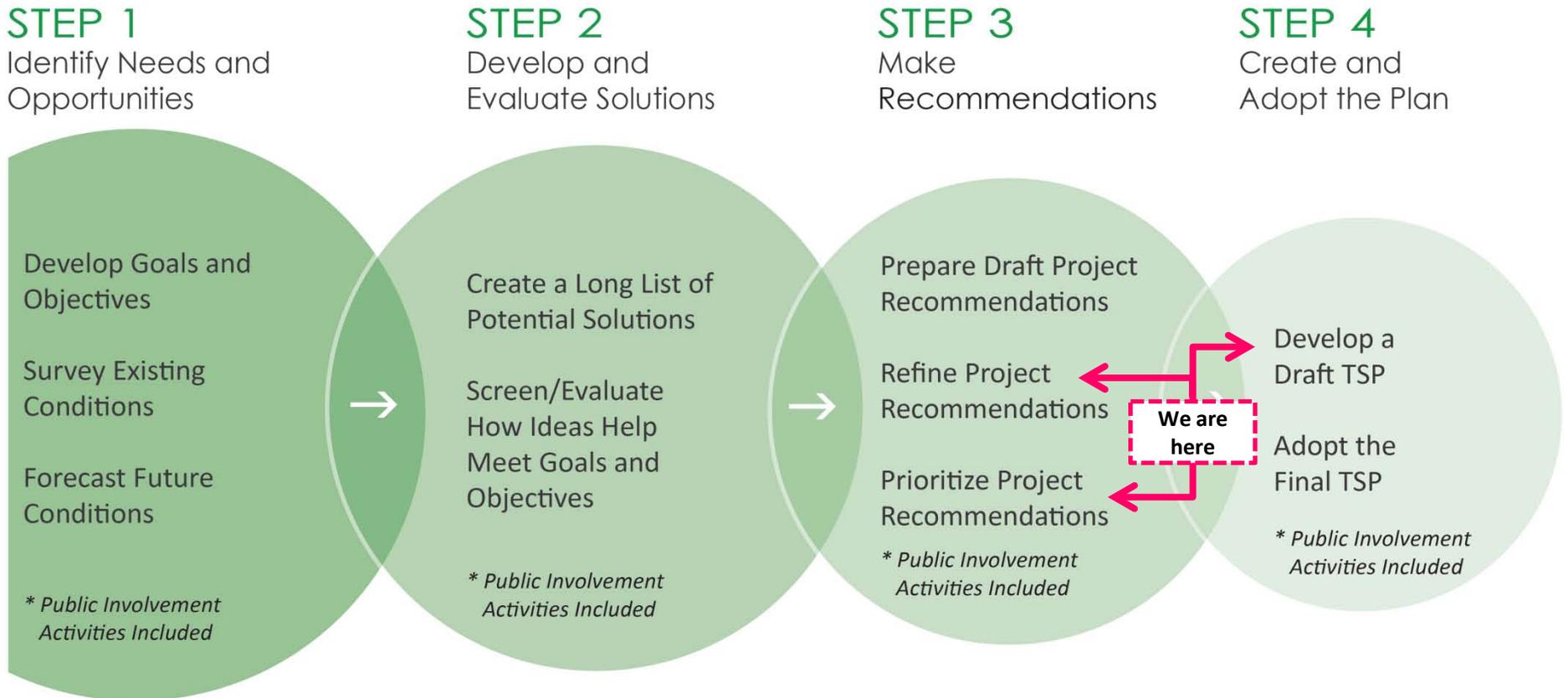




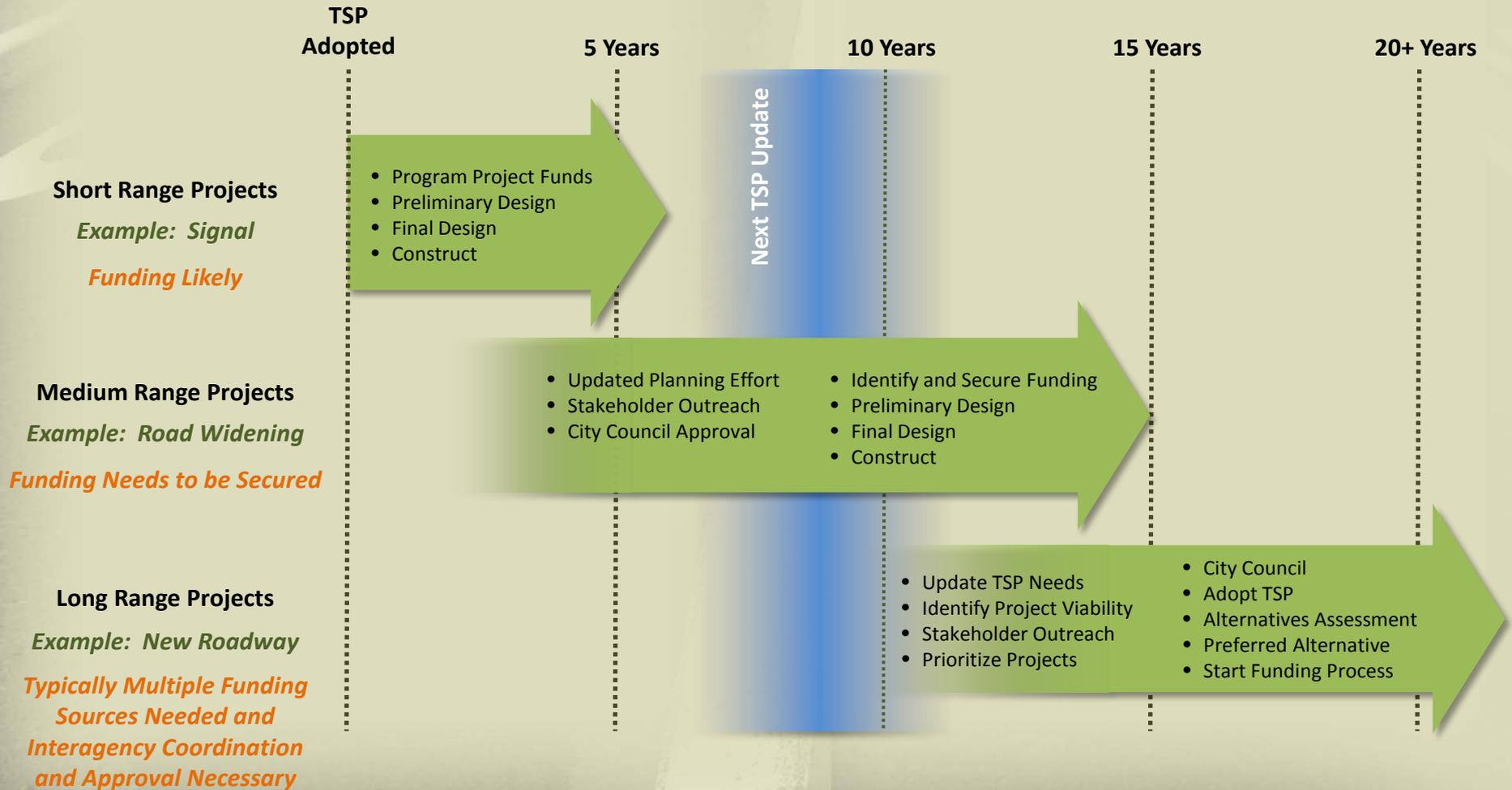
City of Tualatin
**Overview of
Traffic Analysis
Tualatin TSP**

