

# OR 99W South Corvallis Facility Plan

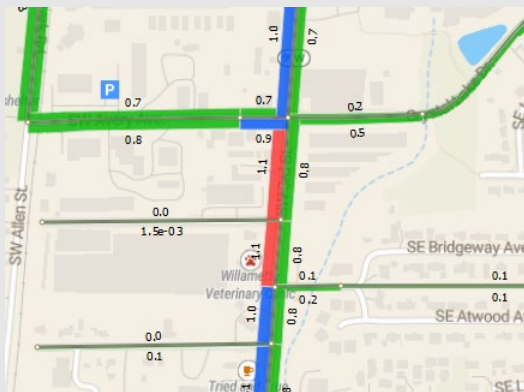
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## 2040 Future No-Build Alternatives

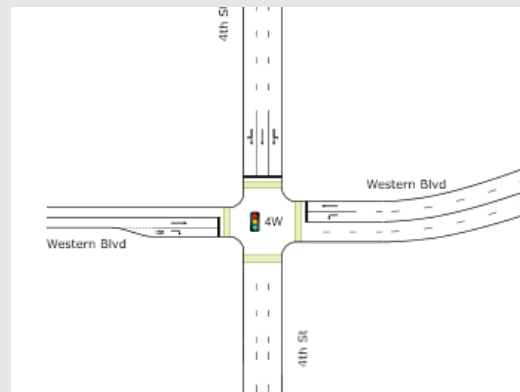
SAG Meeting #8

April 6, 2022

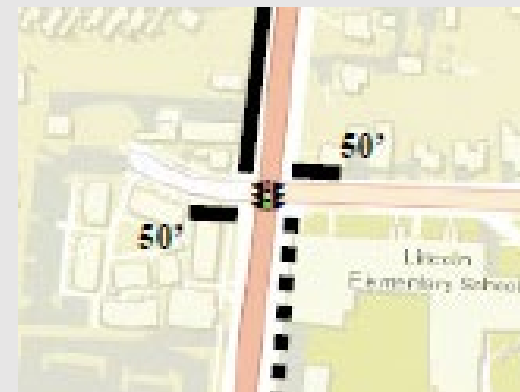
# OVERVIEW



## Scenario Development



## Analysis Results



# Queuing Overview



## Summary

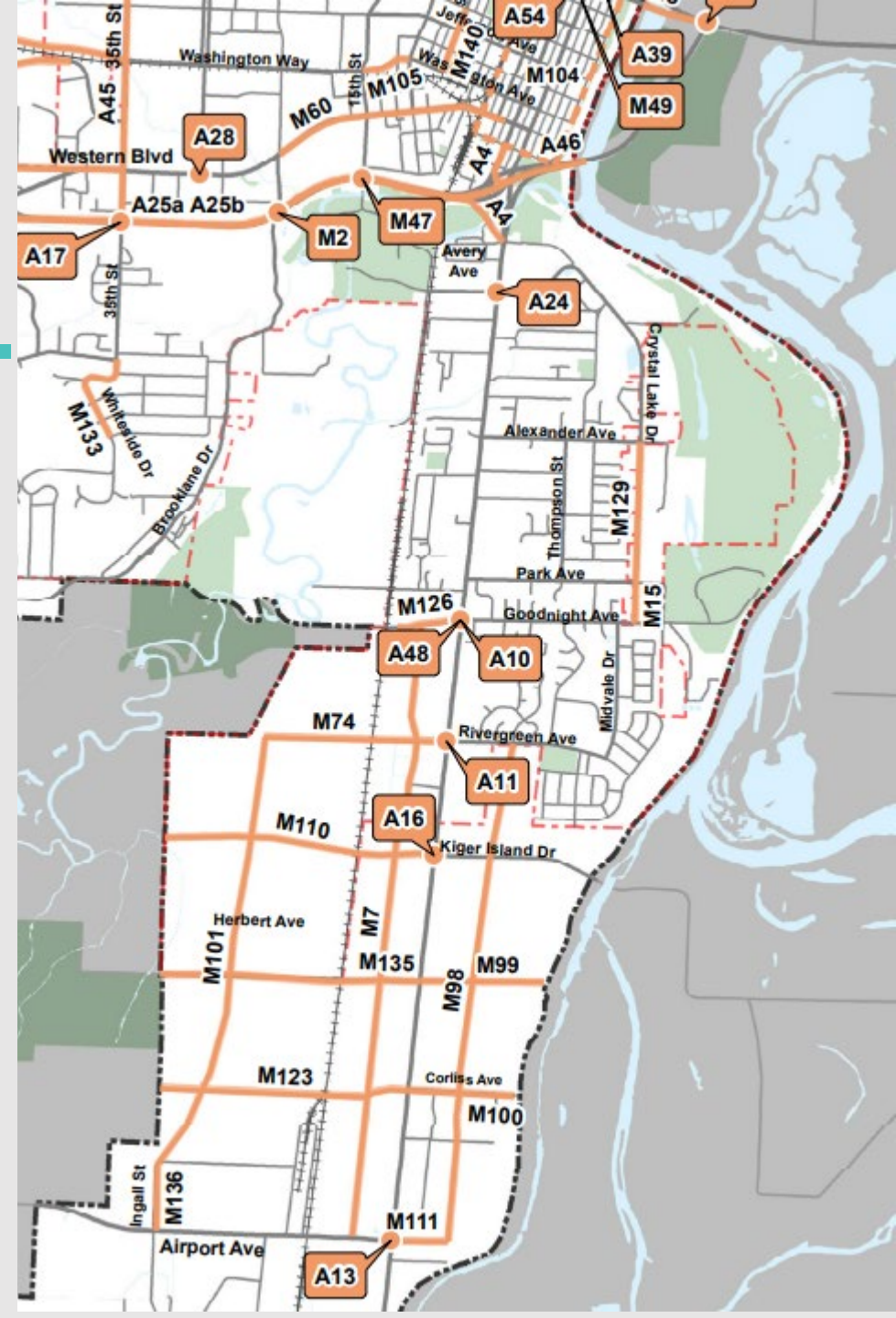
# Scenario Development

## Future 2040 No-Build (CLEAN)

- Fiscally Constrained TSP projects
  - Funded projects (0 – 5 yrs)
  - Financially constrained projects (5 - 20 yrs)

