



By 2035, we could see:



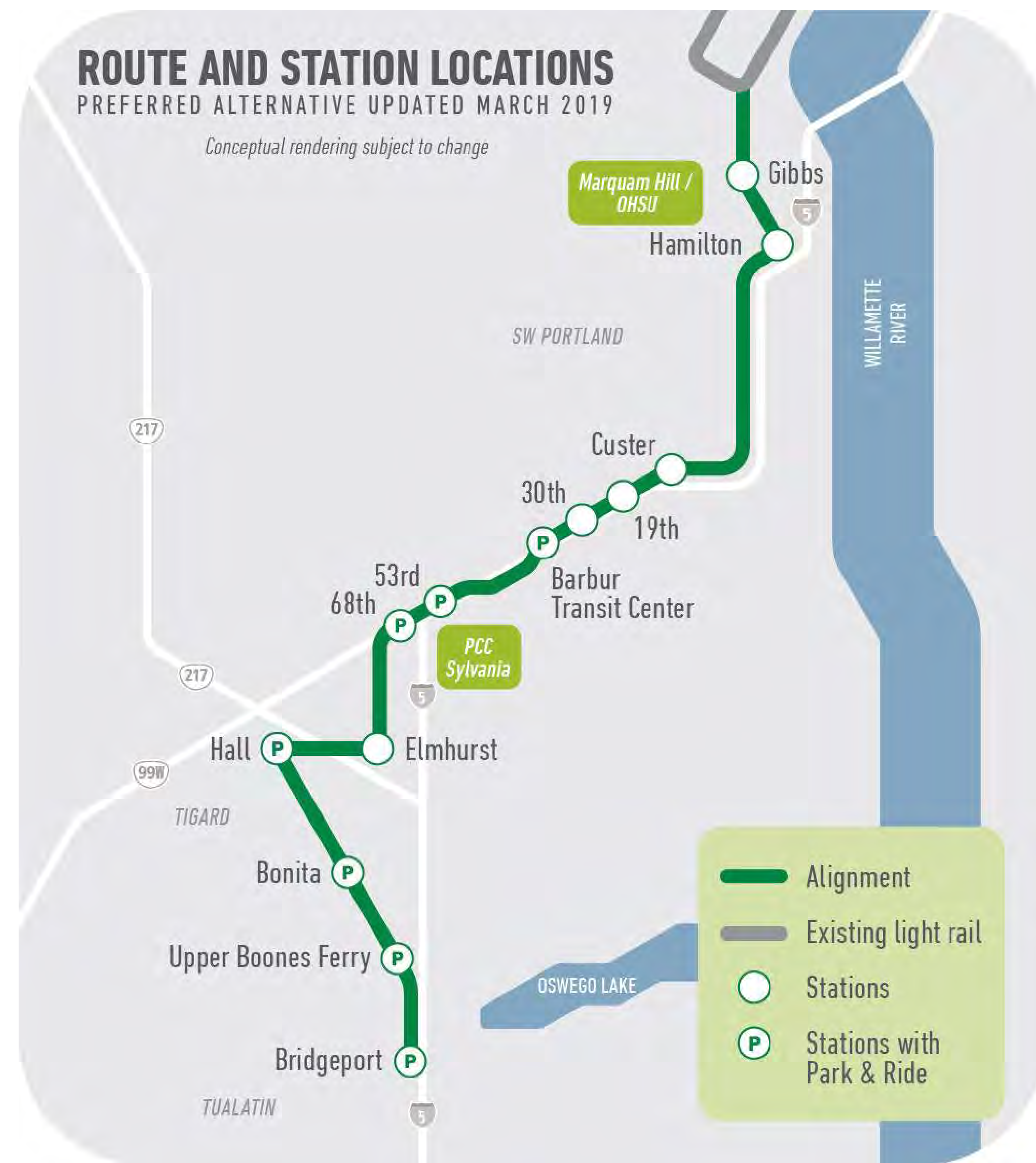
75,000 new residents along the Southwest Corridor



17% increase of congestion on I-5 between Portland and Tigard

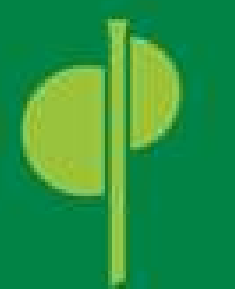


43,000 riders on the line on an average weekday



KEEPING PEOPLE CONNECTED

The project builds a key branch in the regional transit system, ensuring that everyone has affordable access to jobs, education, housing and recreation destinations. The 12-mile route will provide new travel options and improvements for the region.



Connecting the System

Transfers to bus and MAX lines, and WES Commuter Rail



Bike and Pedestrian Friendly

New sidewalks and protected bike lanes on Barbur Boulevard and other locations where streets are rebuilt



PCC Shuttle

A shuttle between PCC-Sylvania and nearby stations to shorten the connection between light rail and the campus



Walk to OHSU

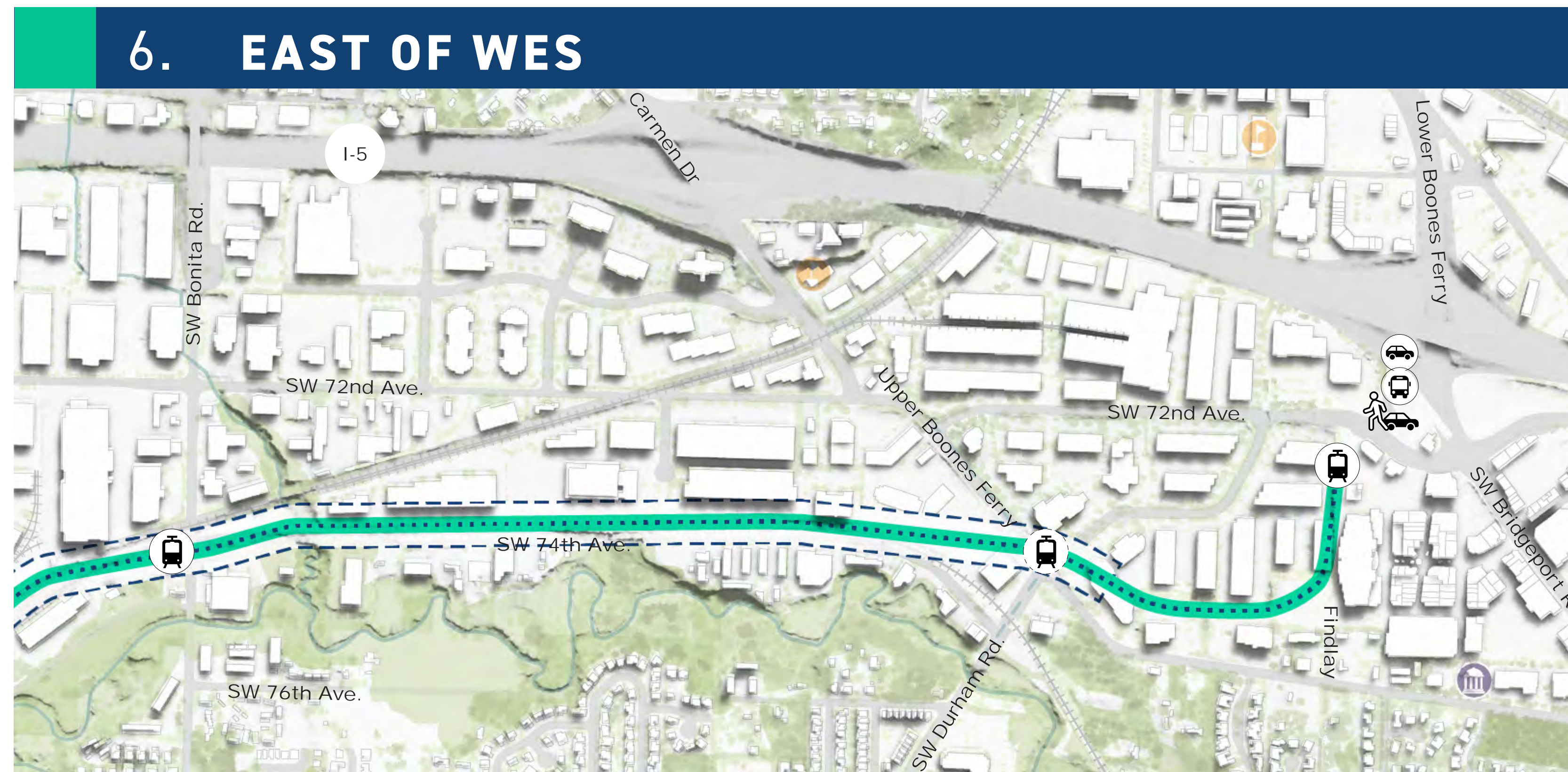
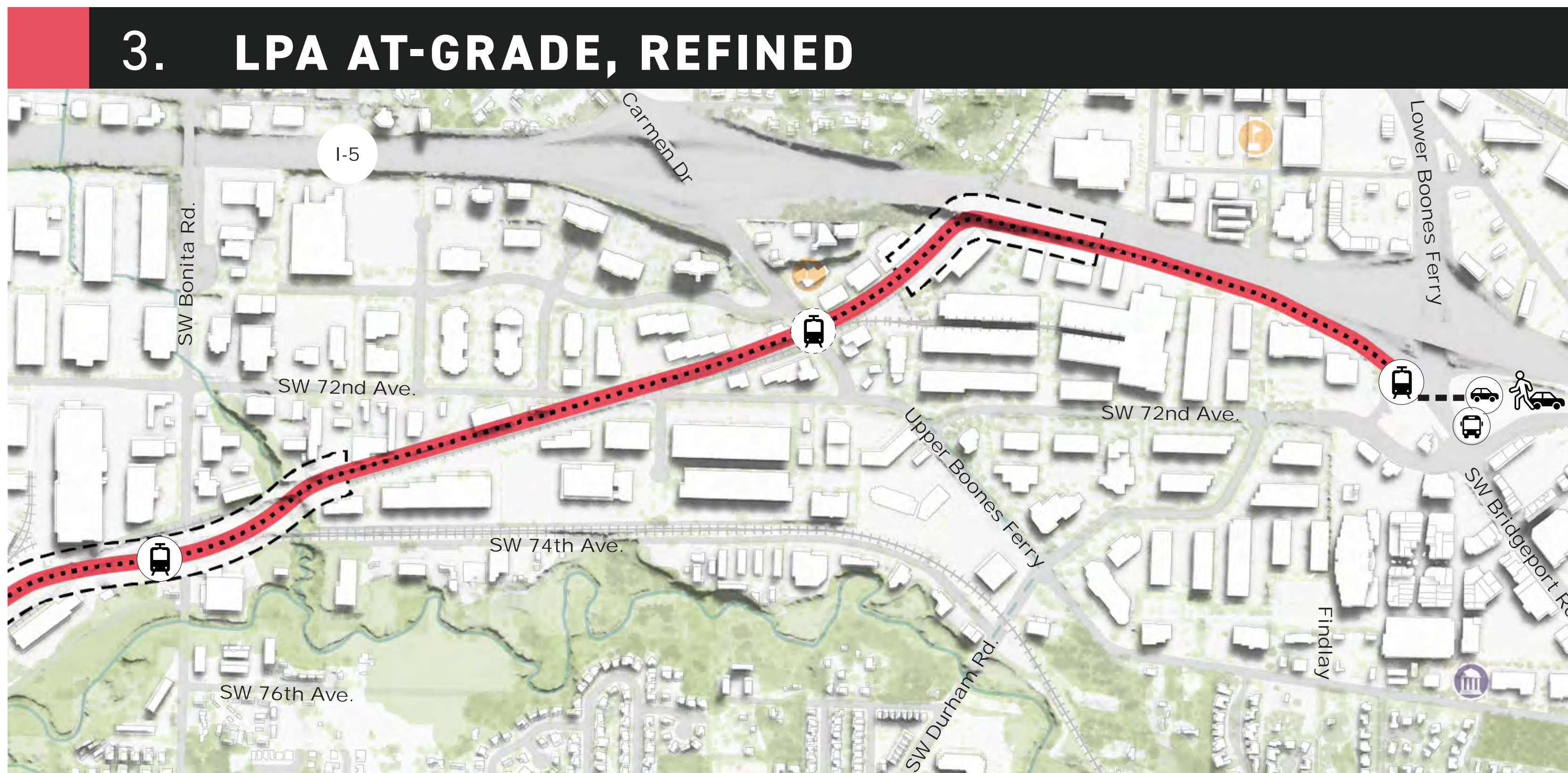
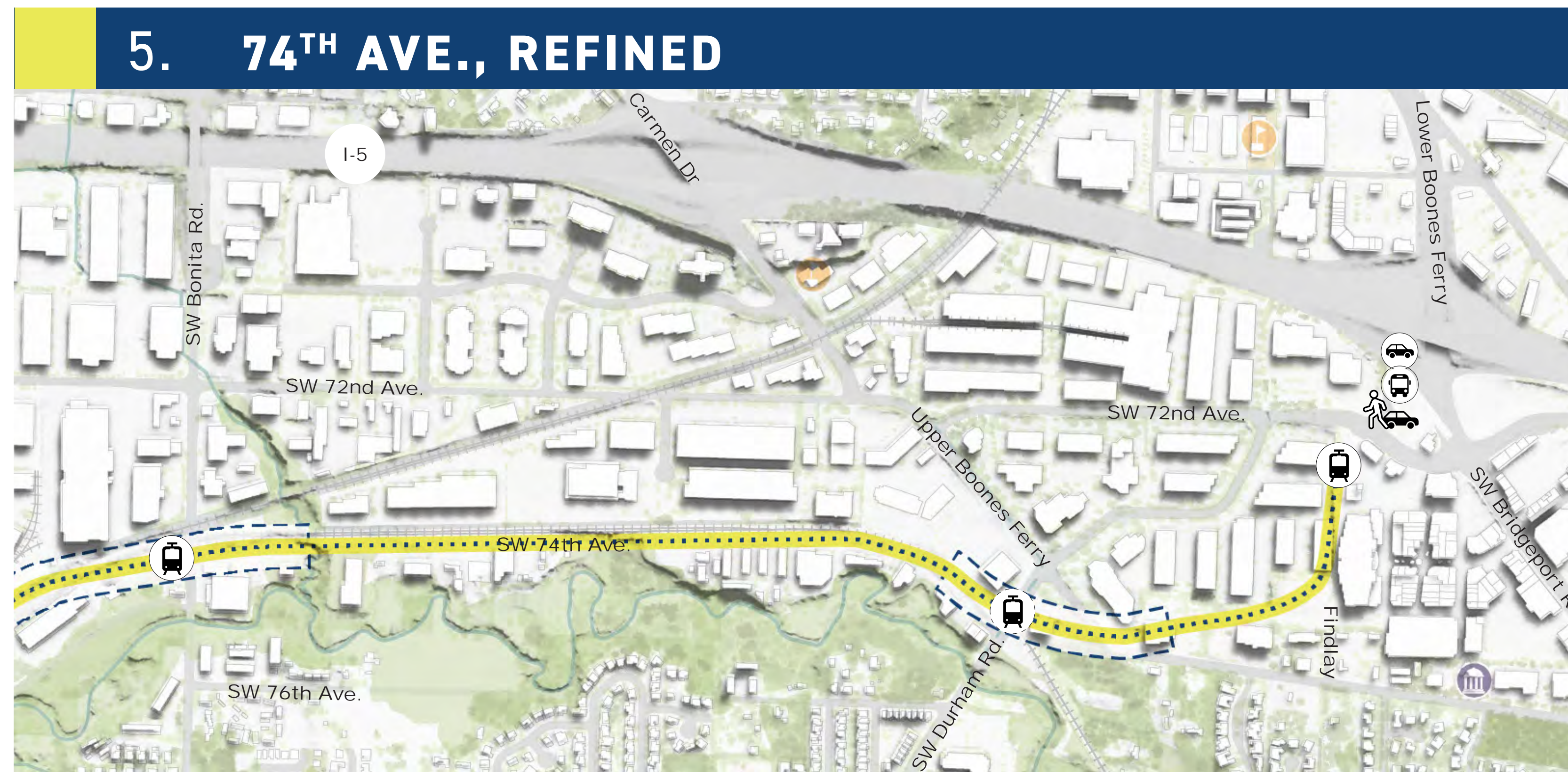
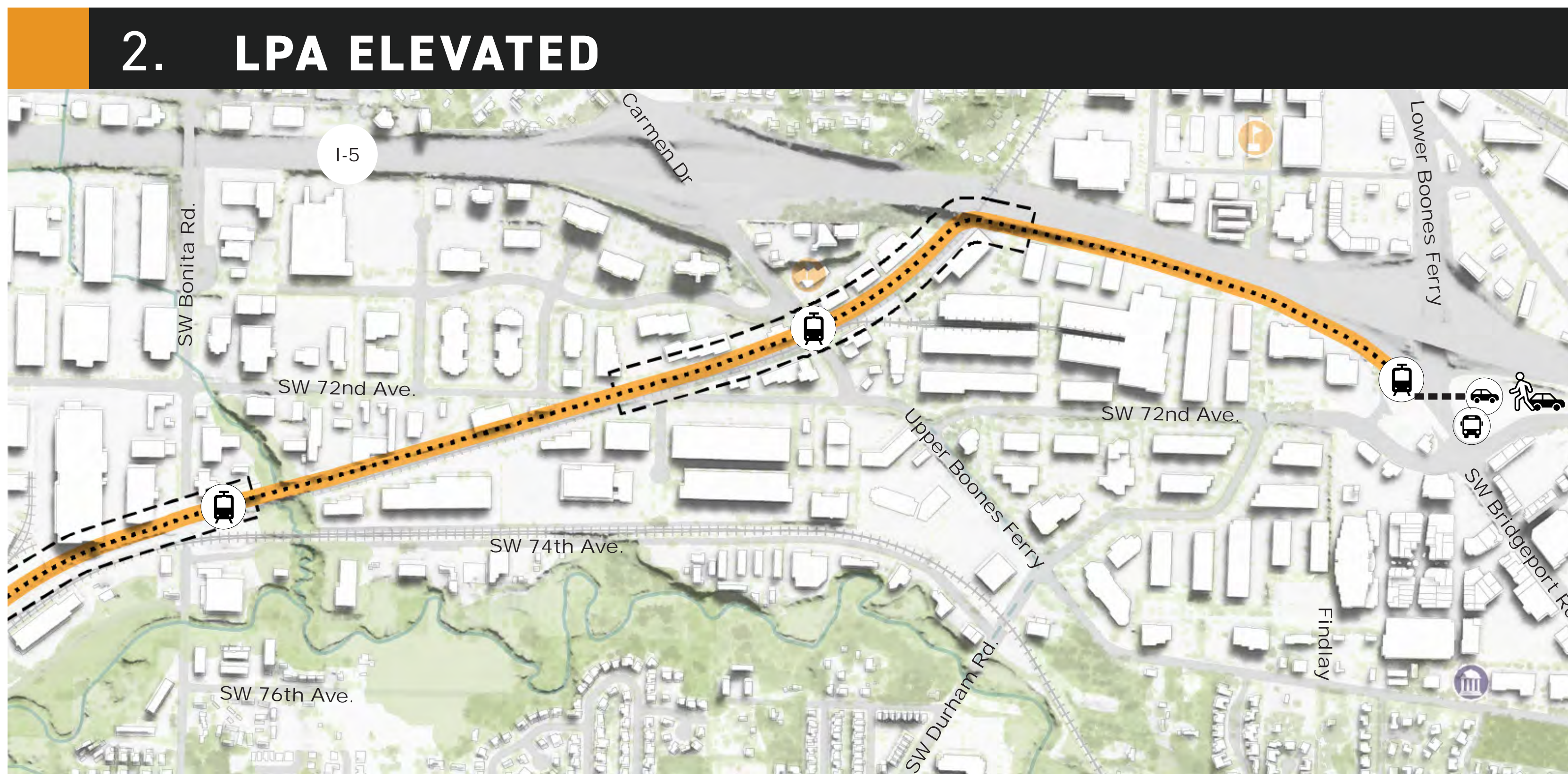
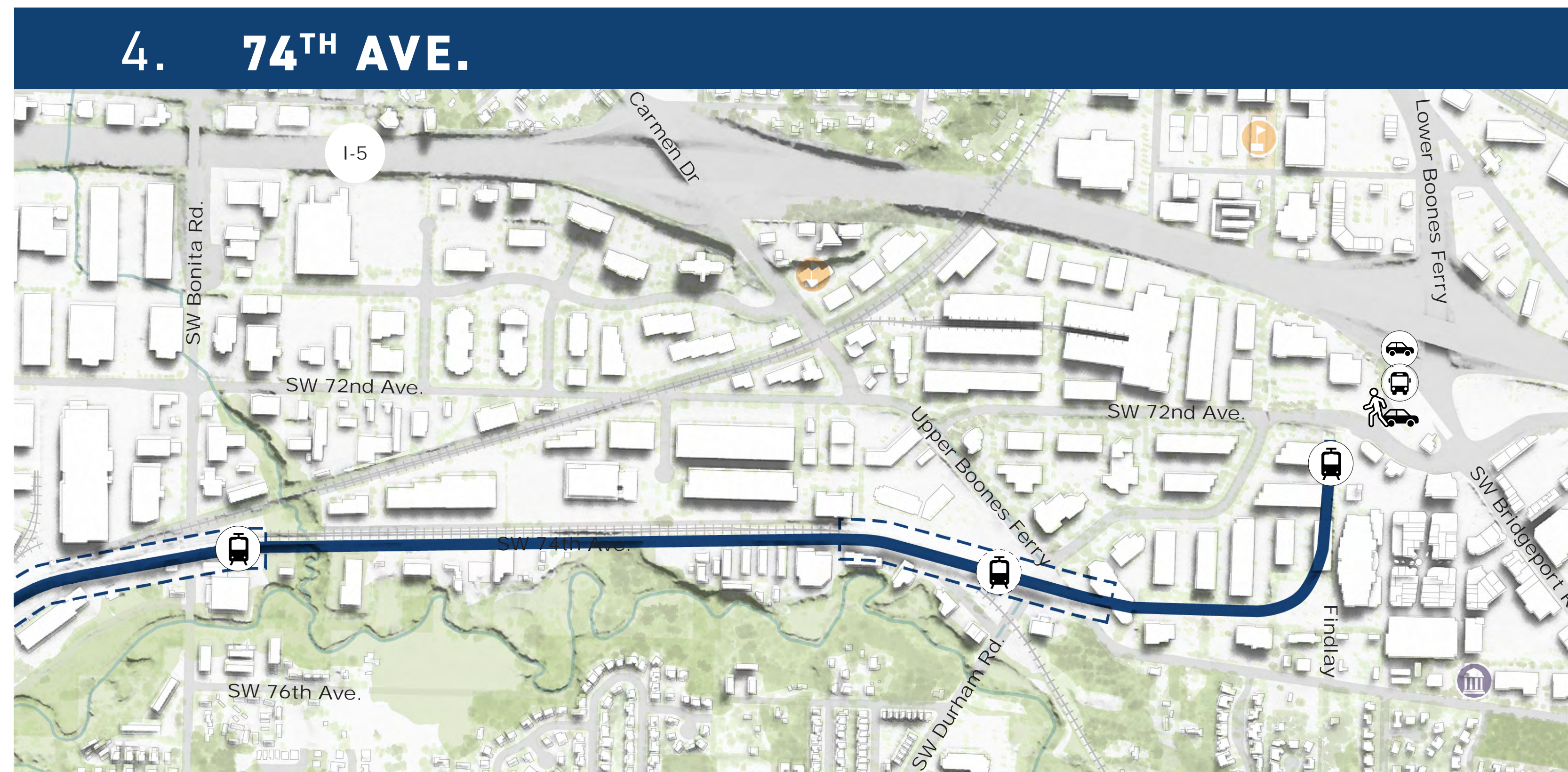
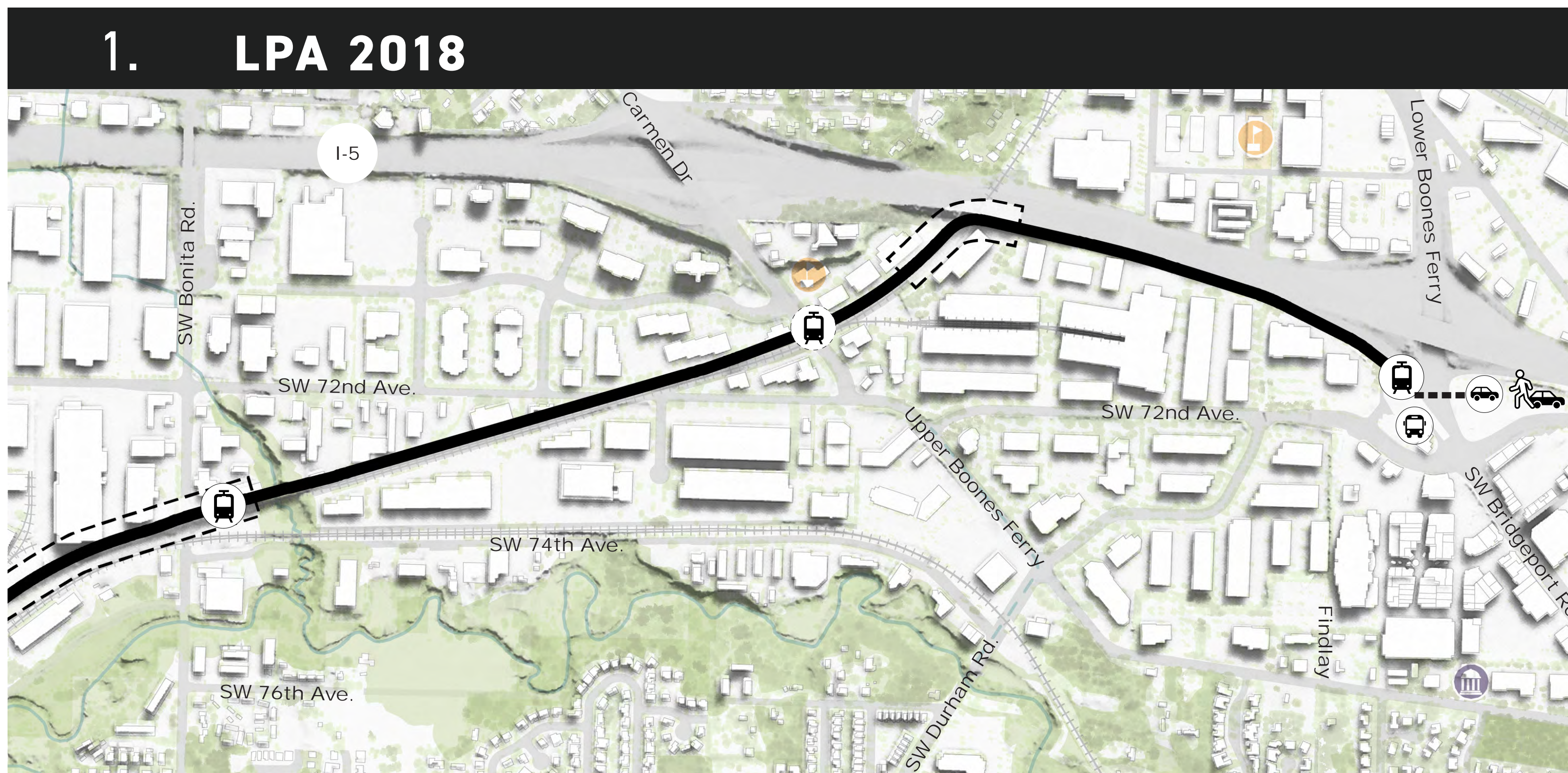
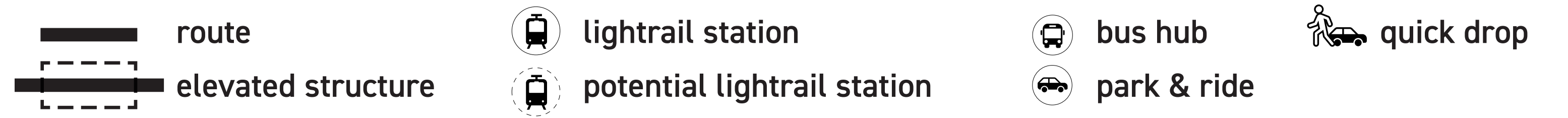
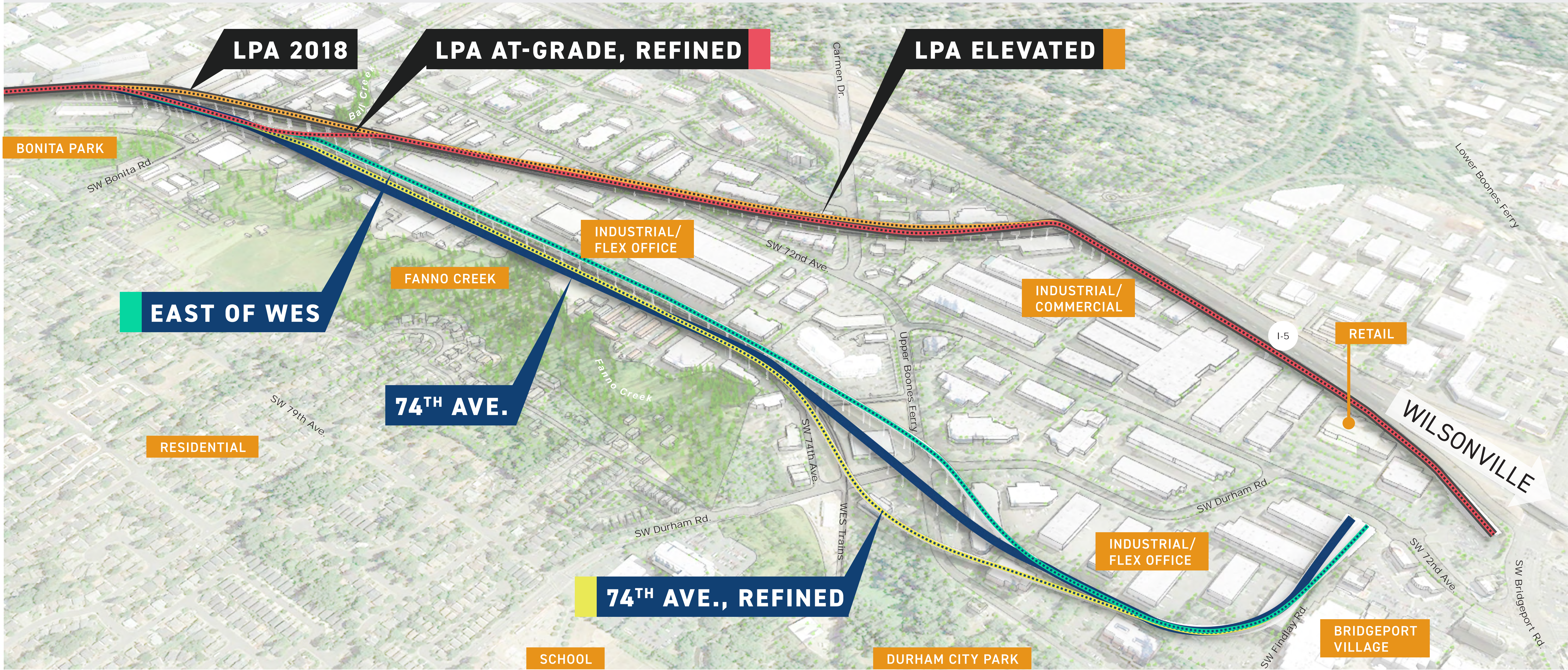
An accessible pedestrian connection to OHSU, the VA Hospital, Doernbecher Children's Hospital and other Marquam Hill facilities



