



DAVID EVANS
AND ASSOCIATES INC.

Value Planning the I-90 Corridor

For the Idaho Society of Professional Engineers (ISPE)

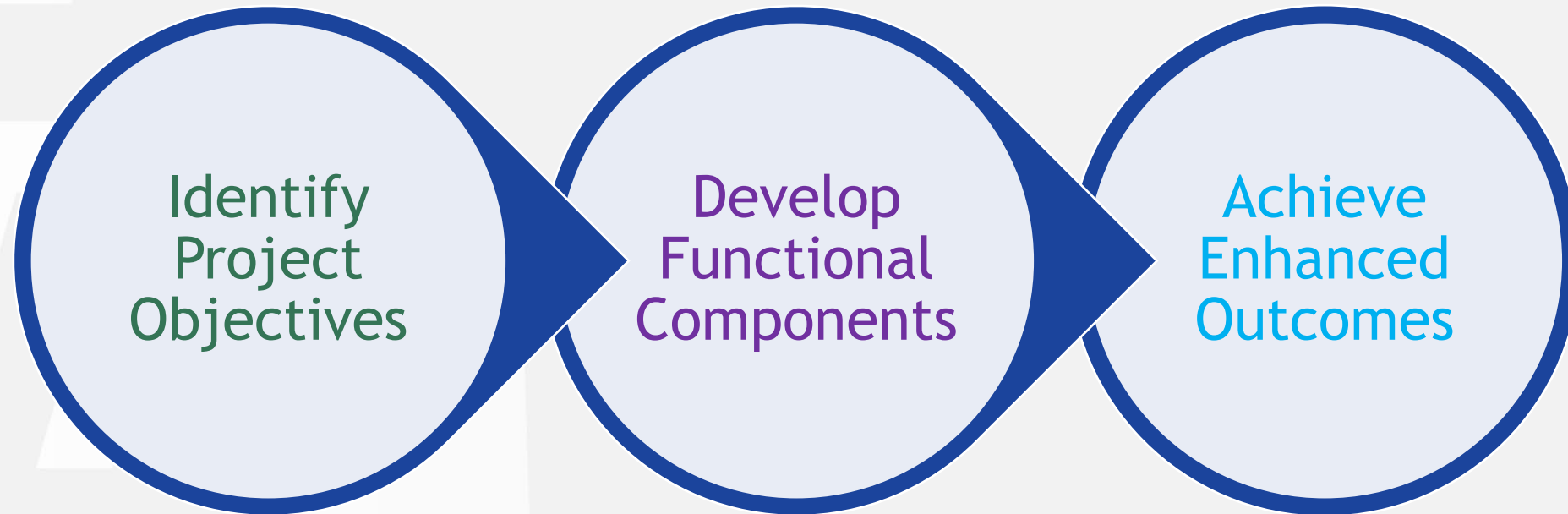
September 9, 2022

Presenter: Erika Bowen

Your Safety • Your Mobility • Your Economic Opportunity

What is Value Planning?

A process for developing infrastructure projects that maximizes value.



Is Value Planning a New Idea?

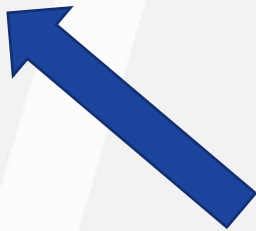
- Best practices
- Strategic planning
- Project management
- Leadership
- Critical problem solving
- Community Development



Why is Value Planning Important

- Challenges status quo from a perspective of unlearned assumptions
- Inclusion of diverse, critical thinking
- Open and fresh collaboration

