

OR 99W South Corvallis Facility Plan

Stakeholder Advisory Group Meeting 11

June 27, 2023

Agenda

- 1. Welcome & Meeting Purpose**
- 2. Schedule Overview & Key Discussion Items:**
- 3. Reminders:**
 - ▶ Corridor Segments
 - ▶ Vision & Evaluation Criteria
 - ▶ Growth & Challenges
- 4. Project Alternatives - UPDATES**
- 5. Evaluation Results & Discussion**
- 6. Conclusions**
- 7. Next Steps & Adjourn**

1. Welcome & Meeting Purpose

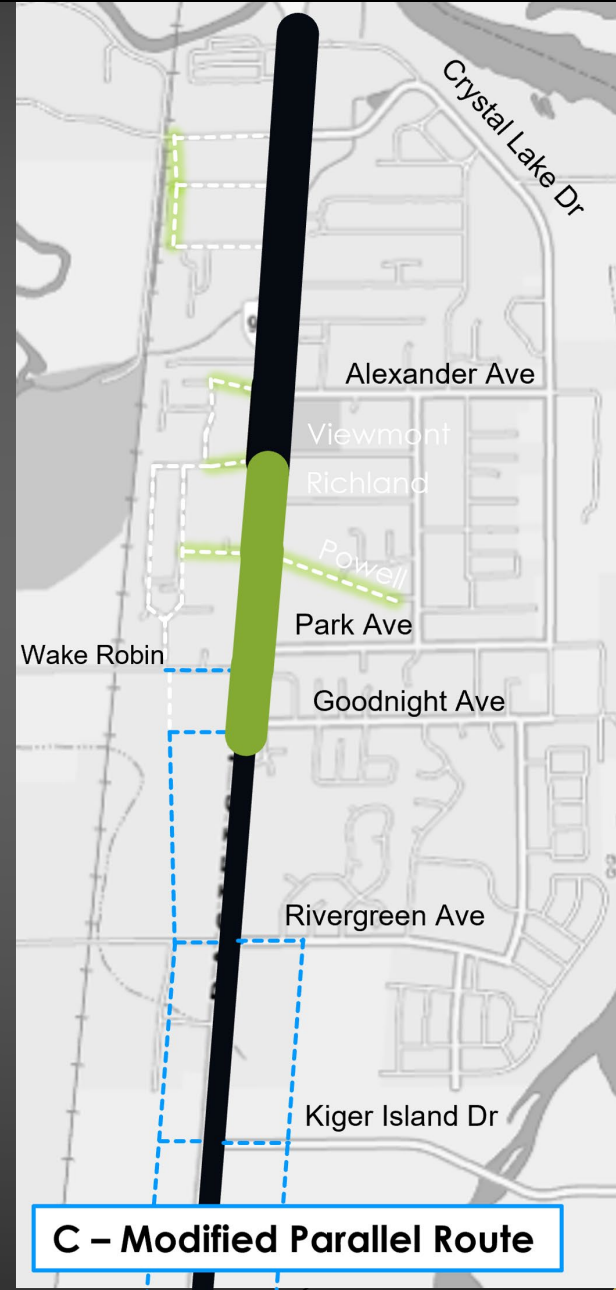
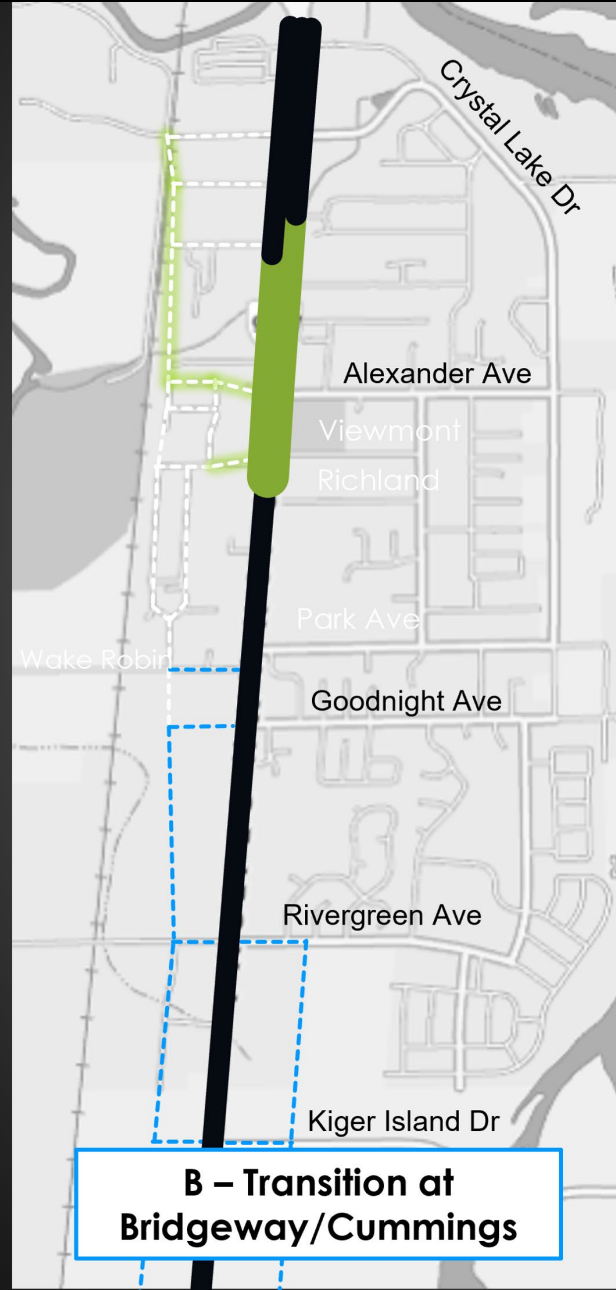
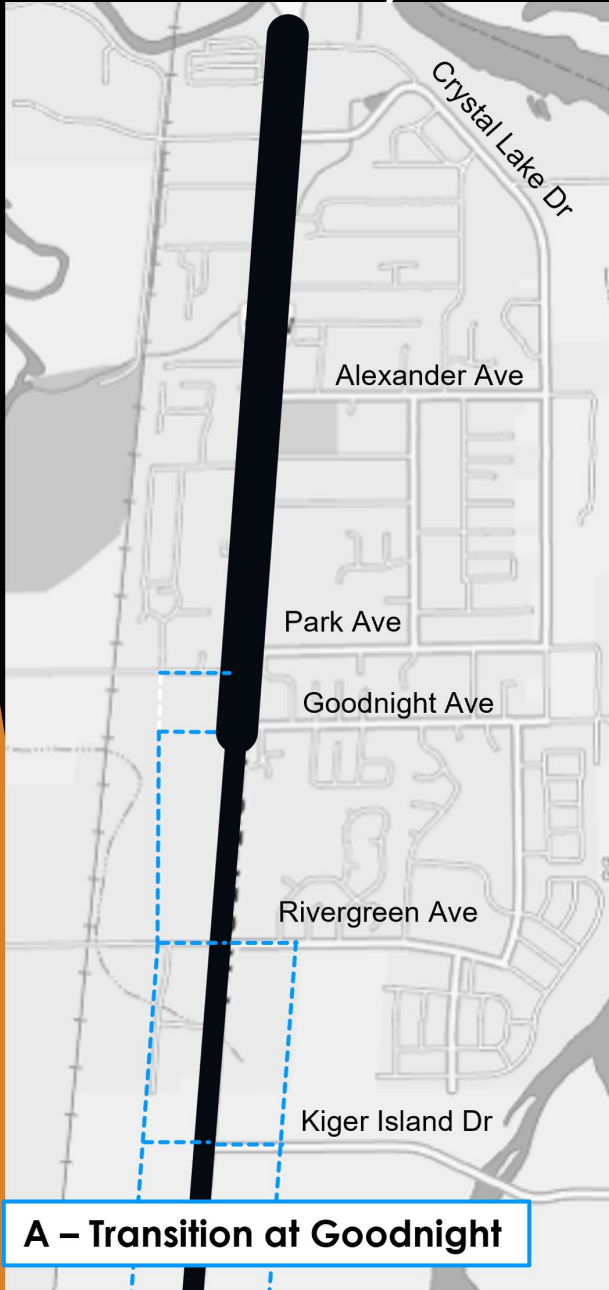