Presentation to
Tualatin Task Force
November 1, 2012

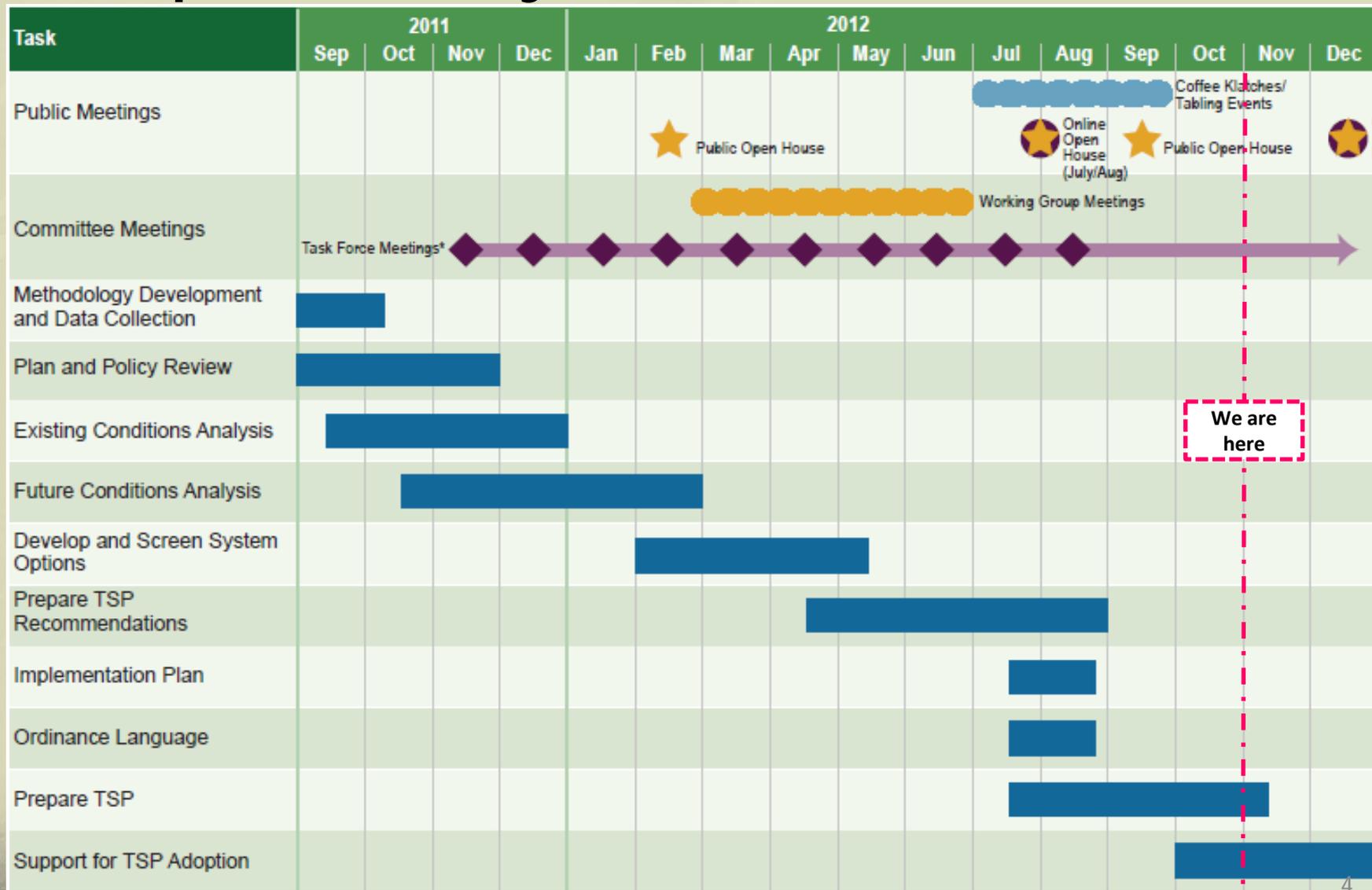
Where We Are In the TSP Process



What happens to projects after adoption?



Transportation System Plan Timeline



Progress Since our September 20th Meeting...

1. Decided on “Low Build” Scenario

2. Additional travel time results requested for scenarios:

- No-build
- Low build
- Low build + 65th Ave (2 lane)
- Low build + Boones Ferry Road widening
- Low build + 65th Ave (2 lane) + BFR widening

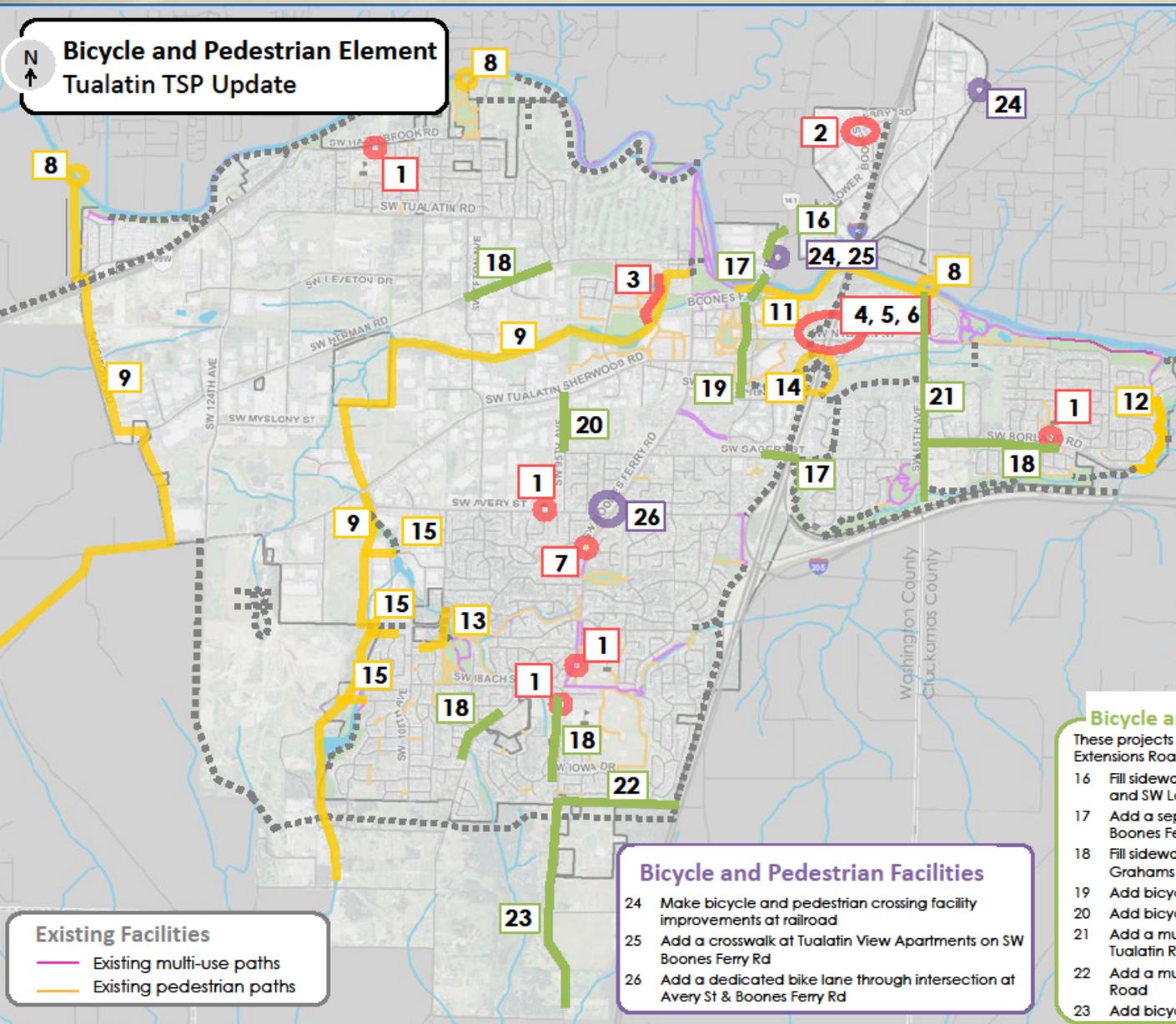
3. Tabled decisions on:

- 65th Avenue extension
- Boones Ferry Road widening

Bicycle/Pedestrian Element



Bicycle and Pedestrian Element Tualatin TSP Update



Existing Facilities

- Existing multi-use paths
- Existing pedestrian paths

Bicycle and Pedestrian Facilities

- 24 Make bicycle and pedestrian crossing facility improvements at railroad
- 25 Add a crosswalk at Tualatin View Apartments on SW Boones Ferry Rd
- 26 Add a dedicated bike lane through intersection at Avery St & Boones Ferry Rd

Safety Improvements

- 1 Add wayfinding signs for Safe Routes to School at all public schools
- 2 Add colored bike lanes on Bridgeport Road near Bridgeport Village
- 3 Upgrade bridge surface along the path behind the Haggen shopping center
- 4 Add a colored bike lane through the ramps at Nyberg Interchange
- 5 Add striping for the bicycle lane across the I-5 southbound off-ramp
- 6 Redesign bike lane on the east side of the Nyberg Interchange
- 7 Improve visibility and illumination at crosswalk at Siletz Dr & Boones Ferry Rd

Multi-Use Trails

- 8 Build bridges for pedestrian and bicycle access over the Tualatin River near Cipole Road, 108th Avenue, and 65th Avenue
- 9 Build the Tonquin Trail
- 10 Build multi-use paths from the previously adopted Tualatin Pedestrian, Bikeway, and Greenway Plans (indicated by dashed lines)
- 11 Build trail along Tualatin River from the Community Park, extend to Tualatin River Greenway
- 12 Fill gaps in the multi-use path as part of the Tualatin River Greenway
- 13 Add a trail on the east side of SW 105th Avenue, SWS Blake Street, and SW 108th Avenue through Ibach Park to accommodate bicyclists and pedestrians
- 14 Add I-5 multi-use undercrossing – connect to existing multi-use paths
- 15 Connect Tonquin trail with neighborhoods