Park & Rides

Up to 3,600 Park & Ride spaces

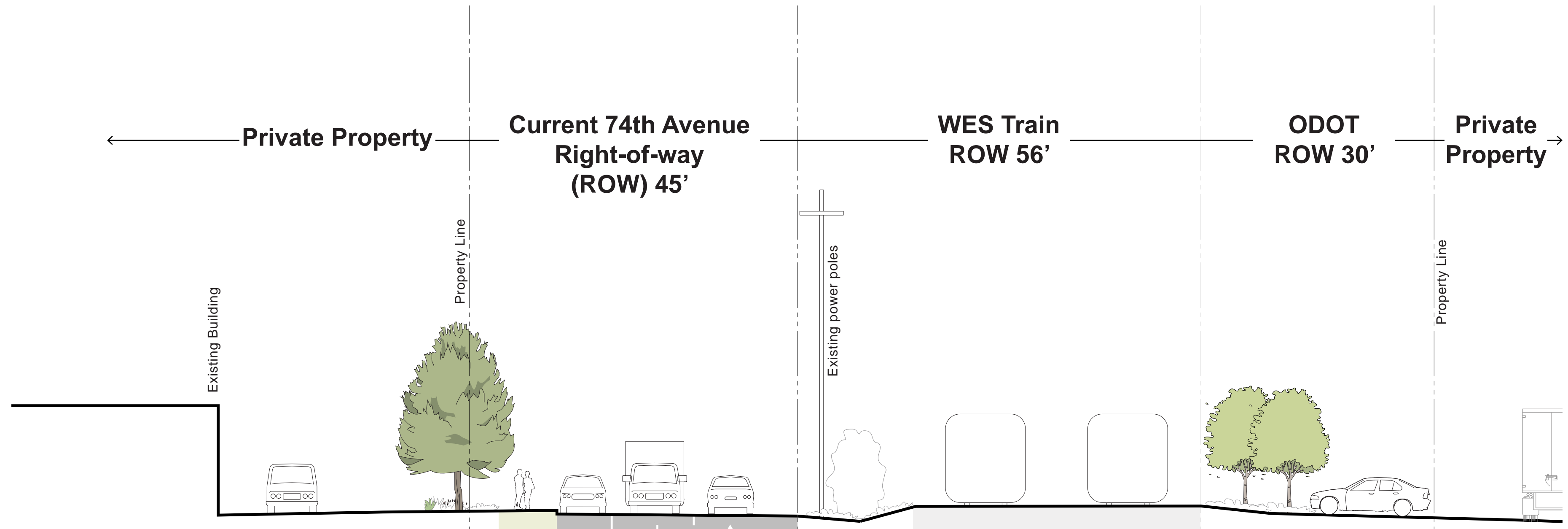




EXISTING CROSS SECTION



EXISTING CROSS SECTION AT ENLARGEMENT

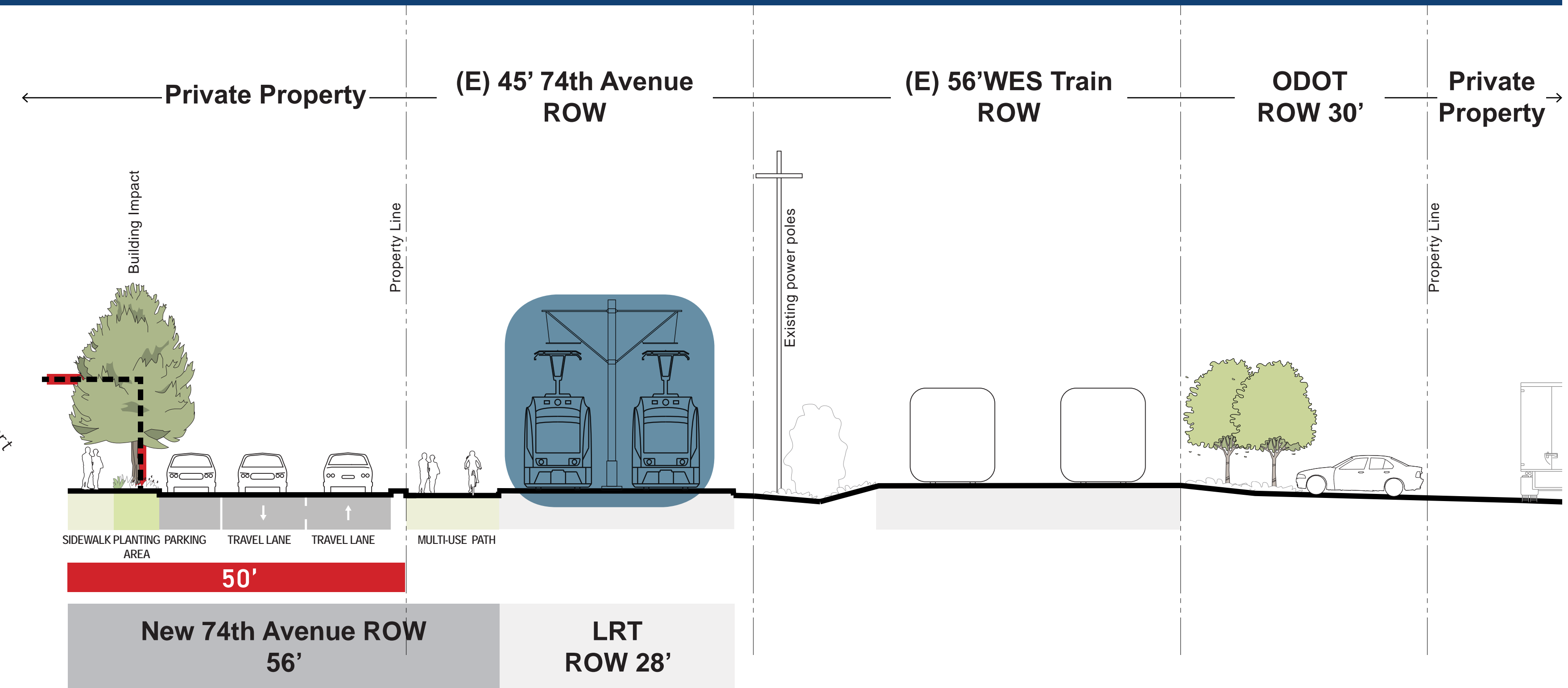
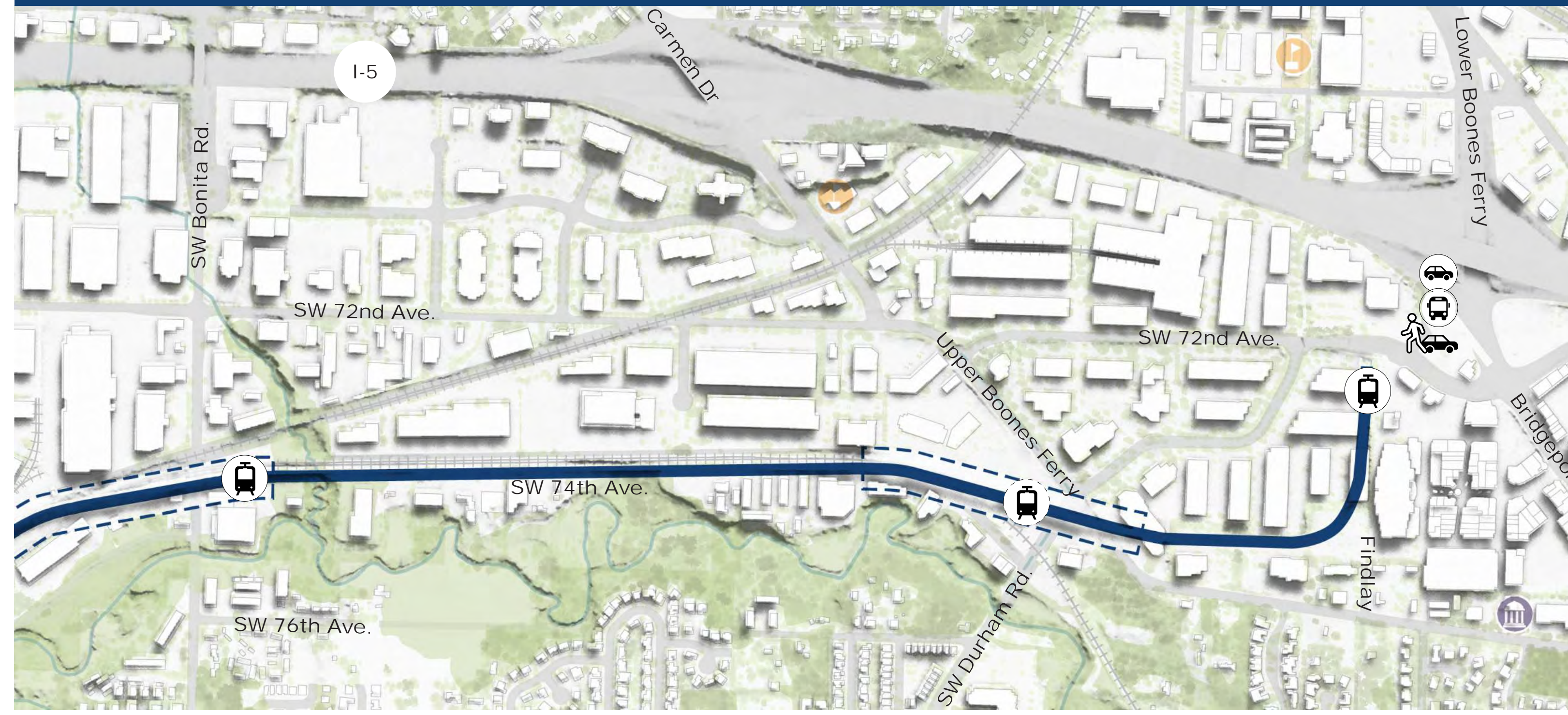


- route
- elevated structure
- lightrail station
- potential lightrail station
- bus hub
- park & ride
- quick drop

4. 74TH AVE.