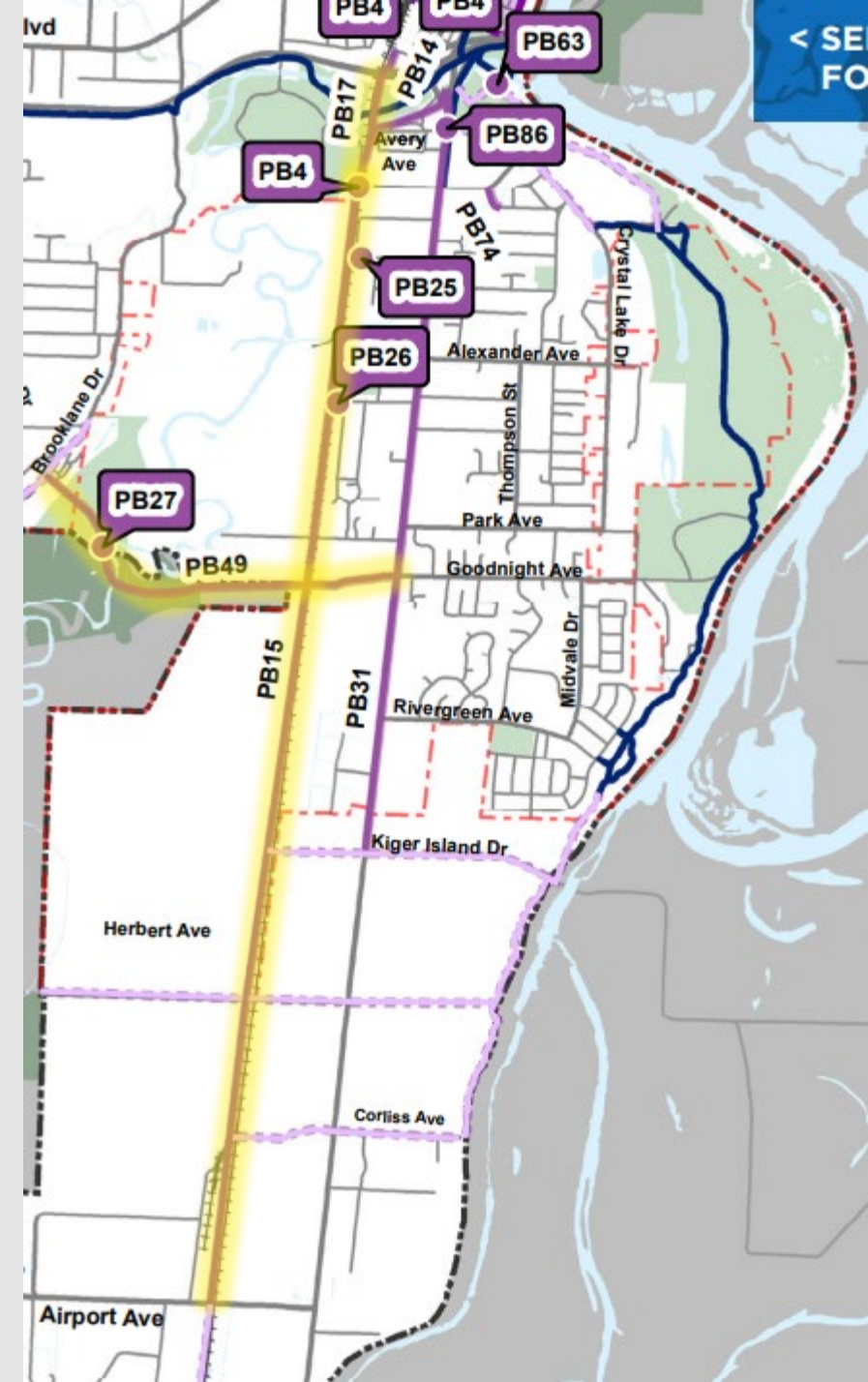
## Future 2040 No-Build (ENHANCED)

- 'CLEAN' No-Build
- + 11 New Enhanced Crossings
- + Illustrative TSP projects



## Scenario Development for 2040 No-Build (CLEAN) & (ENHANCED)

- Bicycle/Pedestrian Connections and Improvements were added and assumed to be in both scenarios
  - PB15 & PB17
  - PB27 & PB49