Finding the best solutions to move forward!

2. Schedule Overview

- ▶ **Fall 2021 – Spring 2023**
 - ▶ Alternatives development and analysis
- ▶ **Summer 2023 – Fall 2023 (three more meetings)**
 - ▶ Alternatives evaluation and selection of preferred alternatives
- ▶ **Winter 2024**
 - ▶ Final OR 99W South Corvallis Facility Plan and Adoption

2. Key Discussion Items: 5- to 3-Lane Transition :



-  5 Lane Section of 99W
-  5 Lane Section of 99W 'recommendation' but main discussion/decision point with PMT and City
-  3 Lane Section of 99W
-  Existing roadways in the western parallel route/connections in Build scenarios
-  Proposed new or modified City roads in the western parallel route/connections in Build scenarios
-  Proposed parallel route assumed with 2040 No-Build Enhanced

2. Motor Vehicle Analysis Results of Early Project Alternatives

Lane Reduction Location	V/C at:		Delay		Daily Volume Diversion			Travel Time					
	Alexander	Viewmont/ Tunison (worst leg filled w/orange, bold>1.0)		Viewmont/ Tunison (sec.) (grey fill>2 min)		Diversion to local network	Absolute increase from ENHANCED No-Build	Percent increase from ENHANCED No-Build	Travel Time (min.)			Absolute increase from ENHANCED No-Build	Percent increase from ENHANCED No-Build
		Major	Minor	West	East				NB	SB	Average		
2020 Existing Conditions	0.49	0.40 (north)	2.55 (west)	979	205	1798	N/A	N/A	8	10	9	N/A	N/A
2040 CLEAN No-Build	0.71	0.39 (south)	4.78 (west)	2,137	1,827	3672	N/A	N/A	11	13	12	N/A	N/A
2040 ENHANCED No-Build	0.68	0.39 (north)	4.28 (west)	2,032	1,283	2678	N/A	N/A	12	16	14	N/A	16%
Alt A	0.6	0.35 (south)	4.03 (west)	1,882	583	1669	-1009	-38%	12	18	15	1	7%
Alt B@Bridgeway/Cummings	0.81	0.63 (south)	0.28 (east)	64	83	8119	5440	203%	15	18	16	3	19%
Alt C@Prairie/Powell	0.71	0.38 (south)	1.44 (West)	745	171	7987	5309	198%	13	17	15	1	8%
Alt B@Alexander	1.12	0.64 (south)	0.9 (east)	307	122	6342	3664	137%	24	19	21	7	54%
Alt C@Alexander	1.09	0.56 (south)	1.42 (west)	447	53	5790	3112	116%	24	19	21	8	54%
Alt B@Viewmont/Tunison	0.69	0.65 (south)	1.13 (west)	461	101	6144	3466	129%	13	18	16	2	12%
Alt B@Wake Robin/Park	0.69	0.36 (south)	2.78 (west)	1,366	197	6327	3648	136%	13	18	15	2	11%
RIRO+LI	0.69	0.36 (south)	0.19 (east)	11	15	5846	3168	118%	13	18	15	2	11%
Alt C@Wake Robin/Park	0.69	0.37 (south)	7.8 (east)	878	3,571	5938	3260	122%	13	18	15	2	11%
RIRO+LI	0.67	0.36 (south)	0.19 (east)	11	16	5865	3186	119%	13	18	15	2	11%
Alt B@Goodnight	0.69	0.36 (south)	3.86 (west)	2,036	294	4235	1557	58%	13	18	15	2	11%
RIRO+LI	0.69	0.36 (south)	0.14 (east)	12	15	4235	1557	58%	13	18	15	2	11%
Alt C@Goodnight	0.71	0.39 (south)	2.03 (west)	1,365	10,752	4358	1680	63%	13	18	15	1	11%