Plan View

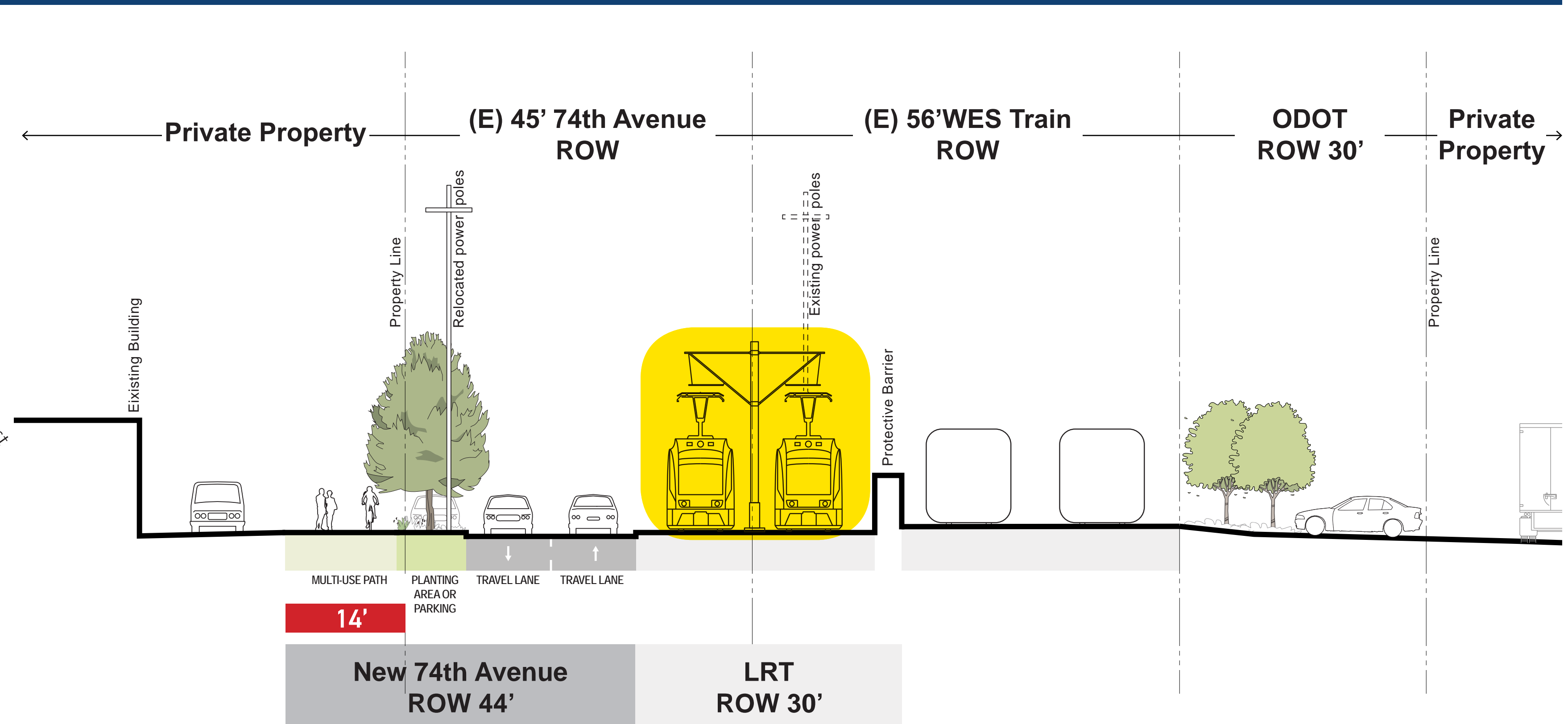
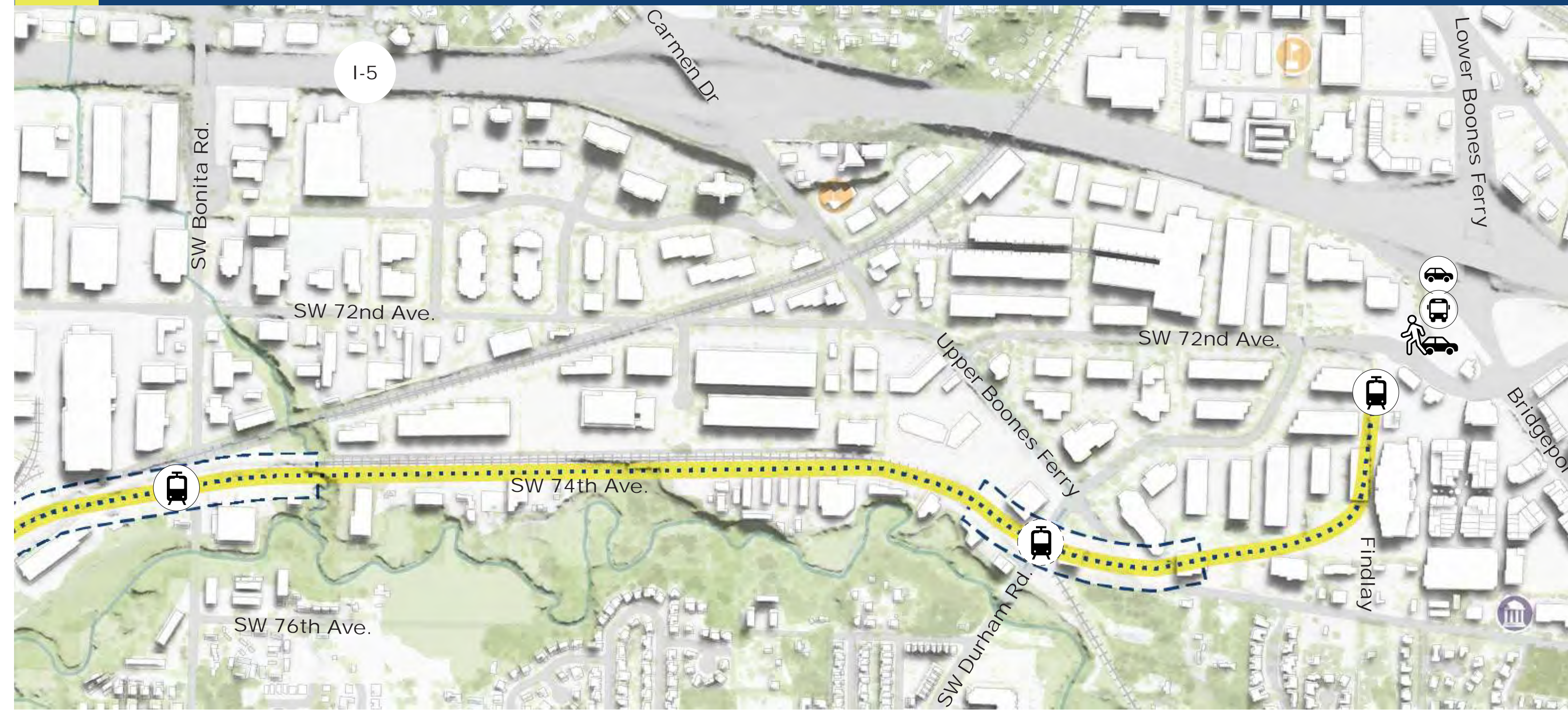
74th Ave. Route Cross Section



5. 74TH AVE., REFINED

Plan View

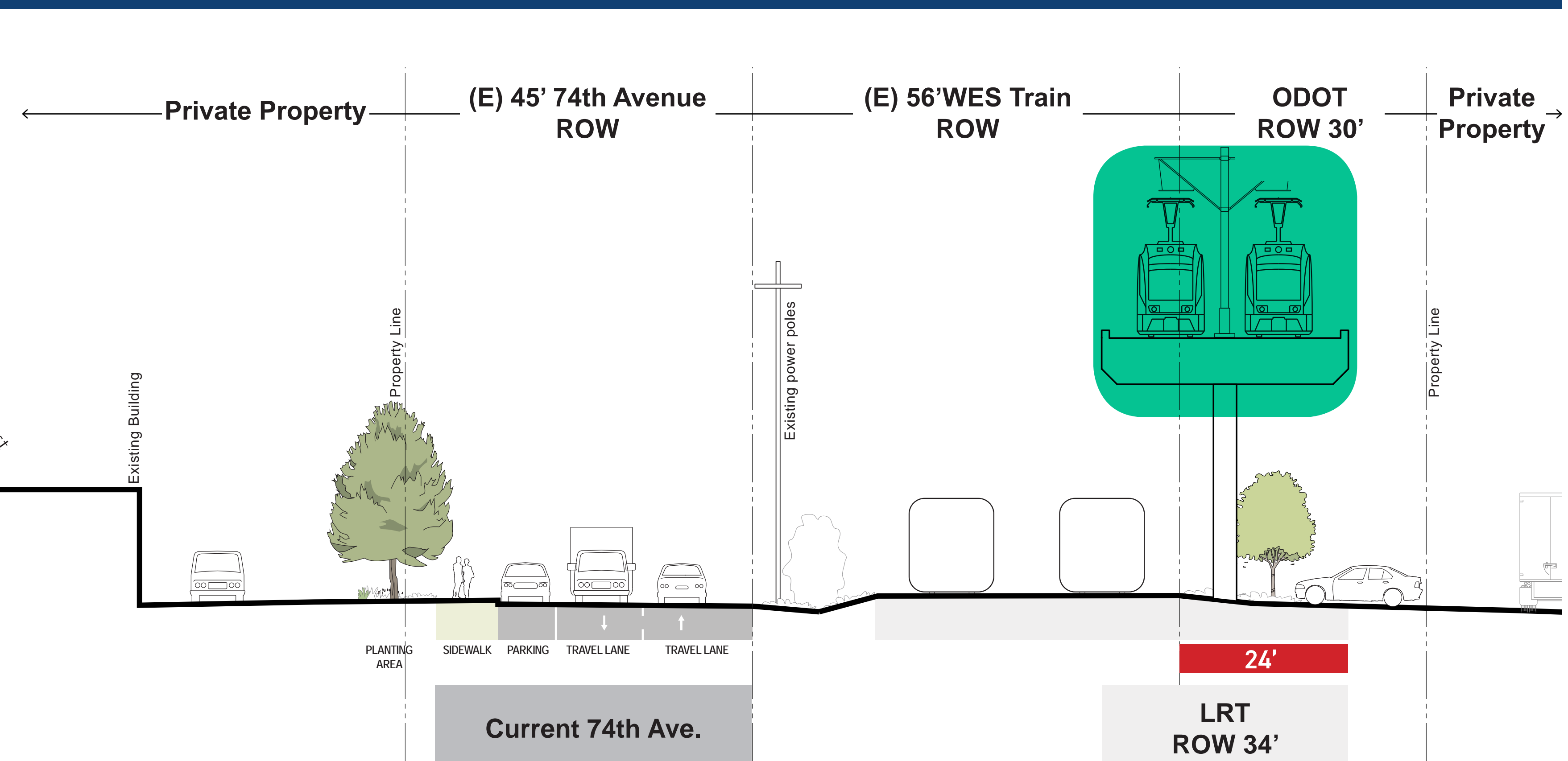
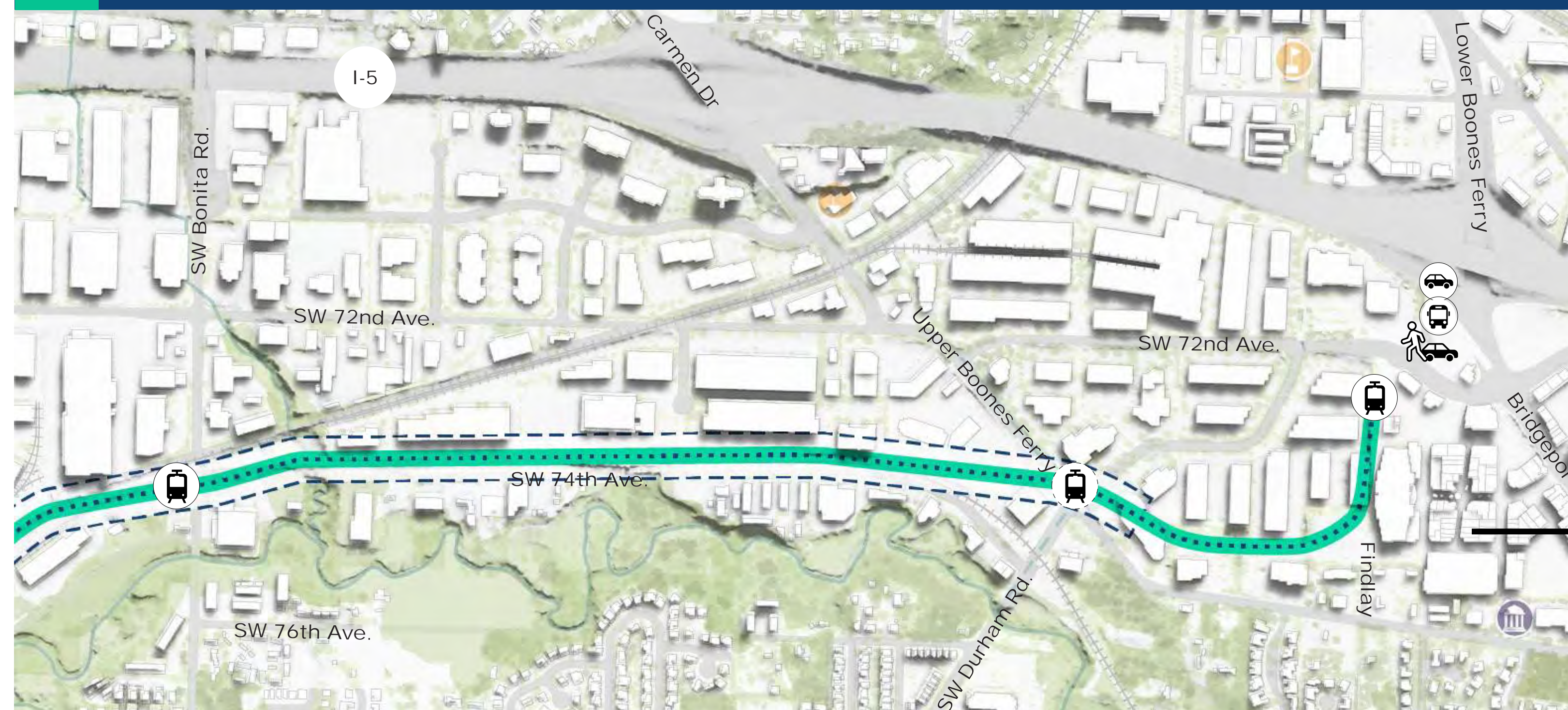
74th Ave. Refined Route Cross Sections

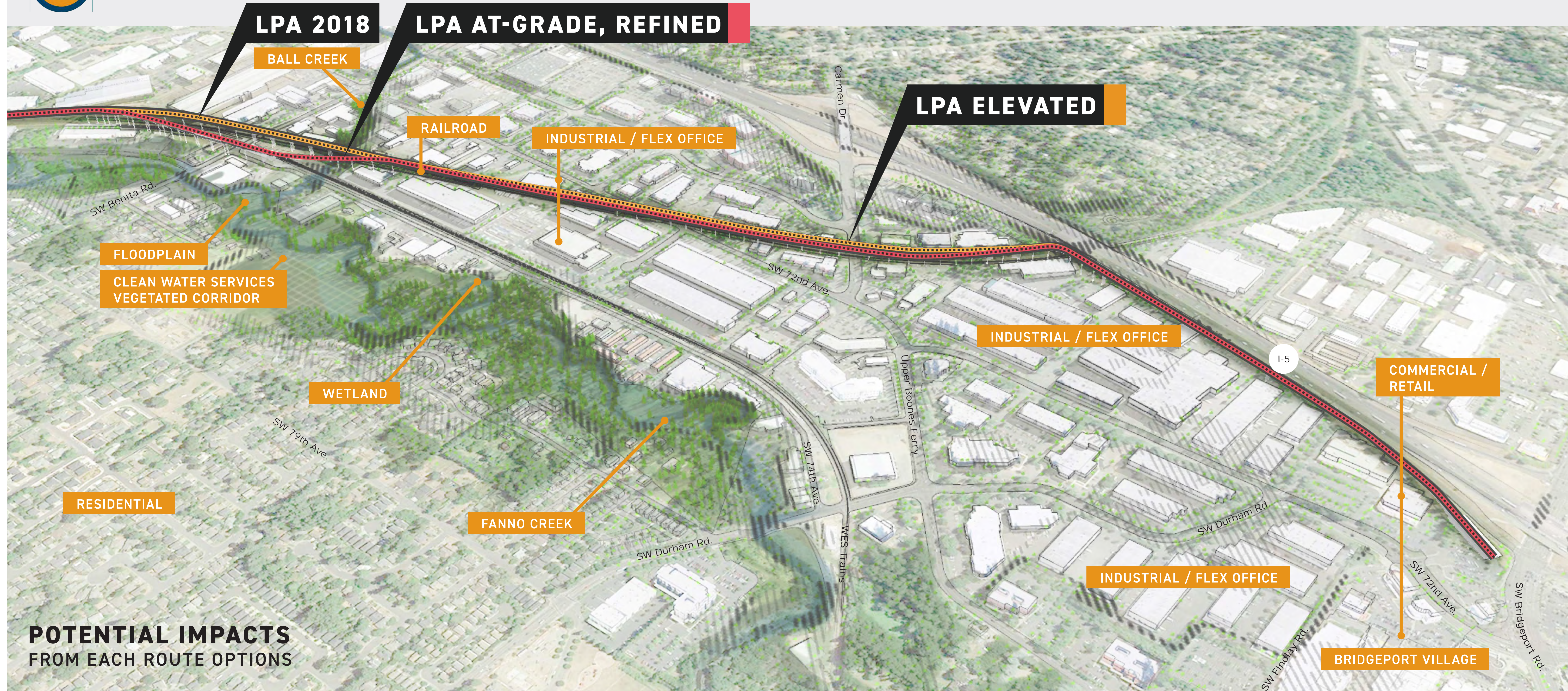


6. EAST OF WES

Plan View

East of WES Route Cross Section





POTENTIAL IMPACTS FROM EACH ROUTE OPTIONS

NOTE: Additional Temporary Construction Easement To Be Determined

Data updated as of April 23, 2019

■ *POTENTIAL FULL PARCEL IMPACT
 ■ POTENTIAL BUILDING IMPACT
 ■ *POTENTIAL PARTIAL PARCEL IMPACT

1. LPA 2018



RAILROAD RISK ON CONSTRUCTION:	HIGH
NATURAL RESOURCE IMPACTS:	LOW
UTILITY IMPACTS:	LOW
RESIDENTIAL ACQUISITIONS:	NA
PROPERTY ACQUISITIONS*:	31
BUSINESS IMPACTS:	12
EMPLOYEE IMPACTS:	320
STRUCTURE LENGTH:	2616 LF
SAFETY IMPACTS:	MEDIUM
TRAFFIC IMPACTS:	HIGH

