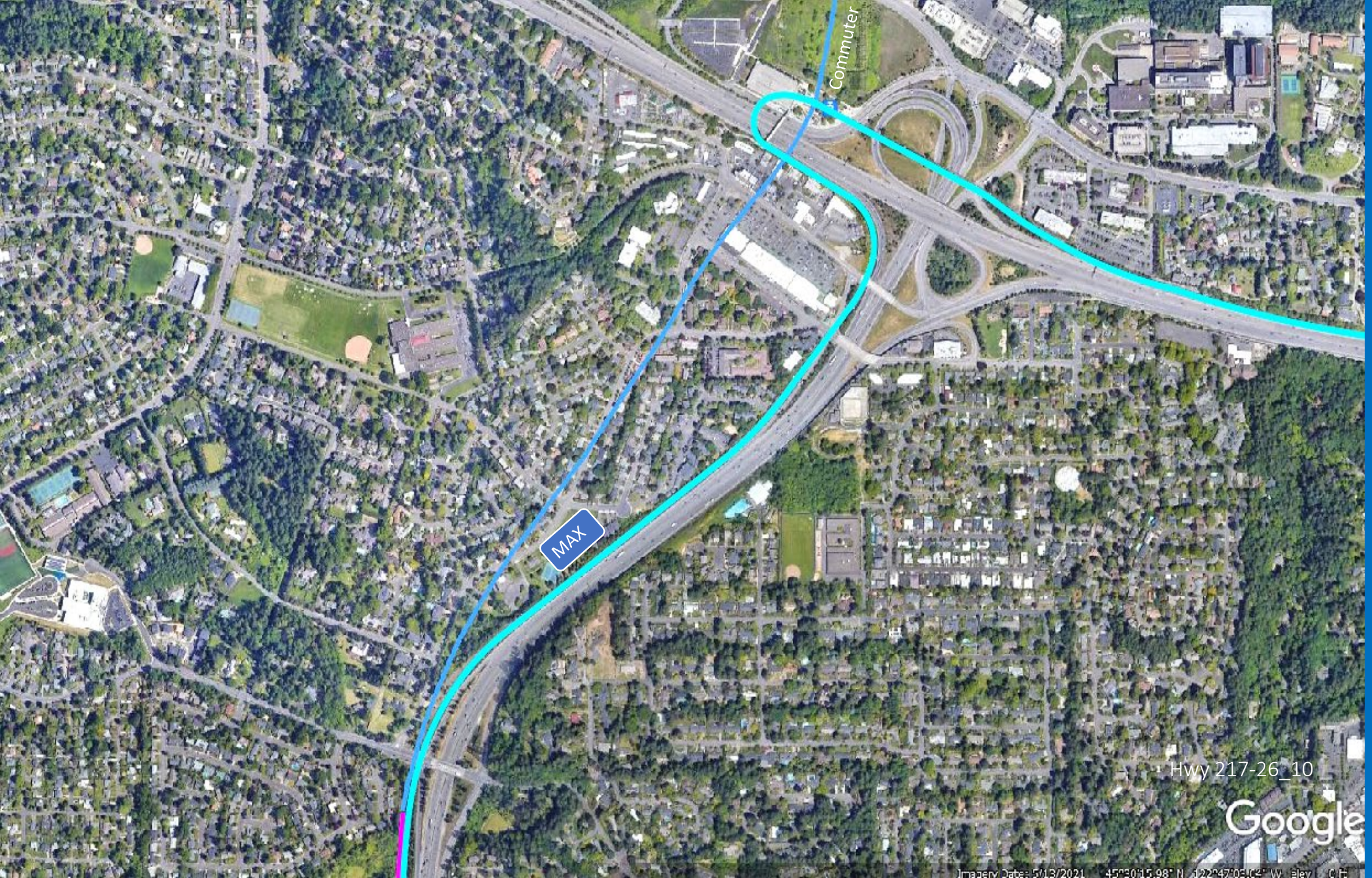


Bird's Eye View of the Western Bypass Corridor

This area provides bypassing for traffic on the west side of Portland.

The merging of the Hwy 217 with the Hwy 26 at the Sunset TC creates a massive bottleneck in Portland. The current roadway layout must absorb all the westside traffic between Sunset and Vancouver.

The proposed Forest Park bypass will solve this problem. Restrictions for hazardous materials will be applied.



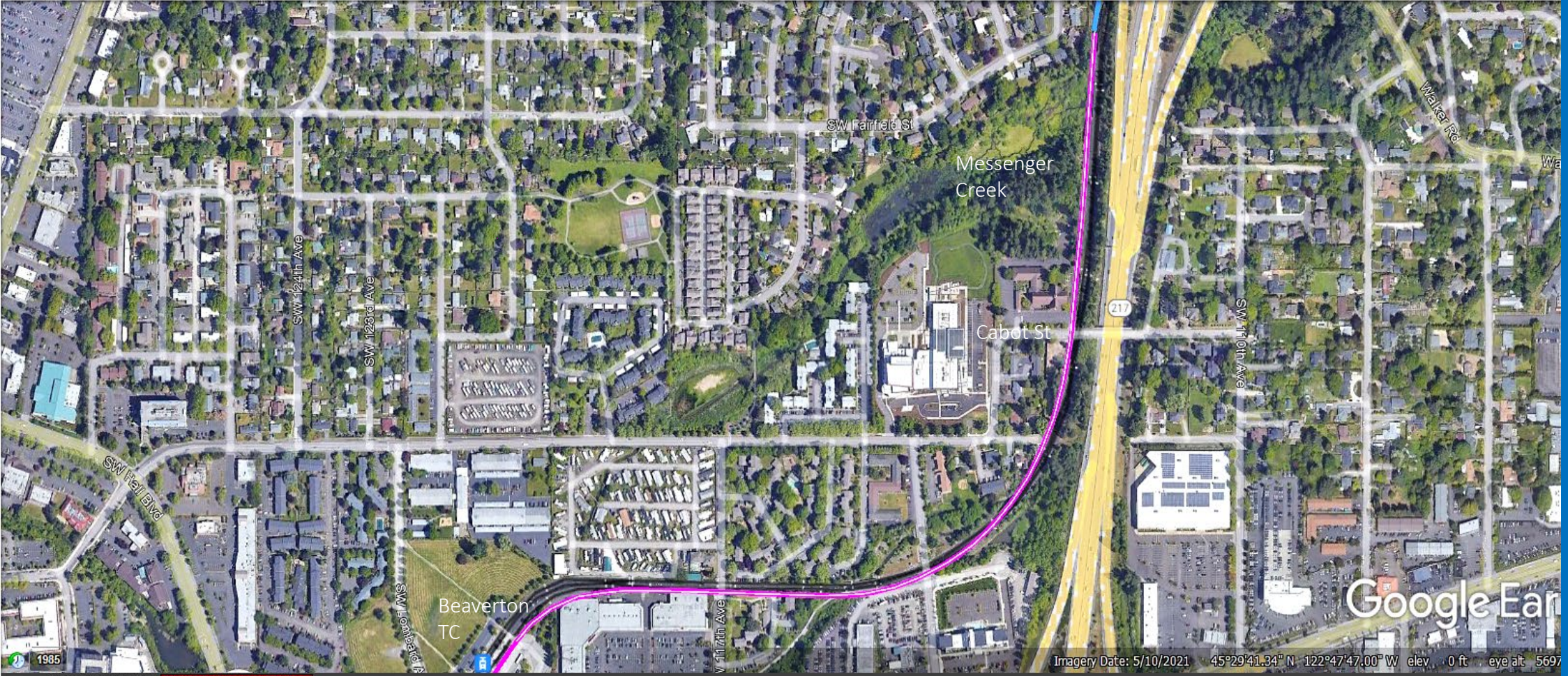
Bird's Eye View of the Sunset Transit Center

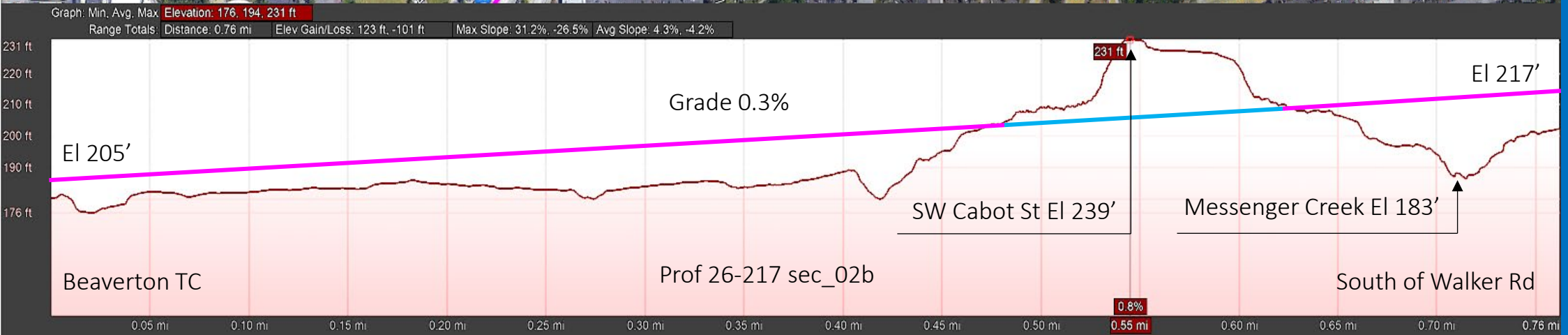
This area does interchange the highways 217 and 26.