Bicycle and Pedestrian Urban Upgrades

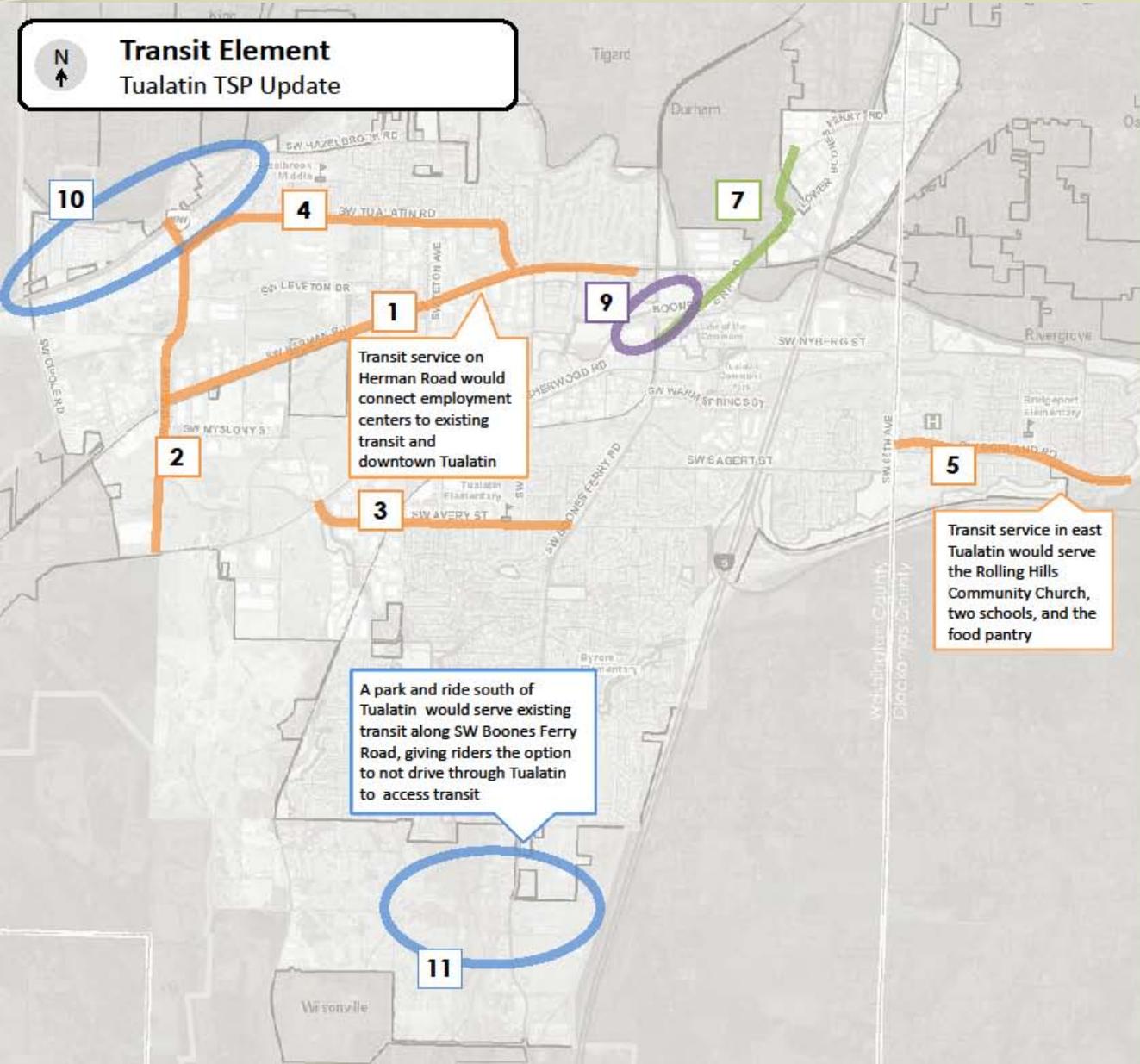
These projects are also included on the Urban Upgrades and Street Extensions Roadway Figure

- 16 Fill sidewalk gaps and add colored bicycle lanes at SW Boones Ferry and SW Lower Boones Ferry Roads
- 17 Add a separate bicycle and pedestrian bridge adjacent to SW Boones Ferry Road, add sidewalks to the SW Sagerf Street bridge
- 18 Fill sidewalk gaps on SW Boones Ferry Road, SW Borland Road, SW Grahams Ferry Road, and SW Herman Road
- 19 Add bicycle lanes on Martinazzi Avenue
- 20 Add bicycle lanes on SW 95th Avenue
- 21 Add a multi-use path along SW 65th Avenue between I-205 and the Tualatin River
- 22 Add a multi-use path (or sidewalks and bicycle lanes) on SW Norwood Road
- 23 Add bicycle lanes on Boones Ferry Rd to Day Rd

Transit Element



Transit Element
Tualatin TSP Update



- Expansions of Fixed-Route Bus Transit Service**
- 1 Provide bus transit service on Herman Rd
 - 2 Provide bus transit service on 124th St
 - 3 Provide bus transit service on Avery St
 - 4 Provide bus transit service on Tualatin Rd between downtown Tualatin and 99W
 - 5 Extend bus service further east in Tualatin
 - 6 General - need extended service for all transit (not shown on map)

- Expansions of the Shuttle Service**
- 7 Provide a shuttle or trolley service between Bridgeport Village and Commons area, especially for weekend service
 - 8 General - Create an on-call shuttle for industrial & manufacturing workers during the day - consider charging fares (not shown on map)

- WES**
- 9 Make the WES station a central focus of downtown and the main transit center. Improve pedestrian connectivity, transit-oriented development opportunities, and local transit connections

- Expansions of the Park-and-ride System**
- 10 Look for potential park-and-ride locations in west Tualatin
 - 11 Look for potential park-and-ride locations south of Bridgeport Village (Wilsonville area)

Transit service on Herman Road would connect employment centers to existing transit and downtown Tualatin

A park and ride south of Tualatin would serve existing transit along SW Boones Ferry Road, giving riders the option to not drive through Tualatin to access transit

Transit service in east Tualatin would serve the Rolling Hills Community Church, two schools, and the food pantry

Tualatin Shuttle



The Tualatin shuttle runs weekdays in the morning and afternoon rush hours, connecting people coming from regional transit and residential areas to jobs in Tualatin's employment centers. Its operations are managed by the Tualatin Chamber of Commerce. At least one shuttle bus provides service from downtown Portland.

Proposed improvements to the shuttle service include:

- ✓ Apply for funding to support a second shuttle in the afternoon, and to expand service hours
- ✓ Implement a partially fixed route for Van 1 that works in a counter-clockwise loop and serves the Tualatin Park and Ride and the downtown WES station every 30 minutes
- ✓ Print a route map and schedule, and display on board and at employment areas, station locations, and Chamber of Commerce
- ✓ Advertise service, on WES trains and bus routes serving Tualatin

Legend

Partial fixed route for Van 1

Potential future route as demand grows

Employment centers served by shuttle (existing, potential)

Directional for partial fixed routes

Residential centers served by shuttle

Note: Van 2 would retain a flexible, on-call route connecting residential areas with employment