2. LPA ELEVATED



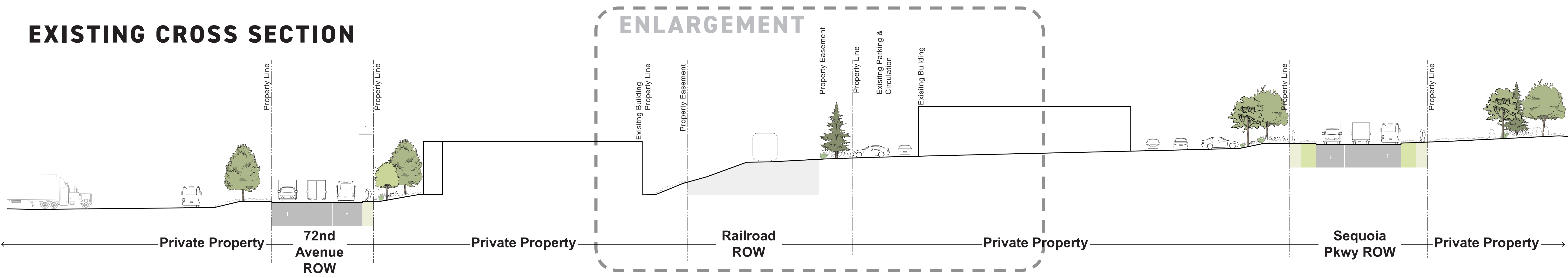
RAILROAD RISK ON CONSTRUCTION:	HIGH
NATURAL RESOURCE IMPACTS:	LOW
UTILITY IMPACTS:	LOW
RESIDENTIAL ACQUISITIONS:	NA
PROPERTY ACQUISITIONS*:	28
BUSINESS IMPACTS:	11
EMPLOYEE IMPACTS:	270
STRUCTURE LENGTH:	4916 LF
SAFETY IMPACTS:	LOW
TRAFFIC IMPACTS:	LOW

3. LPA AT-GRADE, REFINED

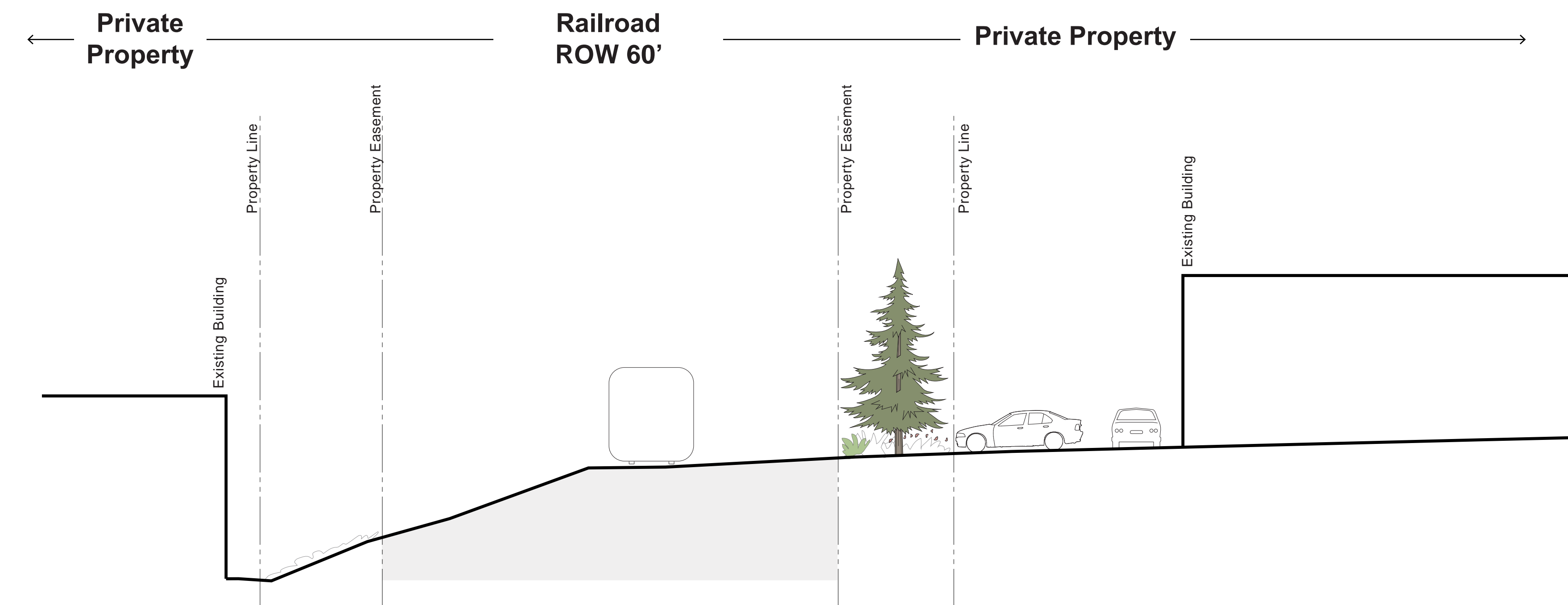


RAILROAD RISK ON CONSTRUCTION:	HIGH
NATURAL RESOURCE IMPACTS:	LOW
UTILITY IMPACTS:	LOW
RESIDENTIAL ACQUISITIONS:	NA
PROPERTY ACQUISITIONS*:	33
BUSINESS IMPACTS:	8
EMPLOYEE IMPACTS:	130
STRUCTURE LENGTH:	3155 LF
SAFETY IMPACTS:	MEDIUM
TRAFFIC IMPACTS:	HIGH

EXISTING CROSS SECTION



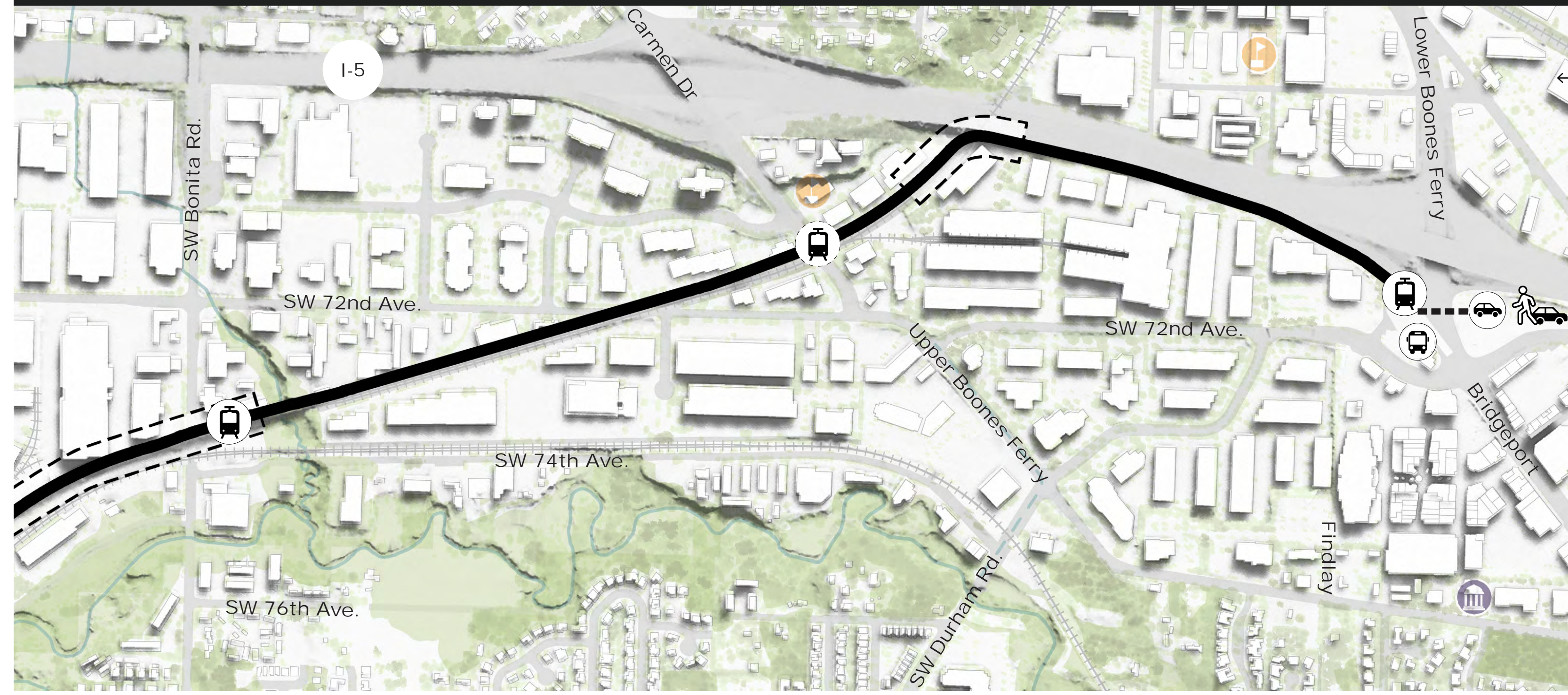
EXISTING CROSS SECTION AT ENLARGEMENT



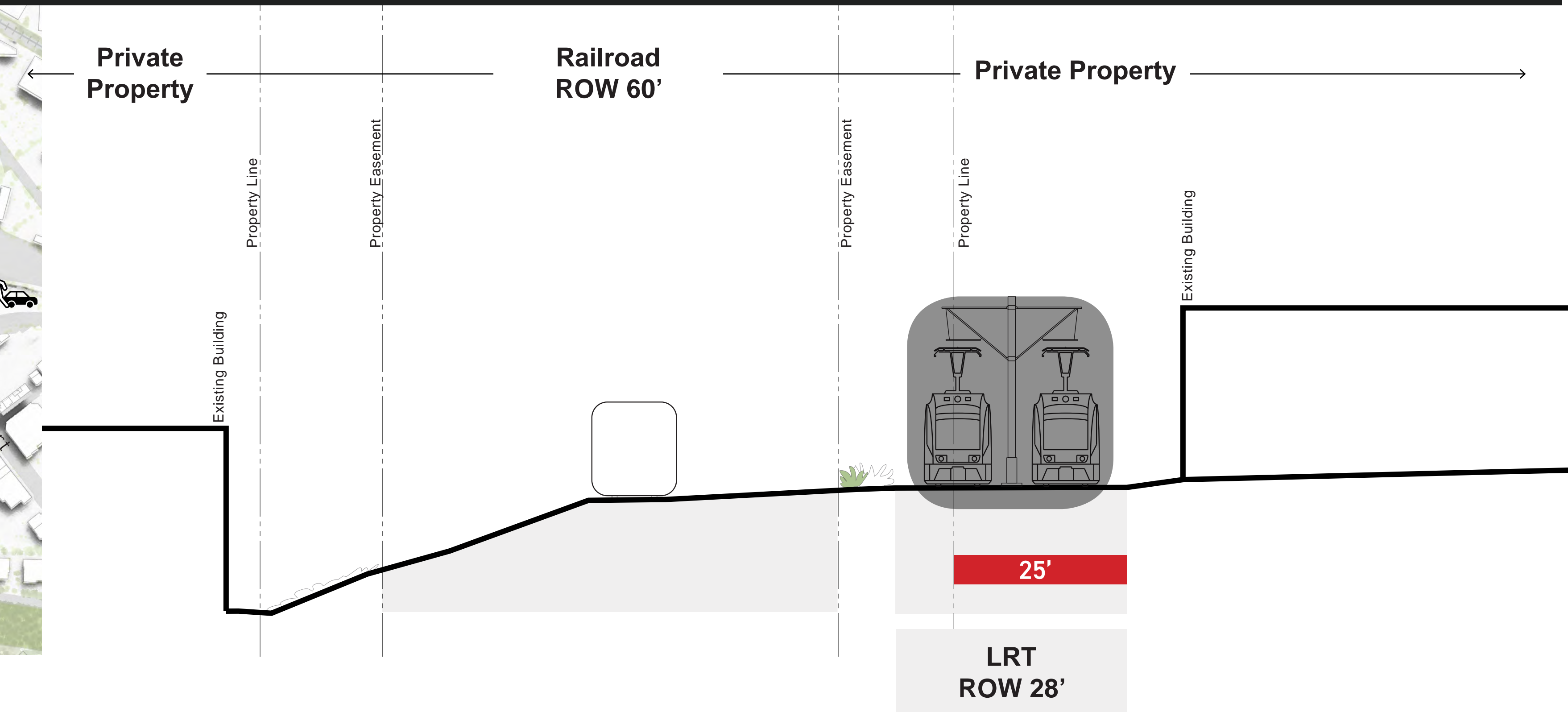
- route
- elevated structure
- lightrail station
- potential lightrail station
- bus hub
- park & ride
- quick drop