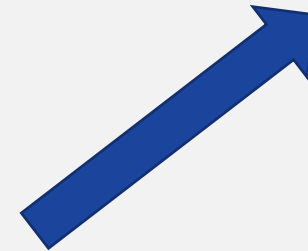
Financially Sustainable



Solving Problems



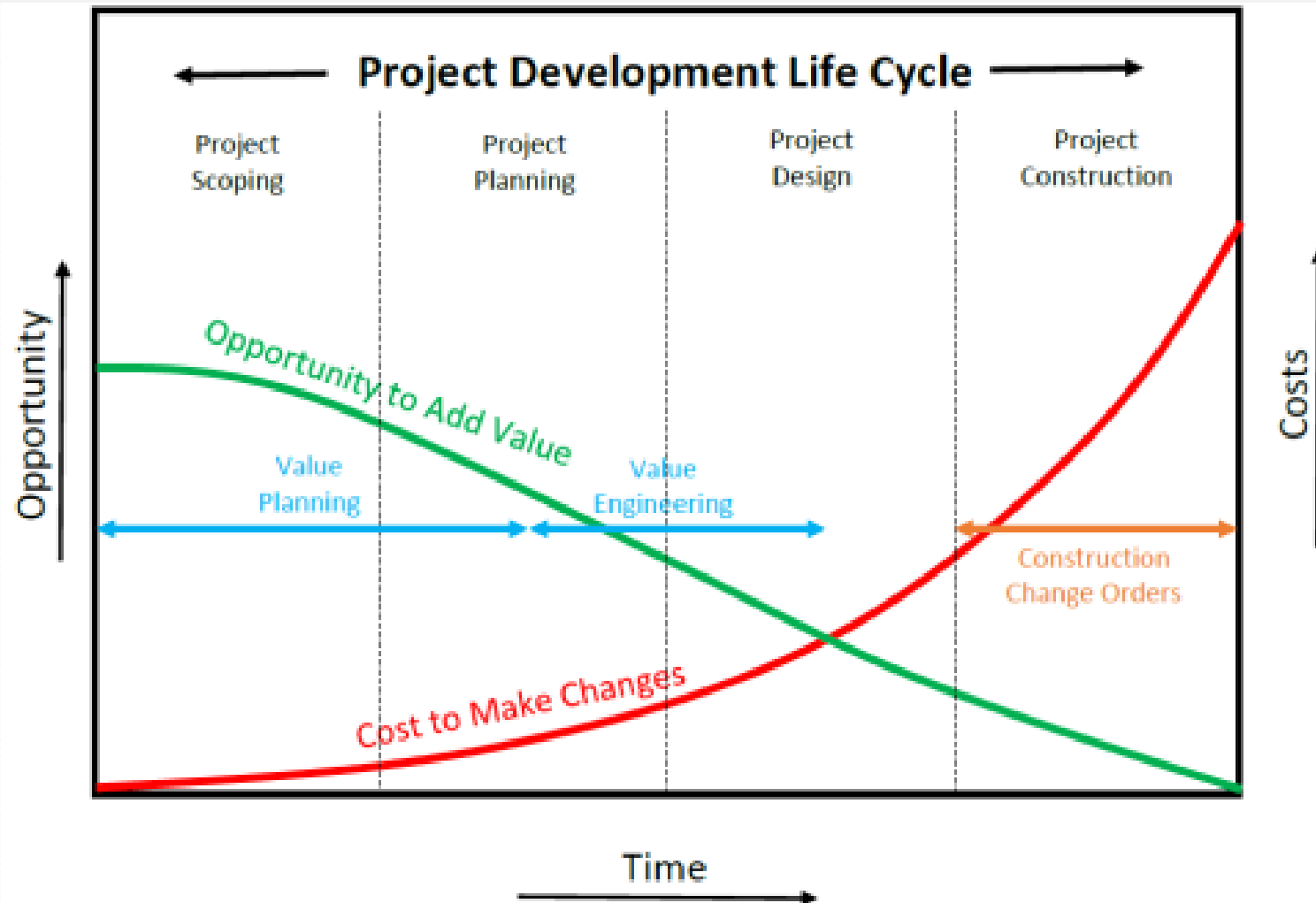
Operator Friendly



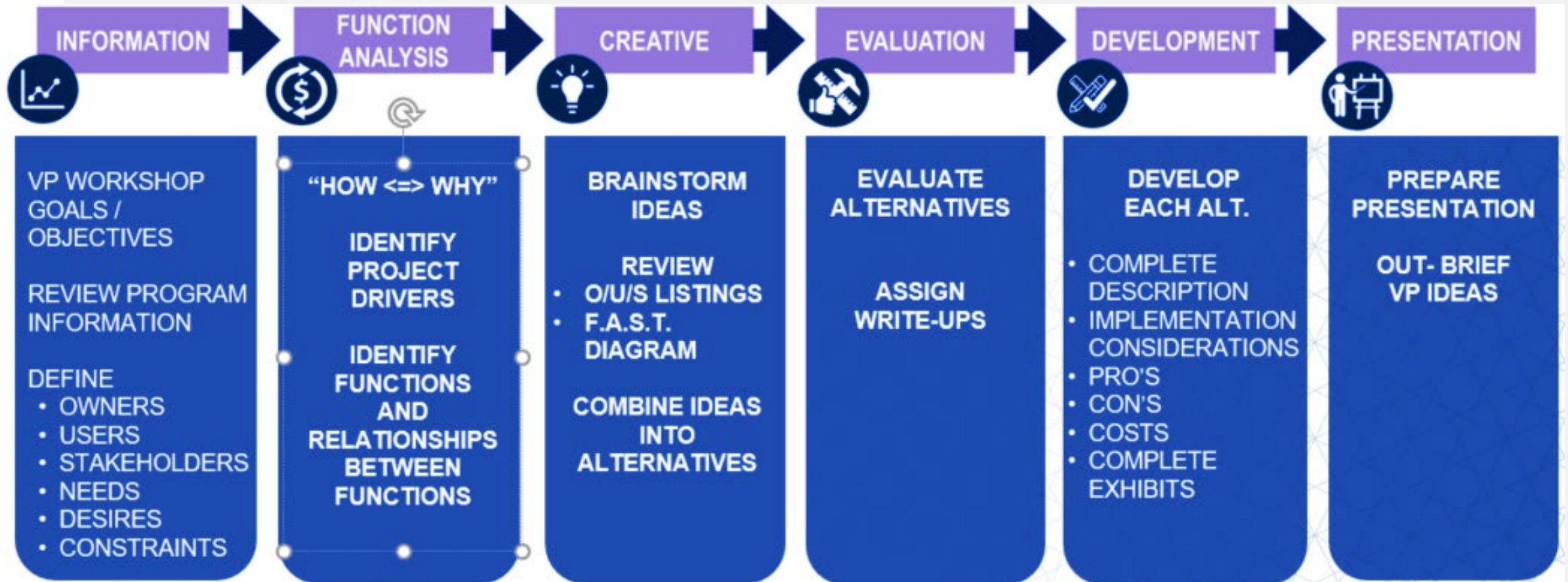
We want to build GOOD Projects



When to do Value Planning



Value Planning Process



Review Information



Project Background	Who is a Stakeholder?
Political, environmental, geotechnical conditions	Who uses your system
Local involvement and ownership	Who could oppose the project
Goals and objectives	Who could impact or delay the project
No “one size fits all” solutions	Who sees the project differently
Meaningful involvement of stakeholders	

Common Stakeholders

- Administrators
- Financial Staff
- Maintenance Staff
- Engineers
- Elected Officials
- Neighbors
- Tribes
- Environmental Groups
- Businesses
- Schools
- Emergency Services



Define Function Analysis

HOW
&
WHY

- Ask “**WHAT**” needs to be accomplished
 - Improve flow, Accommodate growth, Reduce confusion, Optimize wayfinding
- Question assumptions
 - How do you know that
 - How certain are you
 - What happens if you’re wrong
- Identify the **REAL** Problem/Need
 - Look for root causes, not symptoms
 - Build a Function Diagram

KEY TIP

- Fully define the problem before working on a solution

Get Creative




FIND
MORE
OPTIONS

- Record all the ideas
- No judgement on ideas
- Take your time AND take breaks
- Listen to the “nobody will do that” ideas
- Include different backgrounds and perspectives
- The “No Action” alternative
- “Thinking Outside The Box” is really just being able to see a larger box
- Share pre-prepared ideas (once brainstorming lulls) to spark new ideas



Evaluate Ideas/Alternatives

- Does this option solve (all or part) of the problem?
- Combine options into Alternatives
- Define Evaluation Criteria
 - Operations
 - Effort to Implement
 - How much of the problem is solved
 - Risk
 - Other Benefits
- Weight Evaluation Criteria

-  Accept
-  Reject
-  Design Suggestion

Corridor Consistency	Operational Performance	Forward Compatibility / Flexibility	Constructability	Deliverability		RAW SCORE	*RATING	
A	B	C	D	E				
A	B4	C2	A3	A3	A	6	3	Corridor Consistency
	B	B2	B5	B3	B	14	5	Operational Performance
		C	C1	C2	C	5	2	Forward Compatibility / Flexibility
			D	E0	D	0	1	Constructability
				E	E	0	1	Deliverability

Develop Each Alternative

- Write-up description
- Implementation considerations
 - Pro's
 - Con's
 - Costs
- Create Exhibits



Present Alternatives

- Engage Stakeholders
 - 1:1 with key stakeholders (municipalities, highway districts, etc.)
 - Community/group meetings (business community, neighborhood assc., etc.)
 - Open Houses
- Gather and Synthesize Feedback
 - Document common feedback to influence alternative refinement
- Refine alternatives



I-90, WASHINGTON STATE LINE
TO SHERMAN AVENUE

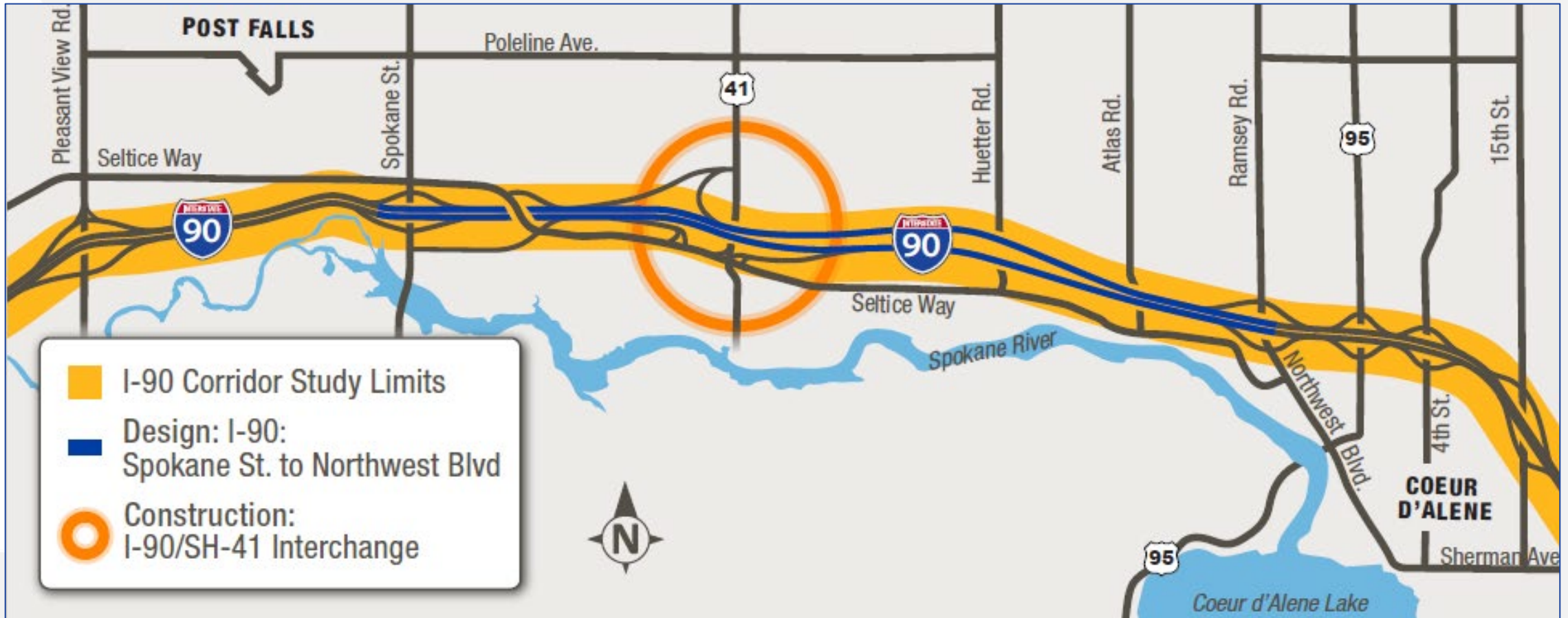


Corridor Study

**I-90 Corridor
Study**

Washington State Line to CDA

I-90, WA Stateline to Sherman Ave



I-90 Corridor Study

- Study to include additional through lanes, auxiliary lanes, bridge improvements, and interchange and ramp improvements.
 - 2045 planning horizon
- Value Planning Sessions
 - NW Blvd, US-95 and 4th Street Interchanges
 - Spokane St and Seltice Way Interchanges
- Public Meeting (Nov 1st and 2nd in Post Falls and CDA)
- Anticipated Environmental Approval (Spring 2023)
- Estimated cost for corridor-wide improvements = \$600M - \$775M

