

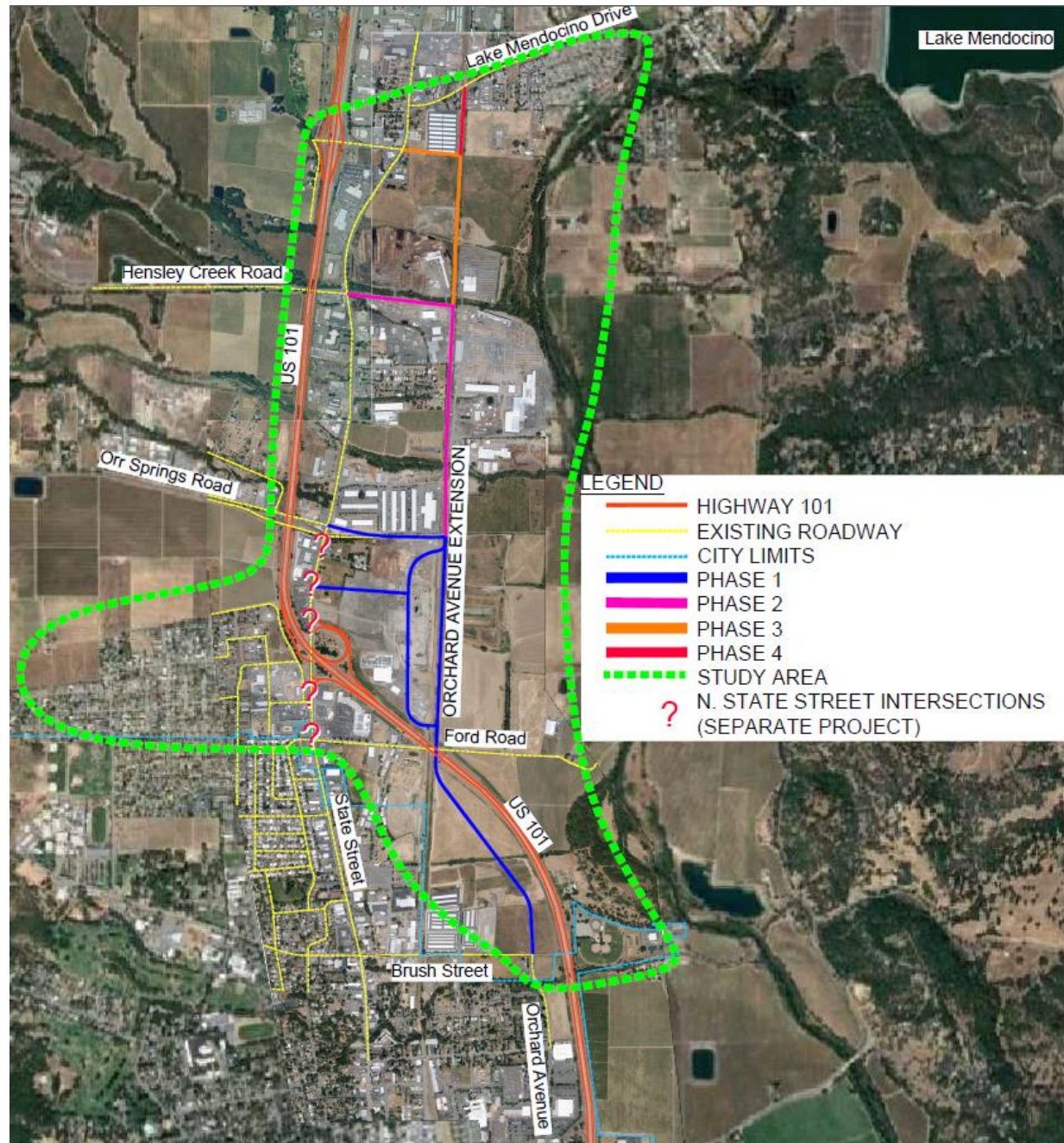


Orchard Avenue Extension Feasibility Study

Mendocino County | GHD

Board of Supervisors Presentation

February 4, 2020



Agenda

- Project Introduction
- Traffic Analysis
- Environmental Studies
- Preferred Alternative
- Project Phasing
- Next steps



Introduction



Project Delivery Process



Purpose and Need

Need:

North State Street and US 101 experience large queueing and congestion impacting delivery and emergency response times. In addition, there is currently only one designated truck route within the study area (North State Street) as US 101 has a vehicle height restricted structure crossing.