1. LPA 2018

Plan View

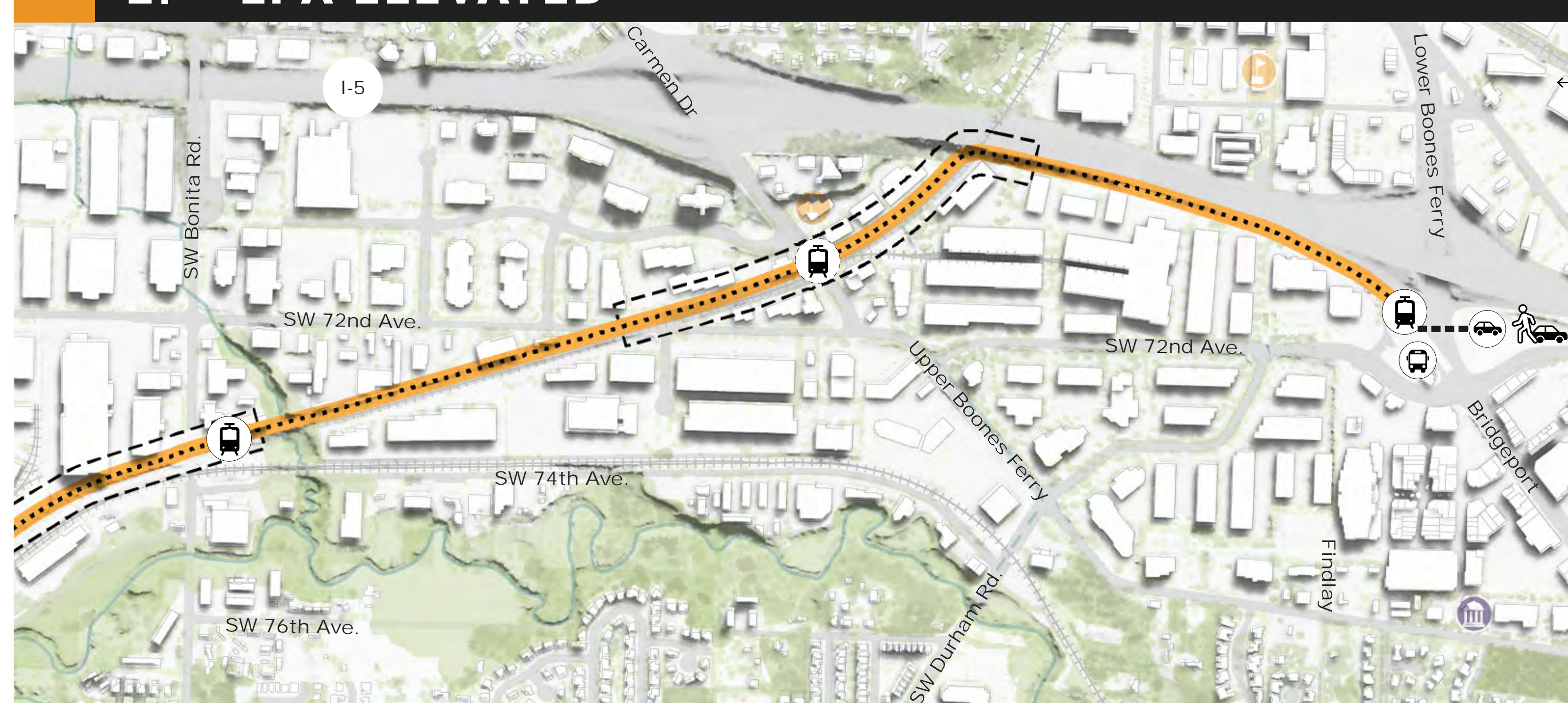


LPA Route Cross Section

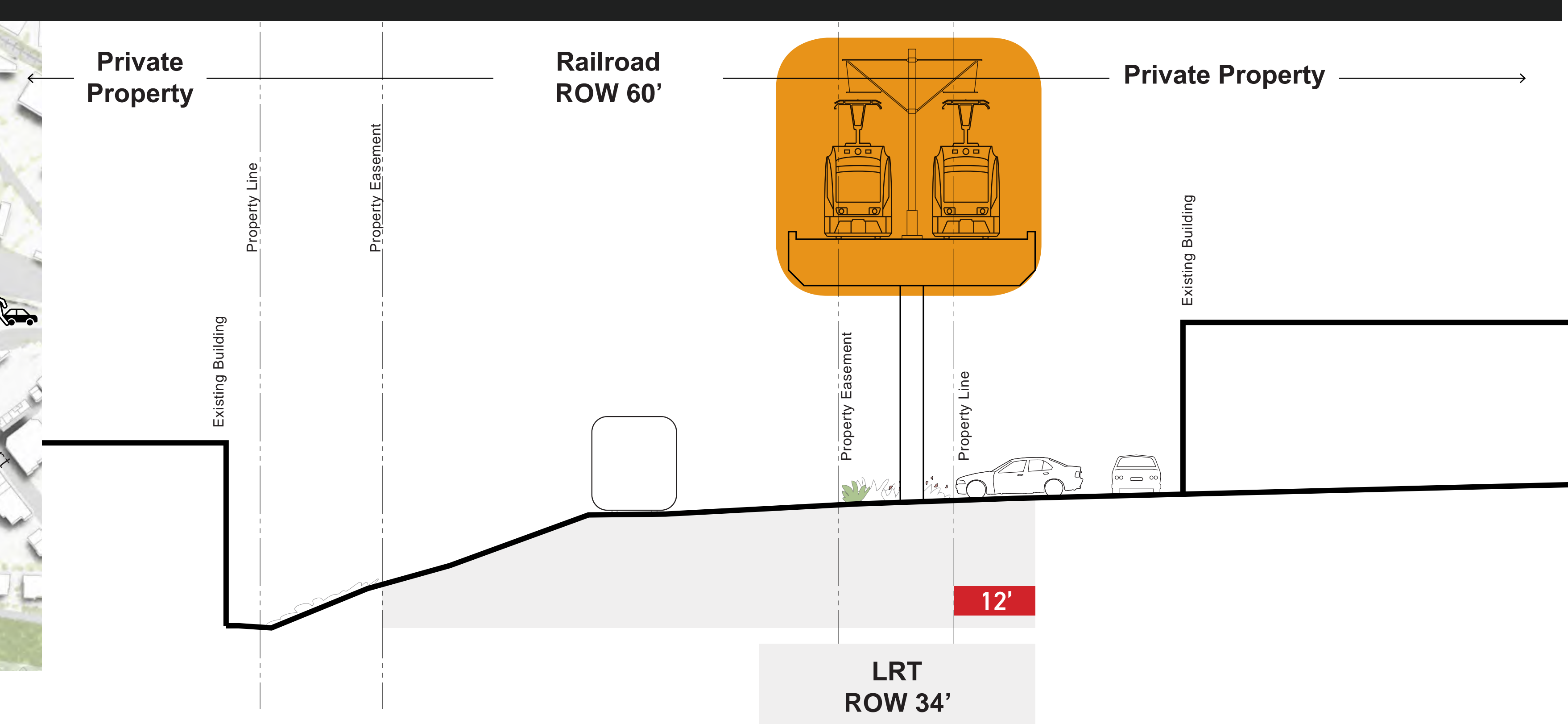


2. LPA ELEVATED

Plan View

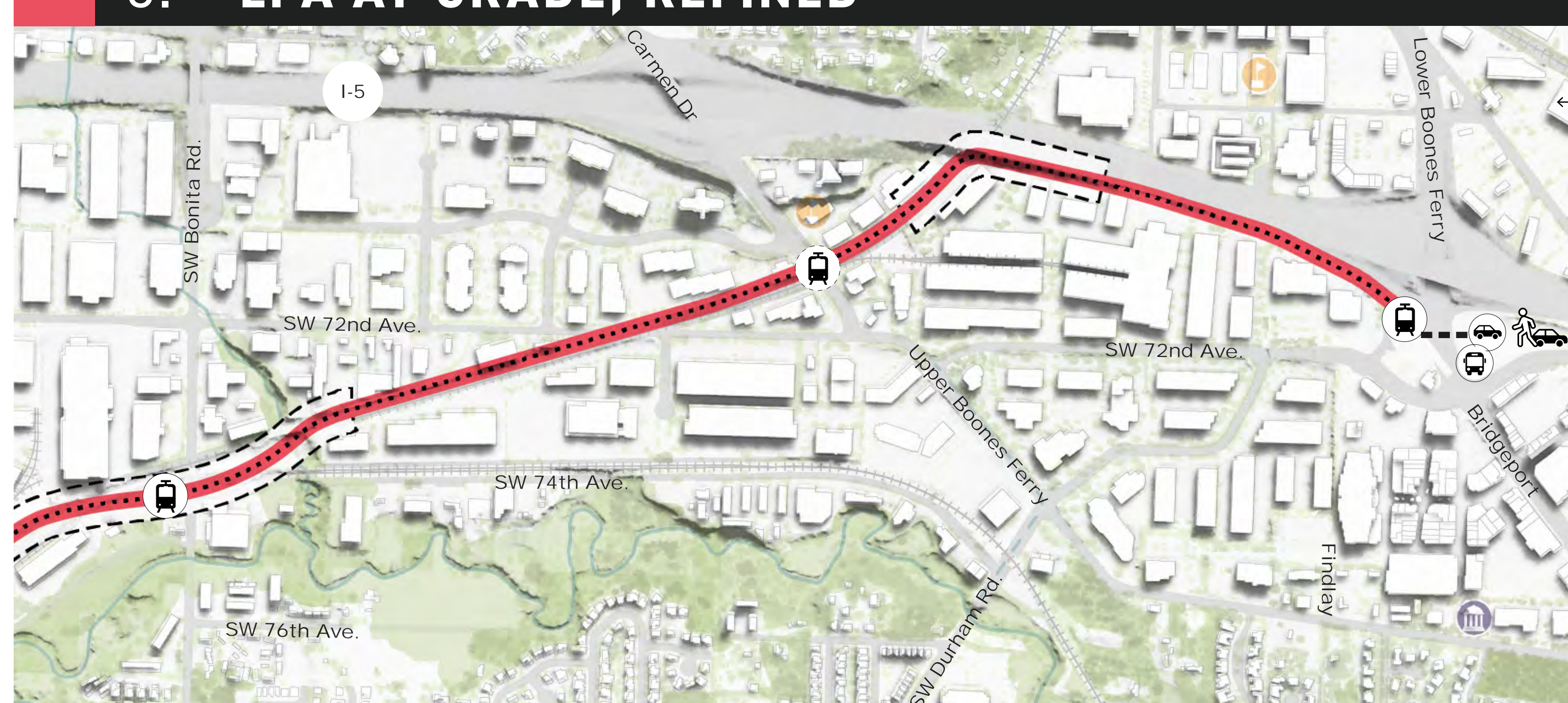


LPA Elevated Route Cross Section

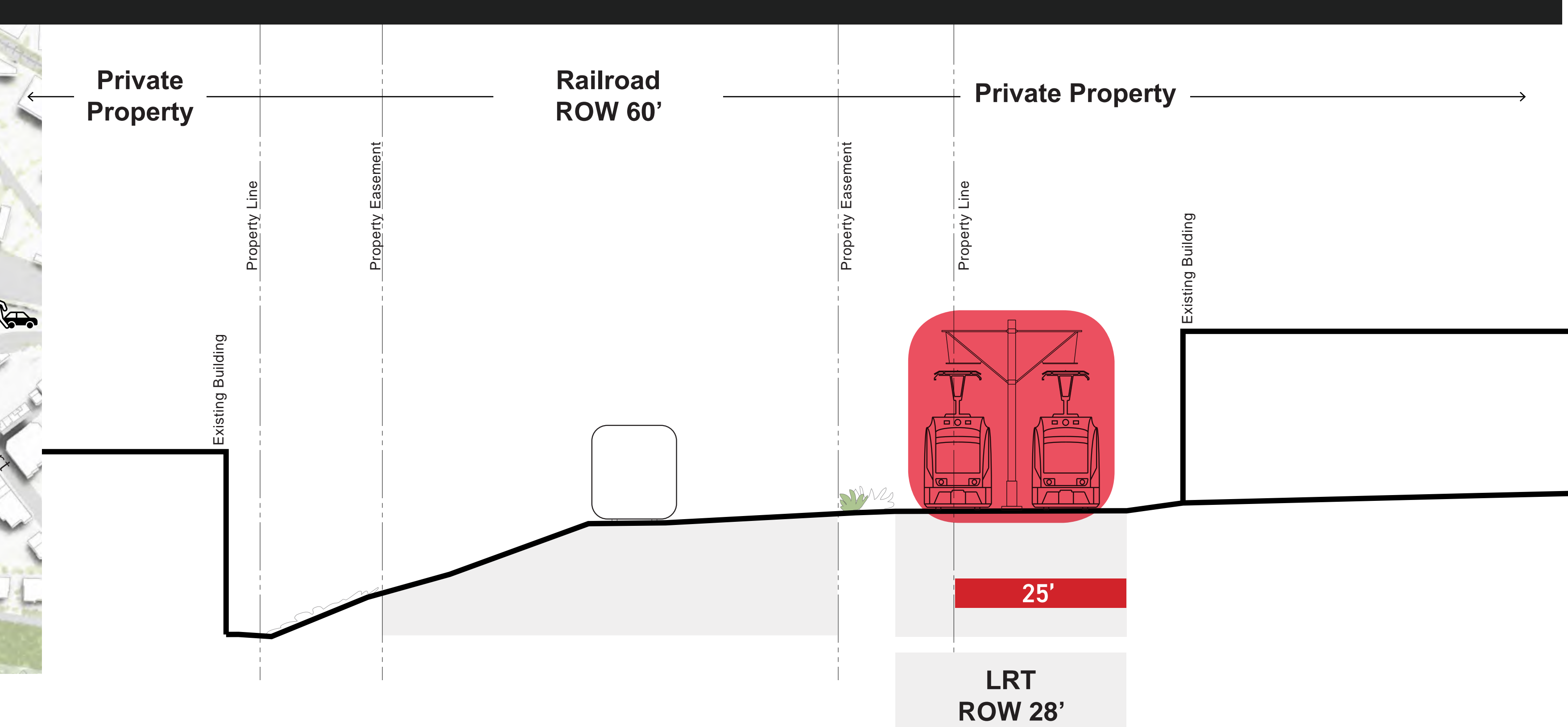


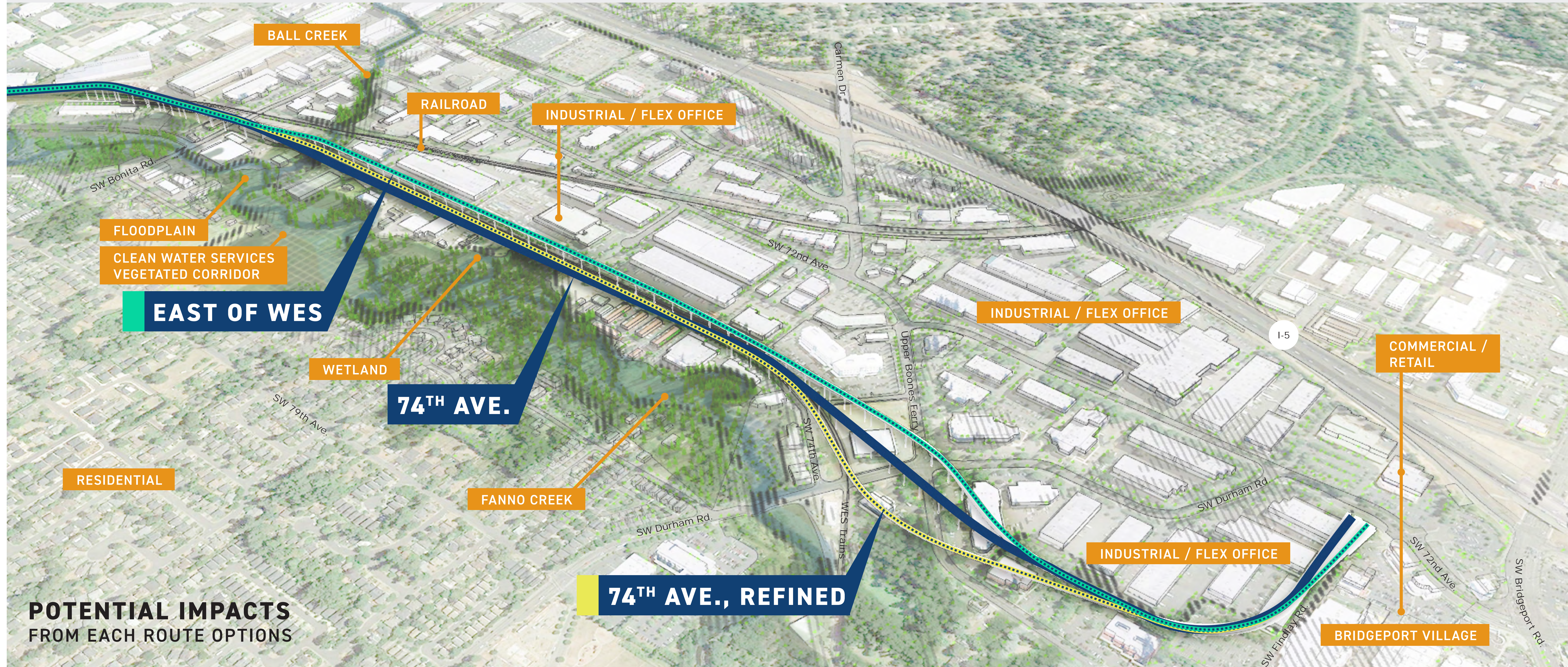
3. LPA AT-GRADE, REFINED

Plan View



LPA At-Grade, Refined Route Cross Section





NOTE: Additional Temporary Construction Easement To Be Determined

Data updated as of April 23, 2019

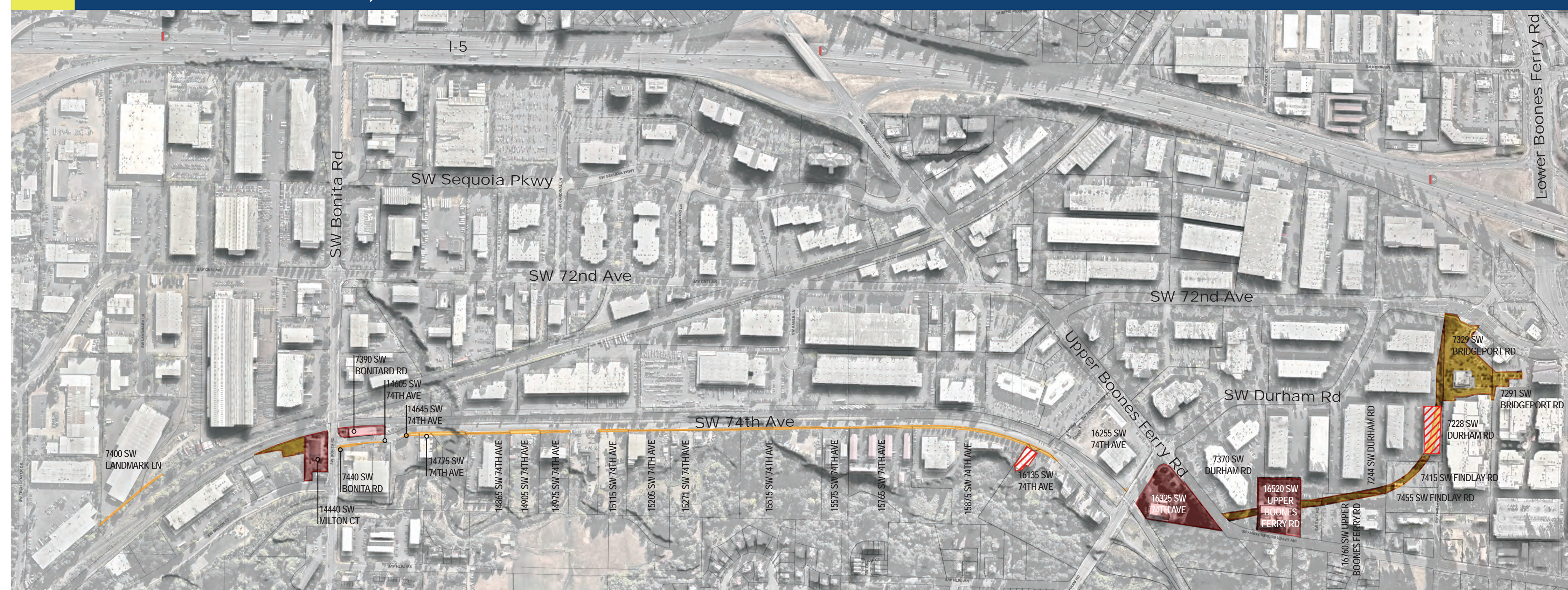
***POTENTIAL FULL PARCEL IMPACT** **POTENTIAL BUILDING IMPACT** ***POTENTIAL PARTIAL PARCEL IMPACT**

4. 74TH AVE.



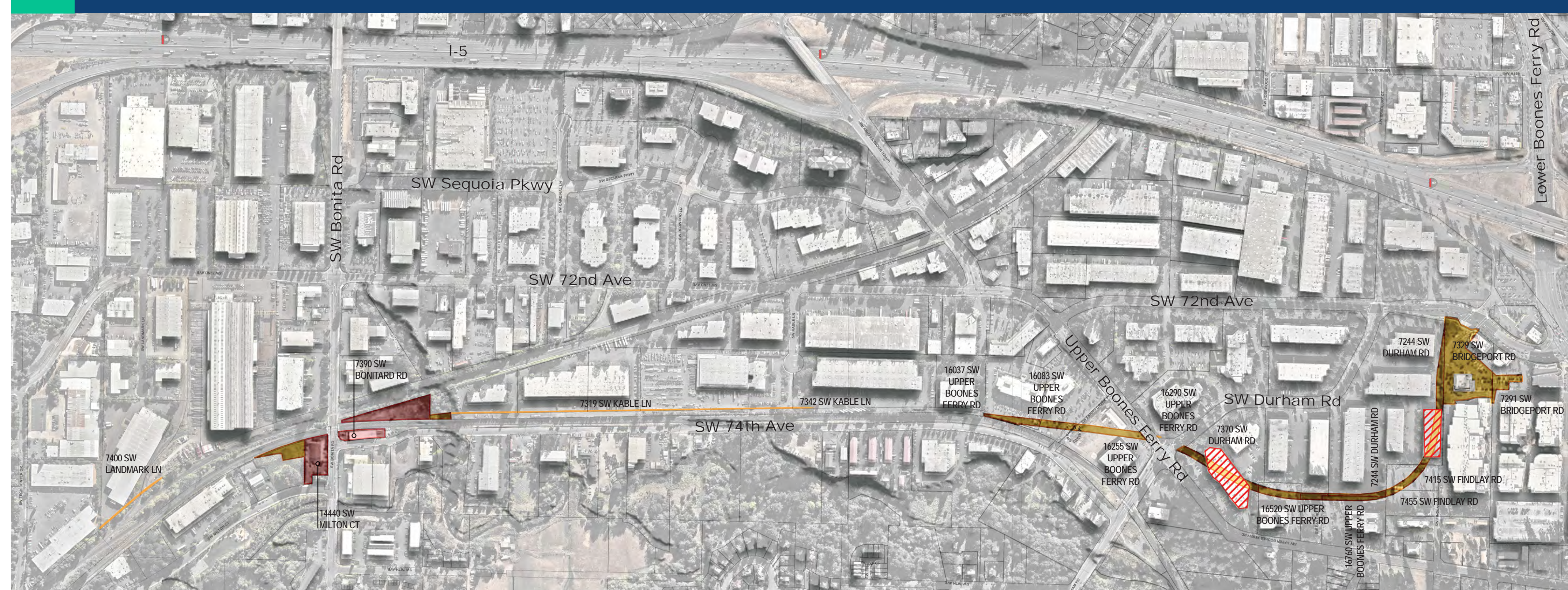
RAILROAD RISK ON CONSTRUCTION:	LOW
NATURAL RESOURCE IMPACTS:	MEDIUM
UTILITY IMPACTS:	HIGH
RESIDENTIAL ACQUISITIONS:	NA
PROPERTY ACQUISITIONS*:	32
BUSINESS IMPACTS:	43
EMPLOYEE IMPACTS:	680
STRUCTURE LENGTH:	3092 LF
SAFETY IMPACTS:	LOW
TRAFFIC IMPACTS:	LOW

5. 74TH AVE., REFINED



RAILROAD RISK ON CONSTRUCTION:	MEDIUM
NATURAL RESOURCE IMPACTS:	MEDIUM
UTILITY IMPACTS:	HIGH
RESIDENTIAL ACQUISITIONS:	NA
PROPERTY ACQUISITIONS*:	34
BUSINESS IMPACTS:	10
EMPLOYEE IMPACTS:	190
STRUCTURE LENGTH:	3192 LF
SAFETY IMPACTS:	LOW
TRAFFIC IMPACTS:	LOW