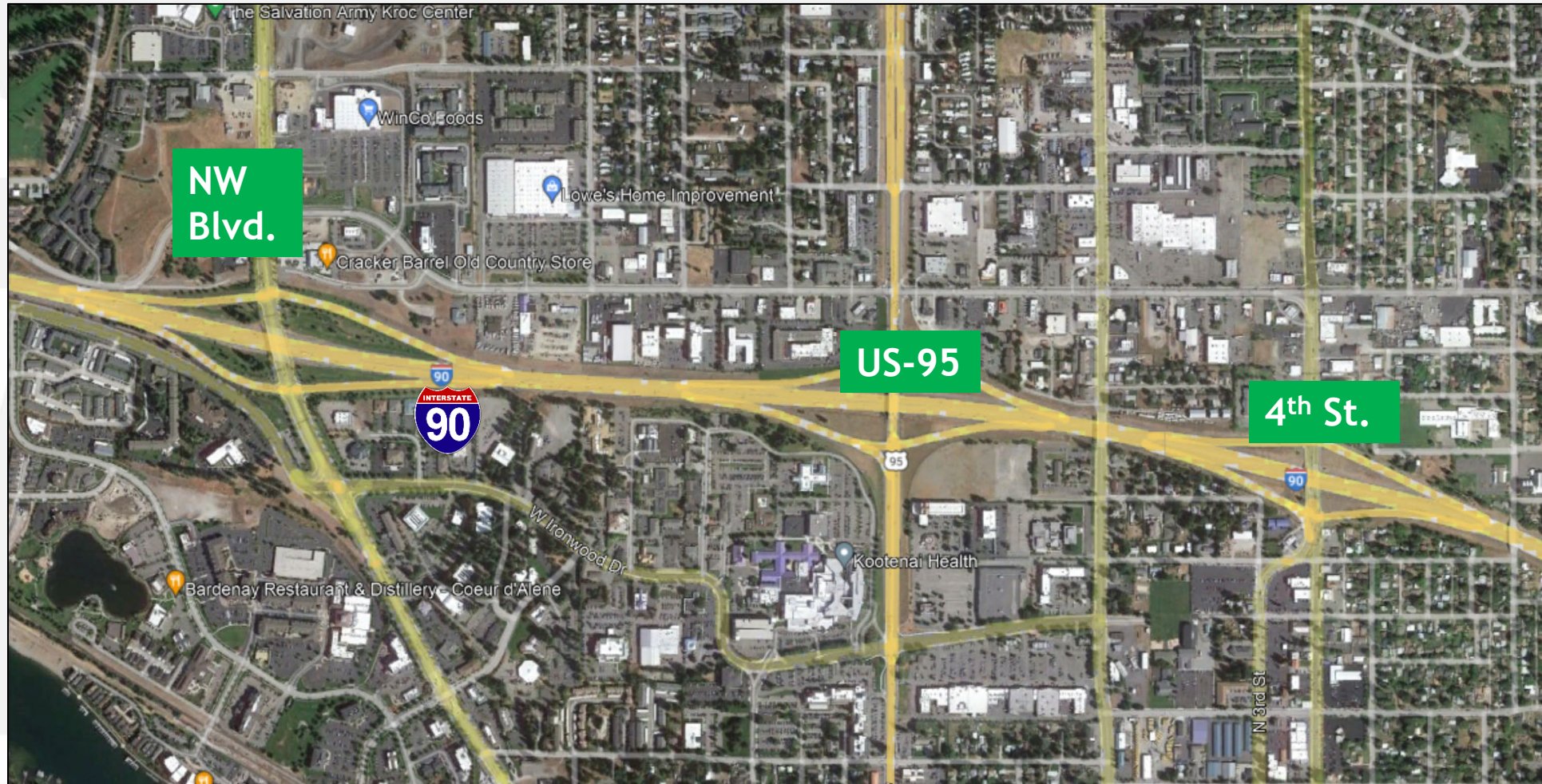


VP Session #1

*I-90 from NW Blvd. to 4th Street
(Coeur d'Alene)*

Value Planning Session #1:

I-90 from NW Blvd. to 4th Street



Your Safety • Your Mobility • Your Economic Opportunity



Corridor Concerns: Narrow Bridges



I-90 Looking East

Your Safety • Your Mobility • Your Economic Opportunity



Corridor Concerns: I-90 Merges and Exits

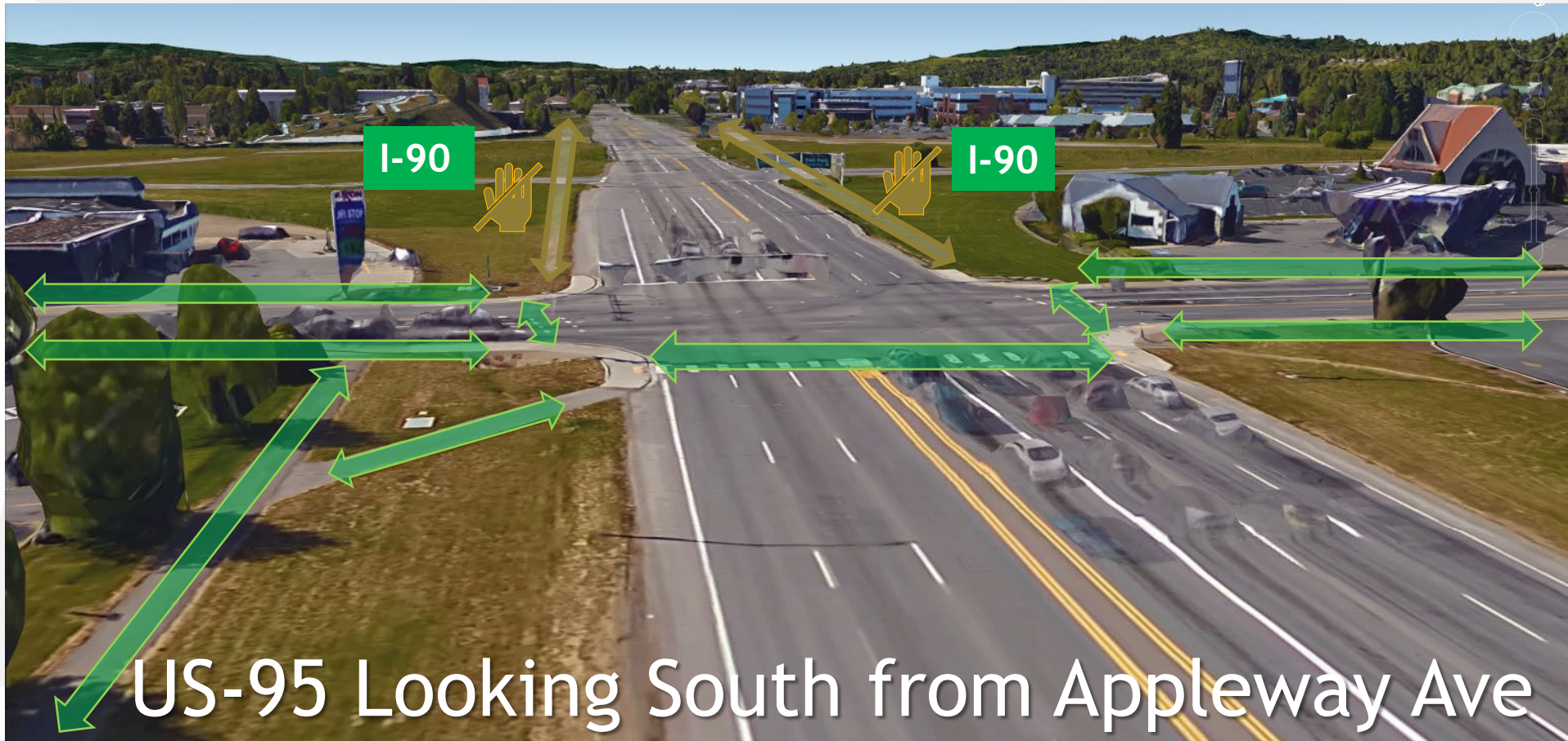


Your Safety • Your Mobility • Your Economic Opportunity



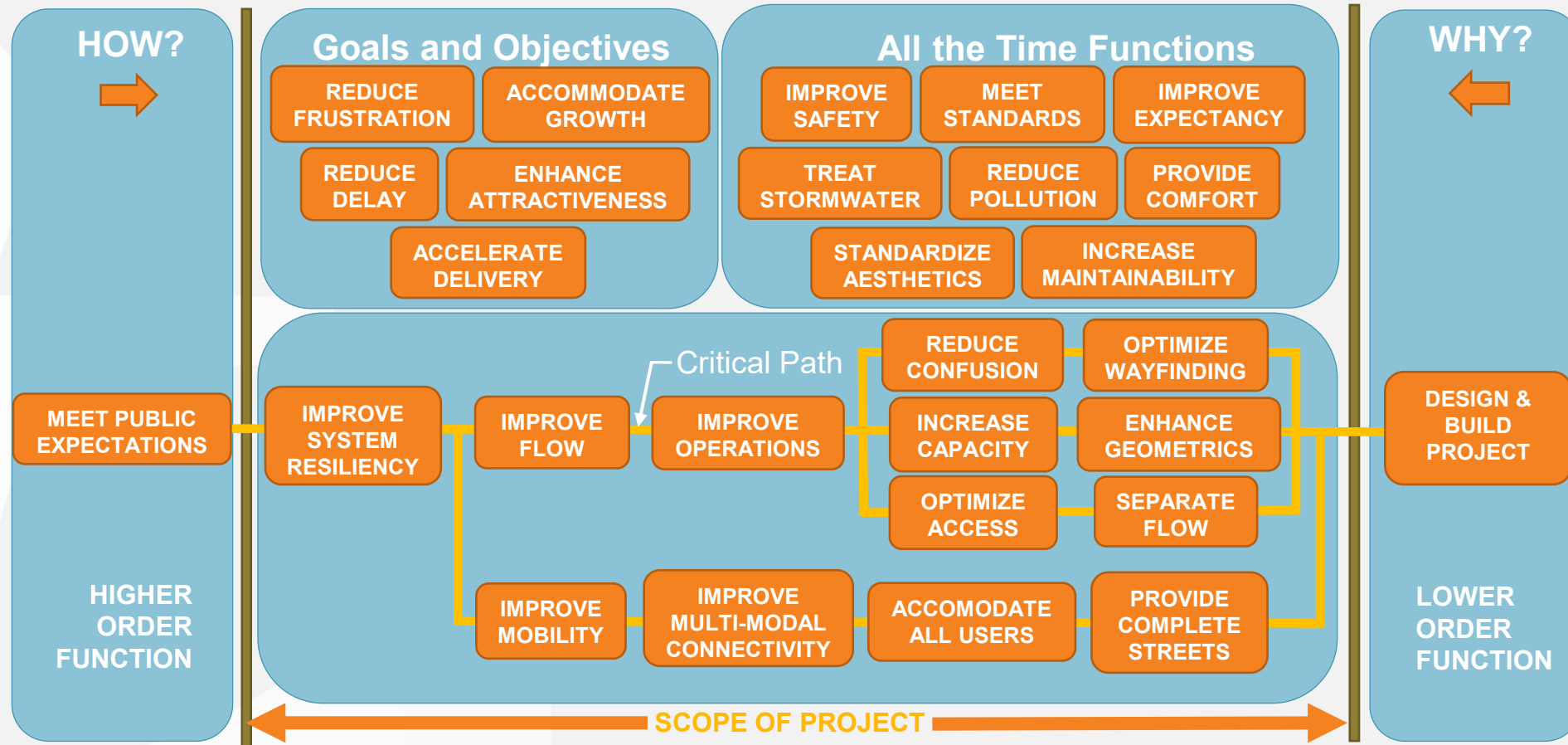
Corridor Concerns:

Lack of North/South Pedestrian Access

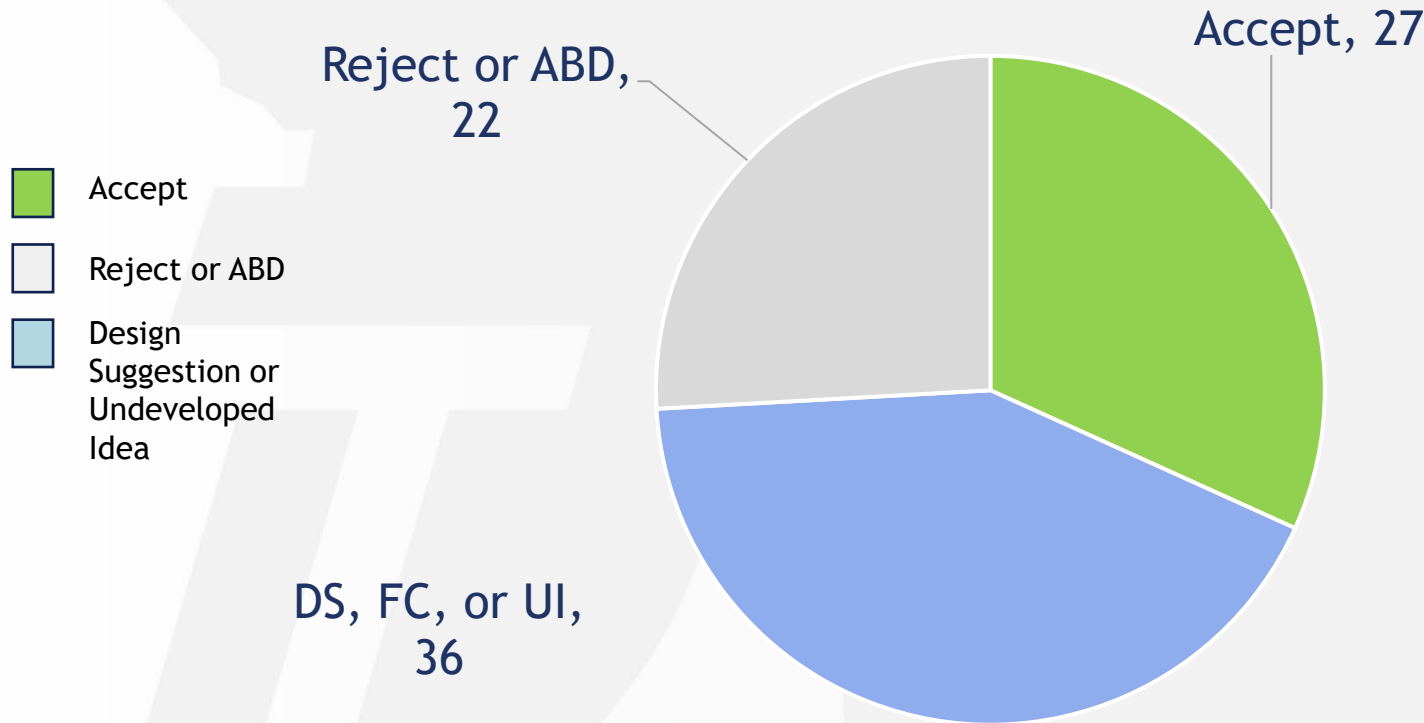


US-95 Looking South from Appleway Ave

Function Diagram



Creative Ideas & Evaluation Summary



Accepted Ideas:

Mainline Ideas	= 3
Non-Interstate Roads	= 3
Ramp Ideas	= 12
Bridge Ideas	= 5
Pedestrian & Bike Ideas	= 4
Total	= 27

Potential Ideas:

Design Suggestions	= 25
Future Considerations	= 5
Undeveloped Ideas	= 6
Total	= 36

Rejected Ideas:

Rejected Ideas	= 22
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Total Ideas = 85

Acceptance Evaluation

A	Accept	ASA	Accept for Select Alternative
DS	Design Suggestion	UI	Undeveloped Idea
FC	Future Consideration		
R	Reject		
ABD	Already being done		

Reasons for Rejection

R1	Reject as outside of scope
R2	Reject as not workable
R3	Reject as does not add value
R4	Reject as duplicate



Alternatives

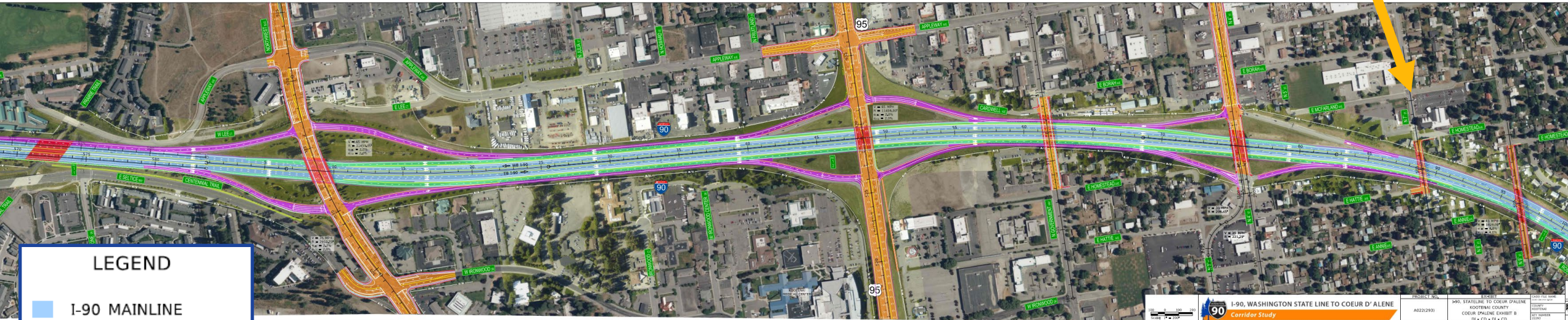
	NW Blvd Interchange	Ramps NW to 95	US-95 Interchange	Ramps 95 to 4th	Design Criteria	Corridor Consistency	Operational Performance	Forward Compatibility	Constructability	Deliverability	Total Score	Estimate Construction Cost						
													Wt. from criteria matrix	A	B	C	D	D
													3	5	2	1	1	
Excellent -5																		
Very Good -4																		
Good -3																		
Fair -2																		
Poor -1																		
Alt B:	DI	C-D	DI	C-D		3	4	3	3	4	42	\$214M						
						9	20	6	3	4								
Alt C:	DI	Auxiliary	DI	C-D		5	3	4	3	5	46	\$200M						
						15	15	8	3	5								
Alt E:	DI	Auxiliary	TDI	C-D		4	3	3	4	3	40	\$215M						
						12	15	6	4	3								
Alt G:	DI	Frontage	DI	S-D		3	4	2	3	3	39	\$220M						
						9	20	4	3	3								
Alt I:	SPUI	Auxiliary	SPUI	C-D		4	5	5	5	3	55	\$244M						
						12	25	10	5	3								

Similar with minor variations



Alternatives B / C / E

Does 7th Street Bridge need to be replaced?