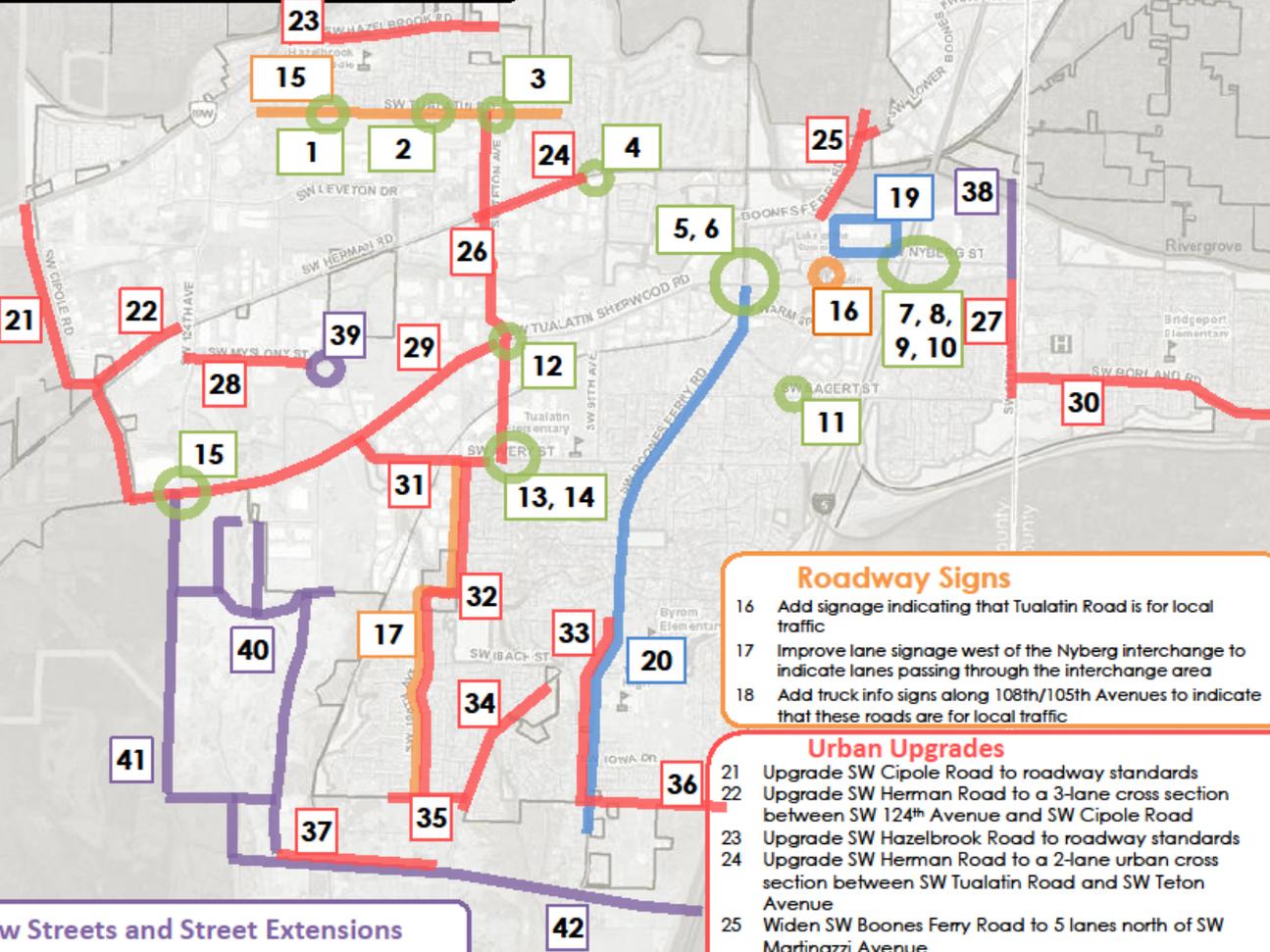
DRAFT

Major Corridors and Intersections





Roadway Element Tualatin TSP Update



Intersection Improvements

- 1 Add signal at SW Tualatin Road and SW 115th Avenue
- 2 Remove trees at intersection of SW Tualatin Road and SW 108th Avenue to improve sight distance
- 3 Add signal at SW Tualatin Road and SW Teton Avenue
- 4 Remove the free right turn at SW Tualatin Road at the intersection of SW Herman Road. Consider a roundabout
- 5 Add an eastbound right turn lane on SW Tualatin-Sherwood Road at SW Boones Ferry Road
- 6 Extend the southbound left turn pocket on SW Boones Ferry Road at SW Tualatin-Sherwood Road
- 7 Move guardrail on southbound off ramp to improve sight distance
- 8 Northbound I-5 on-ramp: reduce pedestrian island, add an additional lane
- 9 Add signage at the northbound off ramp to discourage traffic getting off and then back onto I-5
- 10 Redesign SW Nyberg Street and Fred Meyer intersection and improve pedestrian crossing. Add striping and a pedestrian island.
- 11 Add a signal or roundabout at Sagert St and Martinazzi Ave
- 12 Add a dedicated right turn lane on southbound SW Teton Avenue and SW Tualatin-Sherwood Road
- 13 Improve intersection at SW Avery Street and SW Teton Avenue – add southbound right turn pocket
- 14 Add a signal at SW Avery and SW Teton
- 15 Add a right turn lane from westbound SW Tualatin-Sherwood Road to northbound SW 124th Avenue

Roadway Signs

- 16 Add signage indicating that Tualatin Road is for local traffic
- 17 Improve lane signage west of the Nyberg interchange to indicate lanes passing through the interchange area
- 18 Add truck info signs along 108th/105th Avenues to indicate that these roads are for local traffic

Roadway Changes

- 19 Create a grid system near Kmart upon redevelopment with a connection to SW Seneca Street
- 20 Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible

Urban Upgrades

- 21 Upgrade SW Cipole Road to roadway standards
- 22 Upgrade SW Herman Road to a 3-lane cross section between SW 124th Avenue and SW Cipole Road
- 23 Upgrade SW Hazelbrook Road to roadway standards
- 24 Upgrade SW Herman Road to a 2-lane urban cross section between SW Tualatin Road and SW Teton Avenue
- 25 Widen SW Boones Ferry Road to 5 lanes north of SW Martinazzi Avenue
- 26 Widen SW Teton Avenue to a 3-lane cross section
- 27 Widen SW 65th Avenue to 3- or 5-lanes
- 28 Upgrade SW Myslony Street to roadway standards
- 29 Widen SW Tualatin-Sherwood Rd to 5 lanes between SW Teton Avenue and SW Cipole Road

- 30 Upgrade SW Borland Road to roadway standards
- 31 Add a center turn lane or median on SW Avery Street between SW Teton Avenue and SW Tualatin-Sherwood Road
- 32 Upgrade SW 105th/Blake Street/108th Avenues to roadway standards
- 33 Upgrade SW Boones Ferry Road to a 3 lane cross section throughout.
- 34 Upgrade Grahams Ferry Road to roadway standards
- 35 Upgrade SW Helenius Road to roadway standards
- 36 Upgrade SW Norwood Road to roadway standards
- 37 Upgrade SW Tonquin Road between SW Waldo Way and SW Grahams Ferry Road

New Streets and Street Extensions

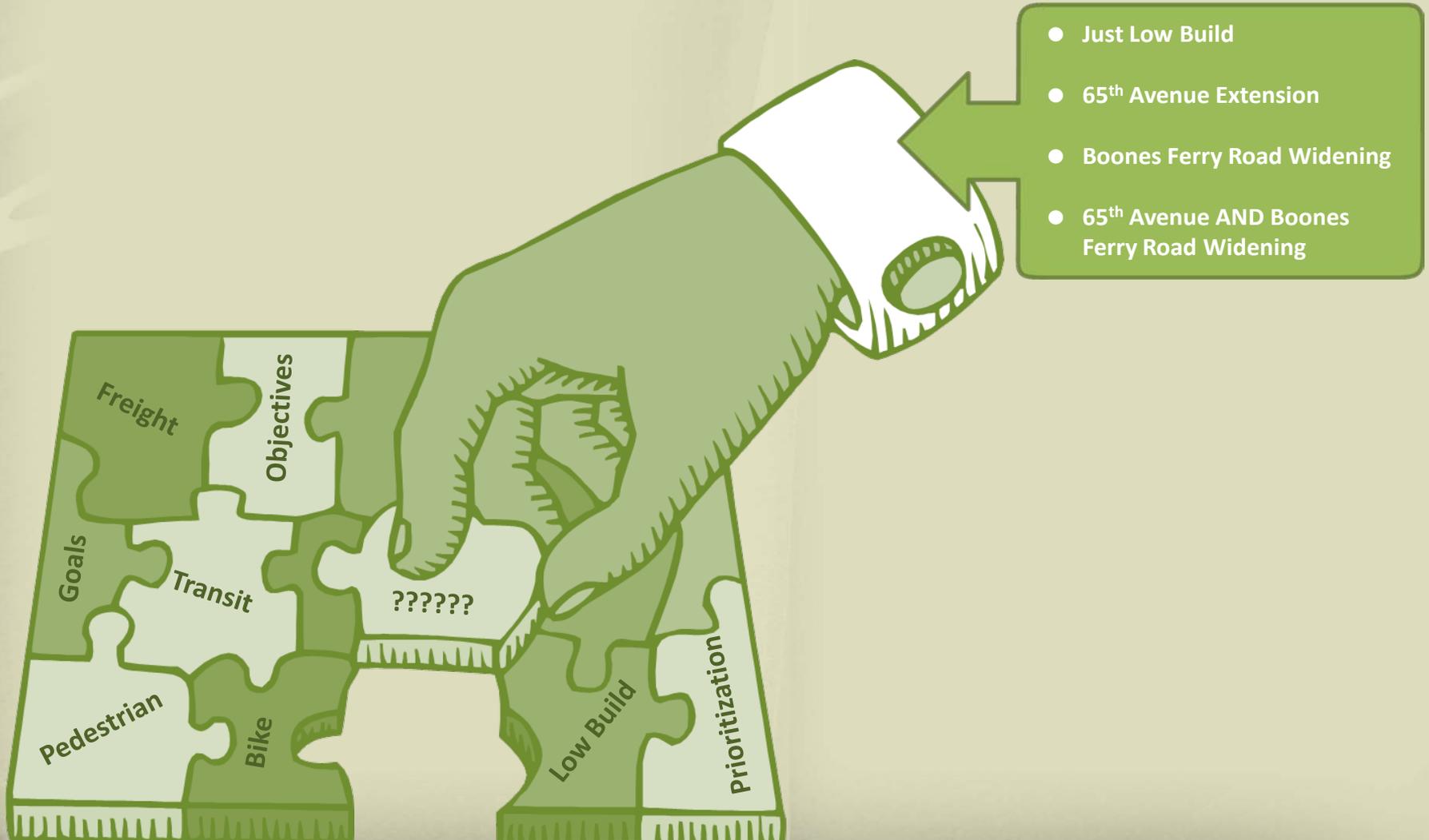
- 38 Extend SW 65th Ave north over the Tualatin River
- 39 Connect SW Myslony Street to SW 115th Avenue
- 40 Build the roadways from the SW Concept Plan
- 41 Extend SW 124th Avenue South
- 42 Create an east-west connection across I-5