6. EAST OF WES



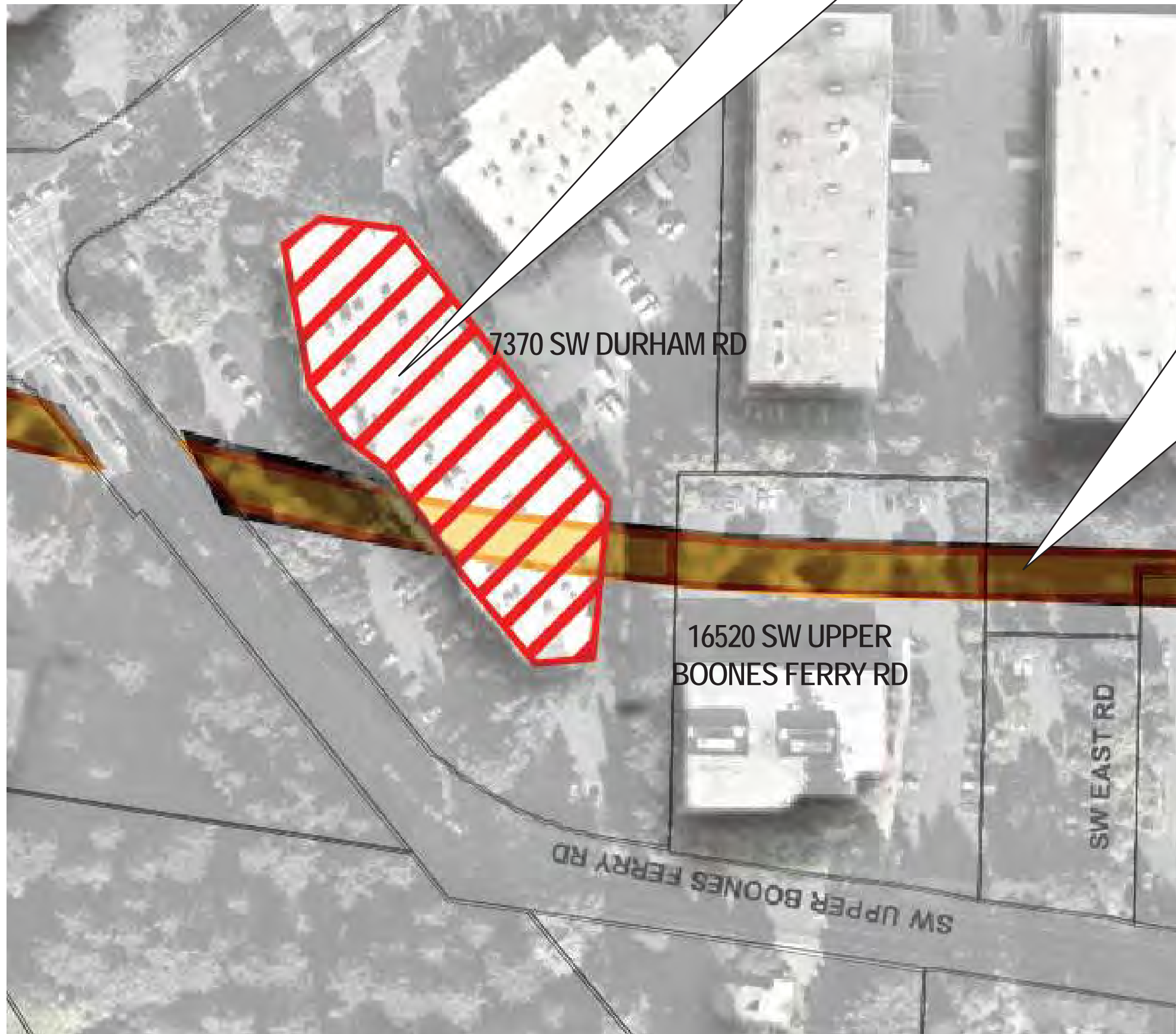
RAILROAD RISK ON CONSTRUCTION:	MEDIUM
NATURAL RESOURCE IMPACTS:	LOW
UTILITY IMPACTS:	LOW
RESIDENTIAL ACQUISITIONS:	NA
PROPERTY ACQUISITIONS*:	24
BUSINESS IMPACTS:	9
EMPLOYEE IMPACTS:	250
STRUCTURE LENGTH:	6550 LF
SAFETY IMPACTS:	LOW
TRAFFIC IMPACTS:	LOW

BELOW ARE THREE DIFFERENT TYPES OF IMPACTS, SHOWN HERE ON THE 74TH ROUTE, BUT TYPICAL POTENTIAL IMPACTS ON OTHER ROUTES

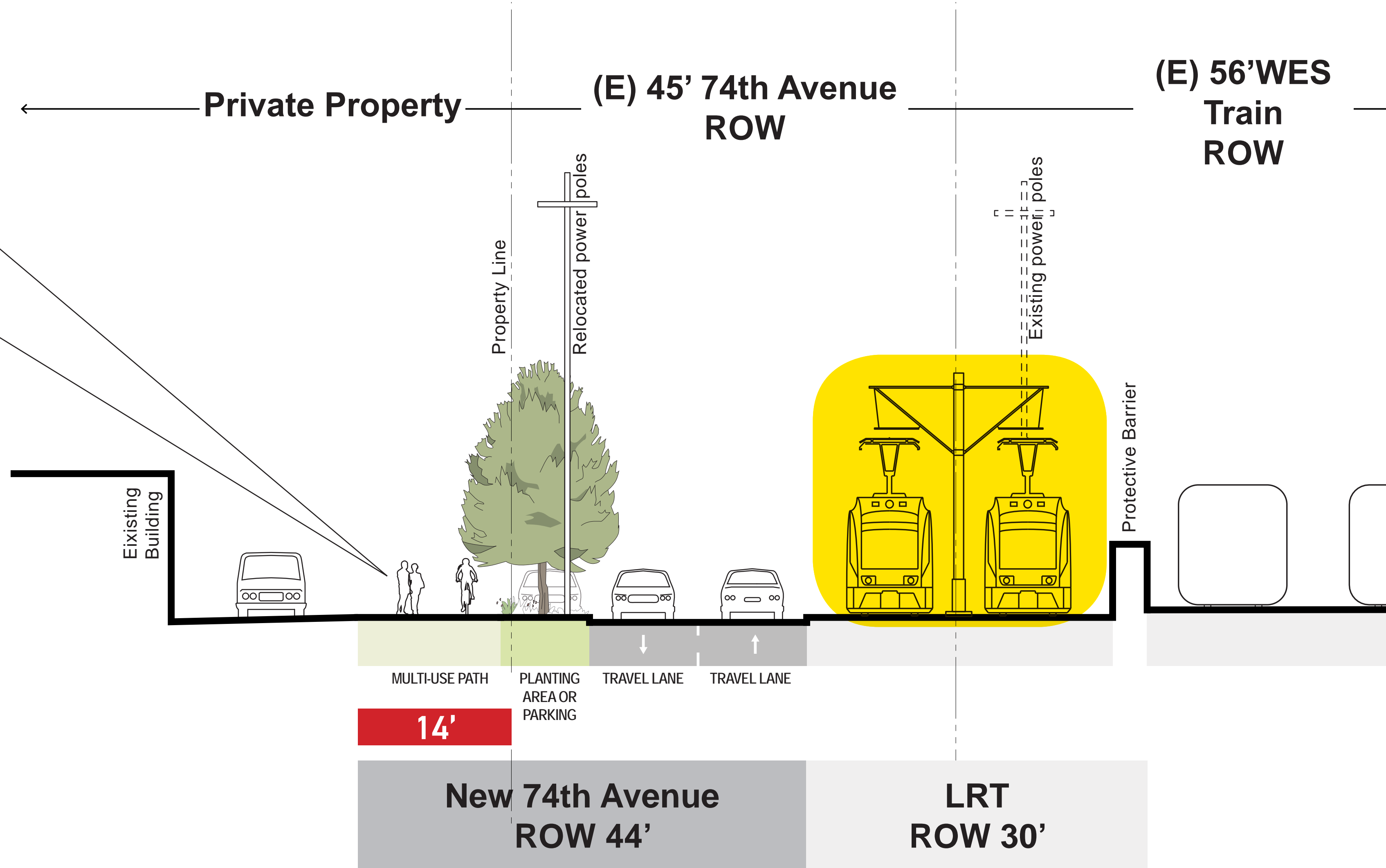
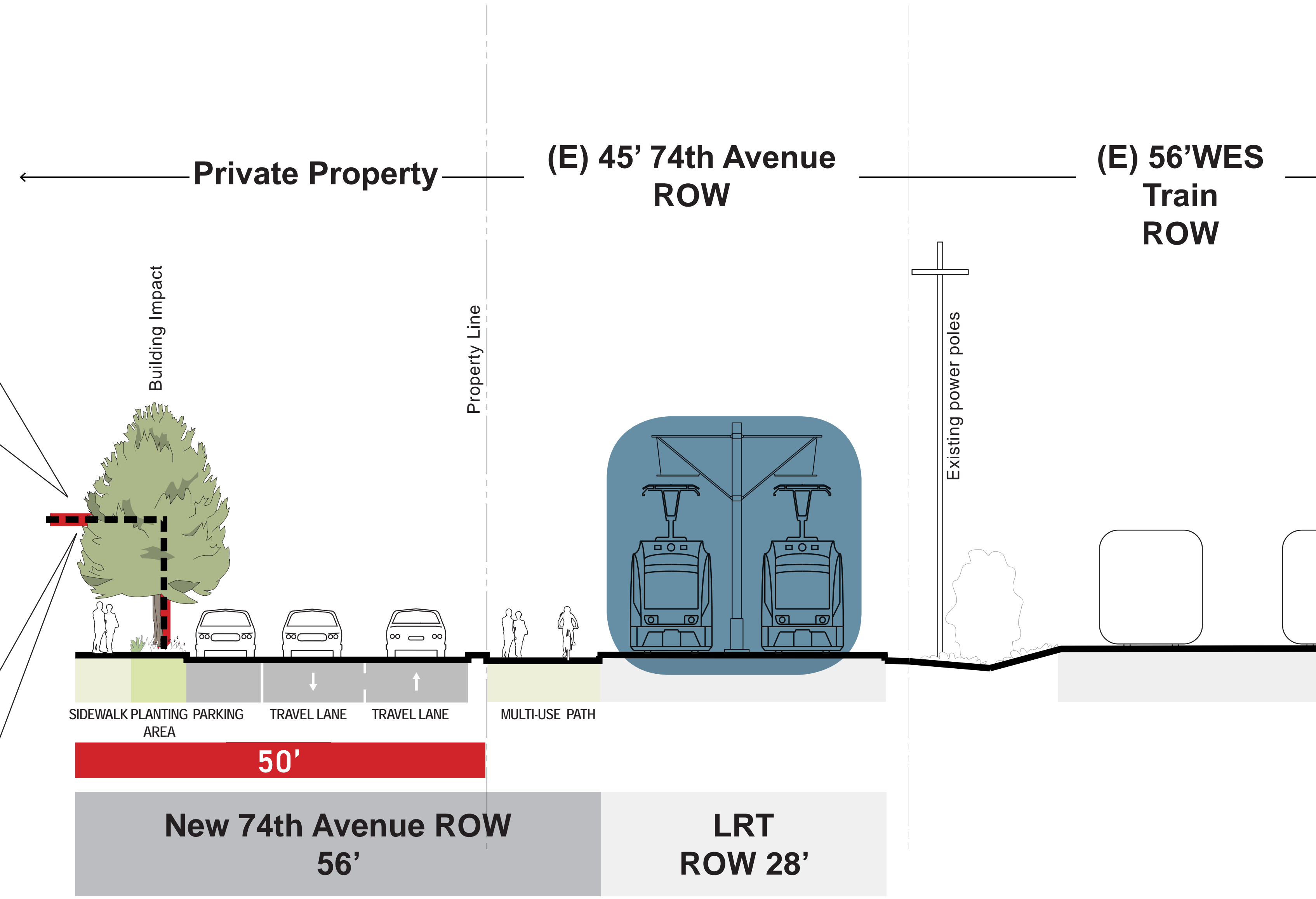


POTENTIAL FULL PARCEL IMPACT (RELOCATION)
BUILDING AND MORE THAN 50% PARCEL IMPACTED

POTENTIAL BUILDING IMPACT (RELOCATION)
BUILDING, NOT ENTIRE PARCEL

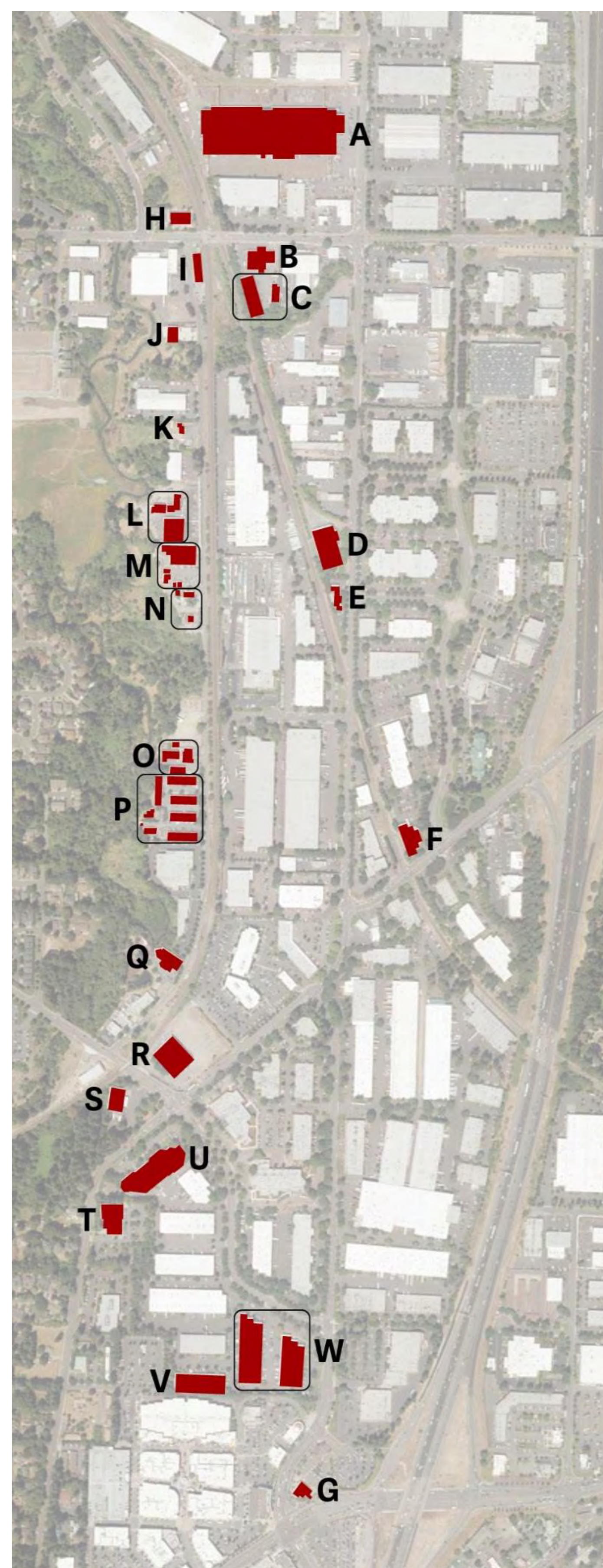


POTENTIAL PARTIAL PARCEL IMPACT
LANDSCAPING
PARKING
DRIVE AISLE



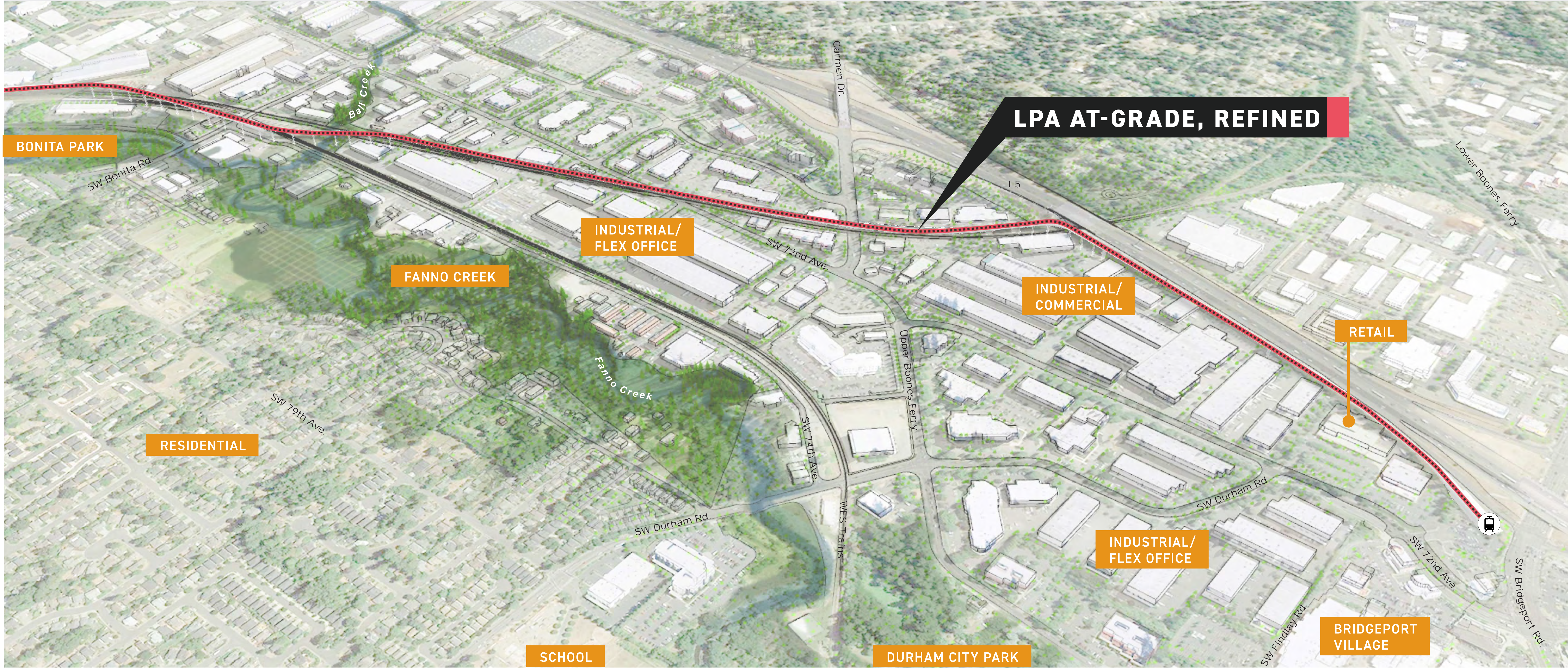
	LPA 2018 IRP in DEIS SUMMER 2018	LPA Elevated LATE 2018	LPA at-grade Refined MARCH/APRIL 2019	74th Ave JAN/FEB 2019	74th Ave Refined MARCH/APRIL 2019	East of WES MARCH/APRIL 2019
TRAFFIC						
At-grade crossings	72nd Ave Upper Boones, with queuing concern	--	72nd Ave Upper Boones, with queuing concern	--	--	--
Bridgeport Park & Ride Location	South of Lower Boones	South of Lower Boones	South of Lower Boones	North of Lower Boones	North of Lower Boones	North of Lower Boones
LIGHT RAIL PERFORMANCE						
Travel time difference from LPA	N/A	30 seconds faster	30 seconds slower	60 seconds faster	60 seconds faster	60 seconds faster
On-time performance	Risk of delay	--	Risk of delay	--	--	--
PROPERTY ACQUISITIONS						
Full or partial parcel acquisitions	31	28	33	32	34	24
RELOCATIONS						
Businesses	12	11	8	43	10	9
Employees	320	270	130	680	190	250
ENVIRONMENTAL IMPACTS						
Acres of floodplain	0.00	0.00	0.00	0.80	0.00	0.00
Acres of wetland	0.01	0.01	0.60	0.56	0.14	0.26
LAND USE, TRAILS						
Differences in land uses served by an Upper Boones station	More commercial, industrial	More commercial, industrial	More commercial, industrial	More residential	More residential	More residential
Regional trail opportunity	--	--	--	On-street	On-street	--
RISKS						
Railroad interface	Union Pacific; no existing agreement	Union Pacific; no existing agreement	Union Pacific; no existing agreement	Outside railroad right-of-way	Portland & Western (WES); shared use agreement	Portland & Western (WES); shared use agreement
Utilities	--	--	--	High risk	Higher risk	--
COST						
Difference from most recent full-project cost estimate	(-\$55m)	--	(-\$53m)	(-\$31m)*	(-\$77m)*	+\$12.5m*