LEGEND

- I-90 MAINLINE
- C-D ROAD
- INTERCHANGE RAMP
- CROSSROAD
- NEW STRUCTURE
- CENTENNIAL TRAIL

**Diamond
Interchange**

**C-D
Or
Auxiliary**

**Diamond
Interchange
Or
Tight Diamond
Interchange**

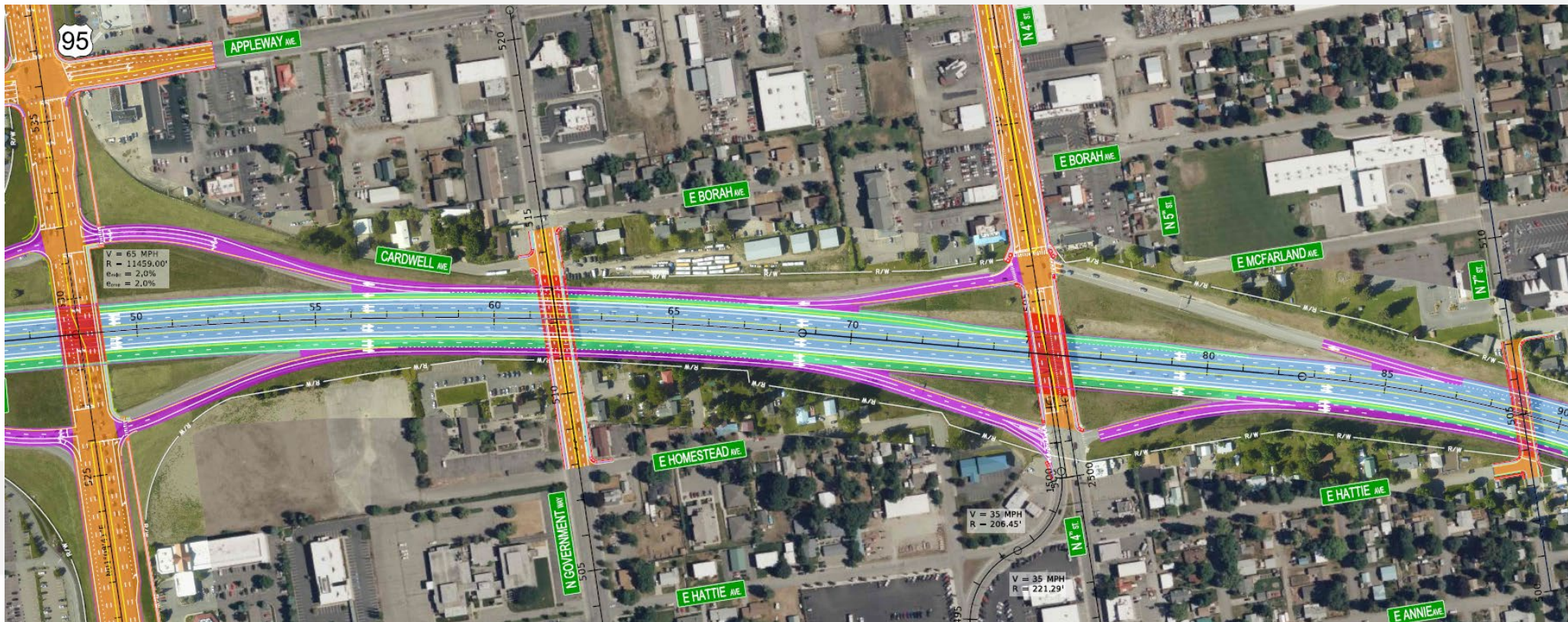
C-D

**Diamond
Interchange**



What's a Collector-Distributor Road (C-D)?

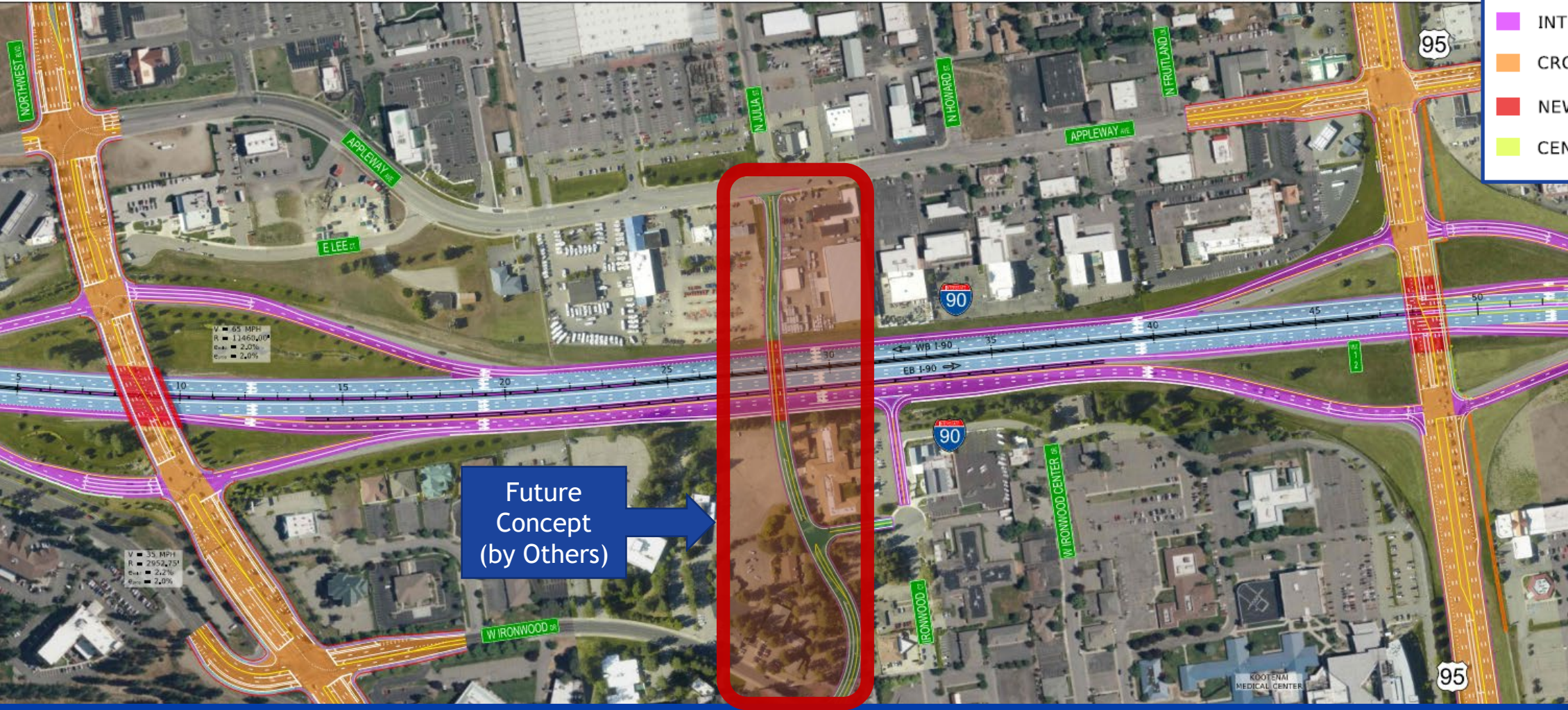
- A supplemental facility between mainline traffic and the ramps and the frontage roads.
- Moves the weaving and lane changing away from the high-speed traffic on the mainline.



Frontage Concept

LEGEND

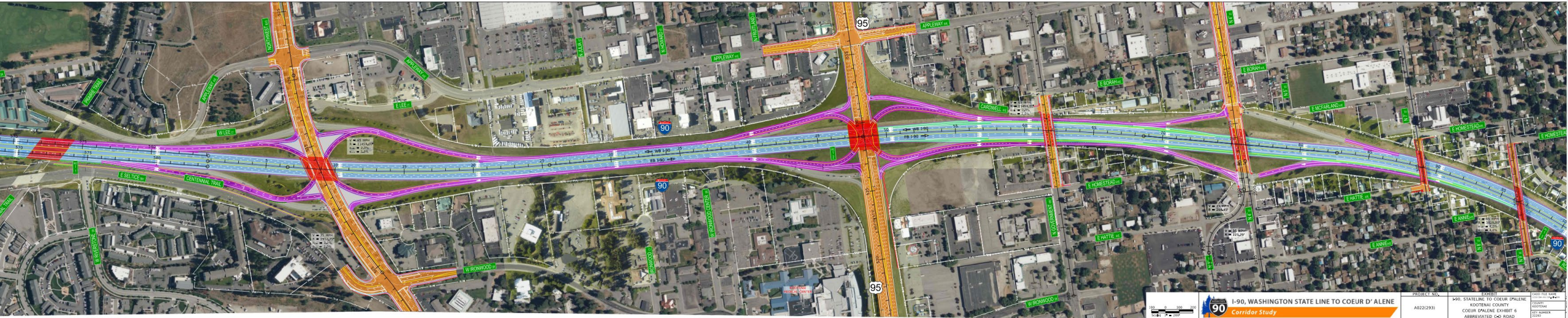
- I-90 MAINLINE
- C-D ROAD
- INTERCHANGE RAMP
- CROSSROAD
- NEW STRUCTURE
- CENTENNIAL TRAIL