The horseshoe loop is the MAX light rail, and the blue line is the proposed commuter line between Tualatin and Vancouver, WA.

The merging of the Hwy 217 with the Hwy 26 creates a massive bottleneck.

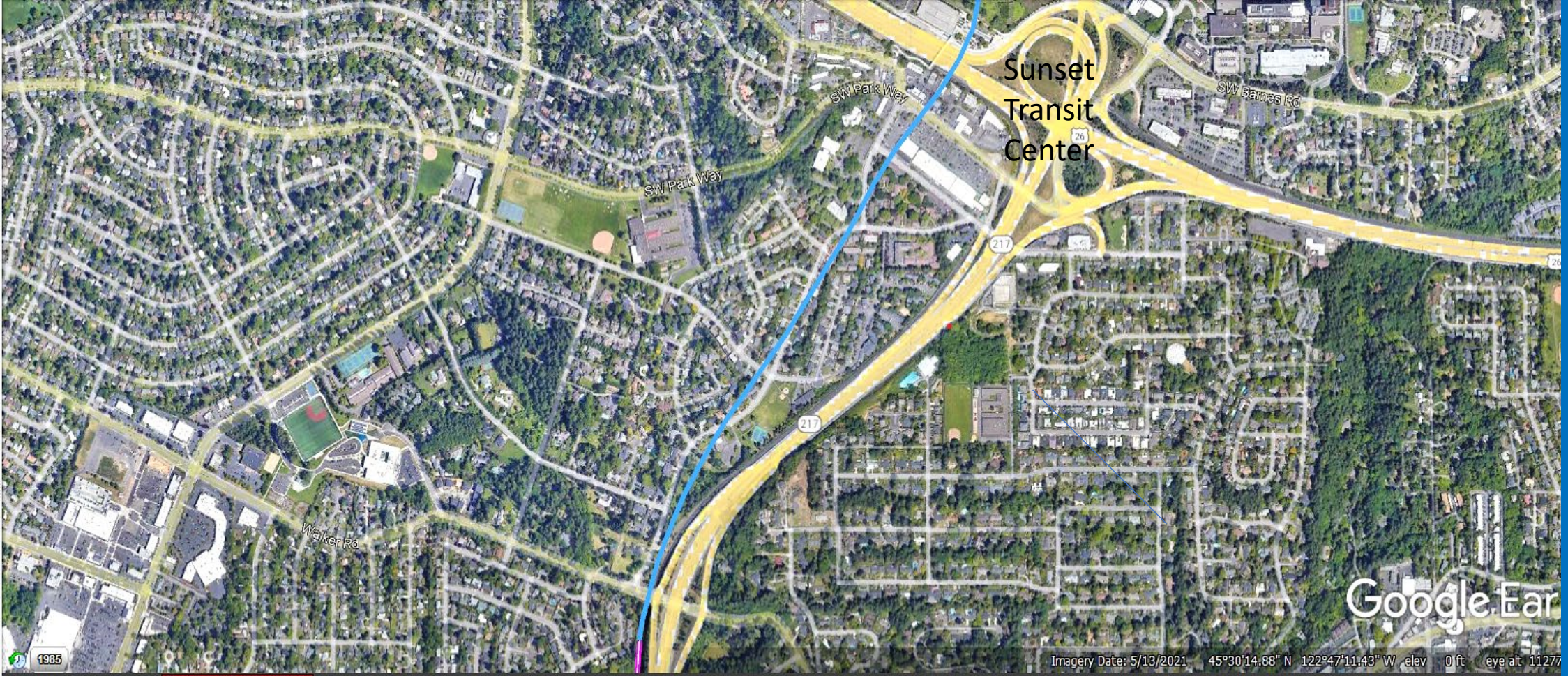
The proposed Forest Park bypass will solve this problem.

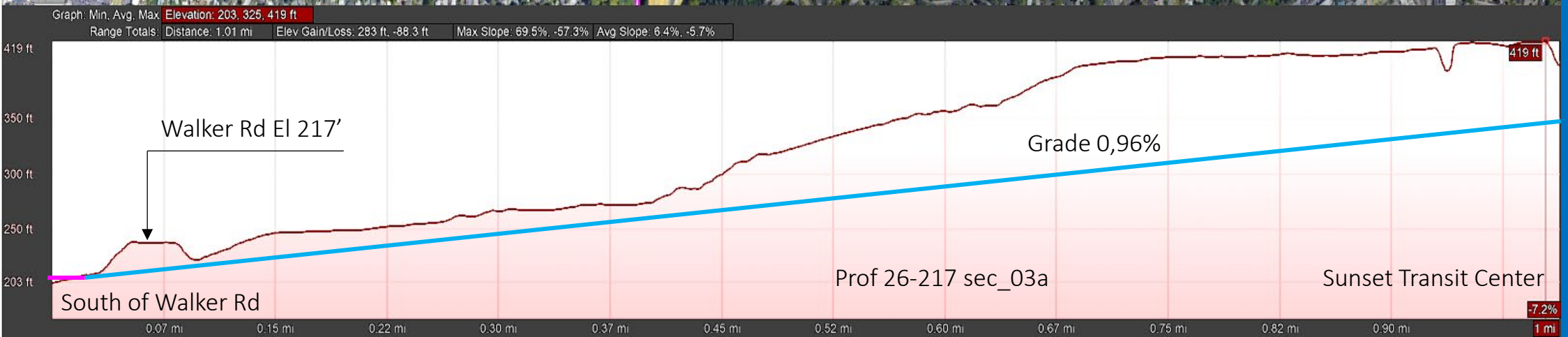




Beaverton Station to Sunset Tunnel Entrance

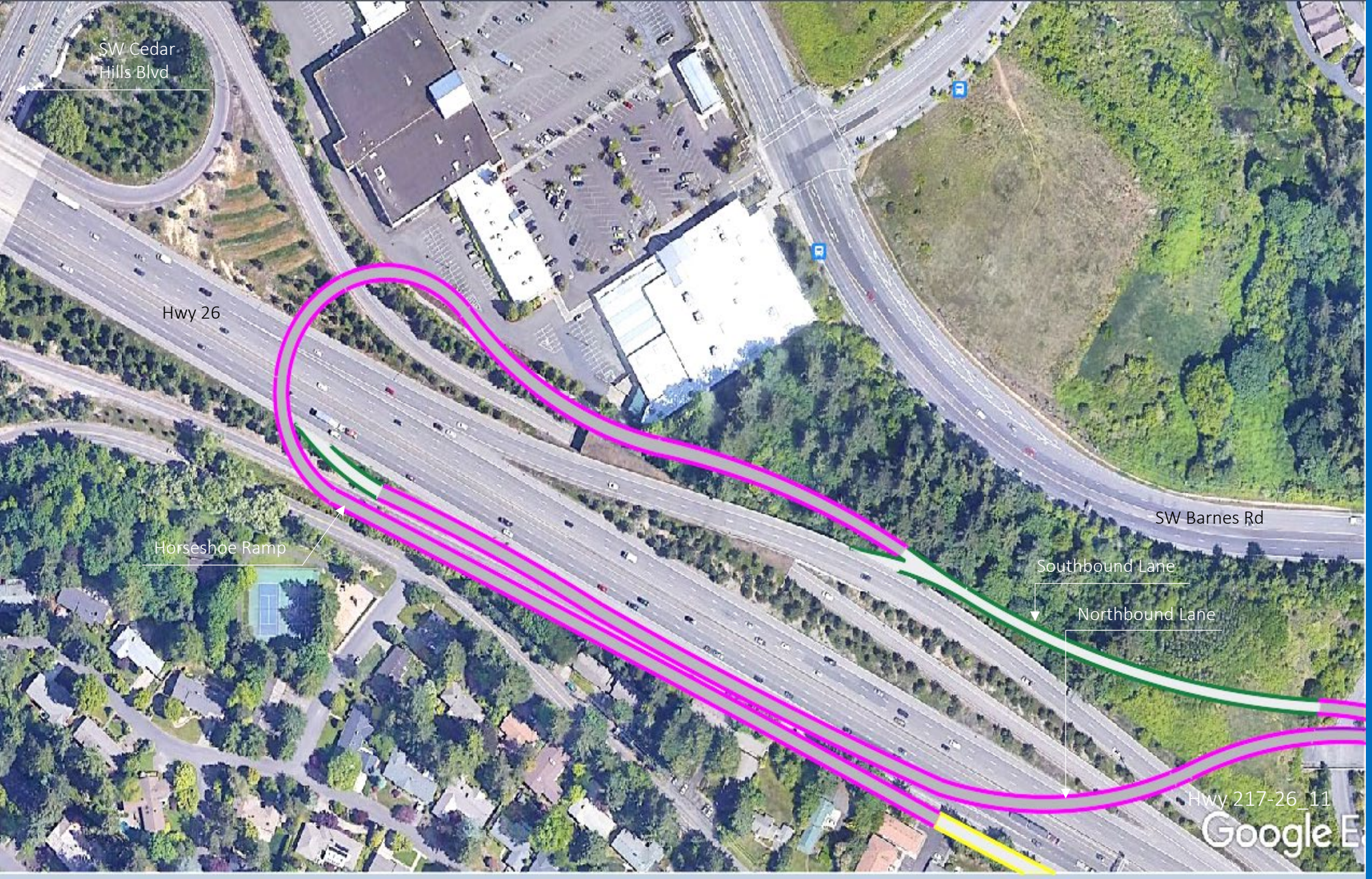
The commuter line is in a short tunnel below SW Cabot St and Messenger Creek.





The Tunnel between Beaverton and the Sunset Transit Center.