2. Key Discussion Items

Benefits

- ▶ **Moving Curbs**
 - ▶ Reduces crossing exposure
 - ▶ Improves comfort & convenience
- ▶ **Providing Median**
 - ▶ Improves capacity/safety/operations
 - ▶ Improves aesthetics
- ▶ **Removing Travel Lanes**
 - ▶ Reduces crossing exposure
 - ▶ Improves comfort & convenience
 - ▶ Manages speeds
- ▶ **Providing Parallel Routes**
 - ▶ Reduces demand; increases options
- ▶ **Providing Signals**
 - ▶ Improves comfort & convenience
- ▶ **Providing Roundabouts**
 - ▶ Manages speeds & minimizes delay
 - ▶ Maintains/Improves access

Impacts

- ▶ **Moving Curbs**
 - ▶ Costly improvement
 - ▶ Freight route restrictions
- ▶ **Providing Median**
 - ▶ Reduces access to adjacent properties
 - ▶ Causes some out-of-direction travel
- ▶ **Removing Travel Lanes**
 - ▶ Increases delay & diversion for motorists
 - ▶ Increases congestion & queuing
- ▶ **Providing Parallel Routes**
 - ▶ Costly improvement
 - ▶ May cause diversion & induce travel
- ▶ **Providing Signals**
 - ▶ Increases system delay
 - ▶ Doesn't assure progression of traffic
- ▶ **Providing Roundabouts**
 - ▶ Costs more to construct than signals

2. TAC Input

- ▶ **Considerations for Freight**

- ▶ Minimum Accommodations Are Required

- ▶ **Traffic Operations**

- ▶ Heavy Congestion
- ▶ Long Delays & Queuing
- ▶ Substantial Diversion to the Local Network

- ▶ **Equity**

- ▶ Disadvantaged Communities on Both Sides

- ▶ **Safety**

- ▶ Conflict Points Managed with Roundabouts & Medians

- ▶ **Implementation**

- ▶ Long-term View (now)

3. Corridor Vision: What We're Seeking

Corridor Vision

*“People of **all ages and abilities** find facilities and amenities ... that **safely support and comfortably encourage walking, biking, and the use of transit.**”*

*... the corridor is **easy to find and travel to by all modes** from nearby destinations, including those north of the river.*

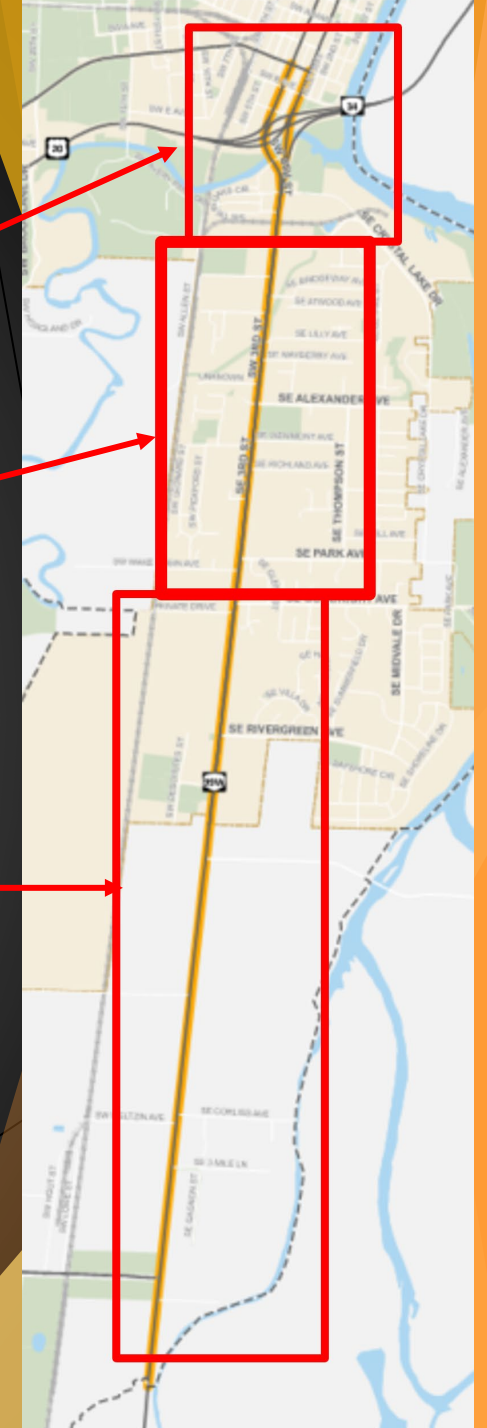
*... **transportation facilities** (such as sidewalks, bike lanes, motor vehicle travel lanes) are **well-suited to the adjacent land uses** and character of each corridor segment.*

***Travel speeds are managed and crossing treatments are provided** such that ... all modes safely interact and contribute to the area's vitality.*