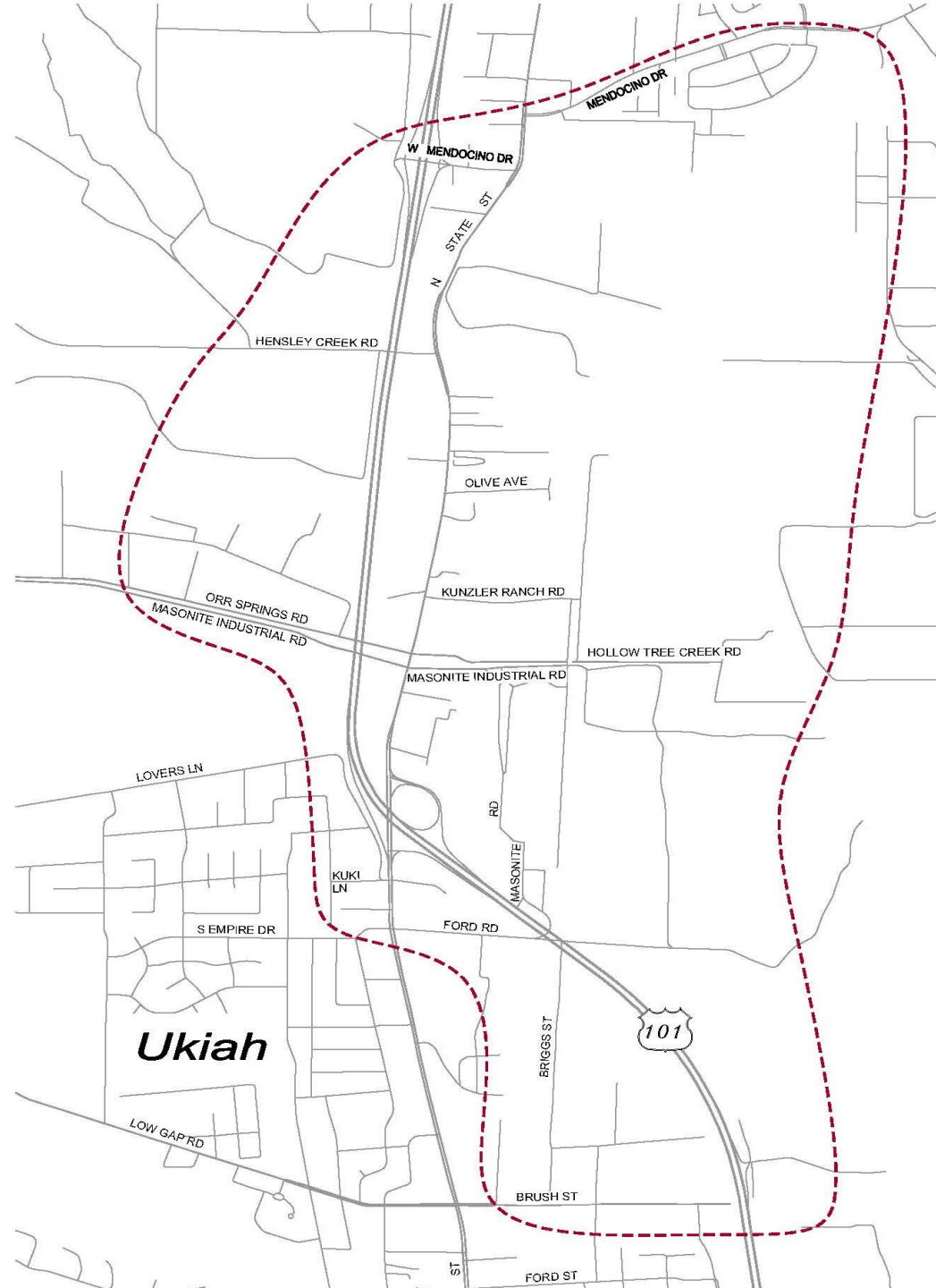
Purpose:

The purpose of this study is to assess the feasibility and cost of improvements for an alternate north-south route through the Greater Ukiah Valley area to improve traffic operations, multi-modal connectivity, and improve safety. As Mendocino County continues to develop and grow in population, the congestion will continue to grow along thoroughfares. The extension would alleviate congestion along North State Street and US 101 through Mendocino County.

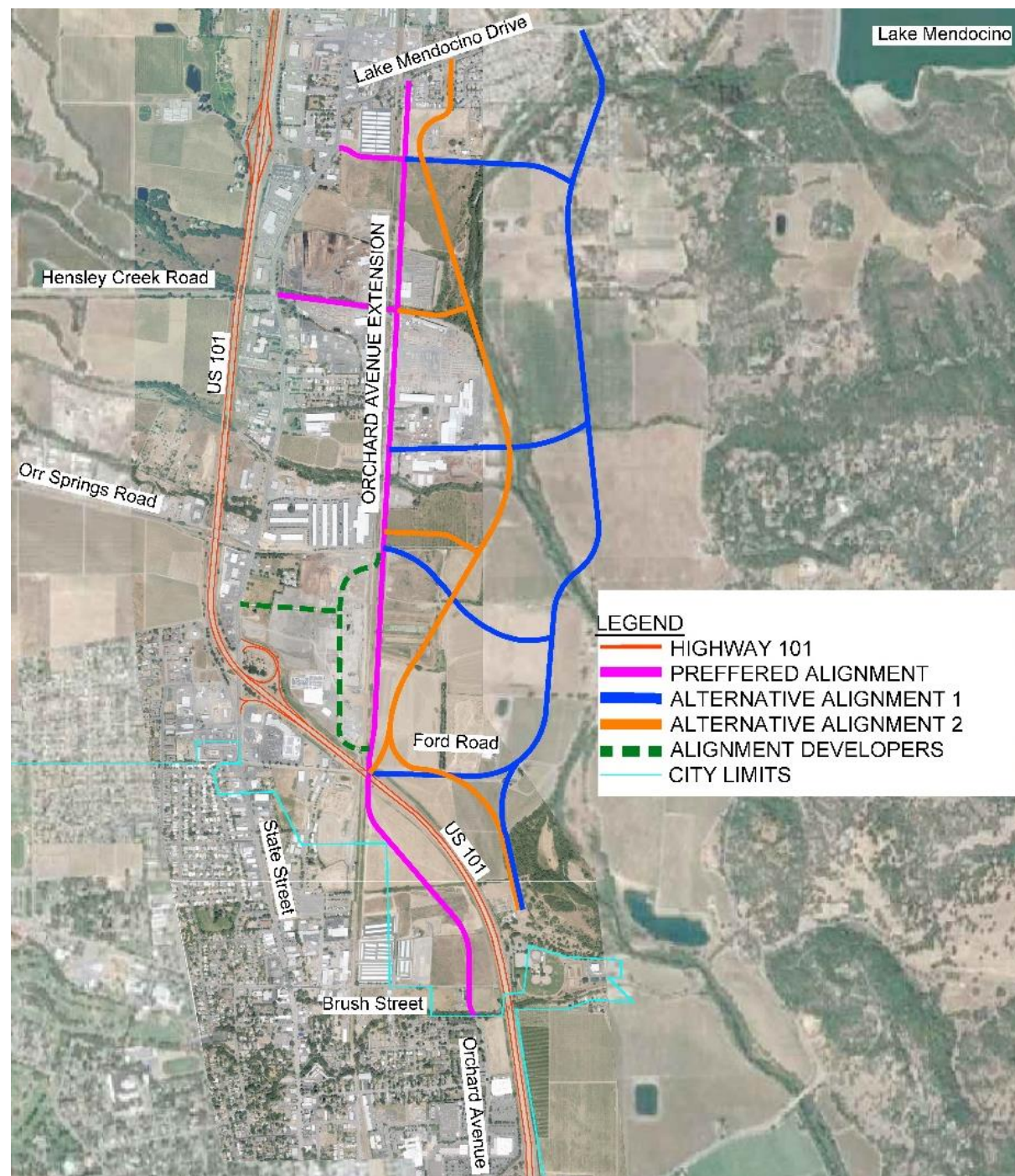
Additionally, there are vacant parcels with planned developments within the study area including the Liberty Site and various industrial, commercial, and residential zoned parcels. In order to move forward with development, Orchard Avenue extension would provide access to the County's roadway/highway network. The extension would also provide sidewalks and bike lanes to provide connectivity for non-motorized modes of transportation.