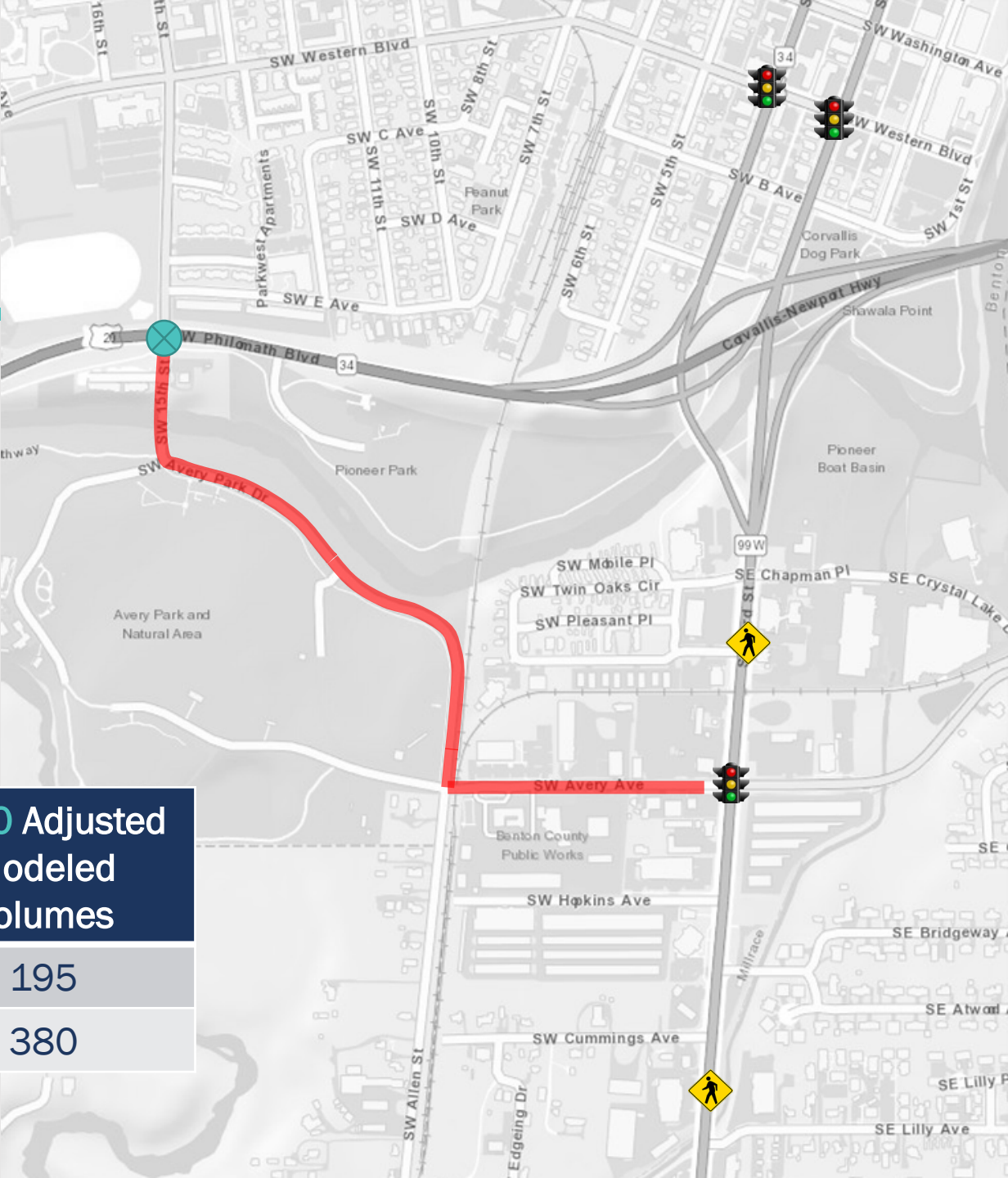




# Analysis: Model/Network Corrections for 2040 No-Build (CLEAN) & (ENHANCED)

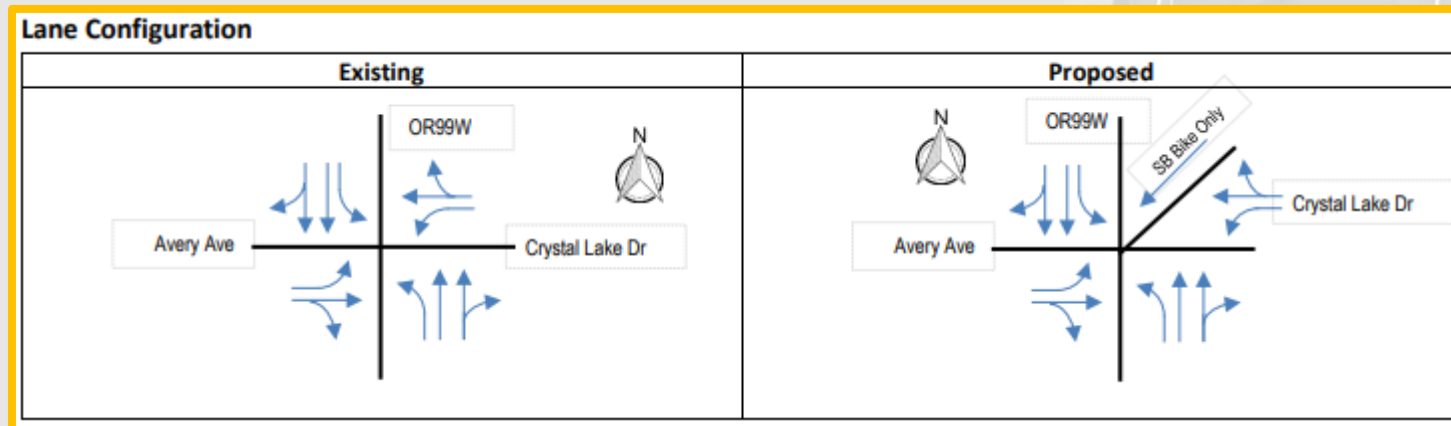
■ Avery Park Drive & Avery Avenue  
modeling adjustments

Direction of Travel	2020 Previous Modeled Existing Volumes	2020 Adjusted Modeled Existing Volumes	2040 Adjusted Modeled Volumes
NB/WB	175	95	195
SB/EB	360	295	380







## Segment 1 – Western Blvd to Lilly Ave

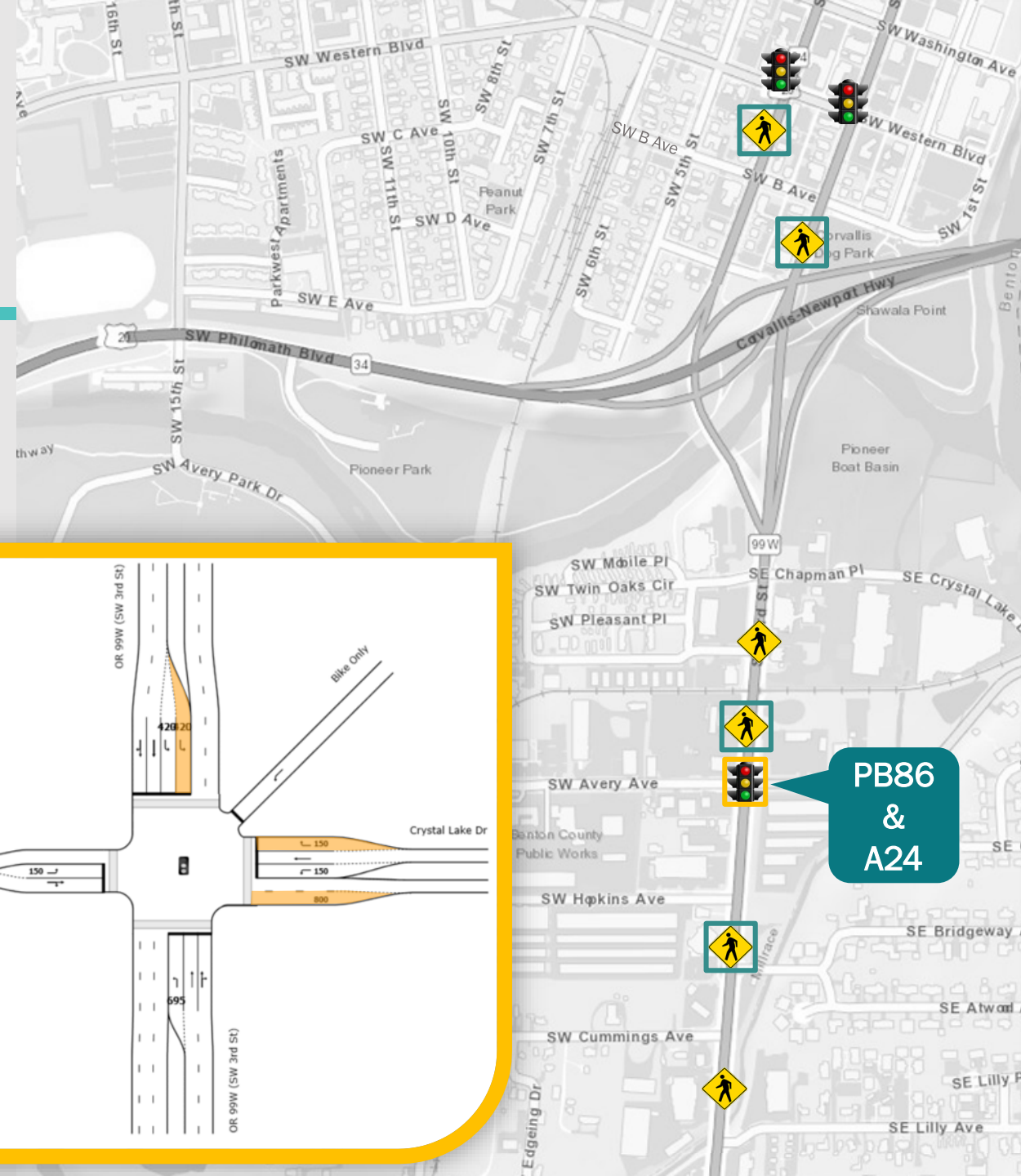
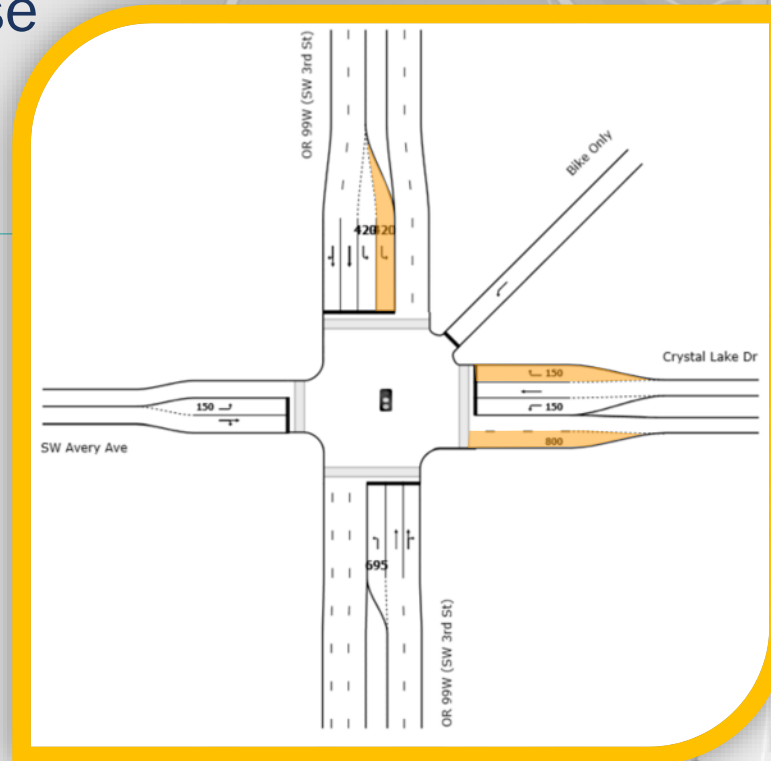
- 
- Existing Signal