***Gateway features** ... remind travelers all modes are present and must coexist.”*

3. Corridor Segments

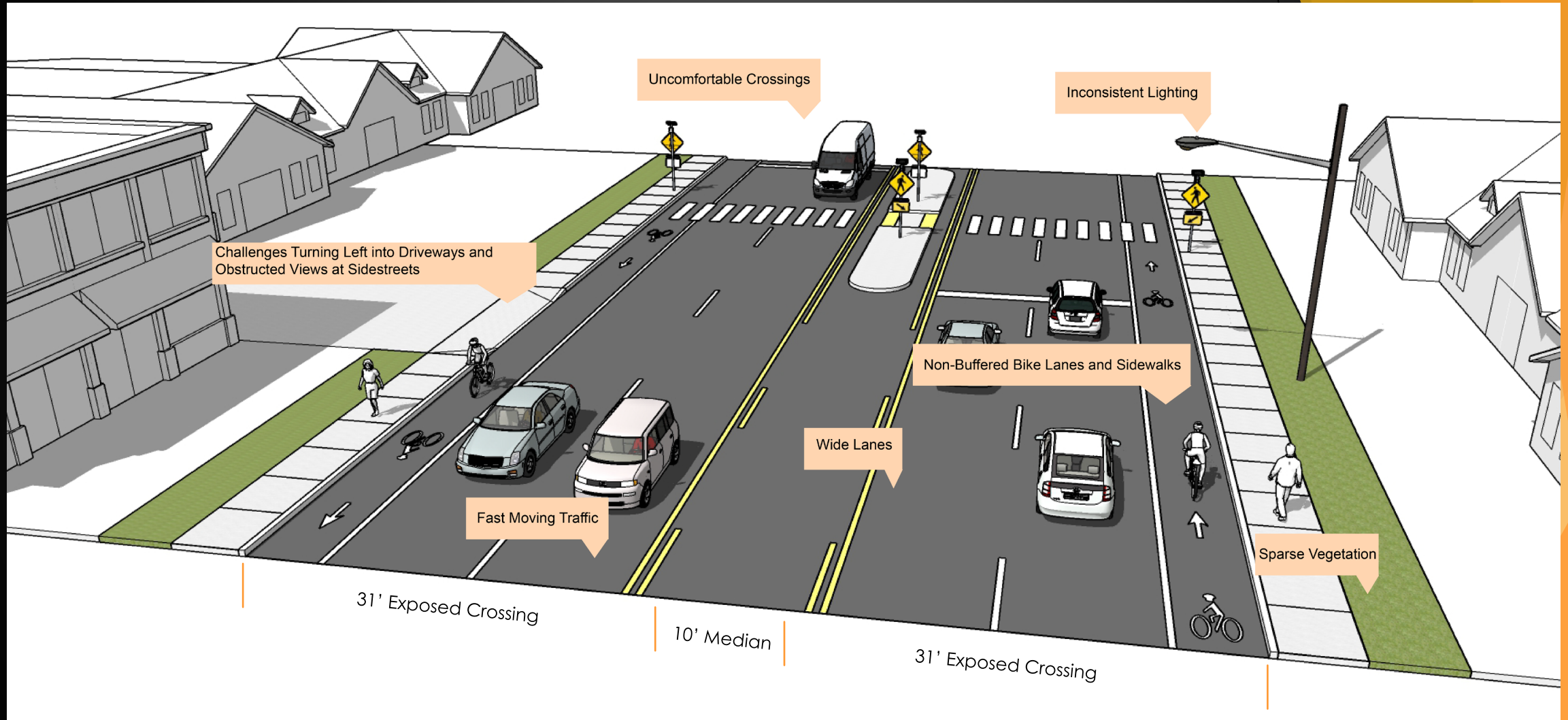
- ▶ **Segment 1: Western Boulevard to SE Crystal Lake Drive**
 - ▶ Solutions Previously Chosen by Consensus
- ▶ **Segment 2: SE Crystal Lake Drive to SE Goodnight Avenue**
 - ▶ Alternatives Required to Identify Best Solution
- ▶ **Segment 3: SE Goodnight Avenue to Southern Urban Growth Boundary**
 - ▶ Solutions Previously Chosen by Consensus



3. Evaluation Criteria: How We Judge the Solutions

Evaluation Criteria	Performance Measure(s)
Equity	Benefit transportation disadvantaged communities
Comfort	Segment Pedestrian & Bicycle Level of Traffic Stress Crossing Pedestrian & Bicycle Level of Traffic Stress
Convenience	Location & frequency of comfortable crossings
Safety	Crash Reduction Factors (CRFs) Segment & intersection conflict points Segment & intersection crash severity Crossing distance exposure Speed (variation & management)
Design	Right-of-way & building impacts Freight impacts (lateral widths) Environmental impacts (emissions, noise, impervious surface area, landscape area)
Cost	Right-of-way, building impacts, construction costs
Connectedness	Quality of transit service Motor vehicle corridor travel time Navigation for the visually impaired
Aesthetics	Area for vegetative landscaping
Support	Public input