Study Area



Study Alternatives



Traffic Analysis



Study Intersections



Level of Service

#	Intersection	Control Type ^{1,2}	Target LOS	AM Peak Hour			PM Peak Hour		
				(Seconds) Delay	LOS	Warrant Met? ³	(Seconds) Delay	LOS	Warrant Met? ³
1	Lake Mendocino Dr & N State St	Signal	C	19.5	B	-	12.2	B	-
2	Hensley Creek Rd & N State St	SSSC	C	19.7	C	-	14.3	B	-
3	Olive Ave & N State St	SSSC	C	48.5	E	No	32.2	D	No
4	Kunzler Ranch Rd & N State St	SSSC	C	114.7	F	No	80.6	F	Yes
5	Orr Springs Rd & N State St	SSSC	C	26.1	D	No	19.6	C	-
6	US 101 NB Ramps & N State St	SSSC	C	109.1	F	Yes	32.8	D	Yes
7	US 101 SB Off Ramp & N State St	SSSC	C	158.5	F	Yes	28.6	D	Yes
8	US 101 SB On Ramp & N State St	SSSC	C	4.1	A	-	6.4	A	-
9	Kuki Ln & N State St	Signal	C	14.4	B	-	26.6	C	-
10	Empire Dr/Ford Rd & N State St	Signal	C	46.8	D	-	37.7	D	-
11	Ford Rd & Masonite Rd	SSSC	C	5.7	A	-	5.7	A	-
12	Low Gap Rd/Brush St & N State St	Signal	C	8.7	A	-	8.7	A	-
13	Brush St & Orchard Ave	SSSC	C	10.5	B	-	6	B	-
14	Ford St & N State St	SSSC	C	18.2	C	-		C	-
15	Ford St & N Orchard Ave	SSSC	C	9.7	A	-		A	-
16	Kuki Ln & Lovers Ln	SSSC	C	15.7	C	-		B	-

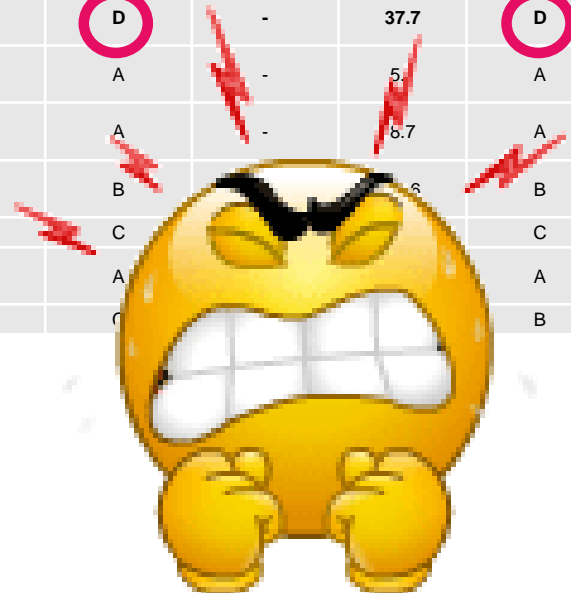
Notes:

1. SSSC = Side Street Stop Control

2. TWSC = Two Way Stop Control

3. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for Signal

4. Warrant = Based on California MUTCD Warrant 3



Collision Summary

Collisions Per Mile

Study Area	Number of Collisions	Number of Miles	Collisions per Mile
Orchard Avenue	9	0.6	15
North State Street	167	3	55.7
City of Ukiah	621	54.68	11.4
Mendocino County	5414	1693.03	3.2

Collisions along North State Street make up about 3% of the collisions in the County.