# Scenario Development: 2040 No-Build (ENHANCED)

## Segment 1 – Western Blvd to Lilly Ave

-  New Enhanced Crossings
-  Added Pedestrian & Bicycle Phase (PB86) & Intersection Capacity Improvements (A24)
-  Existing Signals
-  Existing Enhanced Crossings





# Scenario Development: 2040 No-Build (CLEAN)

## Segment 2 – Lilly Ave to Goodnight Ave



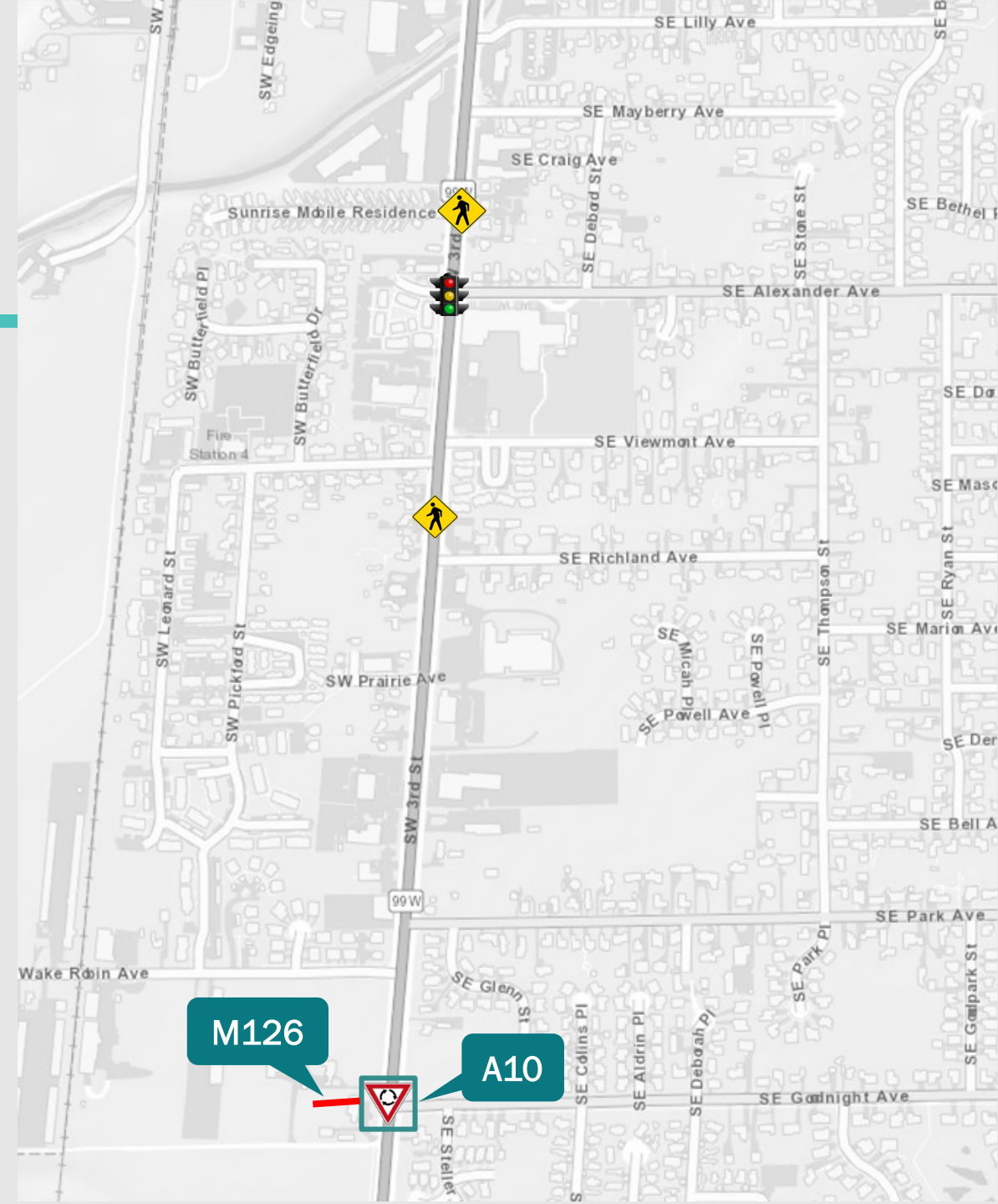
Goodnight Avenue Roundabout  
(A10& M126)