Note: All locations are approximate

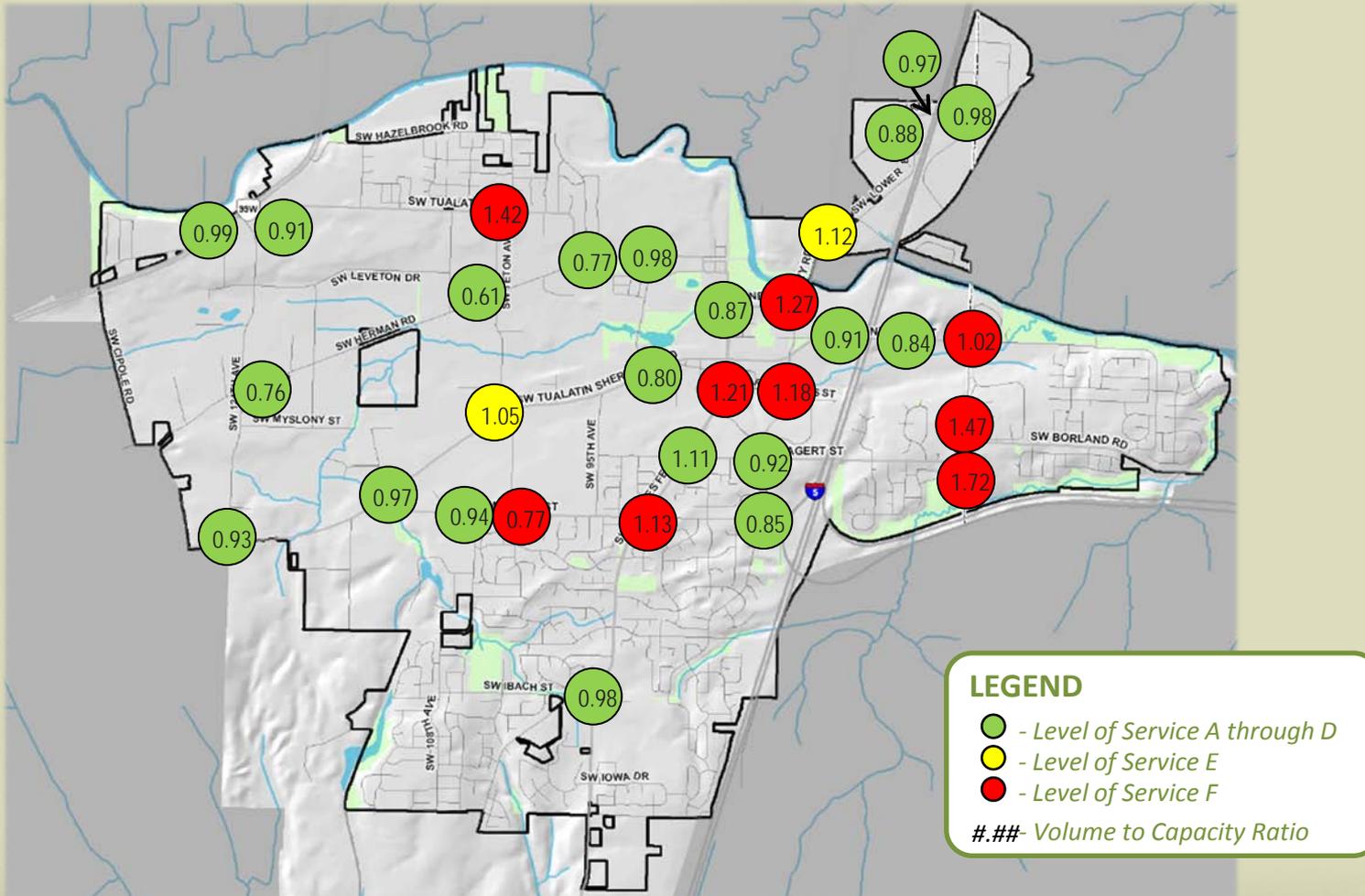
Future Potential Improvements



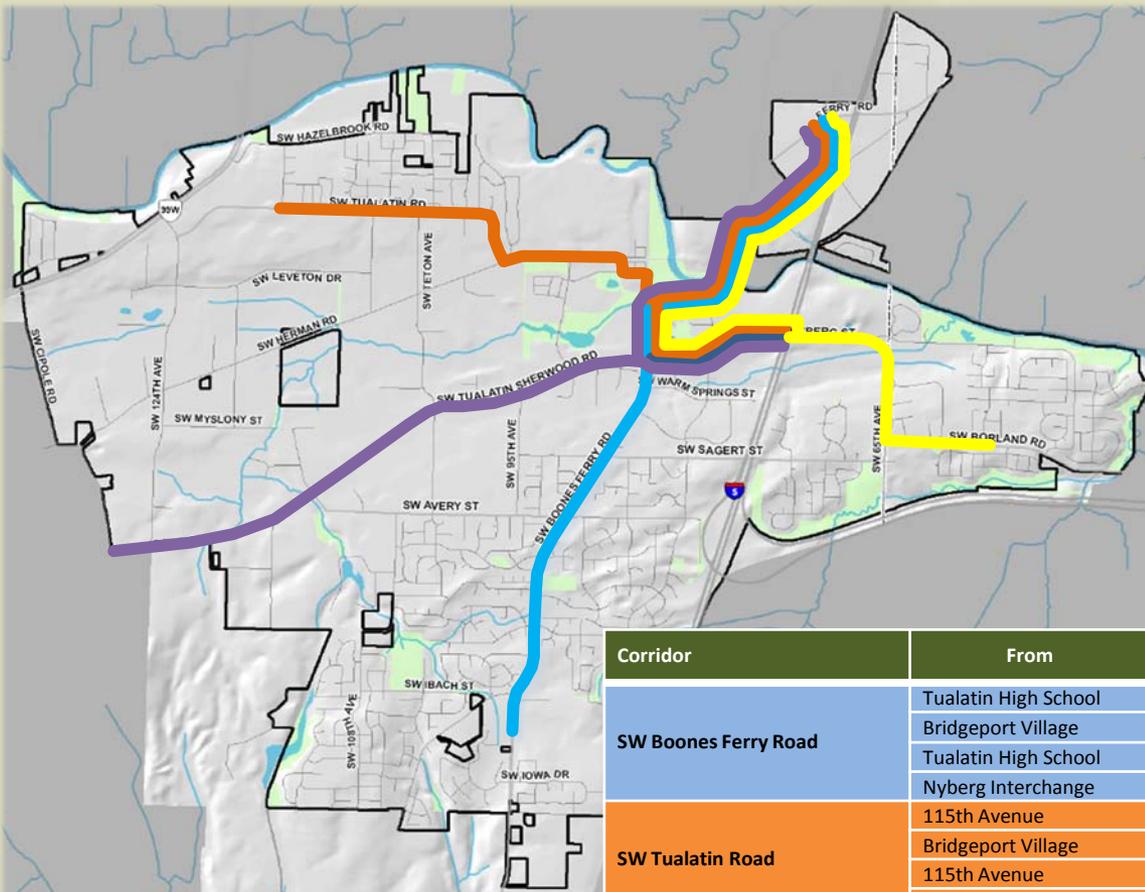
What we are looking for tonight



No-build Operations

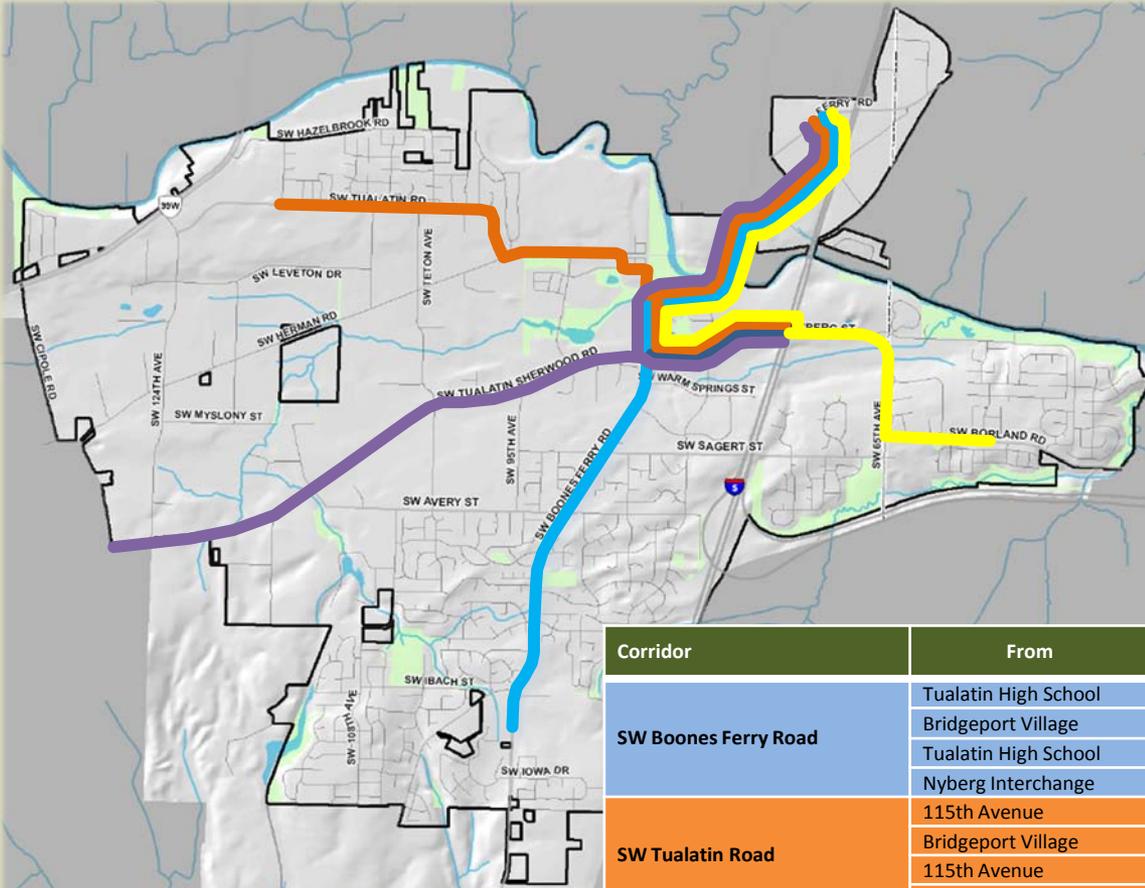


No-build Travel Times



Corridor	From	To	Average Travel Time	Difference from Existing Conditions
SW Boones Ferry Road	Tualatin High School	Bridgeport Village	15 min, 5 sec	+4 min, 45 sec
	Bridgeport Village	Tualatin High School	12 min, 10 sec	+3 min
	Tualatin High School	Nyberg Interchange	9 min, 40 sec	+2 min, 15 sec
	Nyberg Interchange	Tualatin High School	8 min, 10 sec	+1 min, 5 sec
SW Tualatin Road	115th Avenue	Bridgeport Village	13 minutes	+4 min, 25 sec
	Bridgeport Village	115th Avenue	11 min, 40 sec	+3 min, 10 sec
	115th Avenue	Nyberg Interchange	10 min, 35 sec	+2 min, 35 sec
	Nyberg Interchange	115th Avenue	10 min, 25 sec	+1 min, 45 sec
SW Tualatin-Sherwood Road	Cipole Road	Bridgeport Village	17 minutes	+5 min, 20 sec
	Bridgeport Village	Cipole Road	17 min, 20 sec	+ 4min, 20 sec
	Cipole Road	Nyberg Interchange	11 minutes 35 sec	+2min, 55 sec
	Nyberg Interchange	Cipole Road	11 min, 50 sec	+1 min, 45 sec
SW Borland Road / 65th Ave	Bridgeport Elementary	Nyberg Interchange	3 min, 20 sec	+15 sec
	Nyberg Interchange	Bridgeport Elementary	3 min, 30 sec	+1 min, 10 sec