3. The Challenges We Face

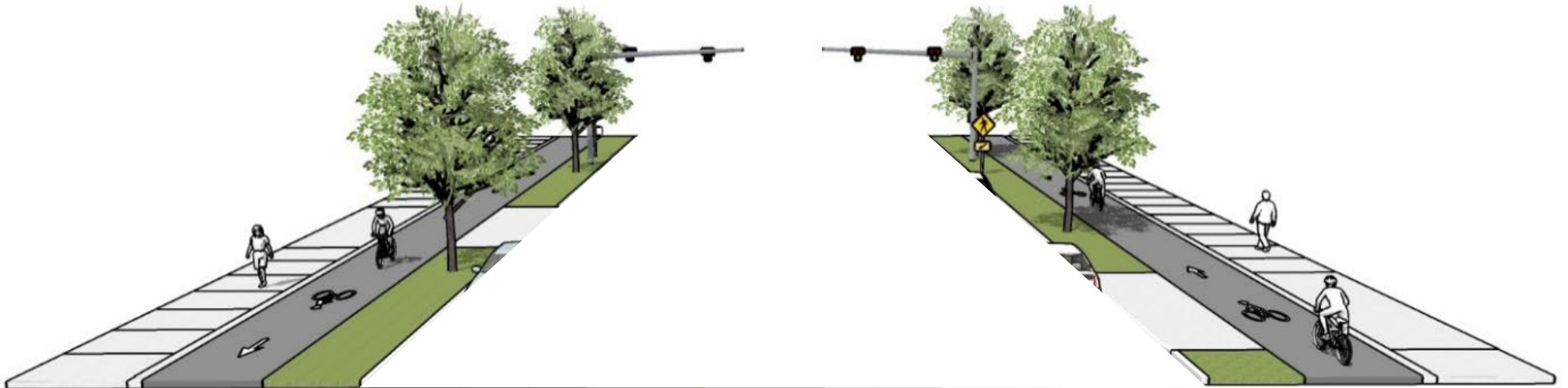


3. City & Area Growth

- ▶ **Corvallis's population to grow by 17% (62,900 to 73,700) and employment to grow 42% (32,900 to 46,700)**
 - ▶ South Corvallis's population to grow by 35% (8,700 to 11,700) and employment by 85% (2,500 to 4,600)
- ▶ **Daily traffic volumes grow too**
 - ▶ Marys River crossings grow from 36,900 to 51,800 (40% increase)
 - ▶ Local traffic is 42% of daily river crossings / Through traffic is 58% of daily river crossings
- ▶ **Some new parallel network to OR 99W is planned in the TSP, but only south of Wake Robin Ave**

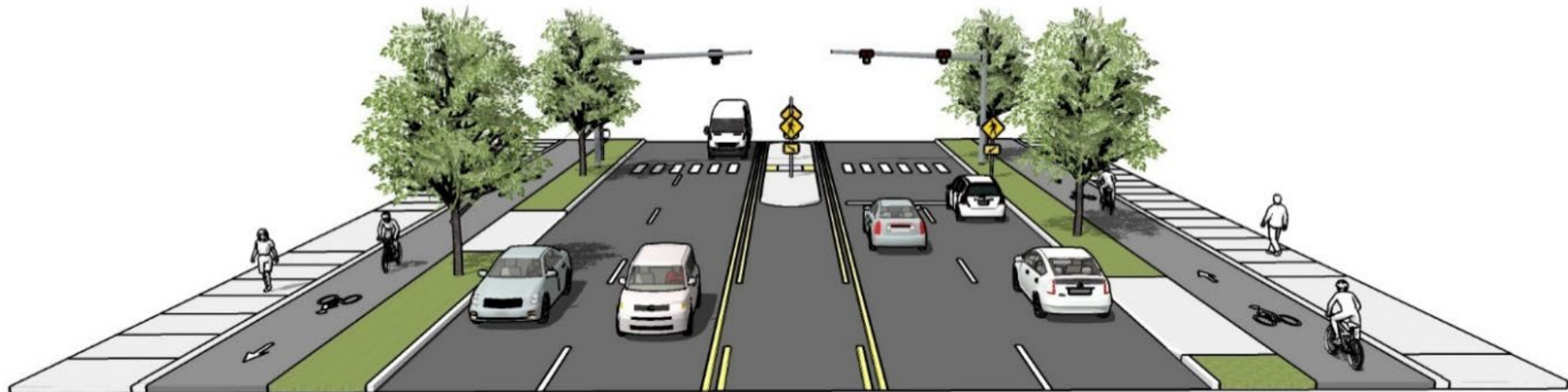
4. Features Common to All Alternatives

- ▶ Crystal Lake Drive remains signalized, with 5+ lanes
- ▶ Curb-to-curb width is narrowed in all concepts
- ▶ Treatments outside the curb include planter strip, bicycle facility, and sidewalk
- ▶ Goodnight Avenue will have a roundabout (1 lane or 2 lanes)



4. Alt. A: 5-Lane with Signals & 2-Way Left-Turn Lane

- ▶ 5-lane roadway, with 2-way left-turn lane
- ▶ Cross section narrowed by moving both curbs inward ~ 6 feet each
- ▶ Signals at Crystal Lake, Alexander, and Prairie Avenue
- ▶ Three enhanced crossing locations on this segment
- ▶ Tunison converted to right-in/right-out only (4 legs at Alexander)