Existing Signal



Existing Enhanced Crossing



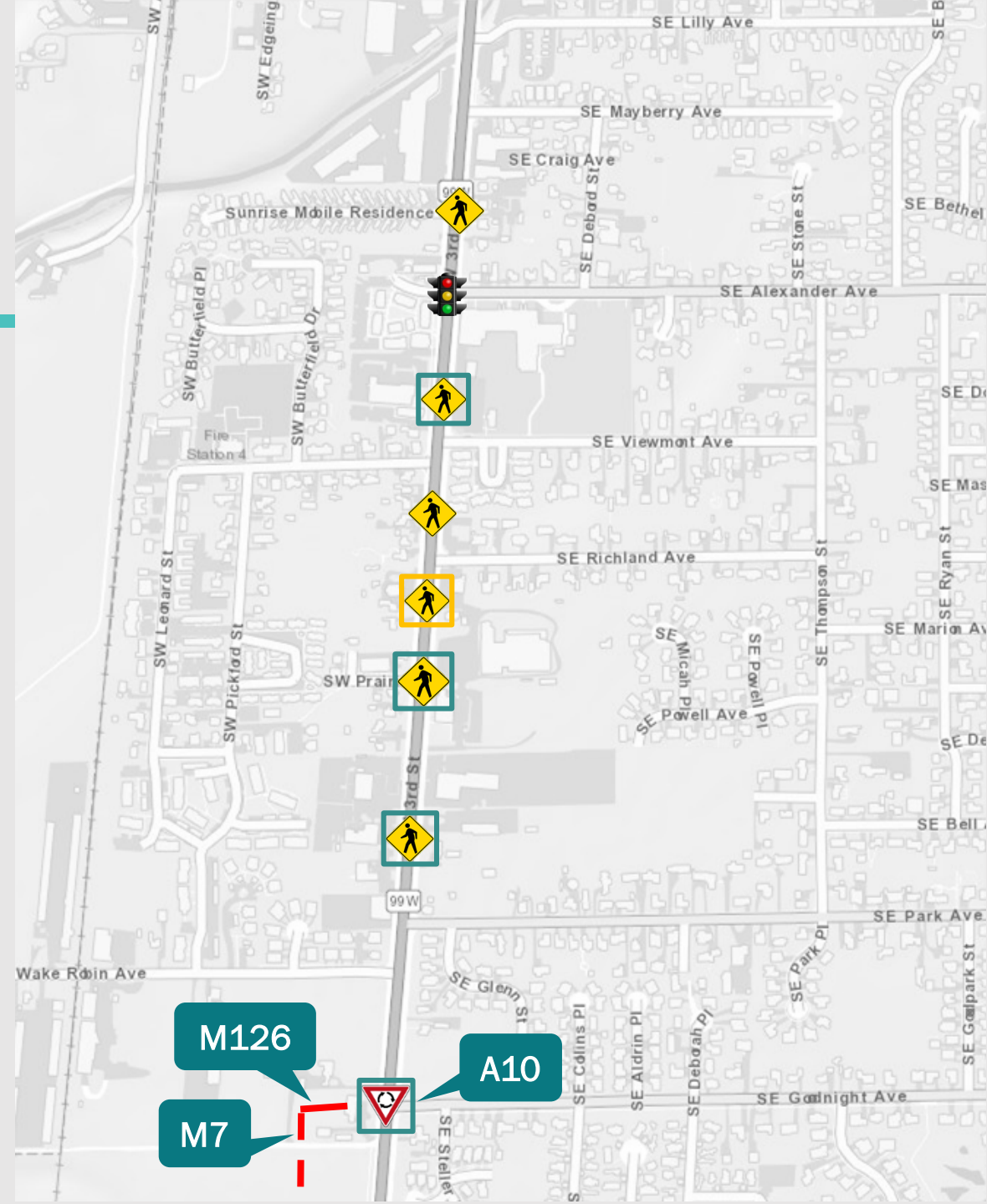


## Segment 2 – Lilly Ave to Goodnight Ave

 Moved Existing Enhanced Crossing

■ New Parallel Route (M7)

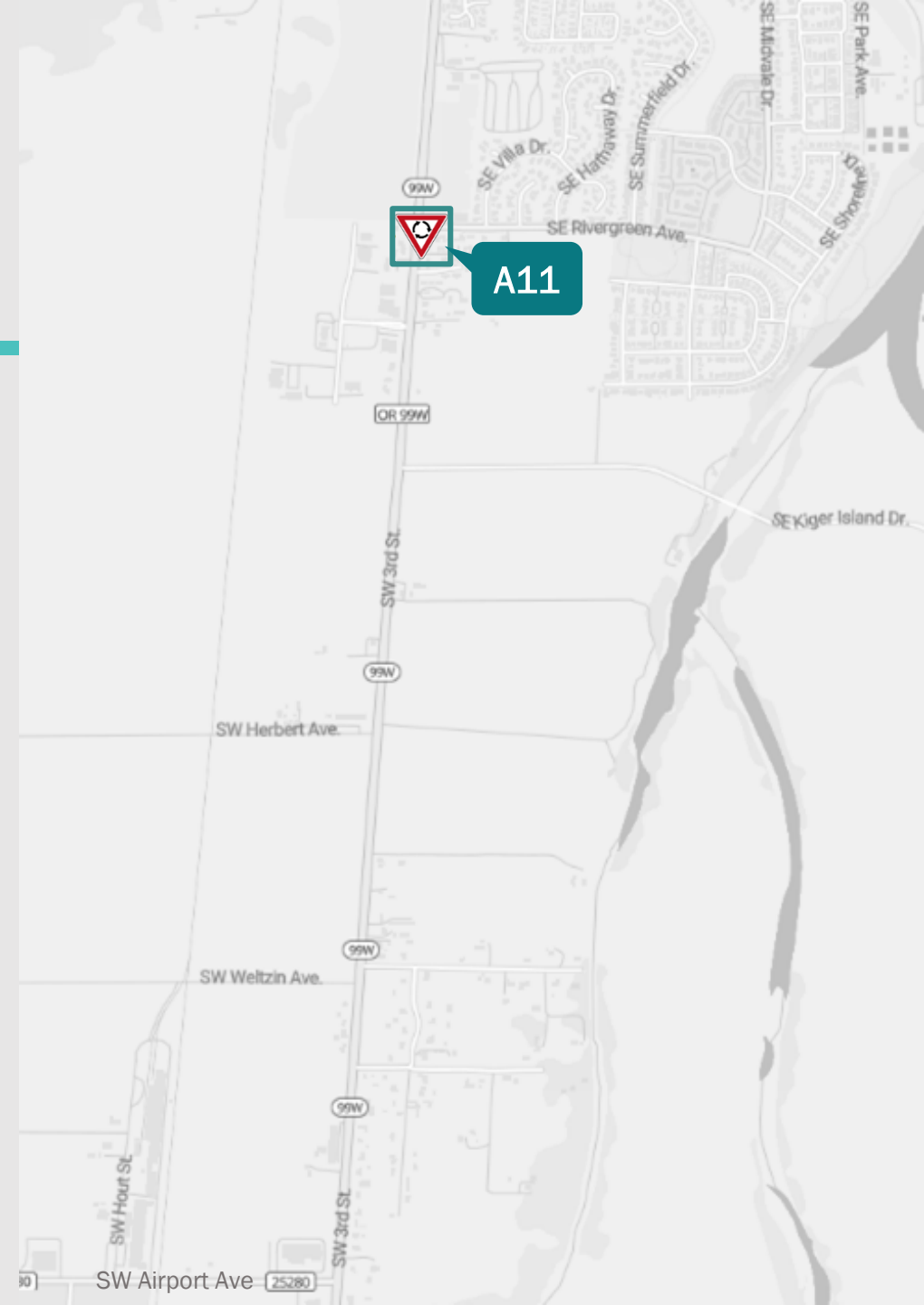
 Existing Signal



# Scenario Development: 2040 No-Build (CLEAN)

Segment 3 – Goodnight Ave to Airport Ave


 Rivergreen Avenue Roundabout (A11)



# Scenario Development: 2040 No-Build (ENHANCED)

## Segment 3 – Goodnight Ave to Airport Ave

 Rivergreen Avenue Roundabout (A11)

-  New Parallel Routes & Connections
- West side = M7 + M74, M110, M135, M123
  - East side = M98 + M99, M100 & M111