Collisions Severity

Study Area	Fatalities	Percent total	Severe Injury	Percentto	Visible injury	Percent Total	Complaint of Pain	Percent Total	Total
Orchard Avenue	0	0%	3	33%	2.0	22%	4	44%	9
North State Street	3	2%	18	11%	33.0	20%	113	68%	167
City of Ukiah	4	1%	53	9%	174.0	28%	381	62%	612
Mendocino County	229	4%	792	15%	2083.0	38%	2310	43%	5,414

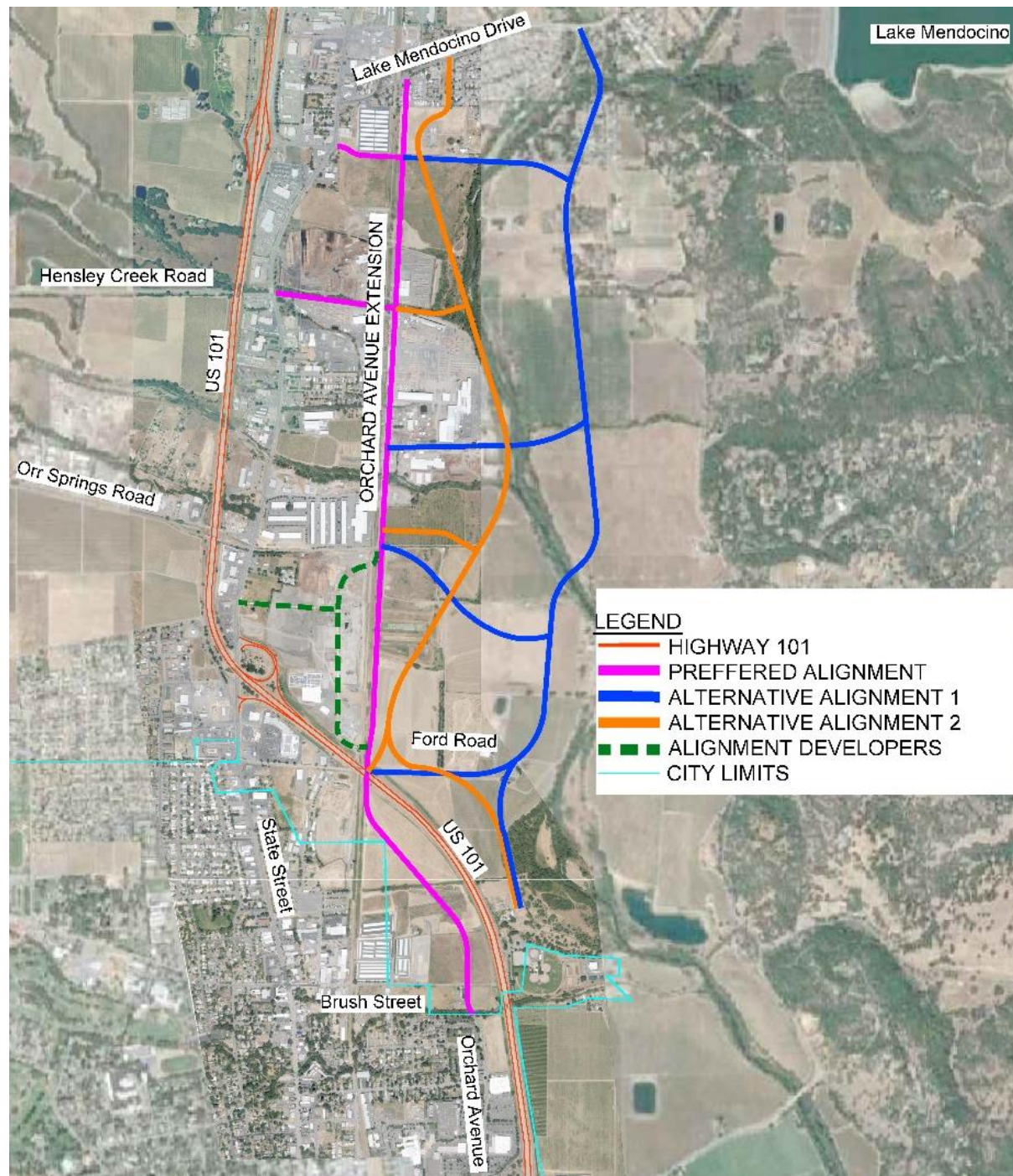
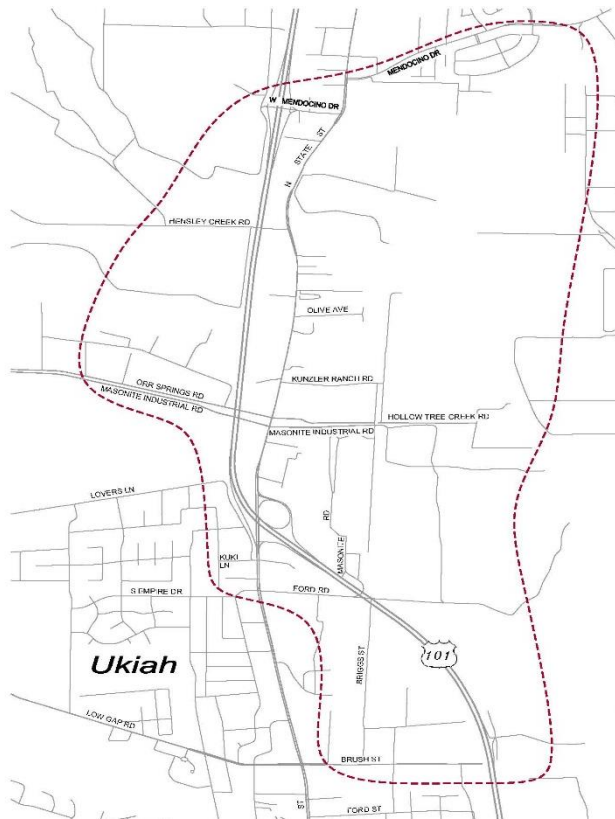
Forecasting (Traffic Growth Projections)