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Alternative I



Single Point
Urban
Interchange

Aux

Single Point
Urban
Interchange

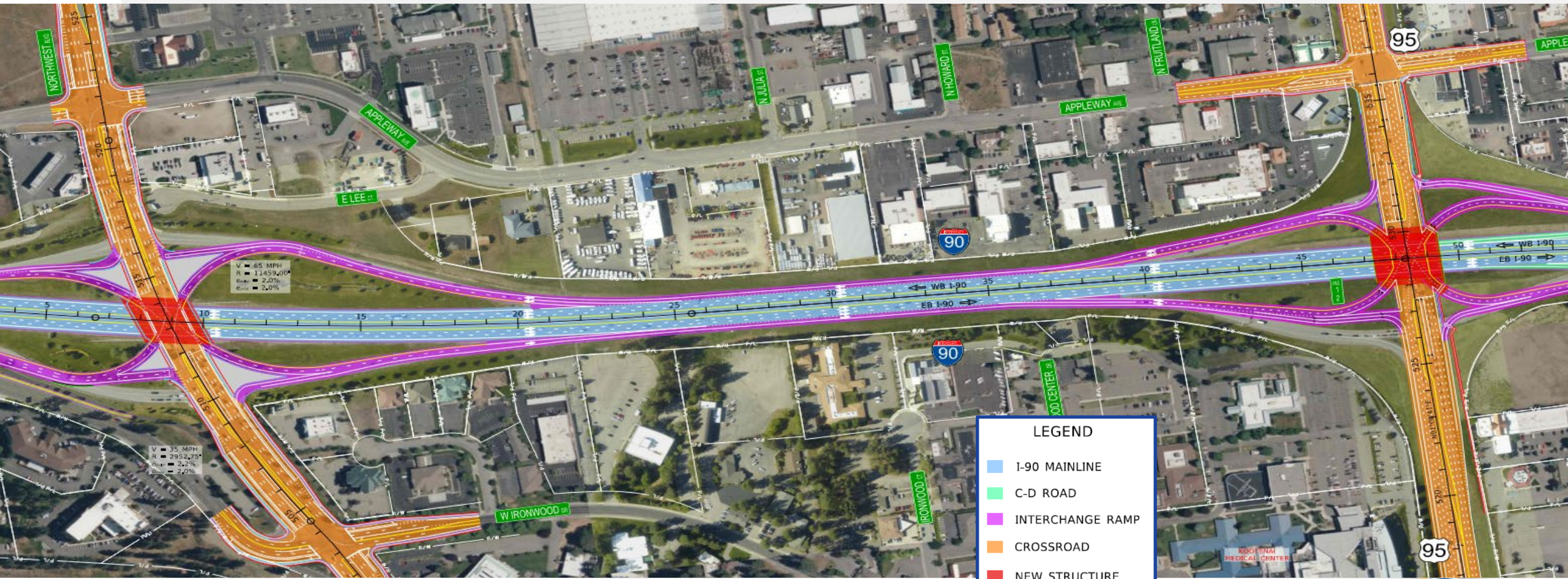
C-D

Diamond
Interchange

Your Safety • Your Mobility • Your Economic Opportunity



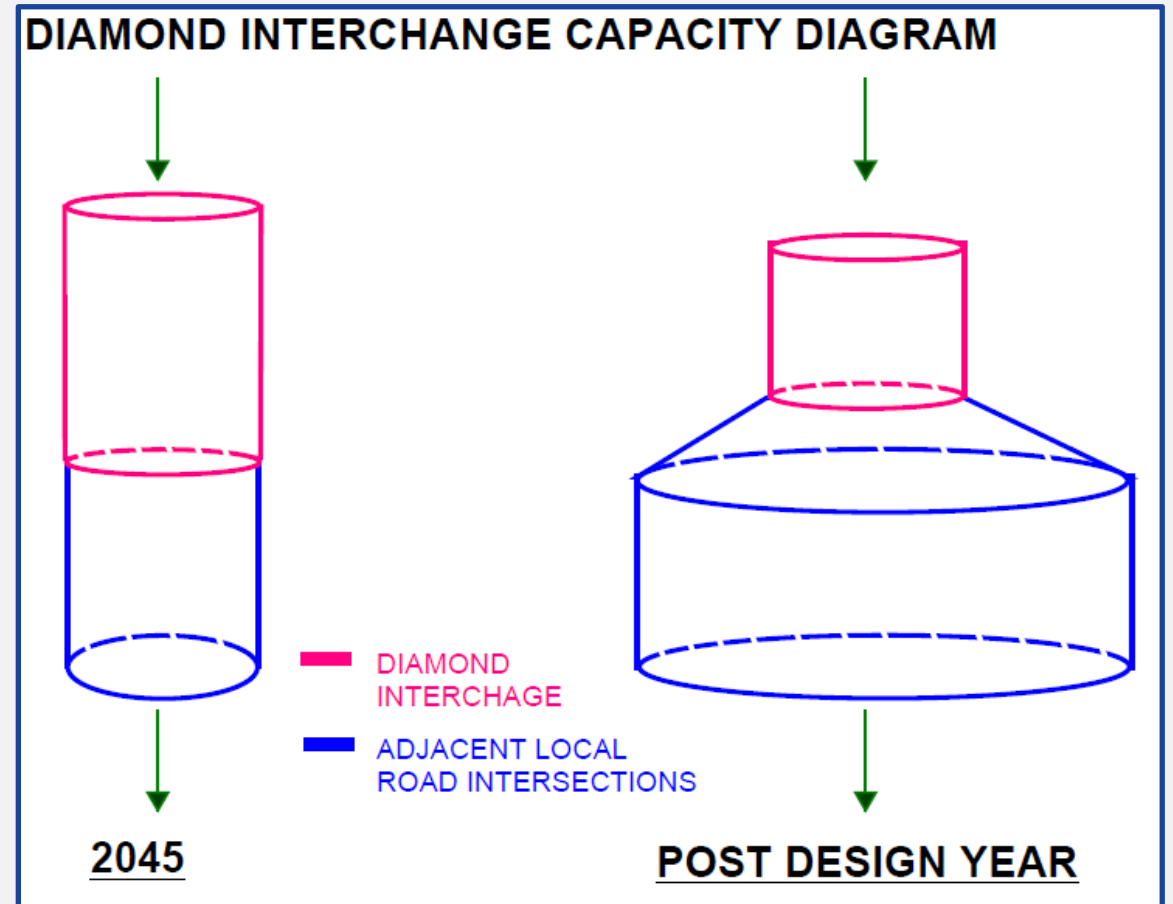
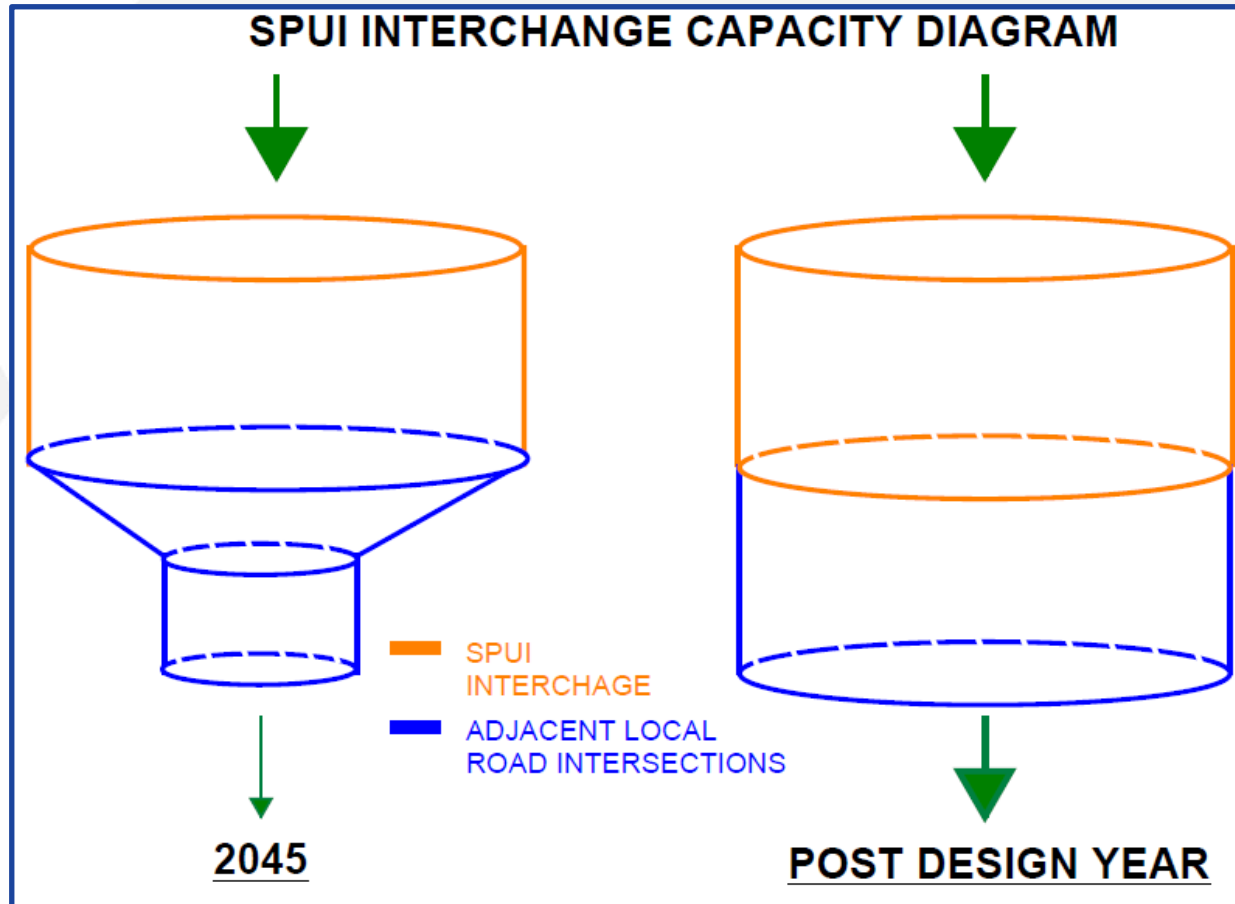
SPUI: NW Blvd and US-95