 New Enhanced Crossings





## Analysis Results: Unsignalized Intersections v/c

Intersection	2020 Existing	2040 No-Build (CLEAN)	2040 No-Build (ENHANCED)
B Avenue & 4 <sup>th</sup> Street	0.43	1.03	0.99
B Avenue & 3 <sup>rd</sup> Street	0.24	0.68	0.72
Twin Oaks Circle/Chapman Place	>2.0	>2.0	>2.0
Viewmont Avenue	1.0	>2.0	>2.0
Tunison Avenue	>2.0	>2.0	>2.0
Richland Avenue	0.46	0.39	1.01
Park Avenue	0.32	1.50	1.60
Wake Robin Avenue	0.77	2.00	>2.0
Kiger Island Drive	0.26	0.45	0.71
Airport Avenue	0.19	0.43	0.31

\* Exceeds OHP v/c target of 0.90 or City standard v/c of 0.85

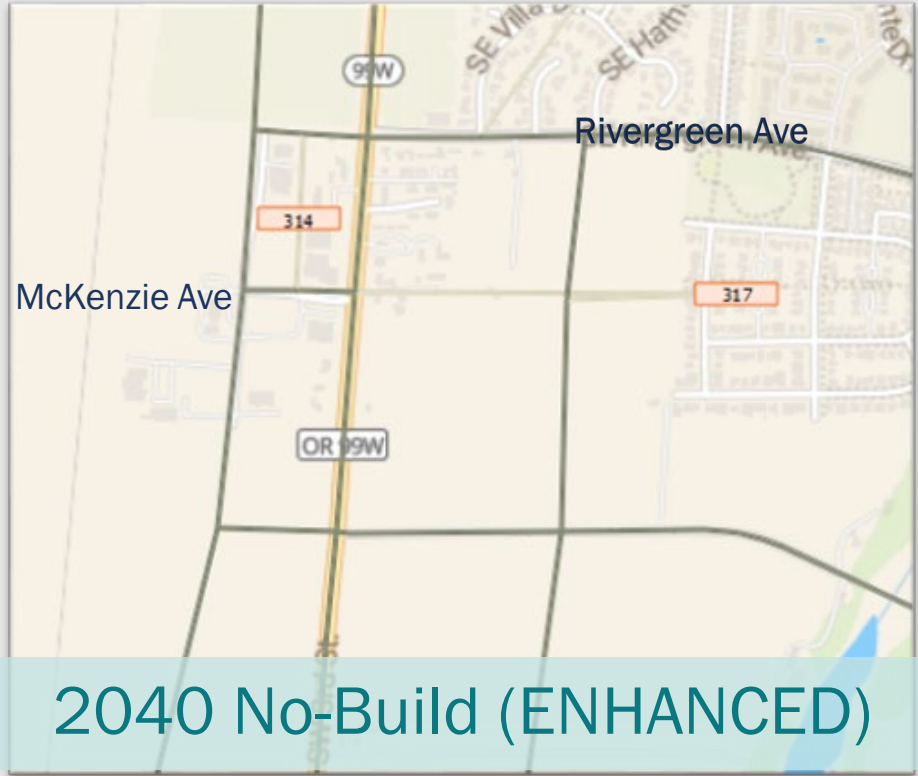
## Analysis Results: **Signalized** Intersections v/c

Intersection	2020 Existing	2040 No-Build (CLEAN)	2040 No-Build (ENHANCED)
Western Boulevard & 4 <sup>th</sup> Street	0.68	1.01	1.01
Western Boulevard & 3 <sup>rd</sup> Street	0.61	0.68	0.68
Avery Avenue / Crystal Lake Drive	0.92	1.16	1.48
Alexander Avenue	0.49	0.71	0.68

\* Exceeds OHP v/c target of 0.90 or City standard v/c of 0.85

# Analysis Results: Roundabout Intersections v/c

Intersection	2020 Existing (Unsignalized)	2040 No-Build (CLEAN)	2040 No-Build (ENHANCED)
Goodnight Avenue	0.37	0.50	0.50
Rivergreen Avenue	0.26	0.53	0.43








# Analysis Results: Traffic Control Trials v/c




Intersection	2020 Existing		2040 No-Build (CLEAN)		2040 No-Build (ENHANCED)	
	Unsignalized	Signalized	Unsignalized	Signalized	Unsignalized	Signalized
B Avenue & 4 <sup>th</sup> Street	0.68	N/A	1.03	N/A	0.99	0.60
B Avenue & 3 <sup>rd</sup> Street	0.61	N/A	0.68	N/A	0.72	0.41

Intersection	2020 Existing		2040 No-Build (CLEAN)		2040 No-Build (ENHANCED)	
	Unsignalized	Signalized	Signalized	Roundabout	Signalized	Roundabout
Goodnight Avenue	0.37	N/A	0.53	0.50	0.69	0.50
Rivergreen Avenue	0.26	N/A	0.54	0.53	0.81	0.43