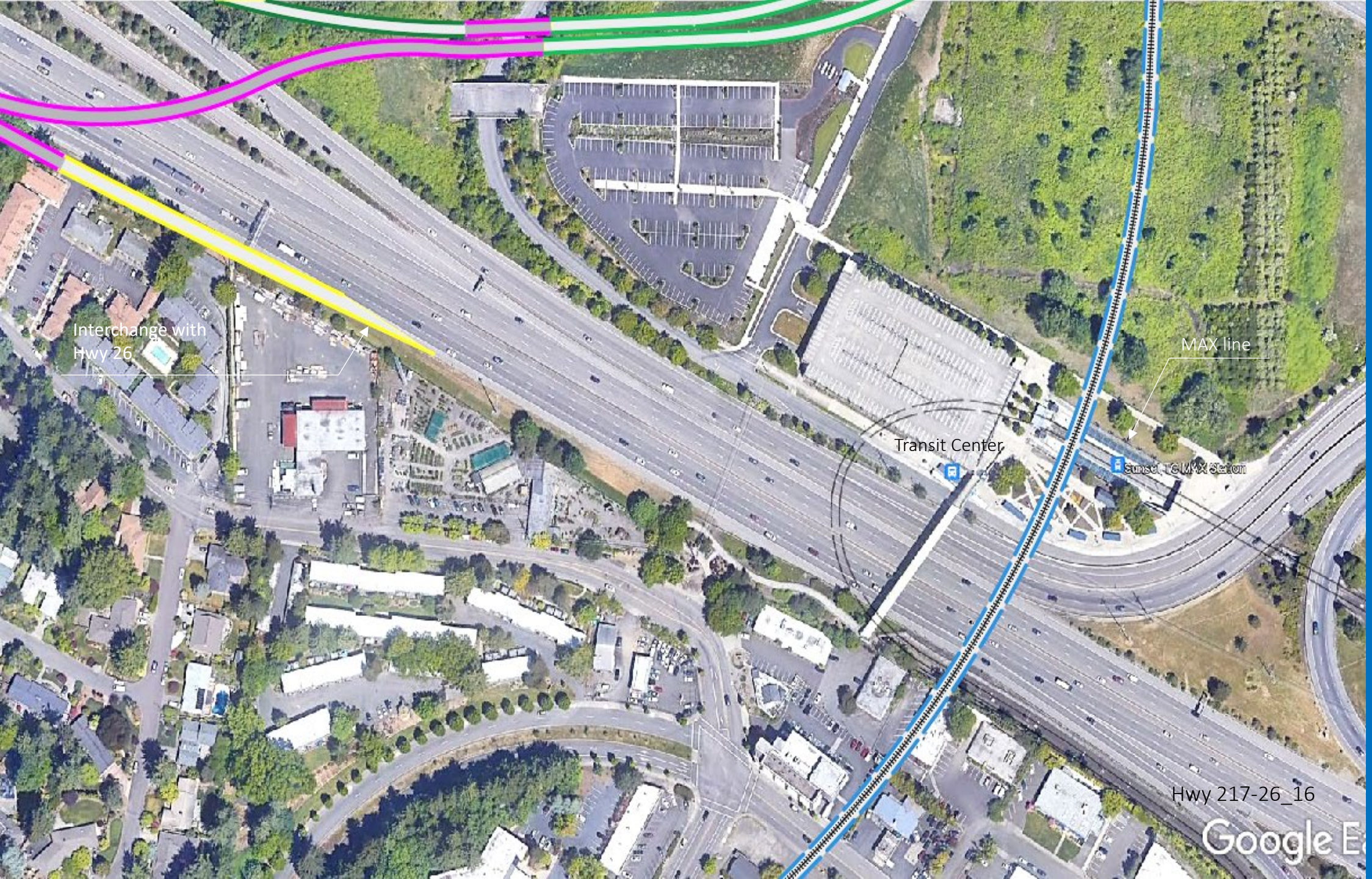
The commuter train will be in single track between Beaverton and the Vancouver CHSR River Station.



This is the Forest Park Corridor's Bypass Horseshoe Loop

The southbound lane from North Portland will direct intersect with the westbound Hwy 26 and loop around to inter sect with Hwy eastbound and Hwy 217.

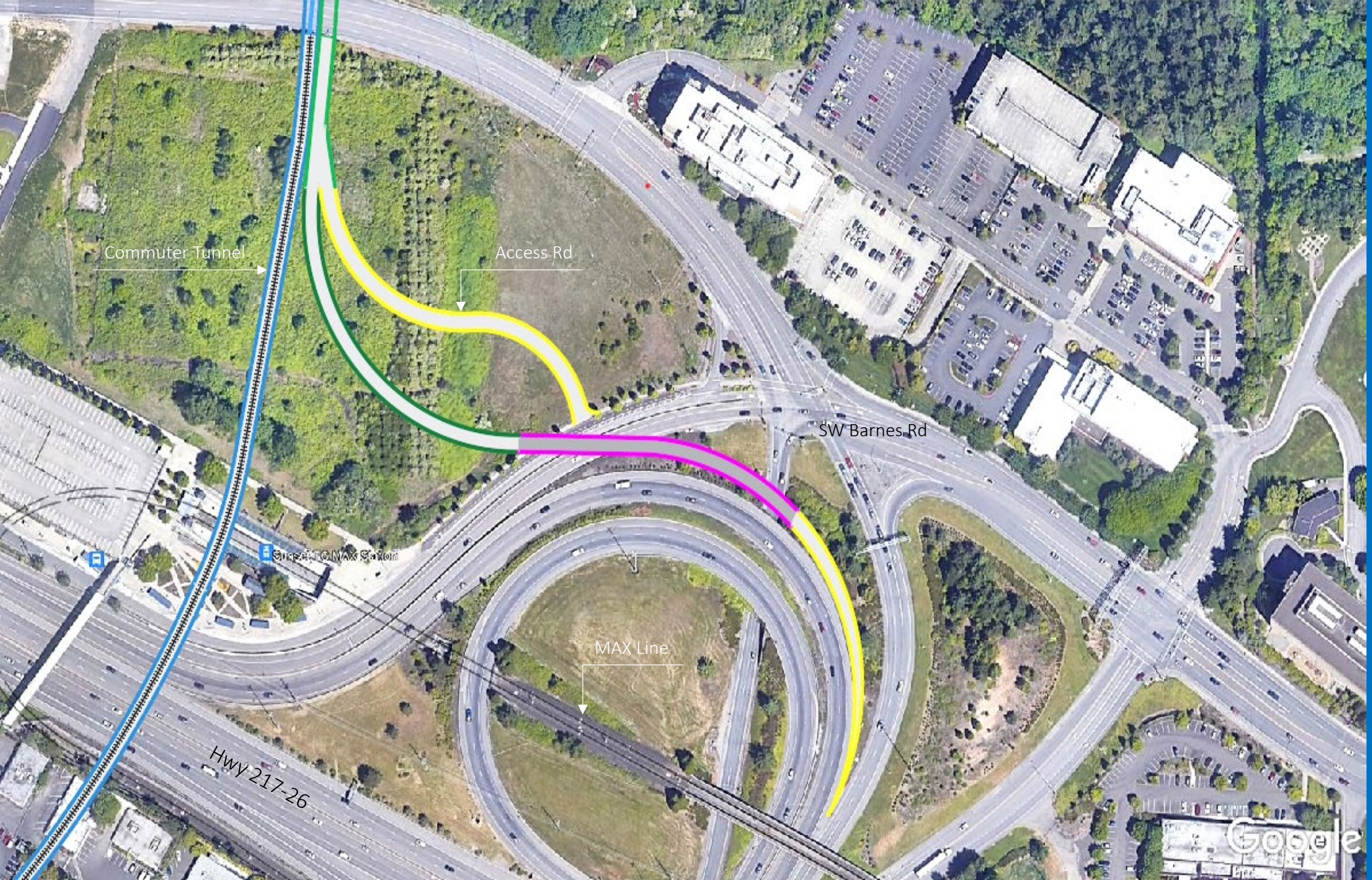
The northbound lane will flyover the Hwy 26 and then connect to the tunnel to North Portland.



The Commuter Rail and the Motorway Bypass Corridors.

The commuter line is in the tunnel below the MAX line and the Sunset Transit Center.

The red lines are flyovers, the dark green is infill's, and the light green is in cuts.



The Proposed Sunset Highway Northbound Intersection Connections to the Tunnel

The yellow lines are on the ground, the red lines are on the flyover, the dark green lines are on infills, and the light green is in cuts.