	Bridgeport Elementary	Bridgeport Village	12 min, 55 sec	+3 min, 45 sec
	Bridgeport Village	Bridgeport Elementary	14 min, 25 sec	+6 min

Low Build Travel Times

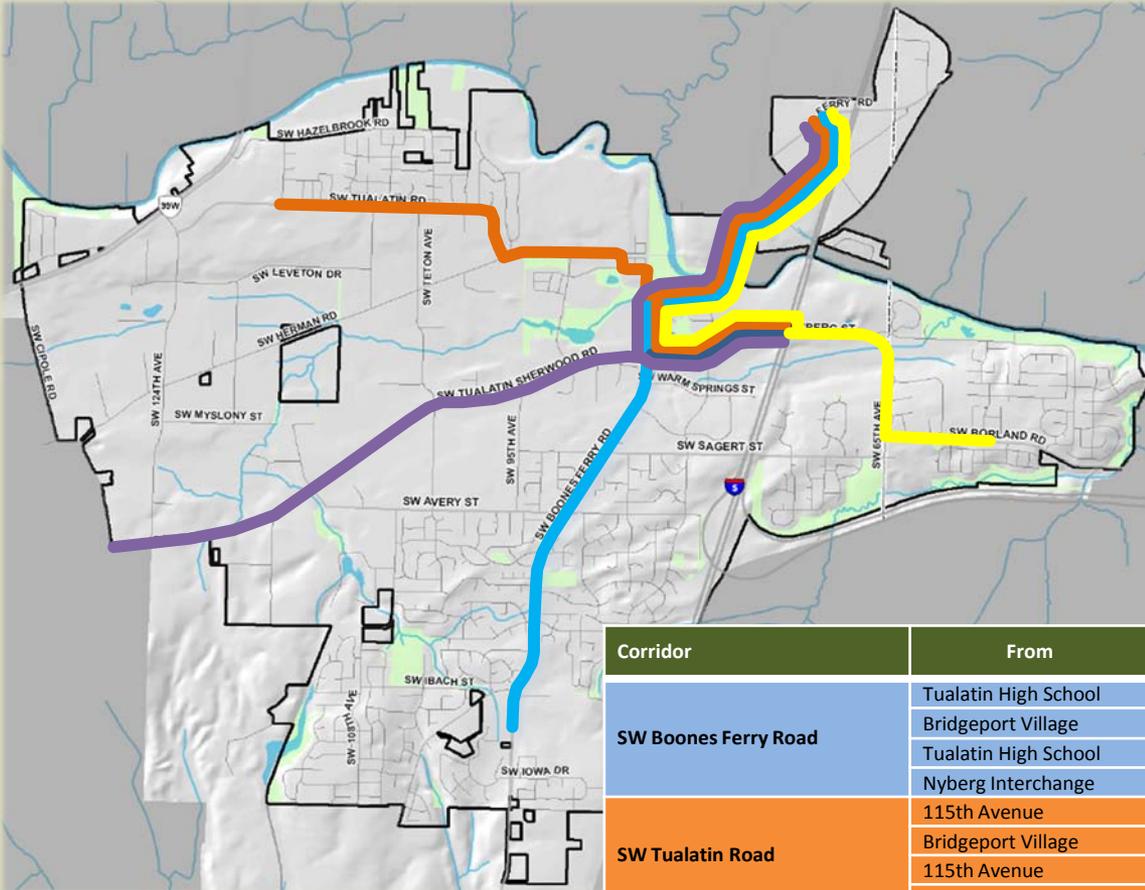


Corridor	From	To	Average Travel Time	Difference from Future No-build
SW Boones Ferry Road	Tualatin High School	Bridgeport Village	15 min, 5 sec	No difference
	Bridgeport Village	Tualatin High School	12 min, 10 sec	No difference
	Tualatin High School	Nyberg Interchange	9 min, 40 sec	No difference
	Nyberg Interchange	Tualatin High School	8 min, 10 sec	No difference
SW Tualatin Road	115th Avenue	Bridgeport Village	13 min, 30 sec	+30 sec
	Bridgeport Village	115th Avenue	12 minutes	+20 sec
	115th Avenue	Nyberg Interchange	10 min, 55 sec	+20 sec
	Nyberg Interchange	115th Avenue	10 min, 50 sec	+25 sec
SW Tualatin-Sherwood Road	Cipole Road	Bridgeport Village	17 minutes	No difference
	Bridgeport Village	Cipole Road	17 min, 25 sec	+5 sec
	Cipole Road	Nyberg Interchange	11 min, 35 sec	No difference
	Nyberg Interchange	Cipole Road	12 minutes	+10 sec
SW Borland Road / 65th Ave	Bridgeport Elementary	Nyberg Interchange	3 min, 20 sec	No difference
	Nyberg Interchange	Bridgeport Elementary	3 min, 30 sec	No difference
	Bridgeport Elementary	Bridgeport Village	12 min, 50 sec	-5 sec
	Bridgeport Village	Bridgeport Elementary	14 min, 25 sec	No difference