## Queue Results: Western Blvd through OR34/99W Interchange

2020 Existing	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone










2040 No-Build (CLEAN)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone

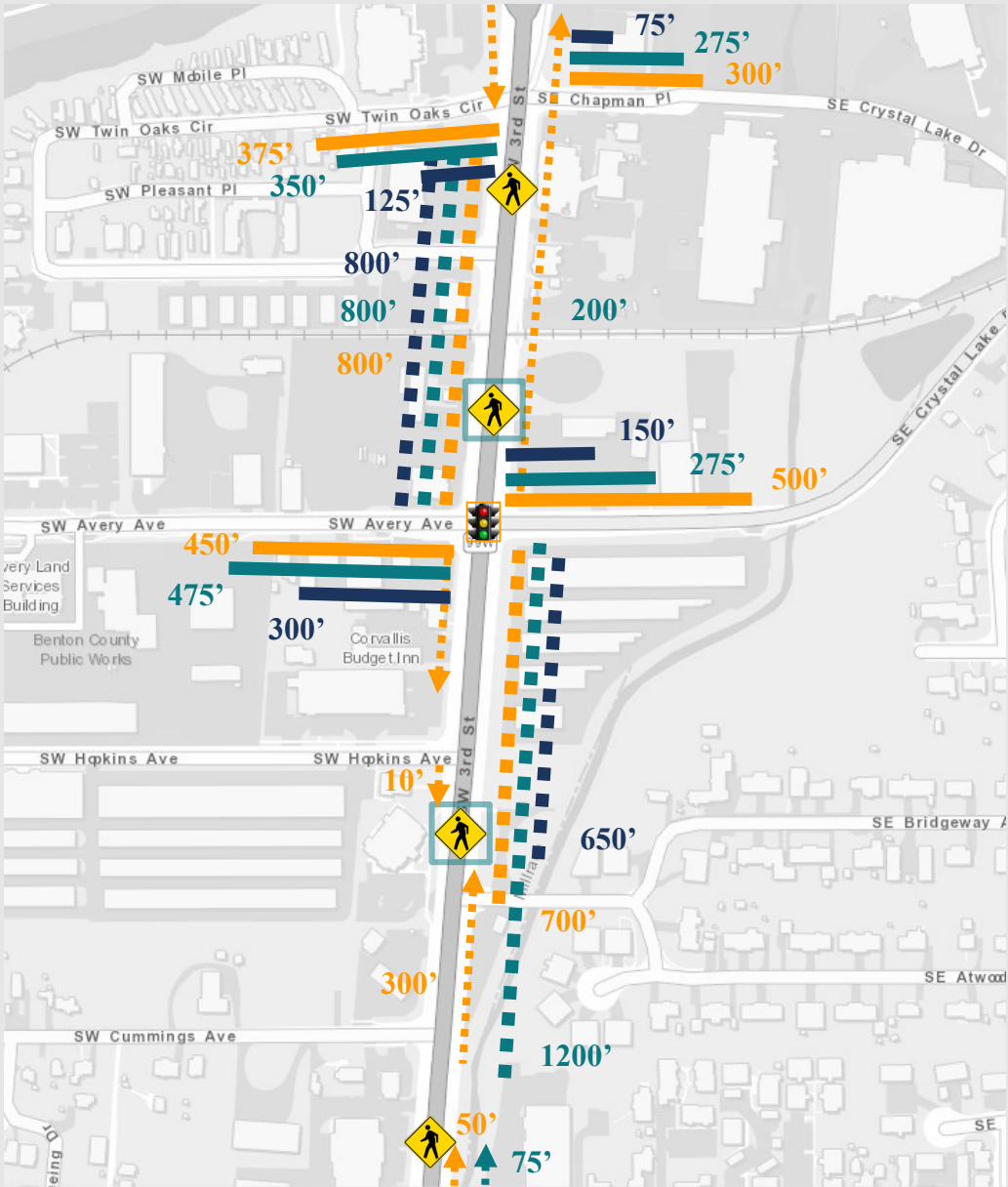
  

2040 No-Build (ENHANCED)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone






# Queue Results: Twin Oaks Cir/Chapman Pl through Cummings Ave

2020 Existing	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone
2040 No-Build (CLEAN)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone
2040 No-Build (ENHANCED)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone











## Queue Results: Lilly Ave through Prairie Ave

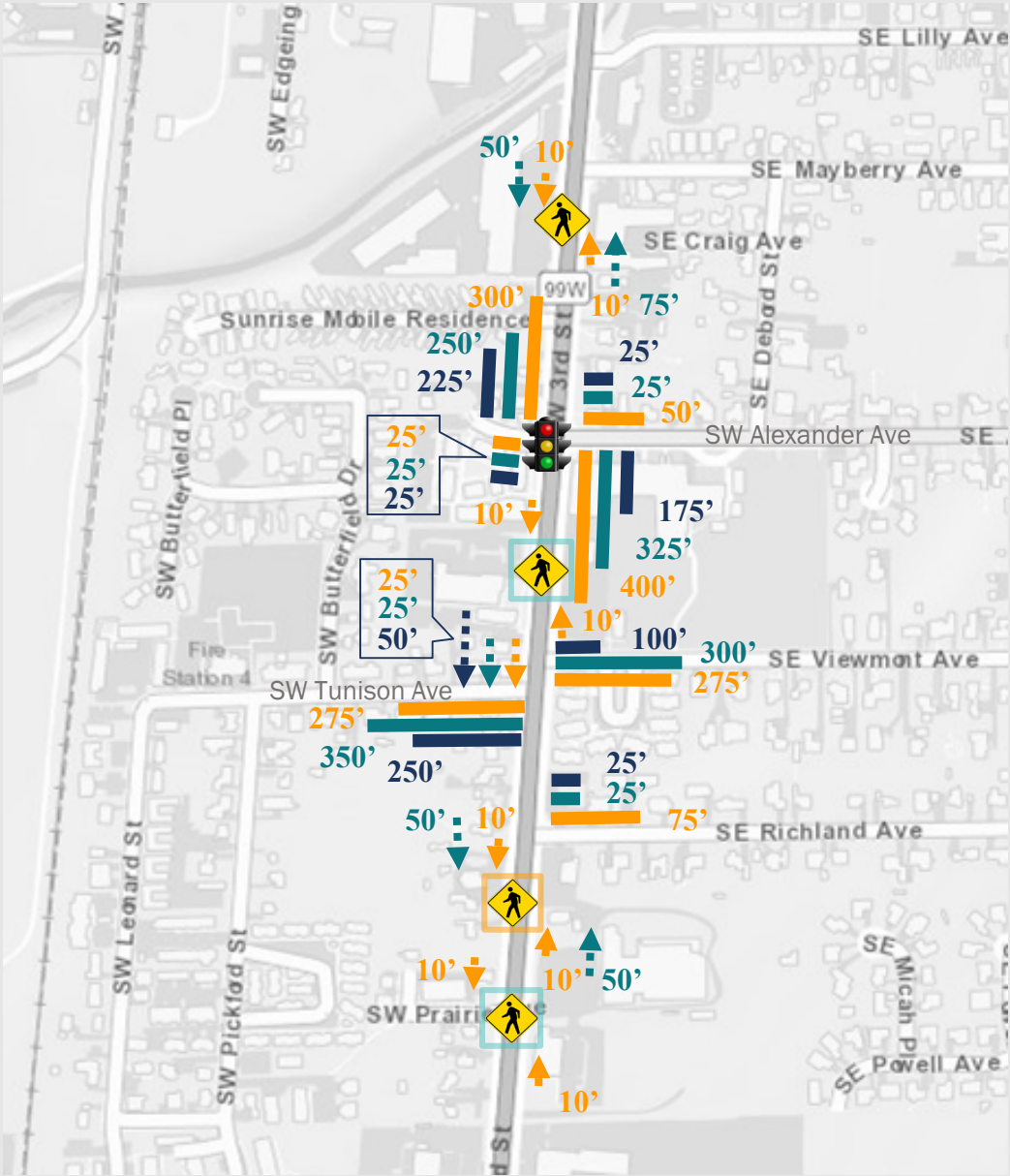
2020 Existing	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone