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SPUI vs Diamond Capacity

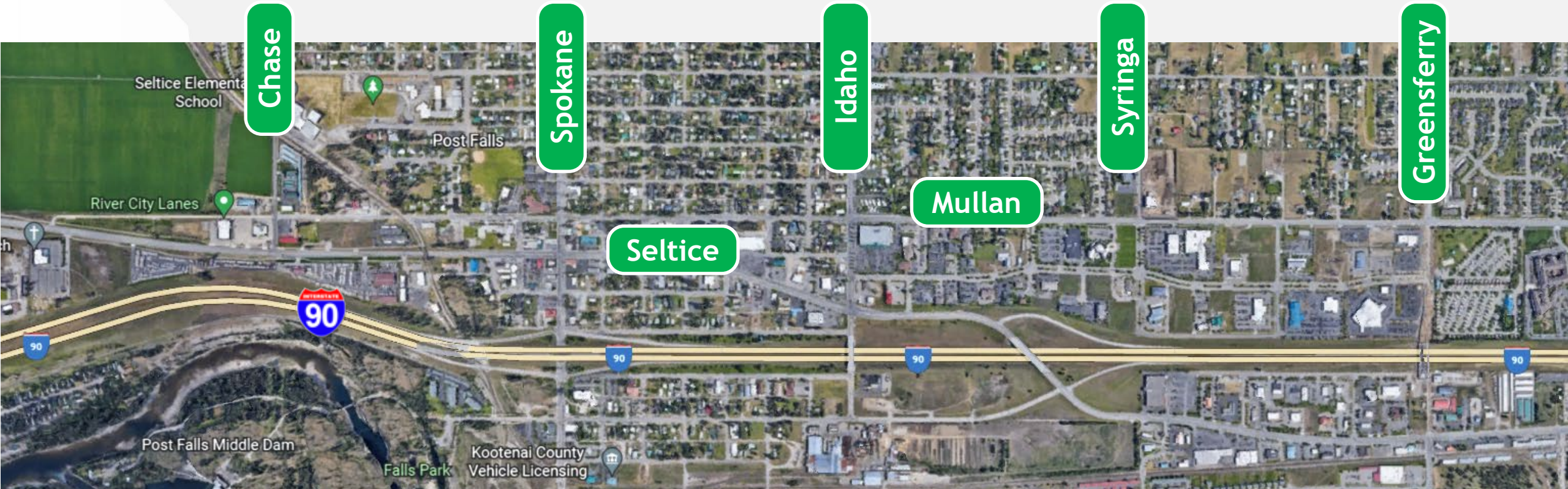




VP Session #2

Post Falls

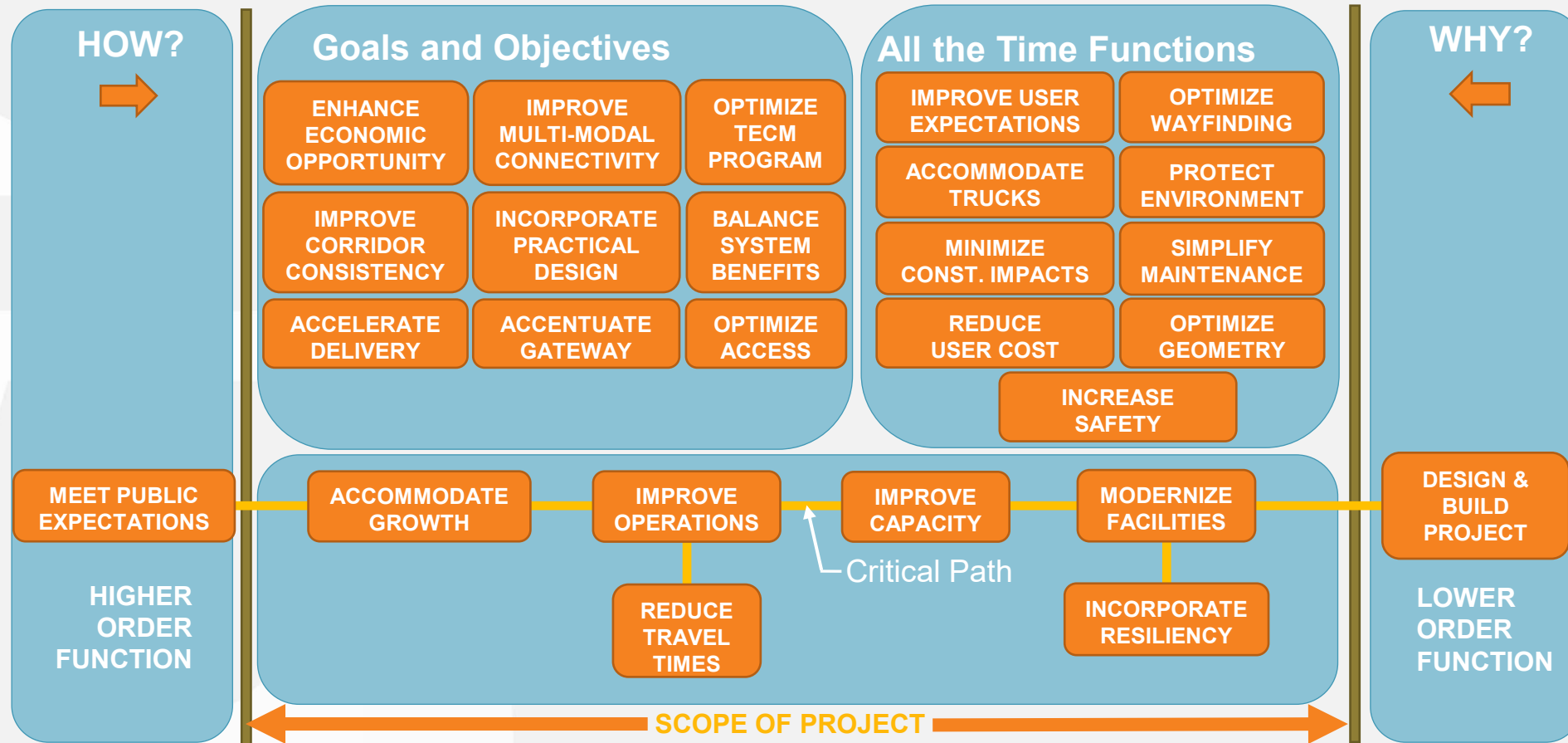
Value Planning Session #2: Post Falls



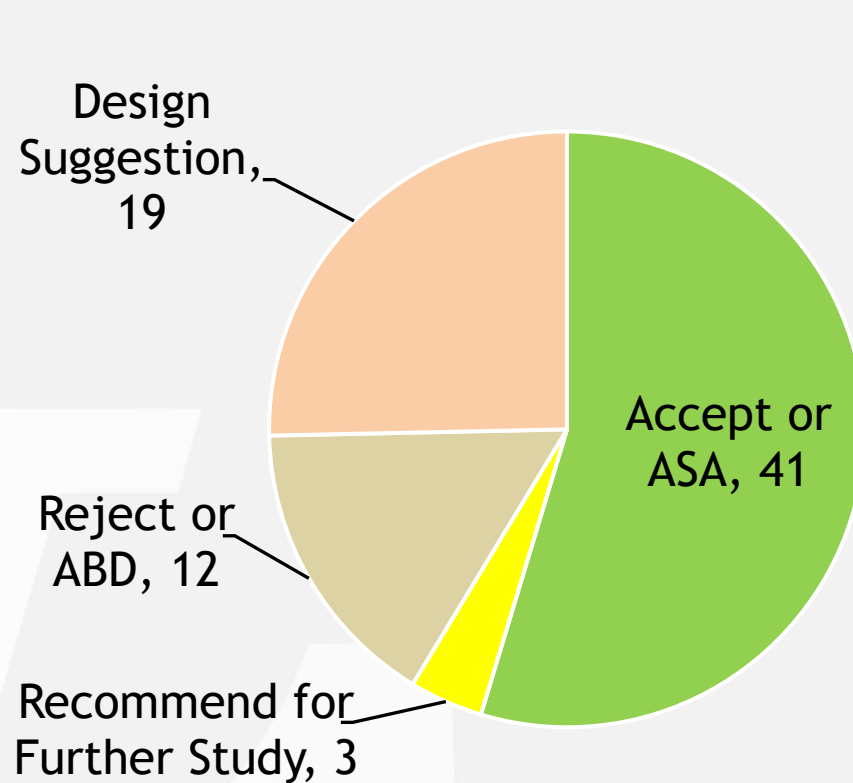
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Function Diagram: I-90 at Post Falls



Creative Ideas w/ Evaluation Summary



- Accept
- Recommend for Further Study
- Design Suggestion
- Reject or ABD

Accepted Ideas	= 41
Recommend for Further Study	= 3
Design Suggestion	= 19
Reject or Already Being Done	= <u>12</u>
Total Ideas	= 75

Acceptance Evaluation

A	Accept
ASA	Accept for Select Alternative(s)
RFS	Recommended for Further Study
DS	Design Suggestion
R	Reject
ABD	Already Being Done

Reasons for Rejection

R1	Reject as outside of scope
R2	Reject as not workable
R3	Reject as does not add value
R4	Reject as duplicate



Alternatives

						Design Criteria	Operational Performance	Network and Access	Owner/Operator Flexibility	Deliverability	Total Score	Estimated Construction Cost
	Spokane	Ramps Spokane to Seltice	Seltice	Ramps Seltice to Greensferry	Greensferry	Wt. from criteria matrix	A	B	C	D		
							4	5	1	2		
Alt 1:	DI	Auxiliary	DI	Auxiliary	O-Pass	3	3	4	4	39	\$78M	
Alt 7A:	TDI	Auxiliary	TDI	Auxiliary	O-Pass	4	3	4	4	43	\$90M	
Alt 10:	SD	C-D	Idaho SD Syringa SD	C-D	O-Pass	3	5	4	1	43	\$150M	
							9	20	6			
							15	15	8	5		
							12	15	6	3		