4. Alt. A: Outcomes

Benefits

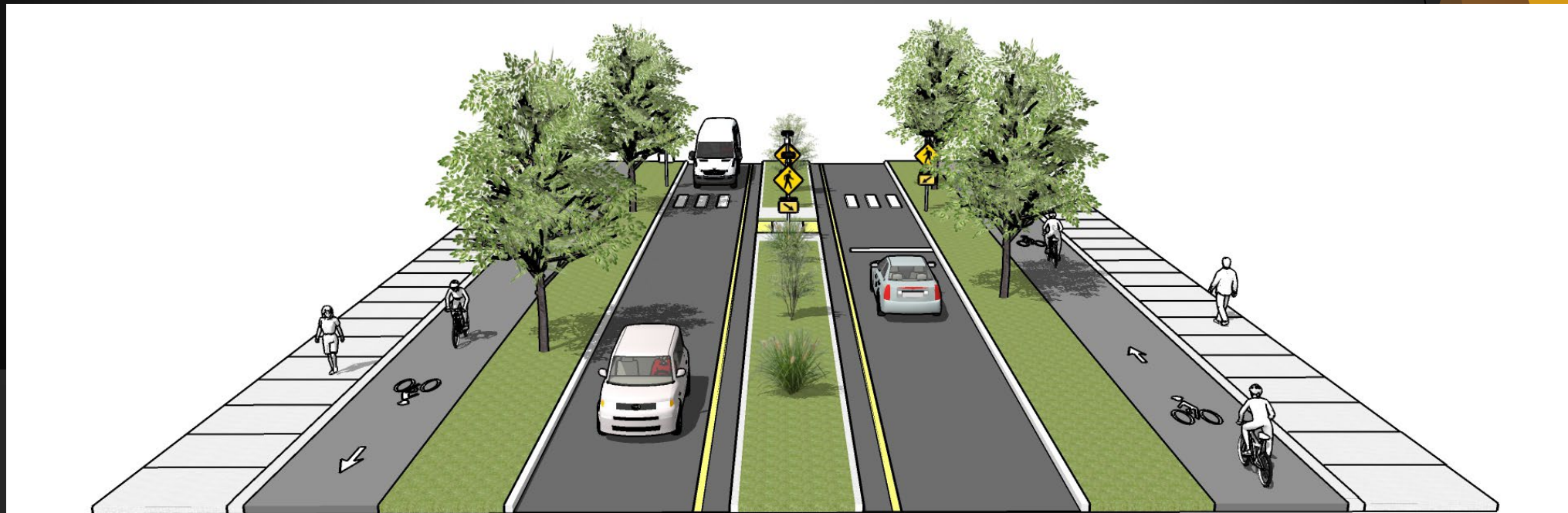
- ▶ Reduced crossing exposure (60 feet)
- ▶ Little or no right-of-way needed
- ▶ Limited signalization (3)
- ▶ Enhanced crossings (3)
- ▶ 2nd best motor vehicle capacity
- ▶ Similar motor vehicle performance to Alt. C

Impacts

- ▶ Only 3 protected crossings
- ▶ Only 3 enhanced crossings
- ▶ 5-lane section by Lincoln Elementary
- ▶ Tunison access is restricted
- ▶ Inefficient signal progression is likely
- ▶ Lack of speed management
- ▶ Fewest safety-related benefits
- ▶ Southbound freight route narrowed ~3 feet

4. Alt. B: 3-Lane with Roundabouts & Median Control

- ▶ 3-lane roadway, with continuous planted median
- ▶ Cross section narrowed by moving both curbs inward ~ 17 feet each
- ▶ 4 to 5 single-lane roundabouts beginning as far north as Cummings
- ▶ Three enhanced crossing locations on this segment
- ▶ Tunison controlled with roundabout



4. Alt. B: Outcomes

Benefits

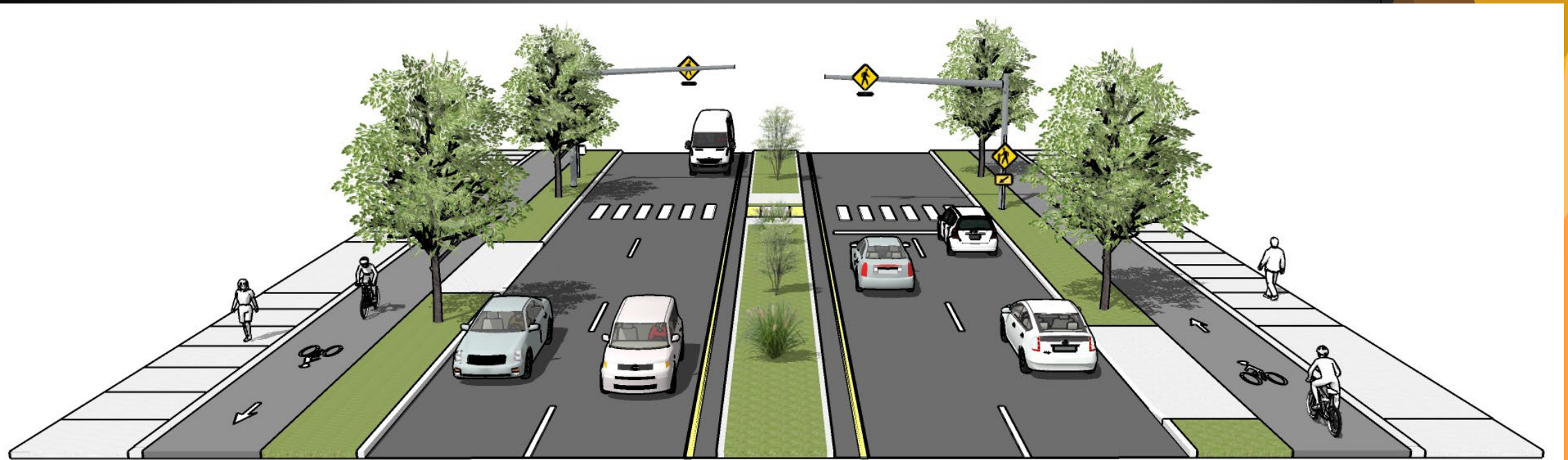
- ▶ Best crossing exposure (only 14 feet)
- ▶ Median improves traffic flow
- ▶ 3-lane section by Lincoln Elementary
- ▶ Tunison remains full access (rdbt)
- ▶ Most protected/enhanced crossings
- ▶ Most safety-related benefits
- ▶ Best aesthetic outcome

Impacts

- ▶ Highest cost to implement
- ▶ Worst diversion outcome
- ▶ Worst delay and queueing outcome
- ▶ Worst average travel speed
- ▶ Worst performance for transit
- ▶ Freight route width substantially reduced