2040 No-Build (CLEAN)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone

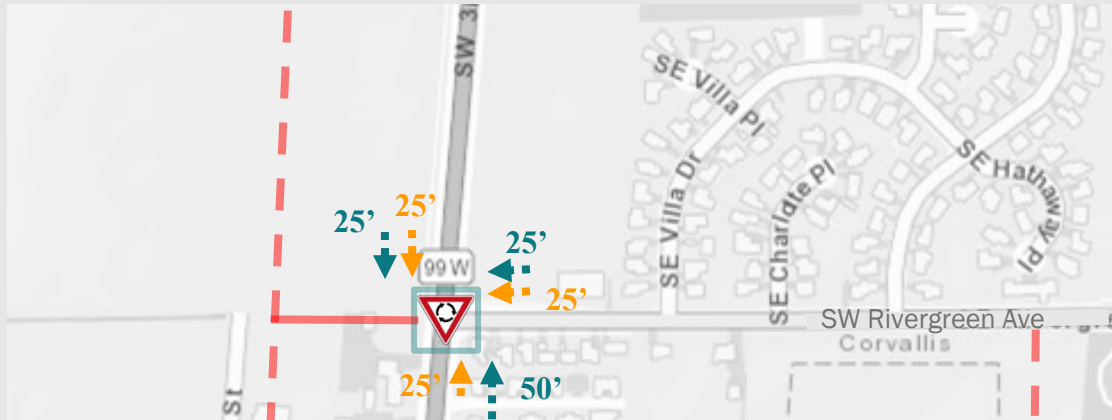
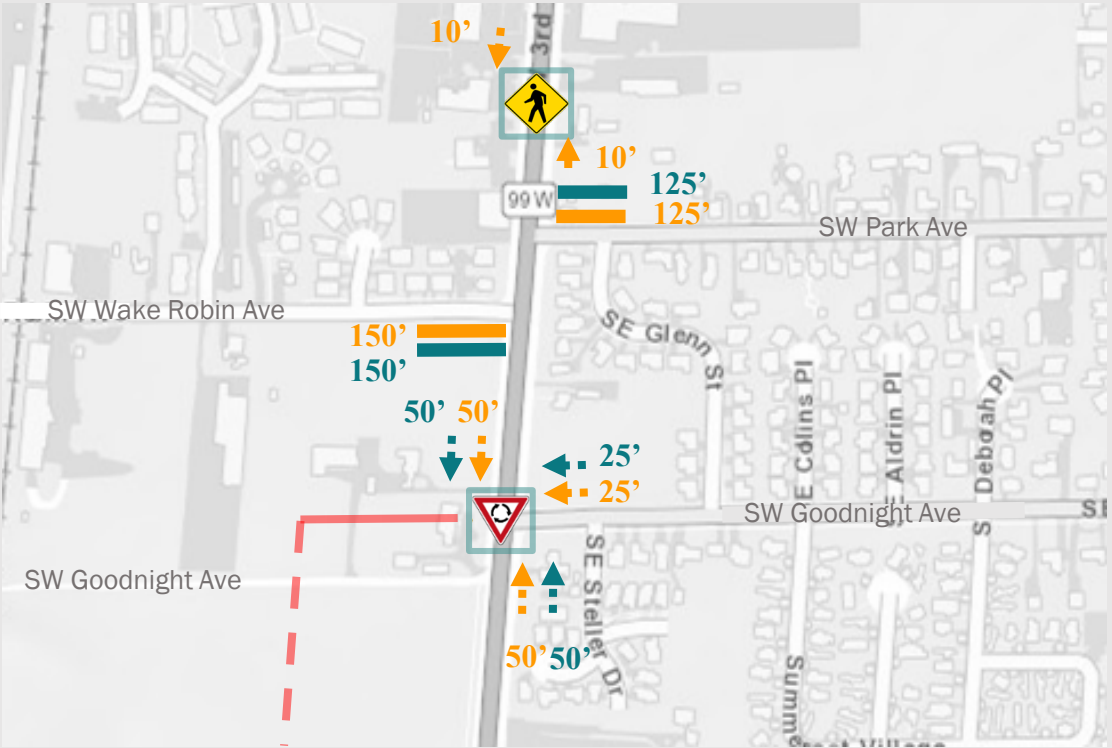
  

2040 No-Build (ENHANCED)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone












# Queue Results: Park Ave through Rivergreen Ave

2020 Existing	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone
2040 No-Build (CLEAN)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone
2040 No-Build (ENHANCED)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone



# Queue Results: Kiger Island Drive through Airport Ave

2020 Existing	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone
2040 No-Build (CLEAN)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone
2040 No-Build (ENHANCED)	
	95 <sup>th</sup> Percentile Queue
	Intersection Spillback Queue
	Turbulence/Conflict Zone





# Corridor Travel Performance – Travel Time

*(Result of removing ped crossing N of Crystal Lake Dr)*

	2020 Existing	2040 No-Build (CLEAN)		2040 No-Build (ENHANCED)	
Corridor Direction	Average Travel Time (min)	Average Travel Time (min)	Change (min)	Average Travel Time (min)	Change (min)
Southbound	10	13	+3	<del>15</del> 15	<del>+5</del> +5
Northbound	8	11	+3	<del>19</del> 12	<del>+11</del> +4
NB/SB Average	9	12	+3	<del>17</del> 13	<del>+8</del> +4

- Average travel times shown for the project corridor - Western Boulevard to Airport Avenue
- The 2040 No-Build (ENHANCED) assumes:
  - Enhanced crossings near B Avenue / 3<sup>rd</sup> Street & B Avenue / 4<sup>th</sup> Street Avenue (no signals at those intersections)
  - Roundabouts at Goodnight Avenue and Rivergreen Avenue

# Corridor Travel Performance - Speed

*(Result of removing ped crossing N of Crystal Lake Dr)*

	2020 Existing	2040 No-Build (CLEAN)		2040 No-Build (ENHANCED)	
Corridor Direction	Average Travel Speed (mph)	Average Travel Speed (mph)	Change (mph)	Average Travel Speed (mph)	Change (mph)
Southbound	23	18	-5	<del>17</del> 18	<del>-6</del> -5
Northbound	27	21	-6	<del>17</del> 22	<del>-10</del> -5
NB/SB Average	25	20	-5	<del>17</del> 20	<del>-8</del> -5

- Average travel speeds shown for the project corridor - Western Boulevard to Airport Avenue
- The 2040 No-Build (ENHANCED) assumes:
  - Enhanced crossings near B Avenue / 3<sup>rd</sup> Street & B Avenue / 4<sup>th</sup> Street Avenue (no signals at those intersections)
  - Roundabouts at Goodnight Avenue and Rivergreen Avenue

# Summary of Performance

Number of Study Intersections:	2020 Existing	2040 No-Build (CLEAN)	2040 No-Build (ENHANCED)
Not meeting v/c target(s)	4	8	9
Exceeding capacity	3	8	8
With Delay >60 seconds	5	8	10
Blocked by queues (includes ped-crossings)	2	3	8
Average NB&SB Travel <b>Speed</b> : Percent change from No-Build (CLEAN)	N/A	-13%	-13%
Average NB&SB Travel <b>Travel Time</b> : Percent change from No-Build (CLEAN)	N/A	+40%	+40%

# Summary of 2040 No-Build (CLEAN) Takeaways

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- Western Boulevard & 4<sup>th</sup> Street intersection is over-capacity
- ‘Very Congested’ condition and over-capacity at Crystal Lake Drive intersection
- Extensive queuing from interchange to south of Crystal Lake Drive
- Cut through Avery Park is undesirable, but is occurring
- High delay on unsignalized side streets

# Summary of 2040 No-Build (ENHANCED)

## Takeaways

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- Takeaways from 2040 No-Build (CLEAN) apply
- Queuing from interchange to south of Crystal Lake Drive worsens due to placement of enhanced crossing north of Crystal Lake
- Signals at B Street intersections decrease overall corridor performance
- Delay increases at Richland Avenue due to additional nearby crossing
- Delay increases at Kiger Island Drive due to changes in travel patterns



# Next Steps

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- Alternative Analysis (Update Alts A & B)
- Tech Memo Update
- Alternative Evaluation
- Selection of Preferred Alternative
- Draft Plan