Alt 1: Full Seltice IC with Signalization

LEGEND

- I-90 MAINLINE
- C-D ROAD
- INTERCHANGE RAMP
- CROSSROAD
- NEW STRUCTURE
- CENTENNIAL TRAIL



Spokane St
Diamond Interchange

Aux
Ramps

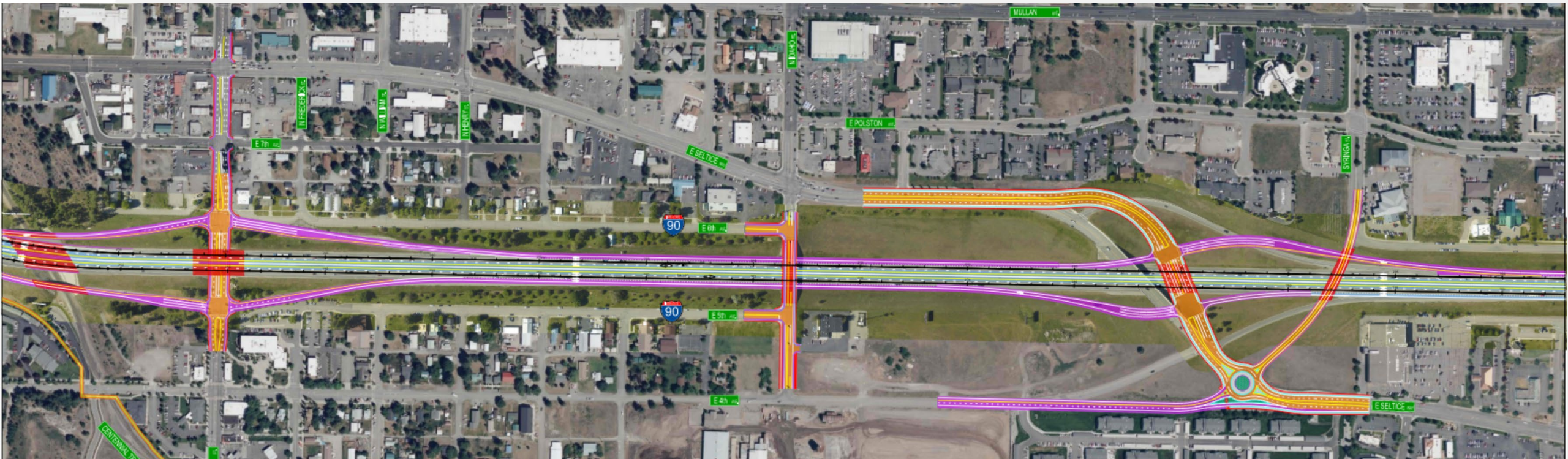
Idaho St
Overpass

Seltice Way
Diamond Interchange

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Alt 7A: TDI Spokane & Seltice, Syringa Overpass



Spokane St
TDI

Aux
Ramps

Idaho St
Overpass

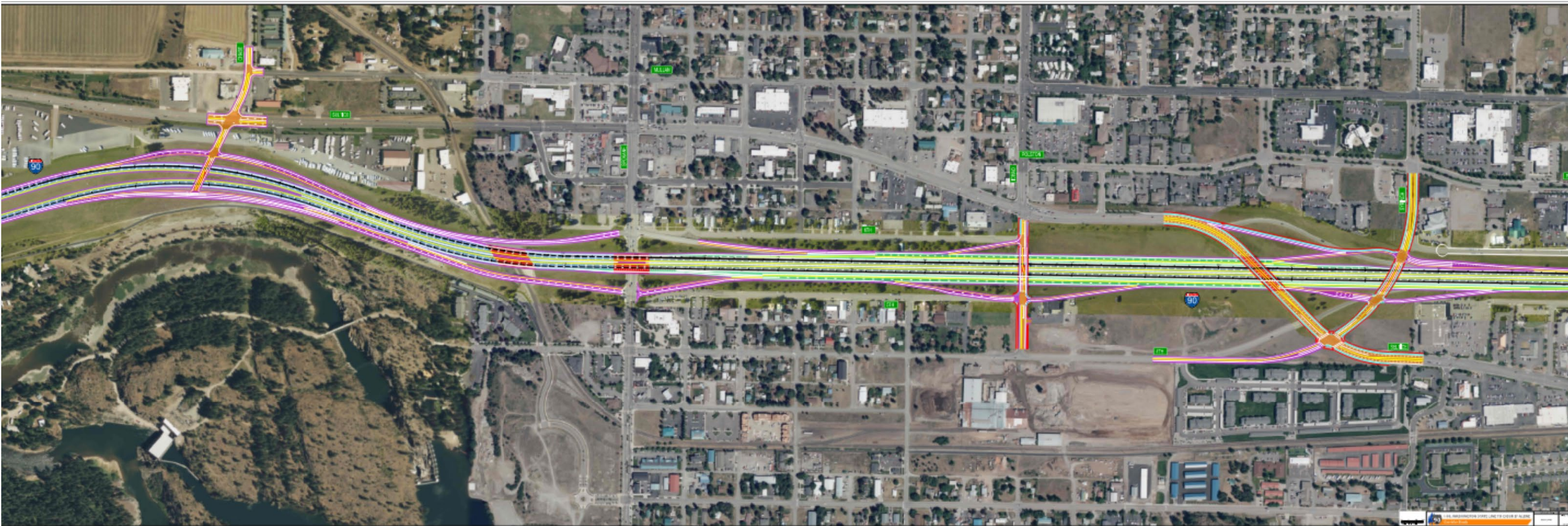
Seltice Way
TDI

Syringa
Overpass

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Alt 10: Chase and Syringa IC's with C-D Roads



Chase Rd
SD

C-D
Ramps

Spokane St
SD

C-D
Ramps

Idaho St
SD

Seltice Way
O-Pass

Syringa St
SD

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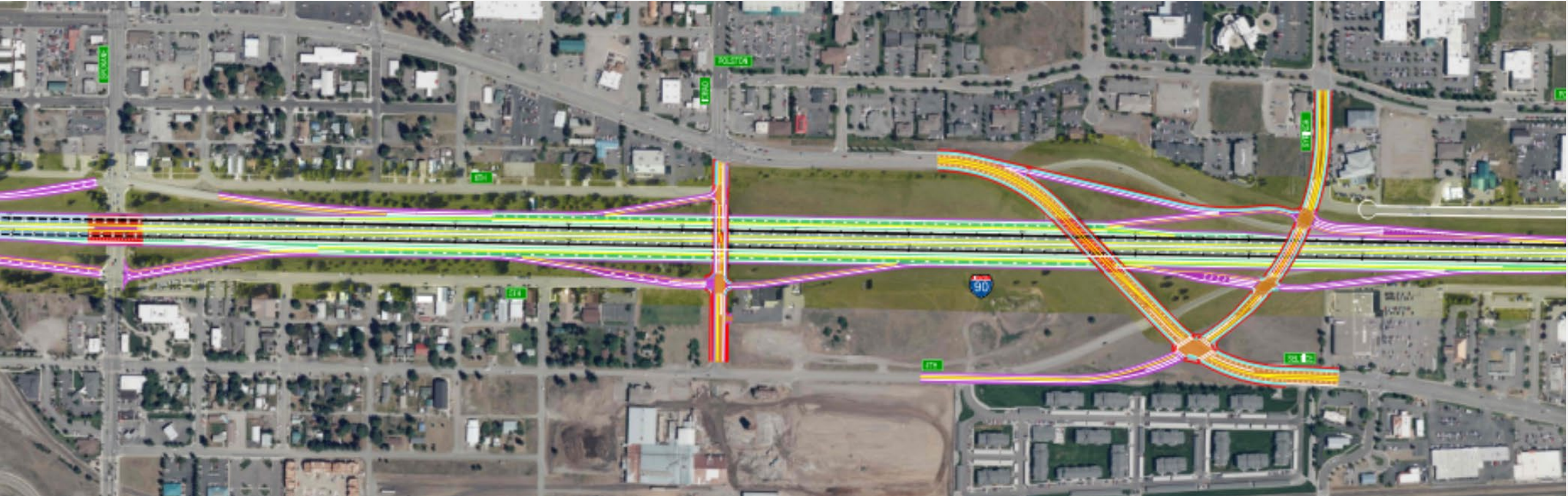
Chase Interchange



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Syringa Interchange



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Post Falls Value Planning Recommendations

ITD Executives Posed a Challenge

- Add Chase Interchange to any alternative?
- What if you removed Seltice overpass?
- Don't be afraid to look beyond I-90 for system wide improvements.



Next Steps

- Public Open House Meeting
 - Nov 1st - Post Falls
 - Nov 2nd - CDA
- Environmental Document Approval (Spring 2023)
- I-90 Widening Design (PS&E Spring 2024)





Questions?

For more information, visit:

<https://itdprojects.org/projects/i90corridor>

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I-90 Mainline Widening - Spokane St to NW Blvd

- Construction currently unfunded
- Multiple construction packages
- Construction anticipated in 2024
- 2+ years of construction
- Forward compatible with future interchange improvements