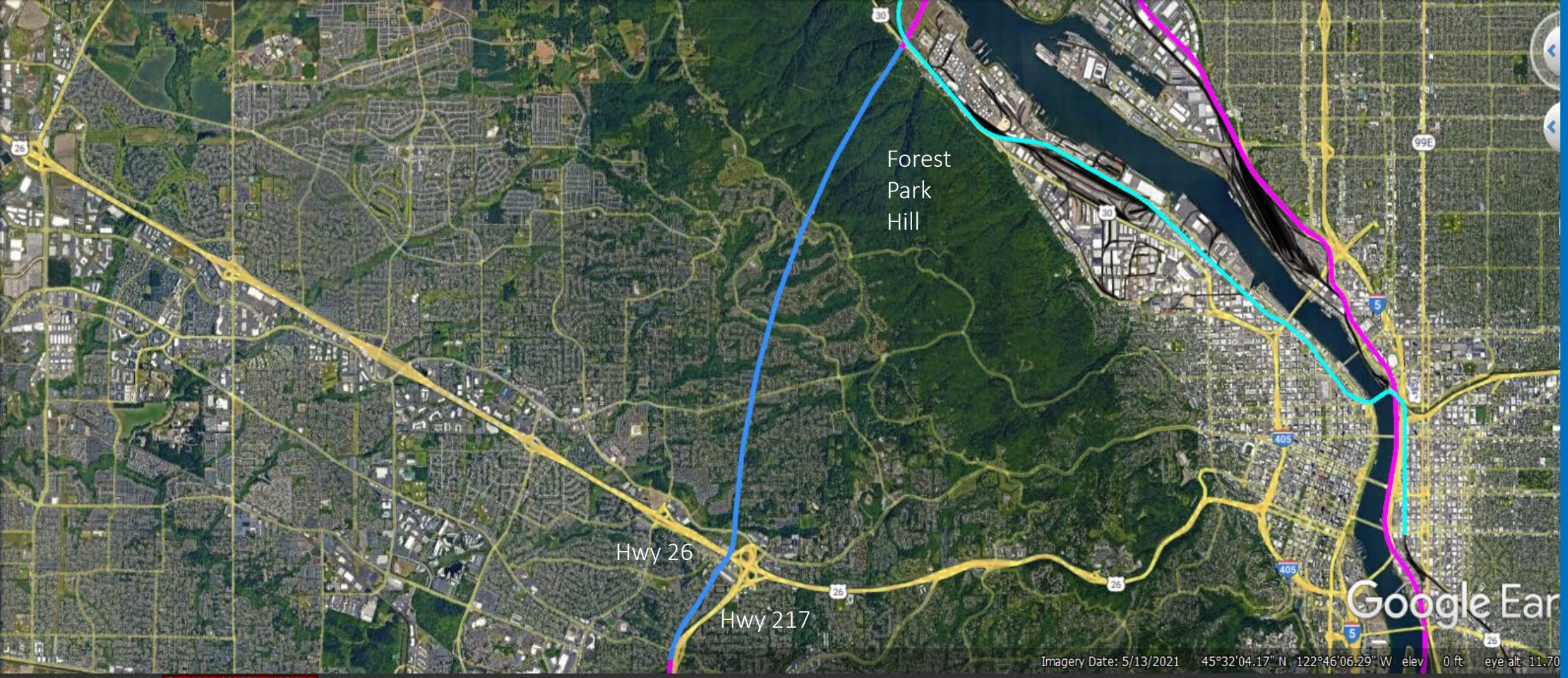
The access road will allow a connection from Hwy 26 westbound via SW Baltic Ave, SW Barnes Rd, and Sunset Transit Center.

North of Barnes Rd

The single-track commuter rail tunnel is lower than the approaching bypass roadways.

The roadways will merge with the tunnel elevation past the bridge.

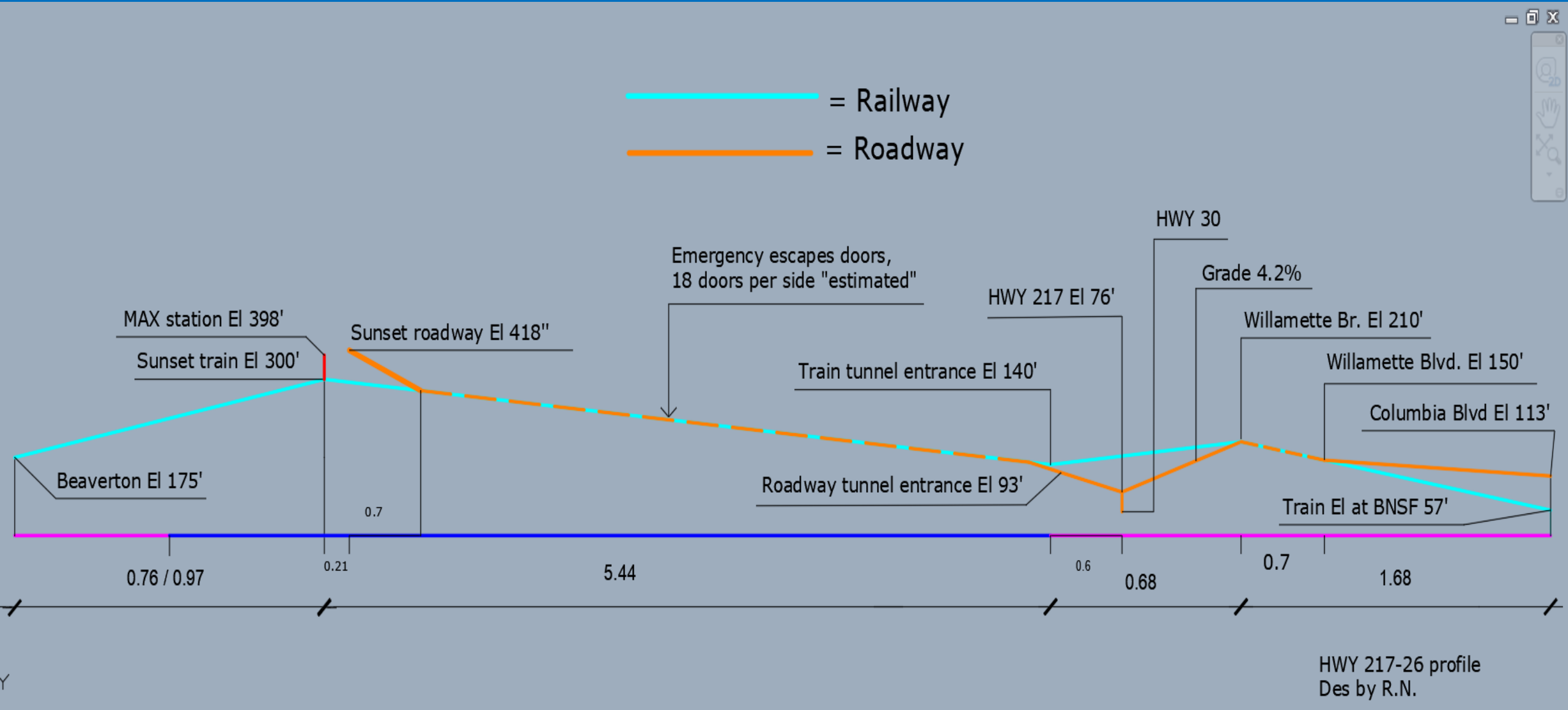
The bypass roadways will underpass the SW Barnes Rd. The distance between the west-end Sunset Transit Center and SW Barnes Rd is long enough to hold a grade of 4.7%.



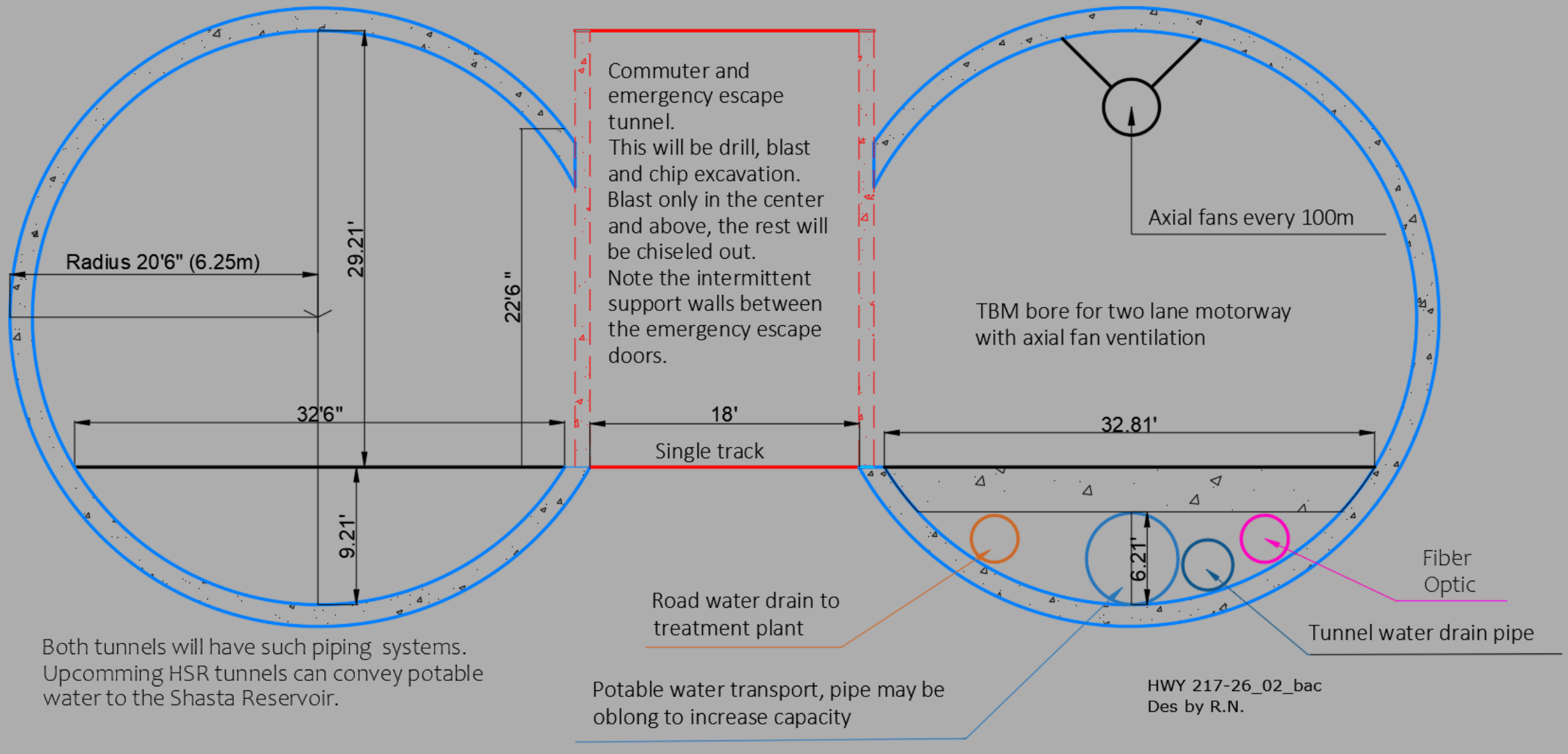
Commuter and Bypass Roadways below Forest Park Hill

The Commuter tunnel is 5.37 miles long, and the roadway tunnel is ± 4.07 miles long.