4. Alt. C: 5-Lane with Roundabouts & Median Control

- ▶ 5-lane roadway, with continuous planted median
- ▶ Cross section narrowed by moving both curbs inward ~ 12 feet
- ▶ Signals at Crystal & Alexander; 2-lane roundabout at Prairie & Goodnight
- ▶ Three enhanced crossing locations on this segment
- ▶ Tunison converted to right-in/right-out only (4 legs at Alexander)



4. Alt. C: Outcomes

Benefits

- ▶ Reduced crossing exposure (25 feet)
- ▶ Best motor vehicle capacity
- ▶ Better system delay than Alt. A
- ▶ Better safety-related outcomes than Alt. A
- ▶ Better speed management than Alt. A
- ▶ More planted area and less impervious surface than Alt. A

Impacts



















- ▶ Only 3 protected crossings
- ▶ Only 3 enhanced crossings
- ▶ 5-lane section by Lincoln Elementary
- ▶ Tunison access is restricted
- ▶ Inefficient signal progression is likely
- ▶ Limited speed management
- ▶ Southbound freight route narrowed ~3 feet

5. Evaluation Scoring - Equity

Criteria	Alternative A: 5-Lane with Signals & Two-Way Left Turn Lane	Alternative B: 3-Lane with Roundabouts & Median Control	Alternative C: 5-Lane with Roundabouts & Median Control
Design Evaluation	Limits <u>direct access</u> for this vulnerable community at SW Tunison Avenue/Viewmont Avenue and provides signalized access at Alexander Avenue via SW Butterfield Drive.	Improves <u>access</u> for this vulnerable community and pedestrian / bicycle crossing opportunities near Lincoln Elementary School.	Limits <u>direct access</u> for this vulnerable community at SW Tunison Avenue/Viewmont Avenue and provides signalized access at Alexander Avenue via SW Butterfield Drive.
Summary	 MEDIUM	 HIGH	 MEDIUM



Impacts to access west of OR 99W

5. Evaluation Scoring - Comfort

Criteria	Alternative A LTS Results	Alternative A Evaluation	Alternative B LTS Results	Alternative B Evaluation	Alternative C LTS Results	Alternative C Evaluation
Segment PLTS and BLTS	PLTS 1/BLTS 1	HIGH 	PLTS 1/BLTS 1	HIGH 	PLTS 1/BLTS 1	HIGH 
Major— Signals	PLTS 2/BLTS 1	HIGH 	PLTS 2/BLTS 1	HIGH 	PLTS 2/BLTS 1	HIGH 
Major— Roundabouts	PLTS 2/BLTS 3	LOW 	PLTS 1/BLTS 1	HIGH 	PLTS 2/BLTS 3	LOW 
Minor Intersections	PLTS 4/BLTS 4	LOW 	PLTS 2/BLTS 1	HIGH 	PLTS 2/BLTS 2	MEDIUM 
Mid-Block Crossing	PLTS 1	HIGH 	PLTS 1	HIGH 	PLTS 1	HIGH 
Summary	MEDIUM		HIGH		MEDIUM	

LTS = Level of Traffic Stress PLTS = Pedestrian LTS BLTS = Bicycle LTS

























5. Evaluation Scoring - Convenience

Criteria	Alternative A: 5-Lane with Signals & Two-Way Left Turn Lane	Alternative B: 3-Lane with Roundabouts & Median Control	Alternative C: 5-Lane with Roundabouts & Median Control
Crossing Convenience	Convenient only at signalized crossings	Convenient at all RRFBs and all single- lane roundabouts	Convenient only at roundabouts due to their benefit to speed management
Summary	 LOW	 HIGH	 LOW

Frequency and location of comfortable crossings

























5. Evaluation Scoring - Safety

Opportunity to improve safe use and operation




Criteria	Alternative A	Alternative B	Alternative C
Node CRF ¹	67% LOW 	78% HIGH 	> 67% but < 78% MEDIUM 
Segment Conflict Points	Most on a 5-lane road without refuge medians LOW 	Fewest on a 3-lane road with medians HIGH 	Less than on 5-lane road without medians but more than on 3-lane road MEDIUM 
Segment Crash Severity	Highest on roadway with highest speed and no refuge median LOW 	Lowest on a roadway with lowest travel speeds 	Medium amount on a roadway with medium speed and medians 
Node Conflict Points	40 (5-lane road crossing a 2-lane road) LOW 	8 (Single-lane roundabout crossing a 2-lane road) HIGH 	24 (Double-lane roundabout crossing a 2-lane road) MEDIUM 
Node Crash Severity	Highest at signals LOW 	Lowest at single-lane roundabouts HIGH 	Medium at two-lane roundabouts MEDIUM 
Crossing Distance at Major Intersections	Highest exposure due to longest crossing distance LOW 	Low exposure due to shortest crossing distance HIGH 	Moderate exposure due to multilane crossing with medians MEDIUM 
Speed	Fastest on 5-lane road with signals LOW 	Slowest on 3-lane road with roundabouts HIGH 	Medium on 5-lane road with roundabouts MEDIUM 
Summary	LOW 	HIGH 	MEDIUM 