* RISK OF ADDITIONAL ENVIRONMENTAL STUDY



ASSUMED RELOCATED

Map ID	Potentially Impacted Businesses	LPA 2018	LPA Elevated	LPA at-grade Refined	74th Ave	74th Ave Refined	East of WES
A	Fought & Co	X	X				
	REFA Erectors						
B	Empire Batteries	X	X				
	Tigard Auto						
C	Pro Image Window Tint	X	X				
	Club K-9						
D	Union Pacific (business unknown)	X	X	X			
E	Pittman & Brooks	X	X	X			
	Northwest Physical Therapy						
F	Bridgeport MRI	X	X	X			
	Orthopedics Northwest						
G	The Village Inn	X					
H	Learning Tree Preschool			X	X	X	X
I	Lakeside Motors			X	X	X	X
J	Maid Brigade						
K	EVIO Labs						
L	14905 SW 74th (business unknown)				X		
M	Interstate Roofing				X		
N	Meyer Sign Co.				X		
O	West Coast Coatings				X		
P	Titan Towing				X		
Q	Paradise Auto Care				X		
R	74th Ave. Industrial Park: 21 businesses assumed				X		
S	Excel Orthodontics						
T	Synergo					X	
U	(not other businesses on same parcel)						
V	The Circuit Boulderling Gym				X		
W	Airgas					X	
	Pinnacle Mortgage					X	
	Advantage Solutions					X	
	PacTrust building G: 4 businesses assumed				X		X
	PacTrust building O: 2 businesses assumed				X	X	X
	PacTrust buildings P and Q: 5 businesses assumed				X		
Total Businesses Potentially Displaced		12	11	8	43	10	9
Total Employees Potentially Displaced		320	270	130	680	190	250



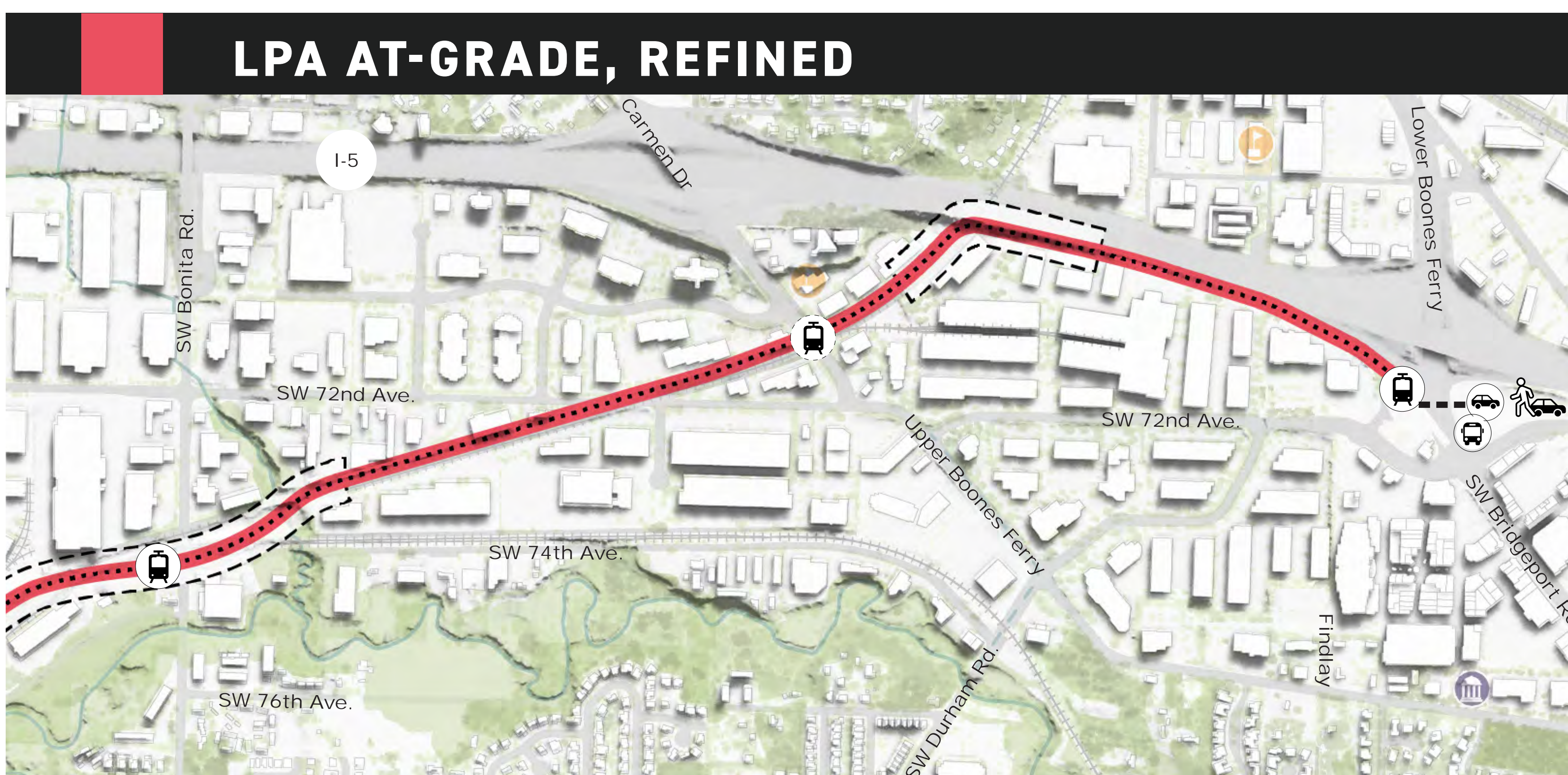
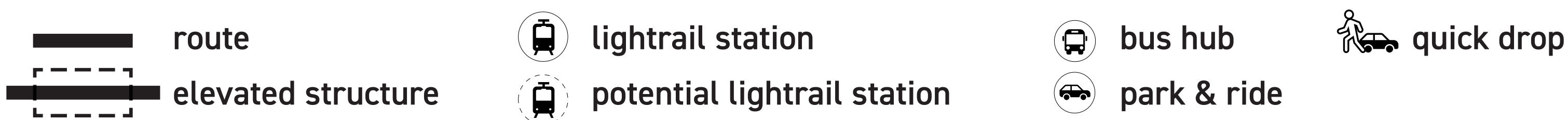
STAFF FINDINGS ON LPA AT-GRADE, REFINED ROUTE ARE BASED ON THE FOLLOWING:

1. Fewer business impacts
2. Lower costs with fewer risks to project schedule
3. Station at Upper Boones Ferry Road serves employment center
4. Multiple potential designs for Bridgeport Station, including option with no business displacements

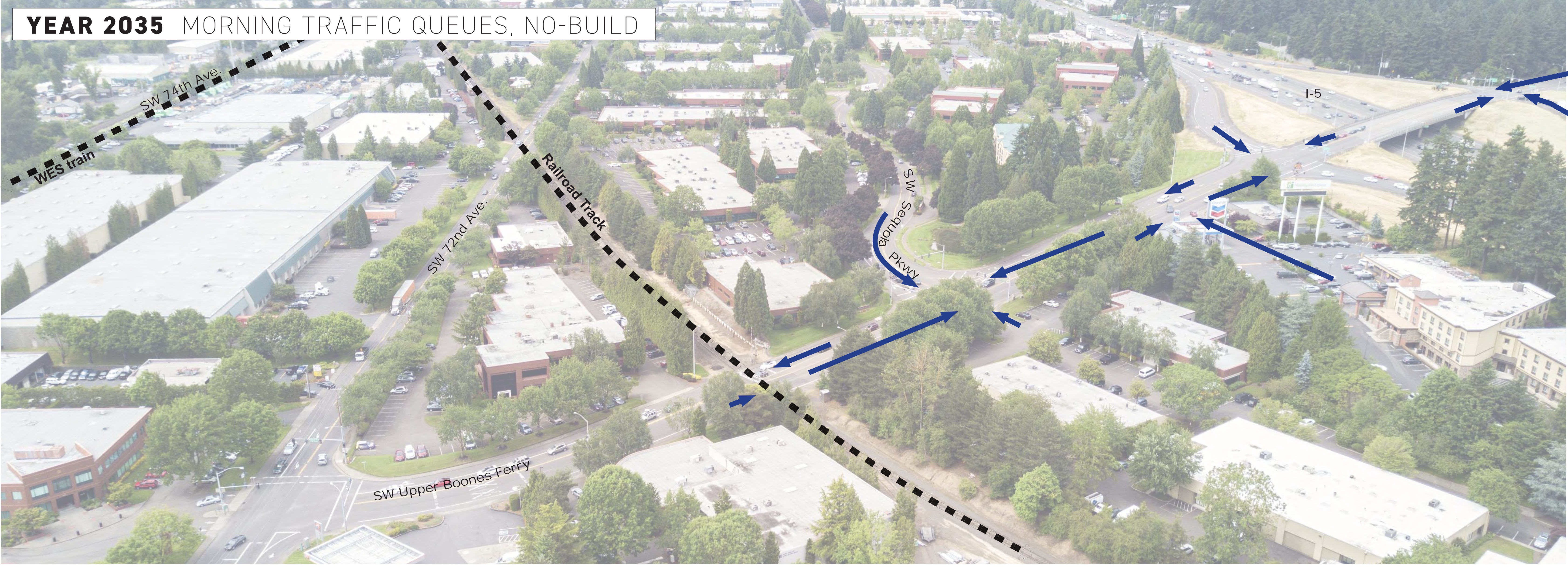
FOLLOW-UP ON LPA AT-GRADE, REFINED ROUTE

Detailed traffic study in late summer 2019 will help partners collaborate on at-grade crossing design:

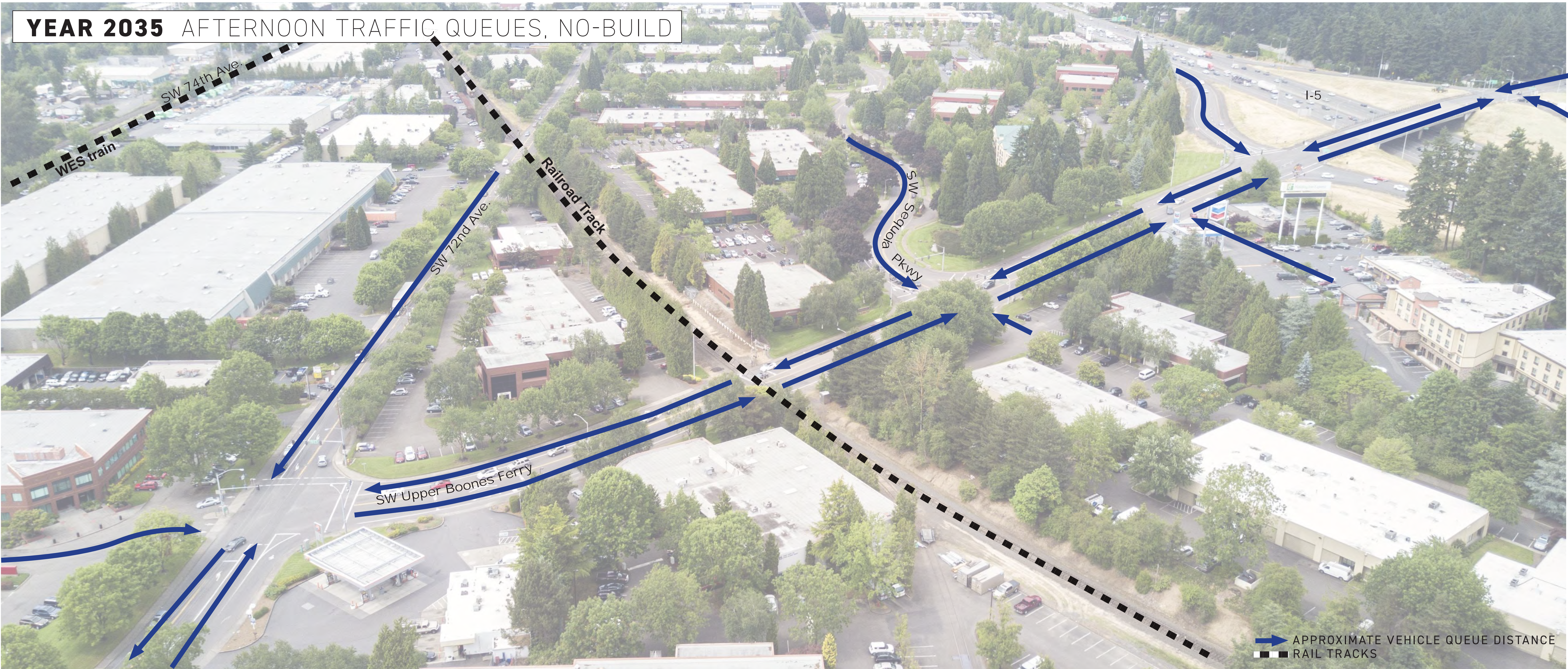
- Safety – follow industry best practices
- Transit reliability and travel time – make transit fast and easy
- Traffic issue – motor vehicle queuing, level of service, delay – meet 2035 “no-build” conditions (2045 at I-5 ramps)



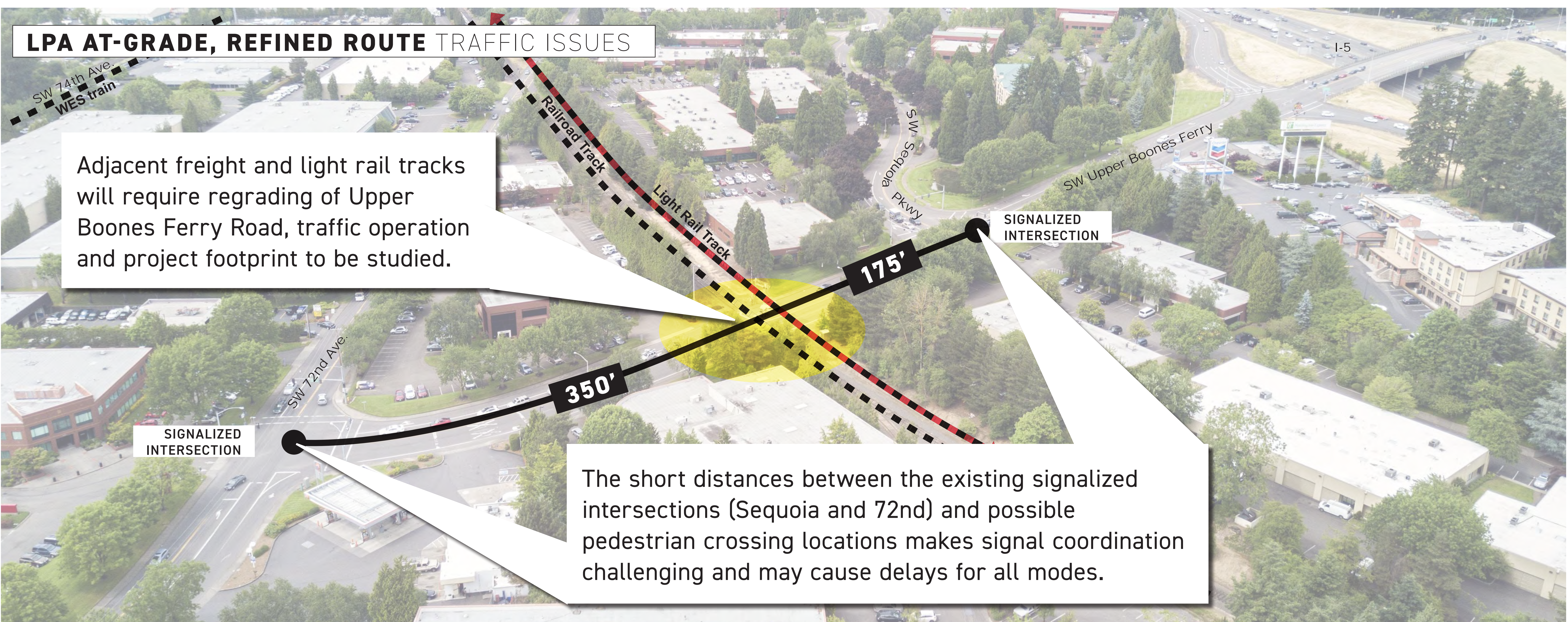
YEAR 2035 MORNING TRAFFIC QUEUES, NO-BUILD



YEAR 2035 AFTERNOON TRAFFIC QUEUES, NO-BUILD



LPA AT-GRADE, REFINED ROUTE TRAFFIC ISSUES



Adjacent freight and light rail tracks will require regrading of Upper Boones Ferry Road, traffic operation and project footprint to be studied.

The short distances between the existing signalized intersections (Sequoia and 72nd) and possible pedestrian crossing locations makes signal coordination challenging and may cause delays for all modes.