Profile chart between Beaverton and Willamette River

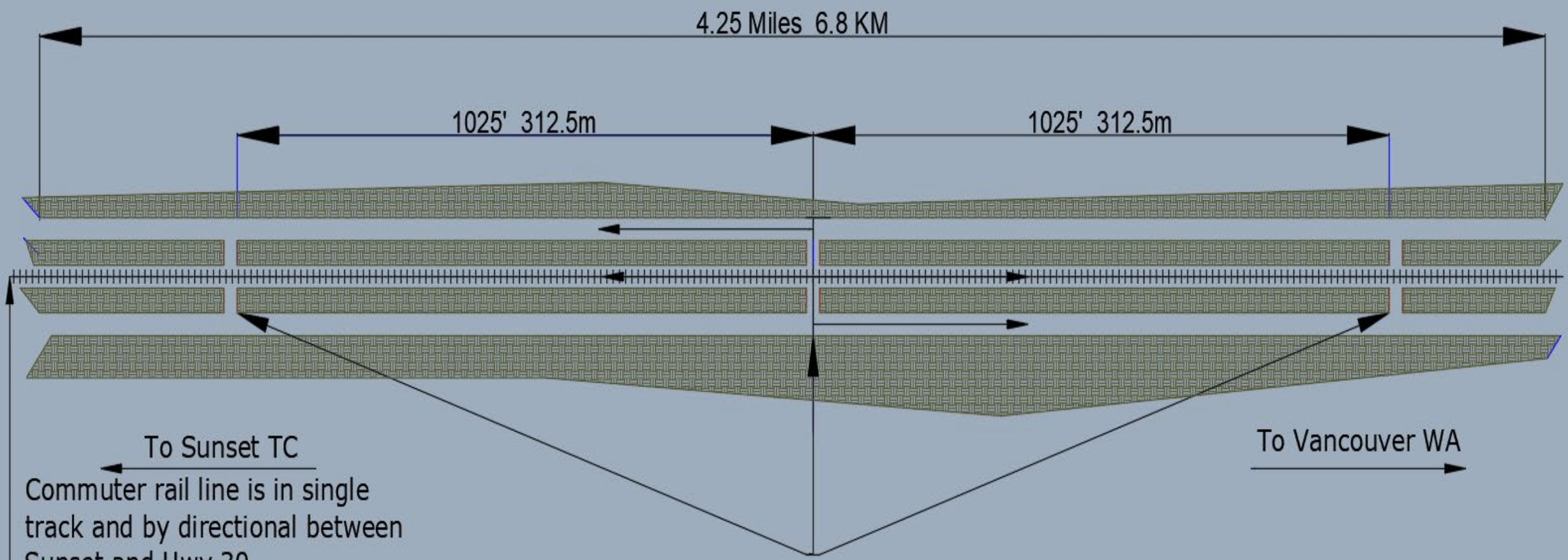


TBM tunnel arrangements



Both tunnels will have such piping systems. Upcomming HSR tunnels can convey potable water to the Shasta Reservoir.

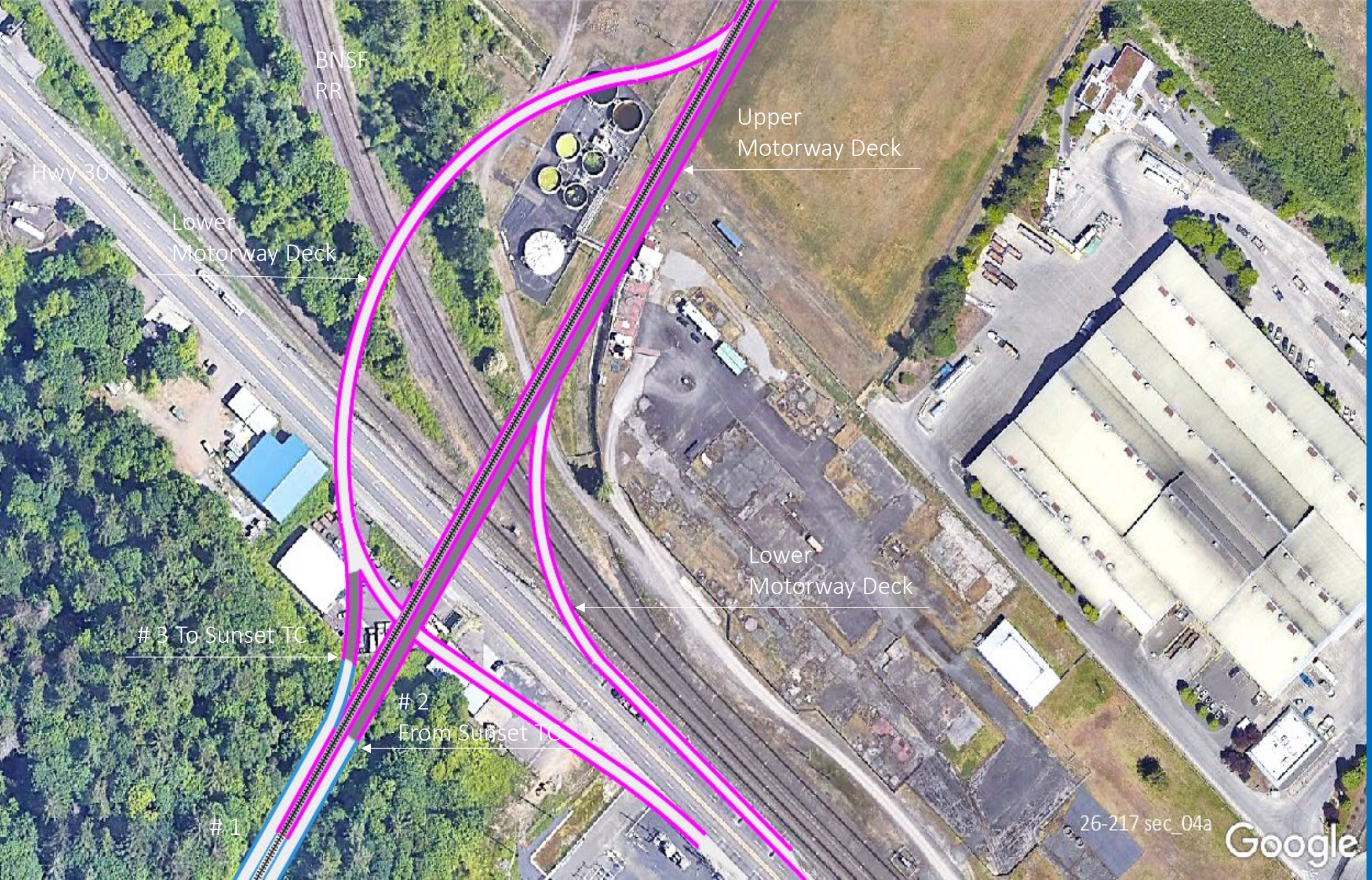
HWY 217-26 extension tunnel - length is estimated
two tunnels for automotive and one tunnel for commuter trains



Commuter rail line is in single track and by directional between Sunset and Hwy 30

Cross cuts to provide emergency escape
21 cross cuts will be needed
escape to rail line by escape doors normally closed
install sensors, cameras, light signals and one vertical vent shaft

HWY 217-26_tunnel
Des by R.N.



Western Bypass and Hwy 3 Interchange

The Hwy 30 has no connections to or from the Sunset Transit Center.

Hwy 30 northbound onramp connects to the lower deck.

1 Rail tunnel entrance El 140'.
2 From Sunset TC tunnel entrance El 93'.
3 To Sunset tunnel entrance El 81'.

The motorways are over and under in this area.

Western Bypass Corridor

Build the flyover bridge first to connect the tunnels. Transport the tunnel muck with side-dump rail cars and dump the material in the in-fill area.

Use conveyor systems to forward the material for the 1400-foot distance.

The westside wedge is not terraced.

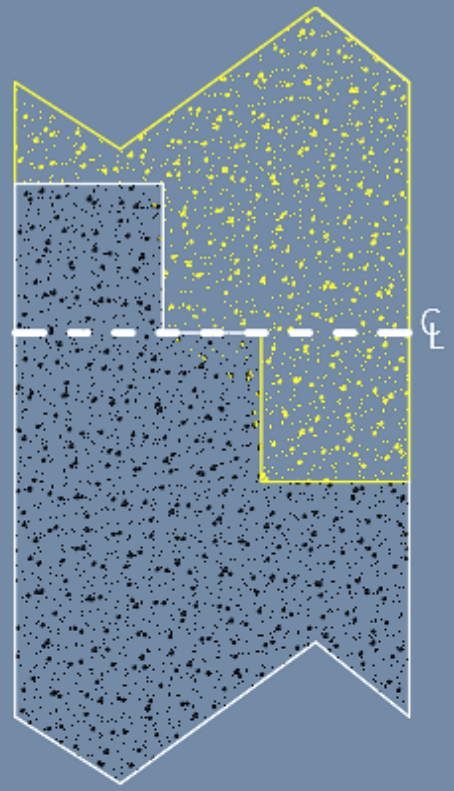
This plan will provide much-needed housing ground.