Low Build + 65th Ave Extension Volume Shifts

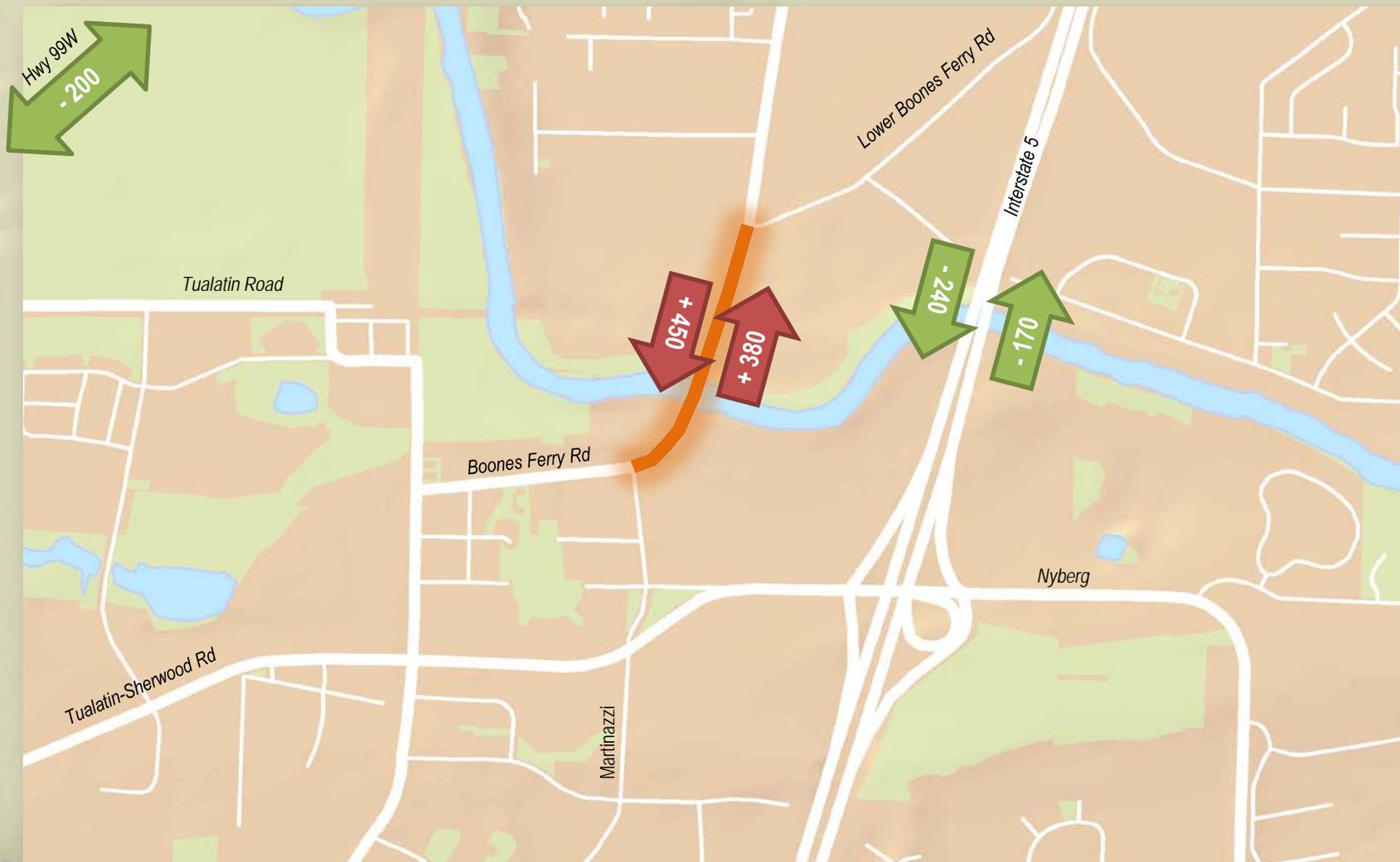


Low Build + 65th Ave Extension Travel Times

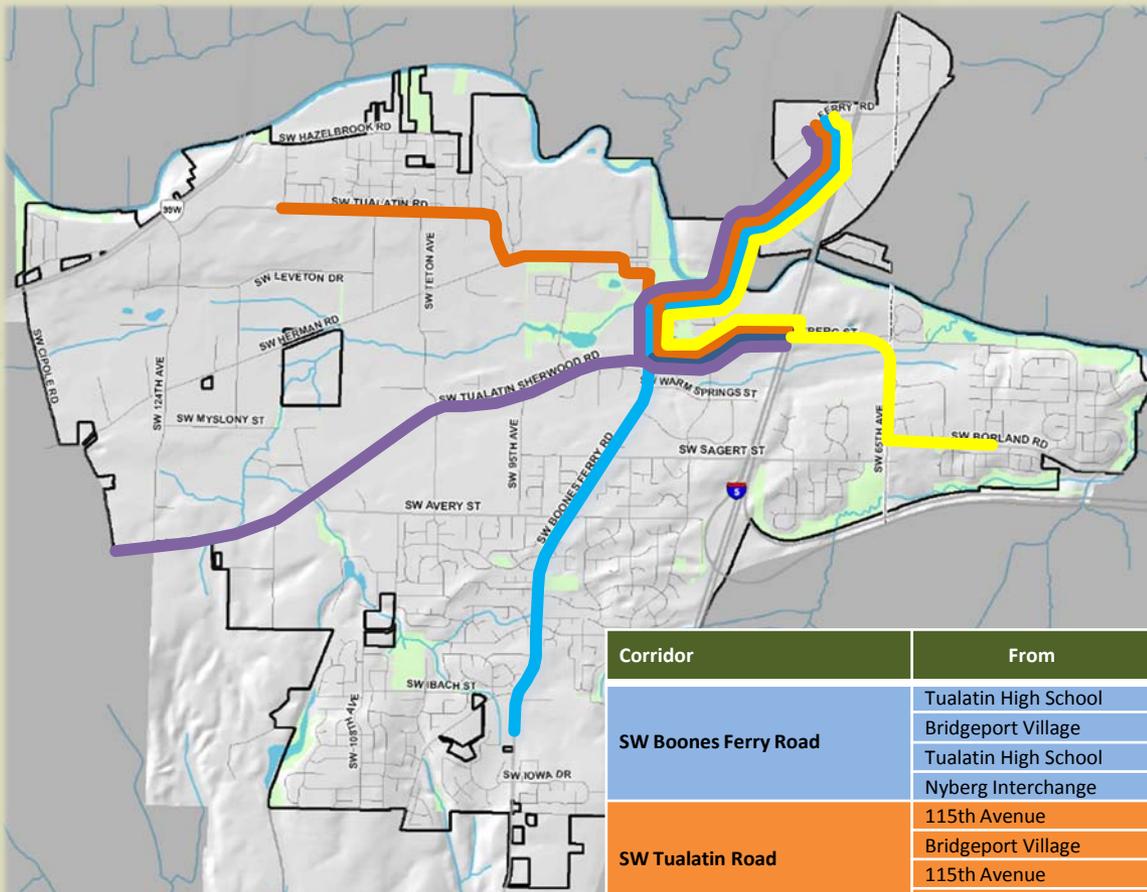


Corridor	From	To	Average Travel Time	Difference from Future No-build
SW Boones Ferry Road	Tualatin High School	Bridgeport Village	13 min, 40 sec	-1 min, 25 sec
	Bridgeport Village	Tualatin High School	11 min, 20 sec	-50 sec
	Tualatin High School	Nyberg Interchange	10 min	+20sec
	Nyberg Interchange	Tualatin High School	8 min, 25 sec	+15 sec
SW Tualatin Road	115th Avenue	Bridgeport Village	12 min, 20 sec	-40 sec
	Bridgeport Village	115th Avenue	11 min, 25 sec	-15 sec
	115th Avenue	Nyberg Interchange	11 min, 10 sec	+35 sec
	Nyberg Interchange	115th Avenue	11 min	+35 sec
SW Tualatin-Sherwood Road	Cipole Road	Bridgeport Village	16 min	-1 min
	Bridgeport Village	Cipole Road	16 min 25 sec	-55 sec
	Cipole Road	Nyberg Interchange	12 min	+25 sec
	Nyberg Interchange	Cipole Road	12 min, 25 sec	+40 sec
SW Borland Road / 65 th Ave	Bridgeport Elementary	Nyberg Interchange	3 min, 20 sec	No difference
	Nyberg Interchange	Bridgeport Elementary	3 min, 30 sec	No difference
	Bridgeport Elementary	Bridgeport Village	10 min, 40 sec	-2 min, 15 sec
	Bridgeport Village	Bridgeport Elementary	12 min, 10 sec	-2 min, 15 sec