5. Evaluation Scoring - Design

Ease of implementation
Change to freight access
Environmental impacts

Criteria	Alternative A: 5-Lane with Signals & Two-Way Left Turn Lane	Alternative B: 3-Lane with Roundabouts & Median Control	Alternative C: 5-Lane with Roundabouts & Median Control
Segment ROW and Building Impacts	 Least ROW impact HIGH	 Some ROW impacts MEDIUM	 Most ROW impacts LOW
Freight Impacts	 Change to the southbound clearance constraint MEDIUM	 Significant change to both clearance constraints LOW	 Change to the southbound clearance constraint MEDIUM
Emissions Impacts	 Medium emissions due to start/stop MEDIUM	 High emissions due to congestion LOW	 Medium emissions due to start/stop MEDIUM
Environmental: Traffic Noise	 Highest level due to high speeds and lack of medians LOW	 Lowest level due to low speeds and presence of medians HIGH	 Median level due to medium speeds and presence of medians MEDIUM
Environmental: Impervious Surface Impacts	 Highest amount of impervious surface LOW	 Lowest amount of impervious surface HIGH	 Moderate amount of impervious surface MEDIUM
Environmental: Vegetative Buffer	 No vegetative buffer (between the curbs) LOW	 Vegetative median + potential for more outside of curbs HIGH	 Vegetated median + roundabouts MEDIUM
Environmental Impact Summary	 Highest impacts LOW	 Lowest impacts HIGH	 Moderate impacts MEDIUM
Summary	 MEDIUM	 MEDIUM	 MEDIUM













5. Evaluation Scoring – Equity

Criteria	Alternative A: 5-Lane with Signals & Two-Way Left Turn Lane	Alternative B: 3-Lane with Roundabouts & Median Control	Alternative C: 5-Lane with Roundabouts & Median Control
Design Evaluation	Limits direct access for this vulnerable community at SW Tunison Avenue/Viewmont Avenue and provides signalized access at Alexander Avenue via SW Butterfield Drive.	Improves access for this vulnerable community and pedestrian / bicycle crossing opportunities near Lincoln Elementary School.	Limits direct access for this vulnerable community at SW Tunison Avenue/Viewmont Avenue and provides signalized access at Alexander Avenue via SW Butterfield Drive.
Summary	 MEDIUM	 HIGH	 MEDIUM


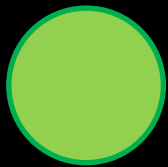

Estimated cost to implement

5. Evaluation Scoring – Connectedness

Transit operations
Corridor travel time
ADA accommodation

Criteria	Alternative A	Alternative B	Alternative C
Proximity of Protected Pedestrian Crossing to Transit Stop	Nominal delay to vehicles on inside travel lane; nominal delay to vehicles in outside lane, except during congested periods HIGH 	Delay to all vehicles following bus, two to four times each hour of transit operations LOW 	Nominal delay to vehicles on inside travel lane; nominal delay to vehicles in outside lane, except during congested periods HIGH 
Quality of Transit	No Differentiation	No Differentiation	No Differentiation
Percent of transit stops connected to pedestrian and bicycle routes with an LTS of 2 or better	second best travel time because traffic signals cannot be progressed MEDIUM 	Worst travel time due to constrained capacity and heavy congestion LOW 	Best travel time due to lower delay at roundabouts HIGH 
Travel Time for Motor Vehicles (daily basis)	No Differentiation	No Differentiation	No Differentiation
Mode Split	At signalized intersections, audible aid will be available for visually impaired persons to guide them. HIGH 	At intersections with single-lane roundabouts, there is no audible assistance to guide visually impaired person, but the crossing distance is the shortest MEDIUM 	At intersections with multi-lane roundabouts, there is no audible assistance to guide visually impaired person, moreover, there are more lanes to cross compared to single-lane roundabouts LOW 
Navigation for Visually Impaired Populations	No Differentiation	No Differentiation	No Differentiation
Summary	 HIGH	 LOW	 MEDIUM

5. Evaluation Scoring - Aesthetics



























Criteria	Alternative A: 5-Lane with Signals & Two-Way Left Turn Lane	Alternative B: 3-Lane with Roundabouts & Median Control	Alternative C: 5-Lane with Roundabouts & Median Control
Presence of planted areas	Least landscaping due to lack of planted medians	Most potential for wider landscape strips, planted medians, and planted roundabouts	Medians and roundabouts allow for landscaping
Summary	 LOW	 HIGH	 MEDIUM

Amount of landscaped area

5. Evaluation Scoring - Support

Not Scored

5. Evaluation Scoring - Summary

Criteria	Alternative A: 5-Lane with Signals & Two-Way Left Turn Lane	Alternative B: 3-Lane with Roundabouts & Median Control	Alternative C: 5-Lane with Roundabouts & Median Control
Equity	 MEDIUM	 HIGH	 MEDIUM
Comfort	 MEDIUM	 HIGH	 MEDIUM
Convenience	 LOW	 HIGH	 LOW
Safety	 LOW	 HIGH	 MEDIUM
Design	 MEDIUM	 MEDIUM	 MEDIUM
Cost	 HIGH	 LOW	 MEDIUM
Connectedness	 HIGH	 LOW	 MEDIUM
Aesthetics	 LOW	 HIGH	 MEDIUM
Support	Not Scored at This Time	Not Scored at This Time	Not Scored at This Time
Summary	 MEDIUM	 HIGH	 MEDIUM

2. Key Discussion Items –

Benefits

- ▶ **Moving Curbs**
 - ▶ Reduces crossing exposure
 - ▶ Improves comfort & convenience
- ▶ **Providing Median**
 - ▶ Improves capacity/safety/operations
 - ▶ Improves aesthetics
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- ▶ **Providing Signals**
 - ▶ Increases system delay
 - ▶ Doesn't assure progression of traffic
- ▶ **Providing Roundabouts**
 - ▶ Costs more to construct than signals

7. Next Steps

- ▶ **TAC/SAG input to PMT on the preferred alternative** Summer 2023
- ▶ **Public presentation of alternatives & evaluation results** Summer 2023
- ▶ **PMT decision on preferred alternative** Summer 2023
- ▶ **Further detailing and analysis of preferred alternative** Fall 2023
- ▶ **Phasing from near-term to long-term** Fall 2023
- ▶ **Final OR 99W South Corvallis Refinement Plan** Winter 2024

Questions/Comments?

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Thank You!