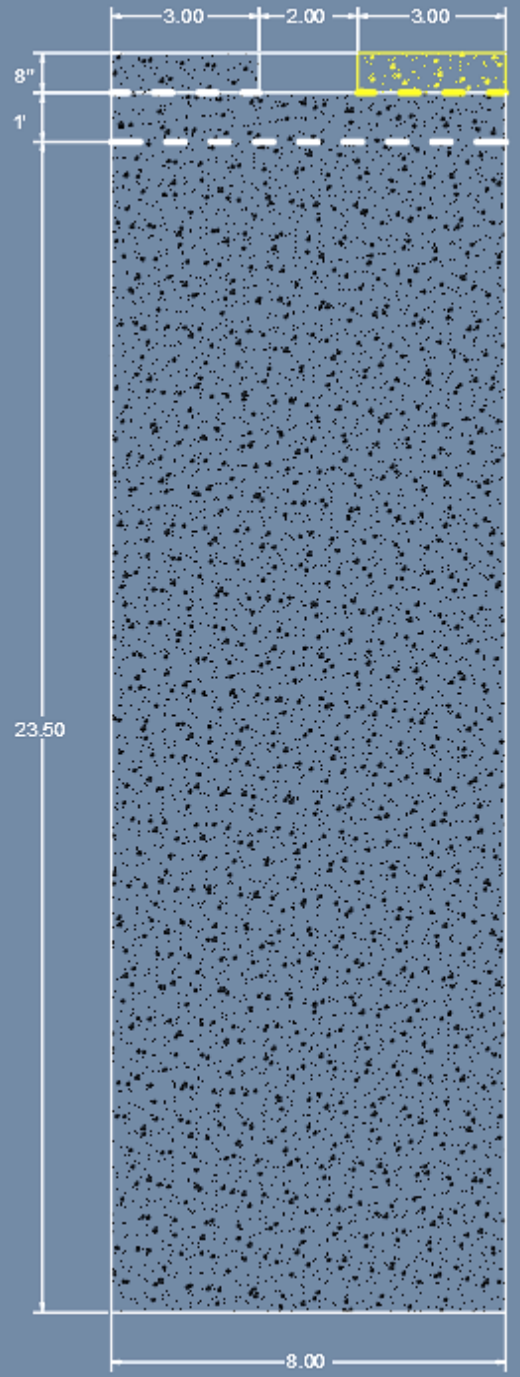
University of Portland Birdseye View

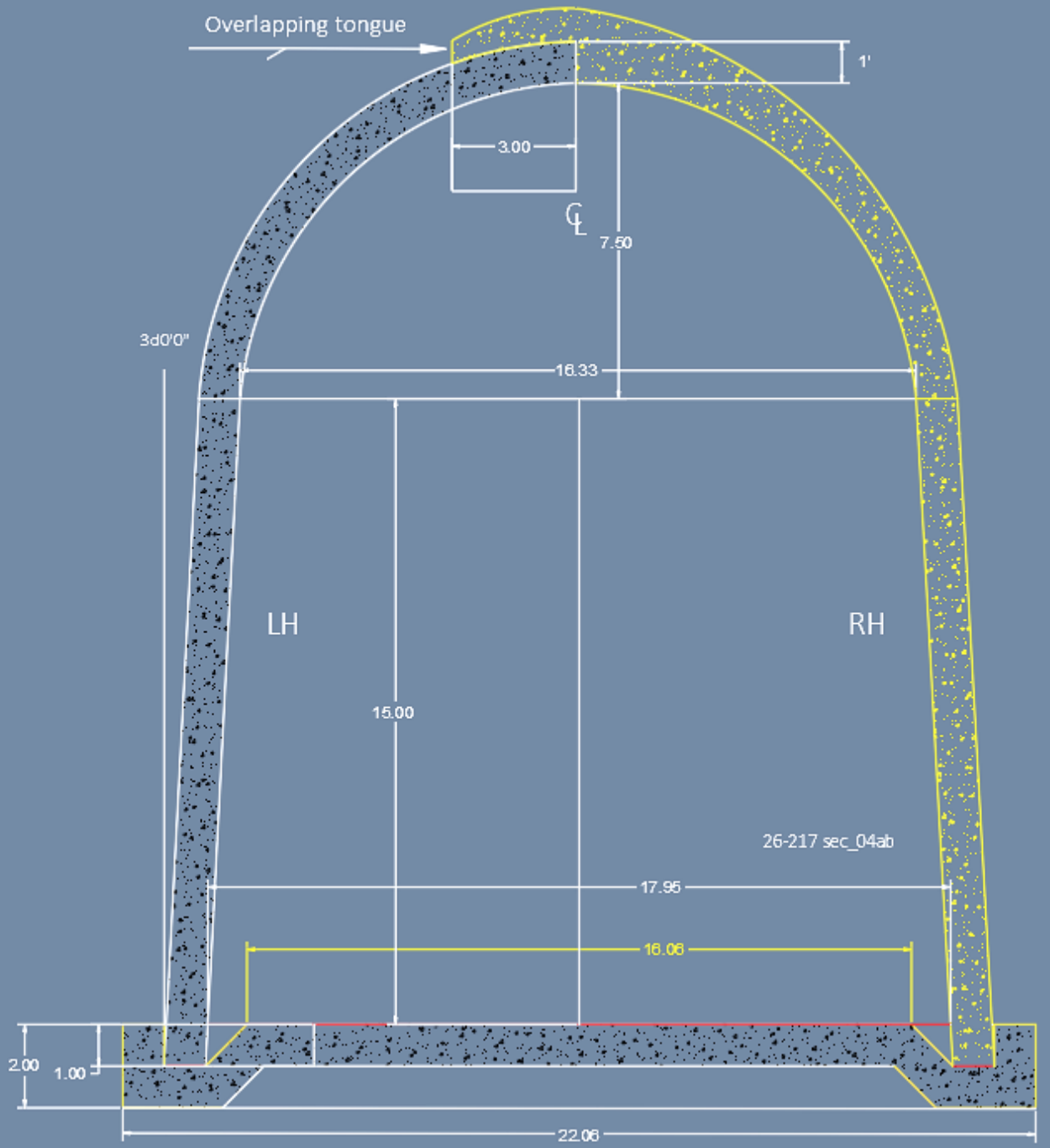
This view depicts the existing freight rail corridors and the proposed solutions.

There are new tunnel sections for the planned freight railroads. This new routing will reduce freight rail congestion in the existing rail yards.

The yellow shaded areas are for new housing.







Pre-fabricated panel
8 feet wide, 25 tones.
Panel tongues will overlap one on another right hand RH and left hand LH. This will create a seismic interlocking. The panels have a 3 degree slope to provide additional stiffness during earth quakes.

This is for a single track layout, the RR may want double track.

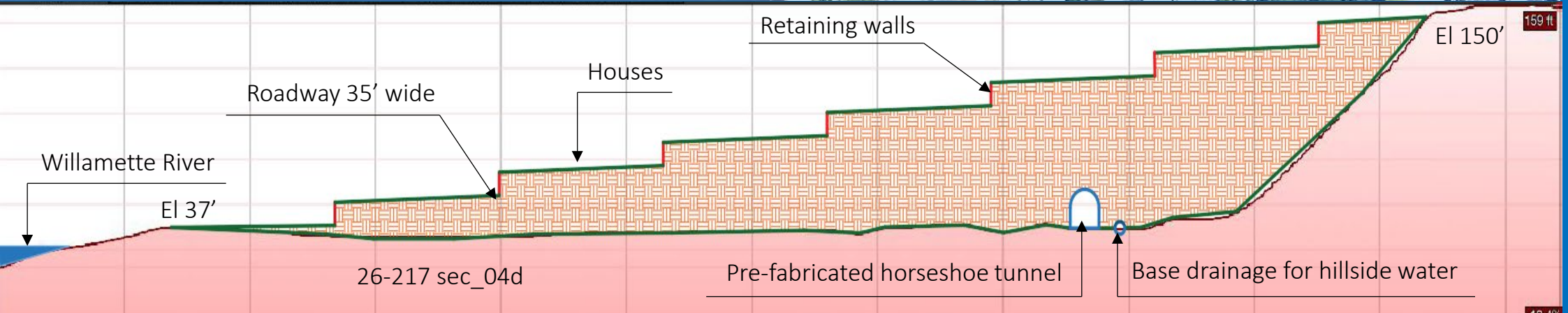
Edgewater Flats Terraced

Develop this land for housing.

For the tunnel lines see the drawing above.

Open wedge area may differ. This area is needed for the re-naturized westside slope bank.

New RR, this will connect the UPRR Albina Yard with the Portland BNSF Yard via the Willamette BNSF lift bridge. The Portland steel bridge will be closed for rail traffic. The CHSR will use the new Rose Quarter TC station.