Low Build + Boones Ferry Road Widening Volume Shifts

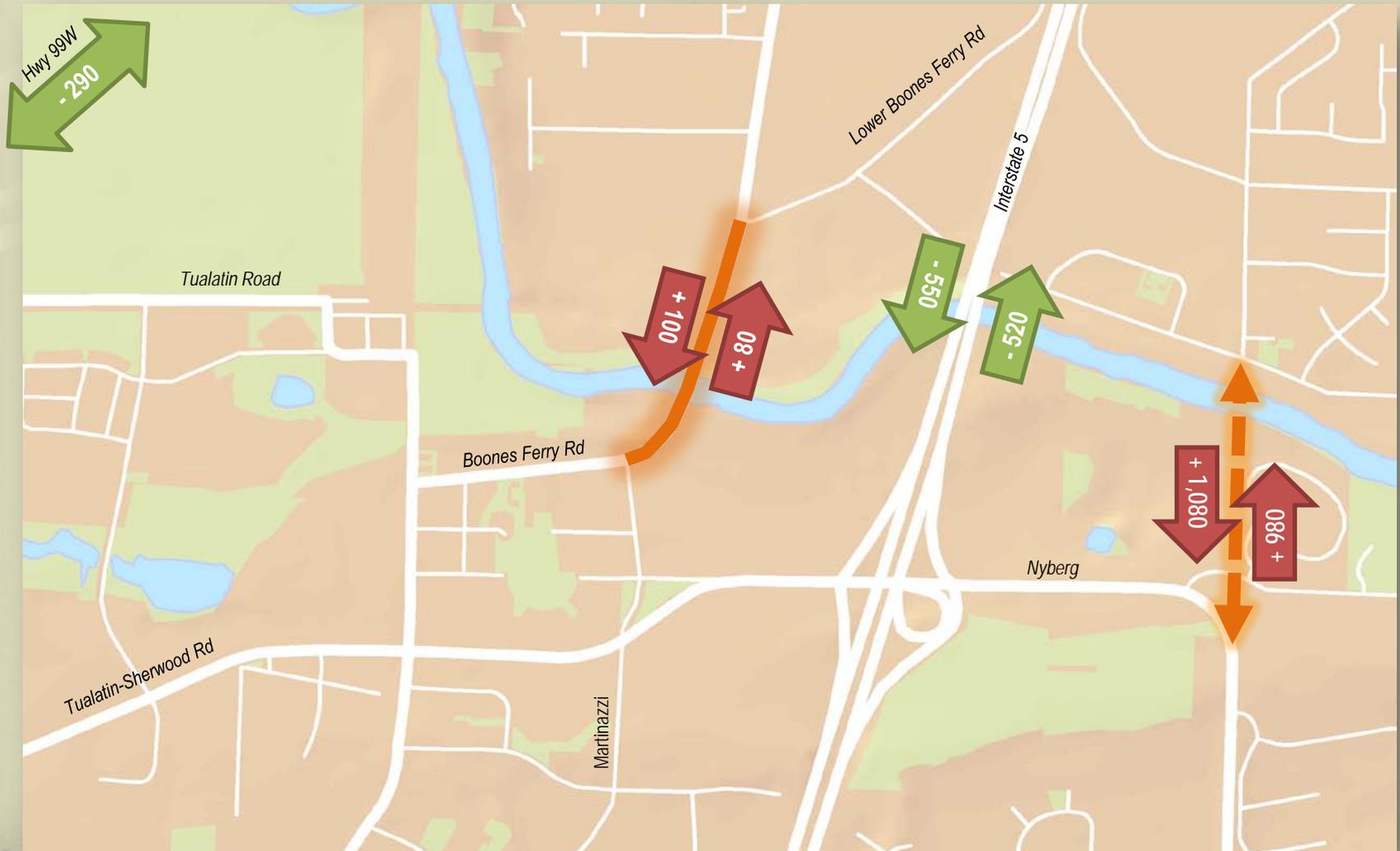


Low Build + Boones Ferry Road Widening Travel Times

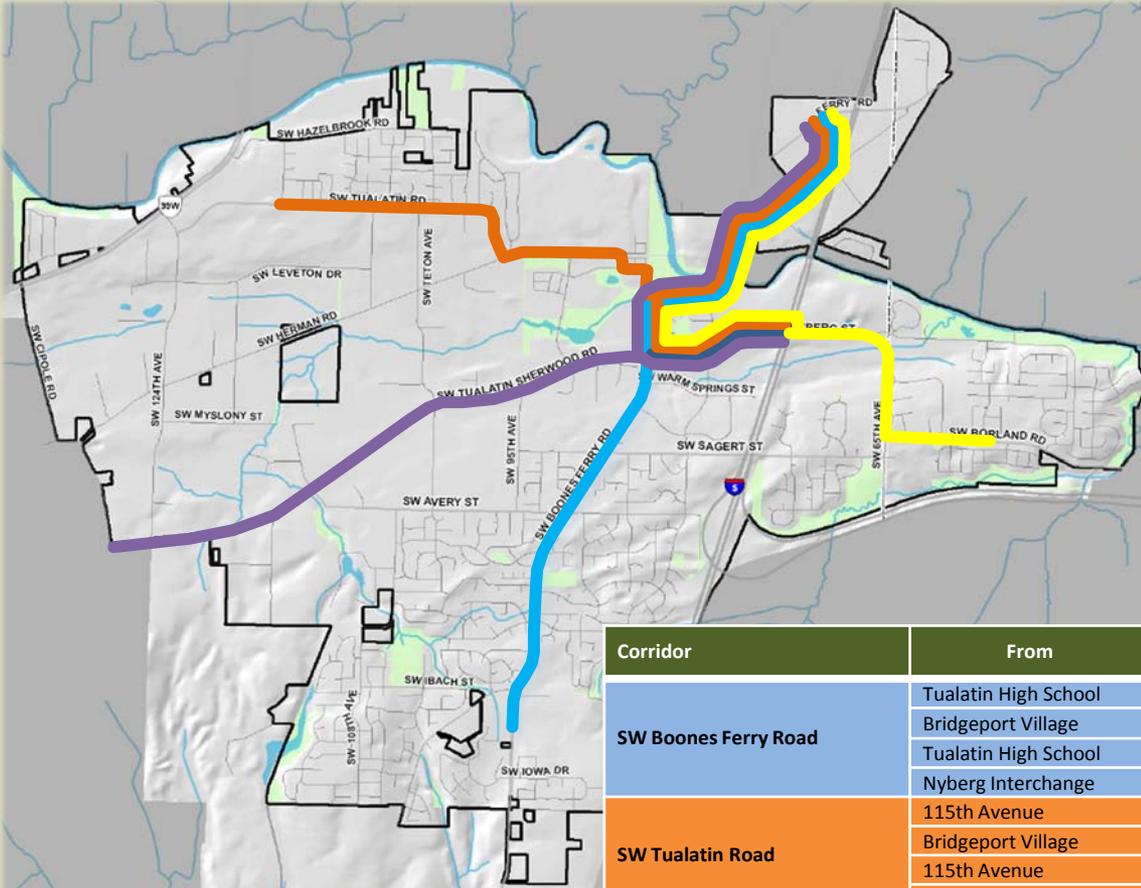


Corridor	From	To	Average Travel Time	Difference from Future No-build
SW Boones Ferry Road	Tualatin High School	Bridgeport Village	13 min, 40 sec	-1 min, 25 sec
	Bridgeport Village	Tualatin High School	11 min, 30 sec	-40 sec
	Tualatin High School	Nyberg Interchange	9 min, 40 sec	No difference
	Nyberg Interchange	Tualatin High School	8 min, 10 sec	No difference
SW Tualatin Road	115th Avenue	Bridgeport Village	12 min, 30 sec	-30 sec
	Bridgeport Village	115th Avenue	11 min, 20 sec	-20 sec
	115th Avenue	Nyberg Interchange	10 min, 55 sec	+20 sec
	Nyberg Interchange	115th Avenue	10 min, 40 sec	+15 sec
SW Tualatin-Sherwood Road	Cipole Road	Bridgeport Village	15 min, 50 sec	-1 min, 10 sec
	Bridgeport Village	Cipole Road	16 min, 40 sec	-40 sec
	Cipole Road	Nyberg Interchange	11 min, 35 sec	No difference
	Nyberg Interchange	Cipole Road	12 minutes	+10 sec
SW Borland Road / 65th Ave	Bridgeport Elementary	Nyberg Interchange	3 min, 25 sec	+5 sec
	Nyberg Interchange	Bridgeport Elementary	3 min, 30 sec	No difference
	Bridgeport Elementary	Bridgeport Village	12 min, 10 sec	-45 sec
	Bridgeport Village	Bridgeport Elementary	13 min, 40 sec	-45 sec

Low Build + 65th Ave + BFR Widening Volume Shifts



Low Build + 65th Ave + BFR Widening Travel Times



Corridor	From	To	Average Travel Time	Difference from Future No-build
SW Boones Ferry Road	Tualatin High School	Bridgeport Village	12 min, 35 sec	-2 min, 30 sec
	Bridgeport Village	Tualatin High School	10 min, 35 sec	-1 min, 35 sec
	Tualatin High School	Nyberg Interchange	9 min, 50 sec	+10 sec
	Nyberg Interchange	Tualatin High School	8 min, 25 sec	+15 sec
SW Tualatin Road	115th Avenue	Bridgeport Village	11 min, 30 sec	-1 min, 30 sec
	Bridgeport Village	115th Avenue	10 min, 55 sec	-45 sec
	115th Avenue	Nyberg Interchange	11 minutes	+25 sec
	Nyberg Interchange	115th Avenue	10 min, 55 sec	+30 sec
SW Tualatin-Sherwood Road	Cipole Road	Bridgeport Village	14 min, 55 sec	-2 min, 5 sec
	Bridgeport Village	Cipole Road	15 min, 40 sec	-1 min, 40 sec
	Cipole Road	Nyberg Interchange	11 min, 50 sec	+15 sec
	Nyberg Interchange	Cipole Road	12 min, 20 sec	+30 sec
SW Borland Road / 65 th Ave	Bridgeport Elementary	Nyberg Interchange	3 min, 30 sec	+10 sec
	Nyberg Interchange	Bridgeport Elementary	3 min, 30 sec	No difference
	Bridgeport Elementary	Bridgeport Village	10 min, 25 sec	-2 min, 30 sec
	Bridgeport Village	Bridgeport Elementary	11 min, 50 sec	-2 min, 35 sec

How do these projects pencil out?

Cost vs. Benefit Perspective

65th Avenue Extension

AM/PM Peak VHT Saved
✓ 548 hours

Project cost
✓ \$22M

Potential 20 year benefit
✓ \$50.9M

Boones Ferry Rd Widening

AM/PM Peak VHT Saved
✓ 244 hours

Project cost
✓ \$17.8M

Potential 20 year benefit
✓ \$22.7M

65th Ave + BFR Widening

AM/PM Peak VHT Saved
✓ 752 hours

Project cost
✓ \$39.8M

Potential 20 year benefit
✓ \$69.9M



Summary of Operations and Travel Time Findings

- Tualatin becomes very congested in the future
- Low Build does a fair job of mitigating intersection operations, but minor travel time changes
- 65th Avenue extension pulls traffic from Boones Ferry Road and enhances that travel time
- Boones Ferry Road widening helps enhance travel times, but creates some intersection issues in downtown
- Combination of 65th Avenue and Boones Ferry Road widening enhances travel times in North Tualatin, but has similar downtown intersection issues

Technical Team Recommendation

- In addition to the Low Build projects, include:
 - ① Include Boones Ferry Road widening project from Martinazzi to Lower Boones Ferry Road
 - ② Include 65th Avenue extension as a refinement plan project
 - Establishes and acknowledges the need for improvements and connectivity in the area
 - Acknowledges the need to work collaboratively with surrounding jurisdictions
 - Identifies a project area that goes into deeper planning analysis to determine details

What happens if I hold up my “STOP” sign?



- Project is recommended to not be included in the TSP
- Does not preclude project from being considered in future TSP updates
- Does not preserve the potential right-of-way

What happens if I hold up my “GO” sign?



- Project recommended to be included in the TSP
- Preserves potential right-of-way when new development comes to the table
- Additional study/coordination is necessary
- It will take a while for these projects to be built