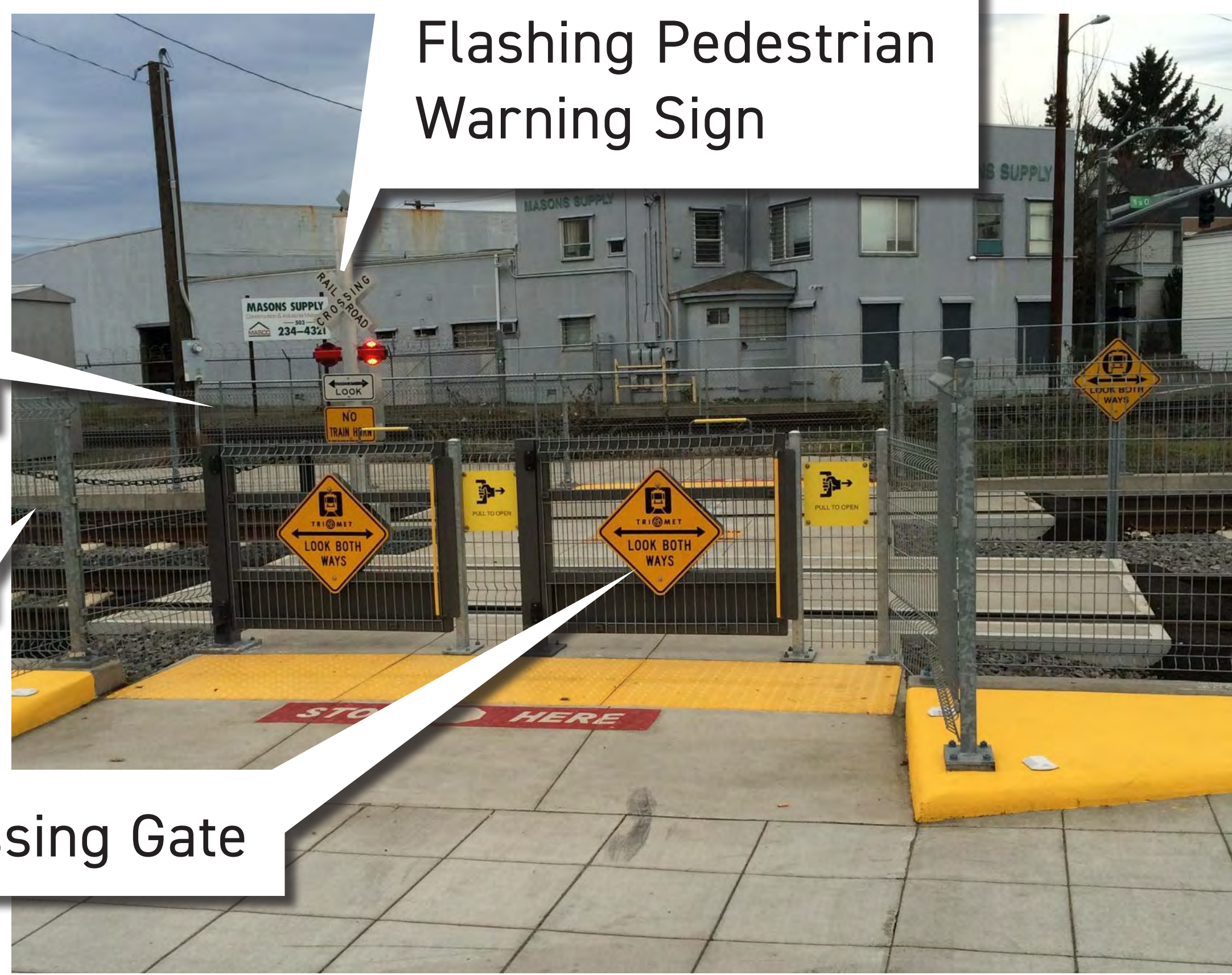
LPA AT-GRADE REFINED POTENTIAL TRAFFIC AND CROSSING SOLUTIONS

TYPICAL CROSSING WITH PEDESTRIAN GATES
SE 12TH AVENUE

Freight Tracks

Light Rail Tracks

Pedestrian Crossing Gate



TYPICAL CROSSING WITHOUT PEDESTRIAN GATES
SE 12TH AVENUE

Freight Tracks

Light Rail Tracks

Flashing Pedestrian Warning Sign



TYPICAL CROSSING WITH PEDESTRIAN GATES
SE MONROE STREET

Pedestrian Crossing Gate

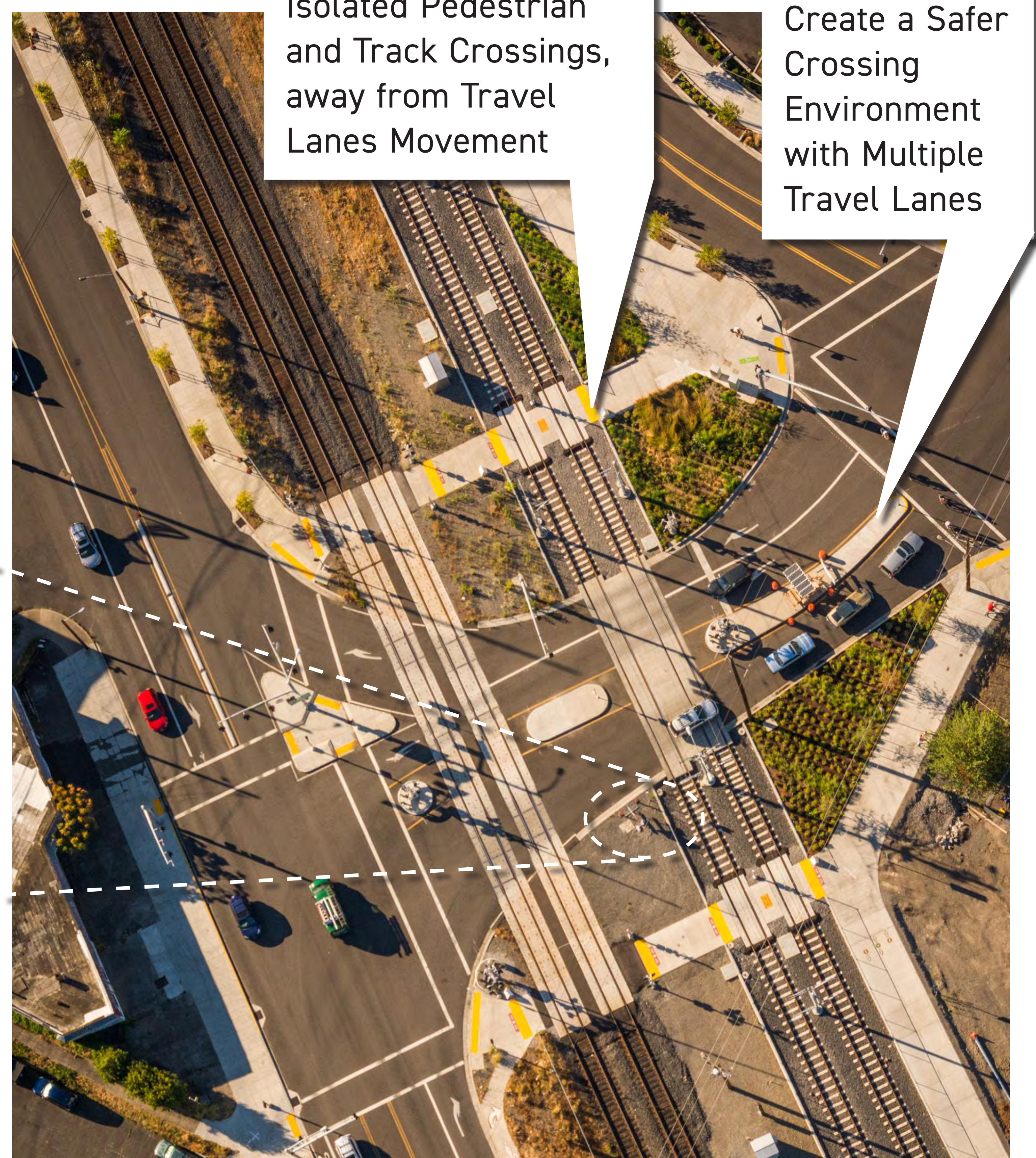
Freight Tracks

Light Rail Tracks



Colored and Textured Tactile Markings for Isolated Pedestrian and Track Crossings, away from Travel Lanes Movement

Pedestrian Refuge Island and Median Used here to Create a Safer Crossing Environment with Multiple Travel Lanes



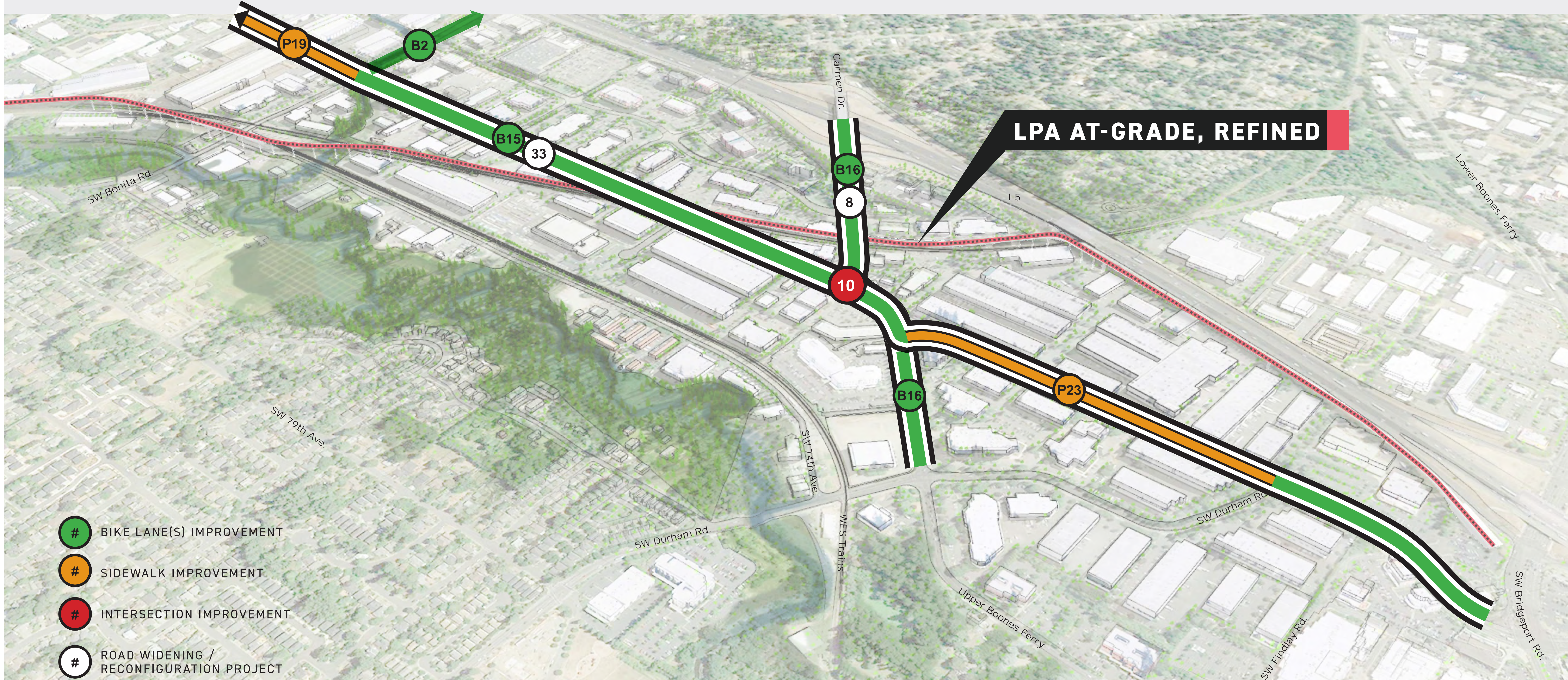
SIGNAGE, GATES, SIGNAL AND QUEUE DETECTION TECHNOLOGY
SE 8TH/DIVISION PL

Signal and queue detection technology

- Signage:
- Do Not Stop on Tracks
 - 4 Tracks
 - Stop Here on Red

Gates



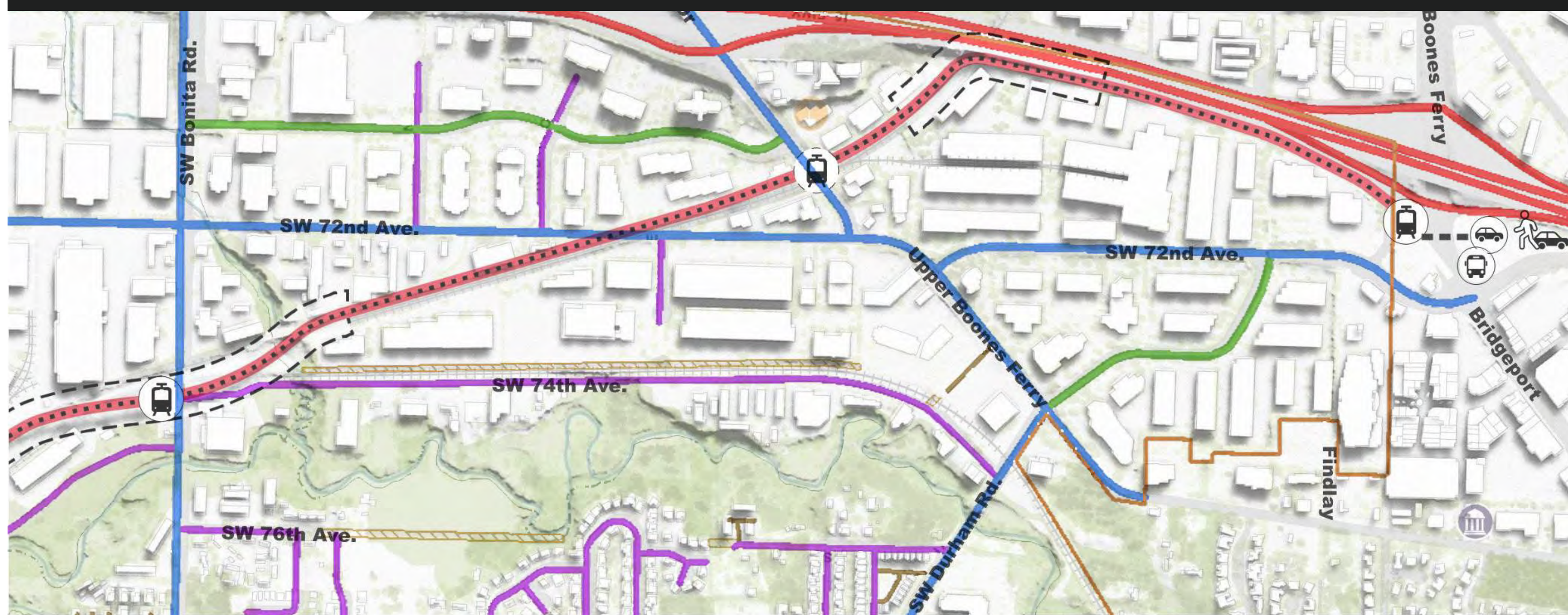


FUTURE PLANNED PROJECTS

ADOPTED IN JURISDICTIONS' PLANS: FUNDING TBD

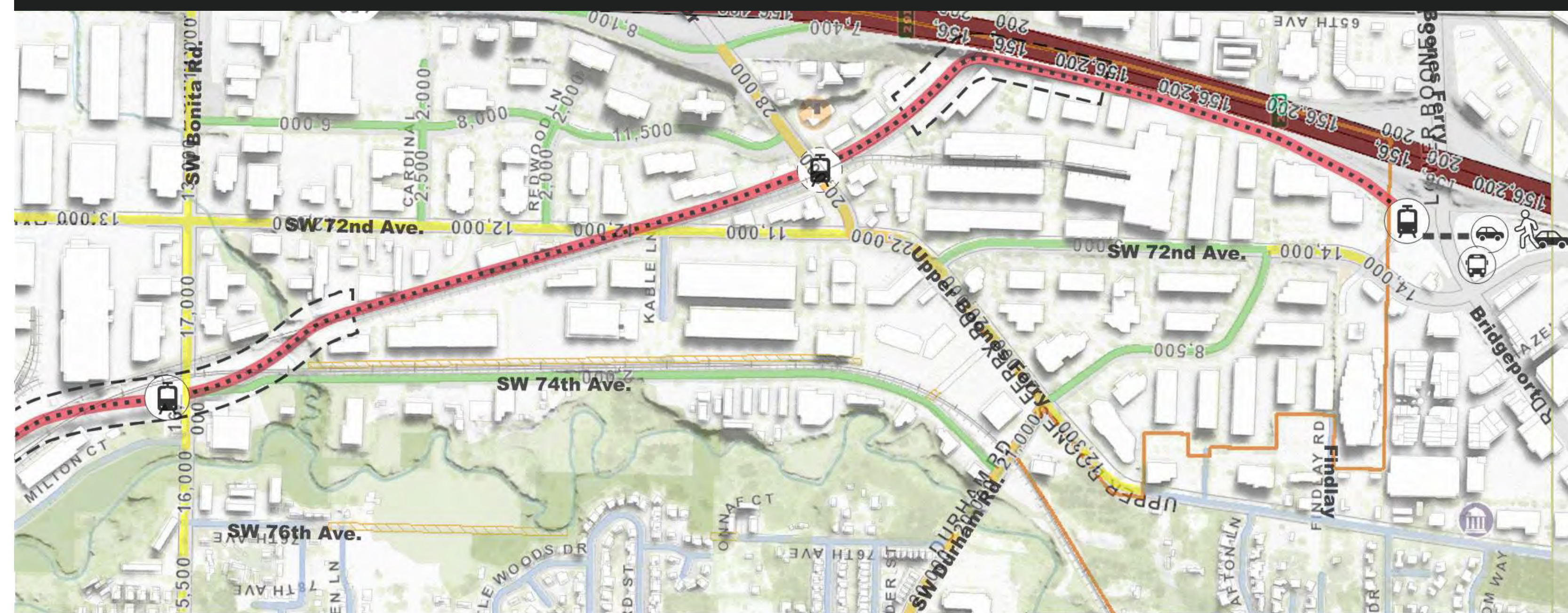
name	type	description	timeframe
Bonita Road	bike lane	install eastbound bike lanes from 72nd Avenue to I-5 bridge	near-term
72nd Avenue	bike lane	install bike facilities on both sides of the street from Pacific Highway to south City limits	near-term
Upper Boones Ferry Road widening between upper 72nd avenue and lower 72nd	road widening	widen Upper Boones Ferry from lower 72nd avenue to upper 72nd avenue	near-term
72nd/Upper Boones Ferry	intersection improvement	intersection improvements	near-term
72nd Avenue widening: Hunziker to Durham	road widening	widen to 2/3 lanes	long-term
Upper Boones Ferry Road	bike lane	install bike lanes on both sides of street from I-5 to Durham road	mid-term
Durham Road/Upper Boones/72nd realignment and widening	road widening and /or reconfiguration	Realign/reconfigure/widen Durham Road, Upper Boones Ferry Road-72nd Avenue intersections/roadway to accommodate traffic flow between Durham Road and I-5. Widen Upper Boones. A refinement study is needed to address specific alignment of Durham and Upper Boones Ferry and alignment of southern Durham Road and 72nd Avenue. As part of this project Upper Boones Ferry Road from Durham to Sequoia Parkway should be widened to five lanes	long-term
72nd Avenue	sidewalk	complete gaps in sidewalk from Pacific Highway to Bonita road	near-term
72nd Avenue	sidewalk	Install sidewalk on both sides of street from Upper Boones Ferry Road to Durham Road	near-term

STREET FUNCTIONAL CLASSIFICATION



- freeway
- arterial
- collector
- neighborhood
- local
- private

EXISTING TRAFFIC VOLUMES: AVERAGE DAILY TRAFFIC (ADT)



- average daily traffic >100K
- 50,000 to 99,999
- 32,000 to 49,999
- 10,000 to 19,999
- 1,000 to 9,999
- average daily traffic <1,000

**AVERAGE WEEKDAY
STATION USAGE (ONS AND OFFS)
BY MODE OF ACCESS AND EGRESS 2035**

Station	Through Configuration		
	% by Mode of Access	Station Ons/Offs	% Total Ons/Offs
Jackson	56% walk 44% transfer	2,194	4%
Gibbs	94% walk 6% transfer	8,341	15%
Hamilton	55% walk 45% transfer	1,279	2%
Custer	61% walk 39% transfer	2,202	4%
19th Ave	70% walk 29% transfer 1% auto	2,460	4%
26th Ave	95% walk 0% transfer 5% auto	4,059	7%
Barbur TC	40% walk 25% transfer 35% auto	4,368	8%
53rd Ave	46% walk 2% transfer 52% auto	3,586	6%
Baylor	69% walk 1% transfer 30% auto	3,204	6%
Beveland	91% walk 0% transfer 9% auto	2,620	5%
Tigard TC	28% walk 61% transfer 11% auto	11,303	20%
Bonita	89% walk 11% transfer 0% auto	2,670	5%
Upper Boones Ferry	94% walk 0% transfer 6% auto	2,009	4%
Bridgeport	32% walk 35% transfer 33% auto	6,120	11%

Source: Metro, 2017