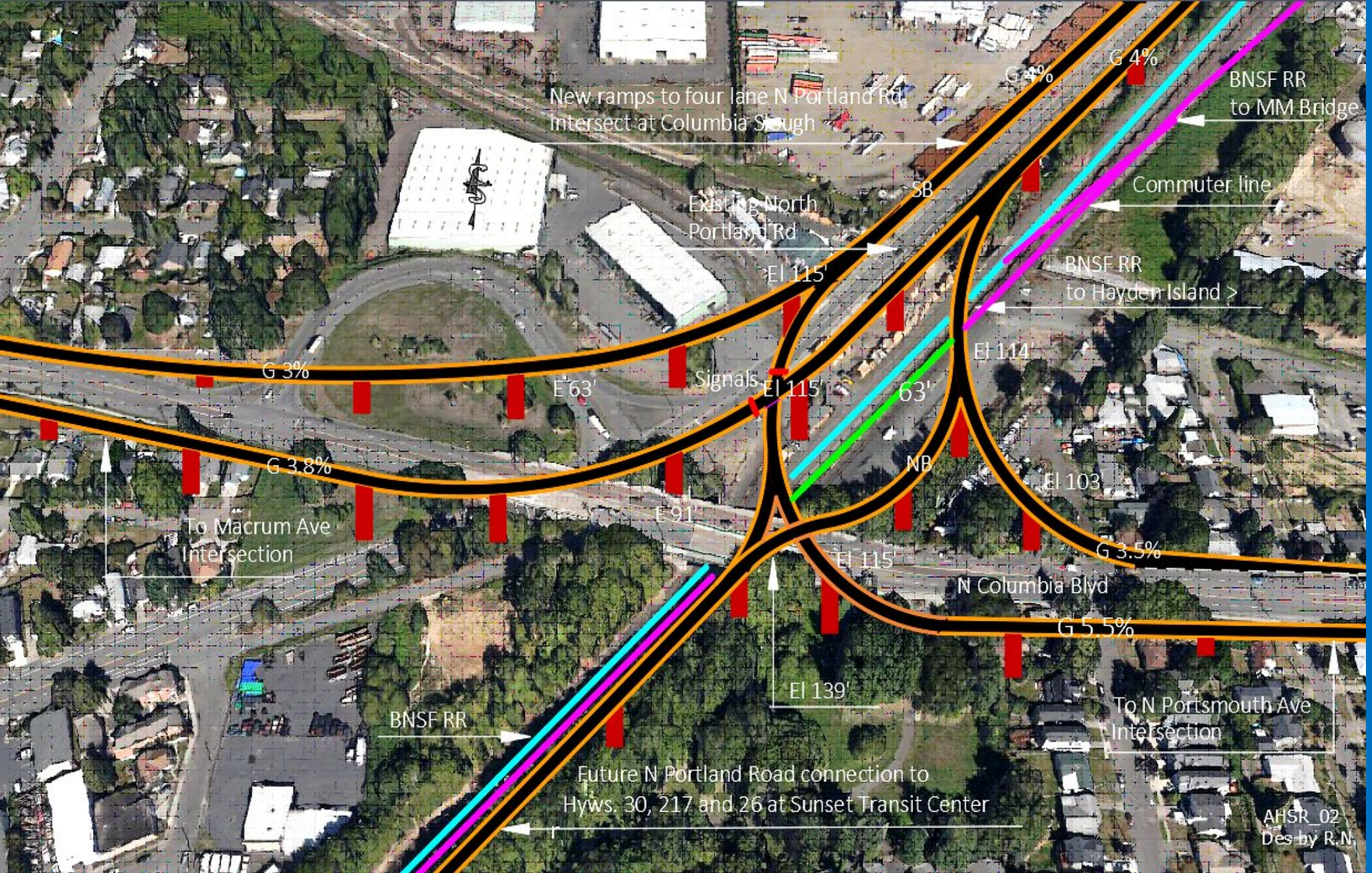


Edgewater Flats West of the University of Portland

The land is ± 41 acres, infilled with Forest Park tunnel muck. Install a geometry on top of the existing ground to lock out surface water intrusion, which will hinder water leaching into the Willamette River.

Terrasse this area and then build housing. The slope is 3% for lot drainage. The estimated retaining wall height is 15 feet.

The roadways are along the retaining walls.



N Columbia Blvd Crossing for the Hwy 26/217 bypass corridor

We may have a commuter station on the east side of the BNSF rail location.

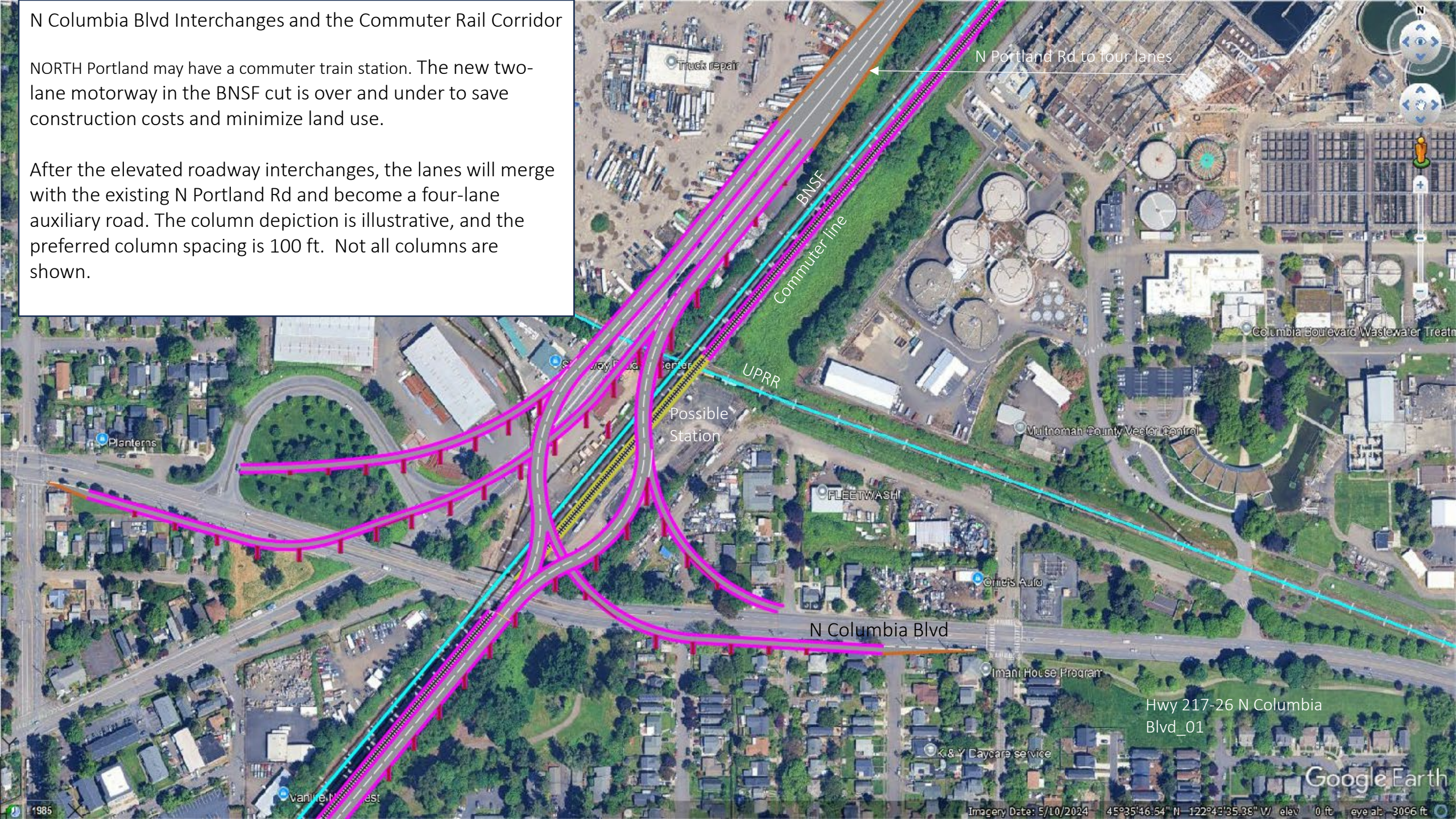
New roadway interchanges and future commuter rail service between MAX Sunset TC, Battle Ground and Camas. SB = southbound, NB = northbound.

Note; Drawings were made on AutoCAD 2010, bad conversion to version 2022.

N Columbia Blvd Interchanges and the Commuter Rail Corridor

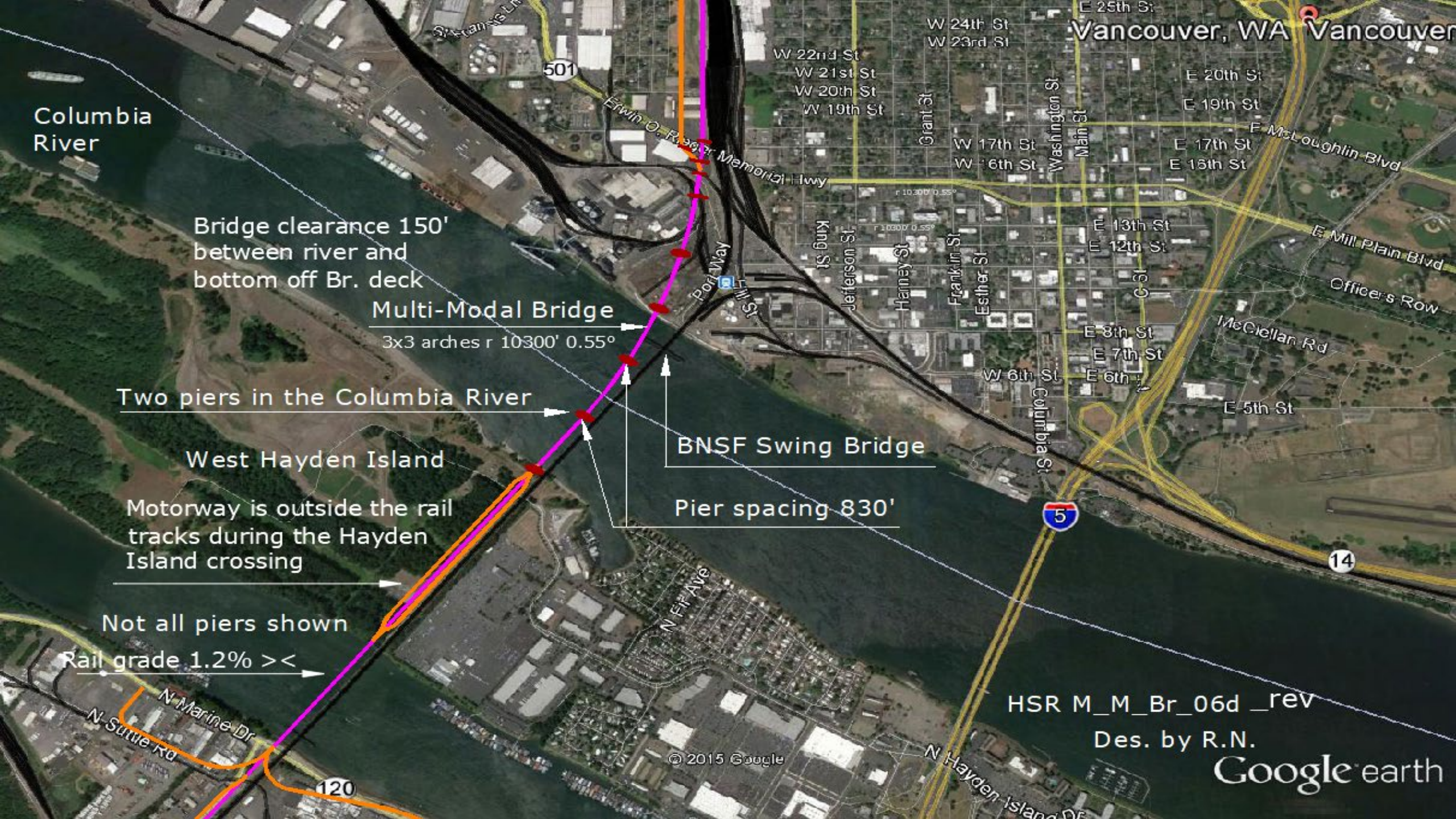
NORTH Portland may have a commuter train station. The new two-lane motorway in the BNSF cut is over and under to save construction costs and minimize land use.

After the elevated roadway 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.



CHSR Multi-Modal Bridge

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 lanes 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 the I-5 bridge traffic by 30%.


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
BNSF Swing Bridge
Pier spacing 830'
Motorway is outside the rail tracks during the Hayden Island crossing
Not all piers shown
Rail grade 1.2% ><
HSR M_M_Br_06d _rev
Des. by R.N.
Vancouver, WA
Vancouver
Erwin O. Rogers Memorial Hwy
Port Way
N Marine Dr
N Suttle Rd
N Fir Ave
N Hayden Island Dr
Columbia St
Main St
Washington St
Grant St
Jefferson St
Harney St
Franklin St
Esther St
King St
E Mill Plain Blvd
E McLoughlin Blvd
Officers Row
McClellan Rd
© 2015 Google
Google earth

Hayden Island Auxiliary Bridge

- This is the proposal to bring MAX to Hayden Island.
- This auxiliary bridge will also accommodate motor traffic to and from the Hayden Island. The interchanges are with Marine Dr. W, N Marine Dr., N Vancouver Way, NE M L K Jr. Blvd. and I-5.
- This bridge will reduce theI-5 bottleneck traffic.
- The automotive traffic has a modern elevated inter-loop layout to eliminate additional traffic signals.

Des. By R.N.

Not to scale.

Hayden Island Auxiliary Bridge

The MAX line will in the center arch over the Columbia River Slough at the same elevation as the I-5.

The northbound automotive traffic is parallel along the eastside and the southbound automotive traffic is on the westside of the auxiliary bridge.

The N Marine Dr./MLK Jr. Blvd and the northbound W Marine Dr. have traffic signals.

MAX flyover extension

The MAX will flyover the W Marine Dr and the Hayden Island Southbound off Ramp.

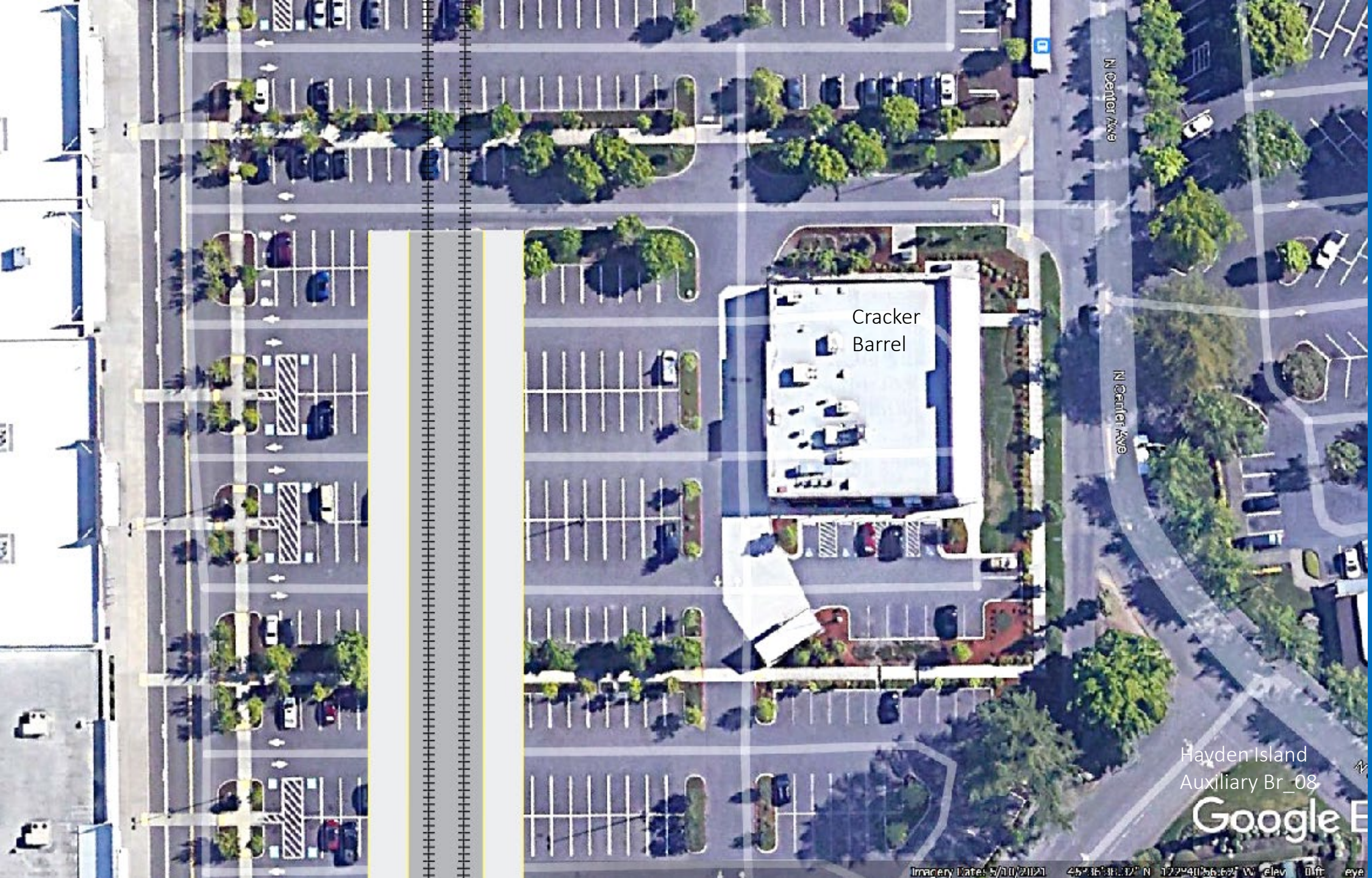
The current MAX station will require some elevation raising to reduce the grade %. A direct climb would be 9.5%, to steep for MAX.

Auxiliary Bridge at the southside of the slough

Here we have the automotive merging on/off ramps and the extended MAX line.

The northbound ramp from W Marine Dr will crossover the MAX tracks. There is a traffic signal on the westside of the MAX tracks.

The bridge elevation is 38’ at the southside slough bank and till the south edge of the W Marine Dr. The Marine Dr elevation is 14’, MAX grade is 5% between the south end of the existing MAX station.



Hayden Island Auxiliary Bridge

The end of the auxiliary is west of the Cracker Barrel Old Country Store.

The Max station is between the Cracker Barrel and the Stanford's Restaurant, end of the line not shown.

The Columbia River Slough will have an Arch Bridge same as the proposed Multi-Modal Bridge. The Span Width is 830 ‘.

The construction will be in lighter format than the Multi-Modal bridge

The MAX and roadway details are not shown.

The grey fields have regular bride columns for the bridge.

Hayden Island Auxiliary Arch Bridge Proposal

This bridge is ± 20 feet above the Columbia River Slough. It will flyover the house-boats and allow modest in hight river ships to pass below.

The MAX tracks and the single motorway lanes are not shown.