#	Roadway Segment	Roadway Classification	2018 Counts	No Build*	Phase 1*	Full Build*
1	North State Street - North of Hensley	2-Lane Major Collector	12,233	12,650	12,690	8,460
	<i>Change Relative to "No Build"</i>				40	(4,190)
2	North State Street - North of 101 NB	2-Lane Major Collector	17,167	18,340	18,110	17,340
	<i>Change Relative to "No Build"</i>				(230)	(1,000)
3	North State Street - Between Ramps	4-Lane Major Collector	22,322	23,310	23,050	22,730
	<i>Change Relative to "No Build"</i>				(260)	(580)
4	North State Street - South of 101 SB	4-Lane Major Collector	26,678	27,910	27,680	27,550
	<i>Change Relative to "No Build"</i>				(230)	(360)
5	North State Street - North of Brush Street	4-Lane Major Collector	19,878	21,230	20,740	20,900
	<i>Change Relative to "No Build"</i>				(490)	(330)
6	Orchard Avenue - North of Hensley	2-Lane Major Collector	-	-	-	6,390
7	Orchard Avenue - North of 101	2-Lane Major Collector	-	-	1,420	2,040
8	Orchard Avenue - North of Brush Street	2-Lane Major Collector	-	-	910	1,800
*All networks - New driveway connections to North State Street are right turn only access restricted when Orchard Avenue is available						
*Volumes for Future Alternatives derived based on model growth added to existing counts						

Environmental Studies

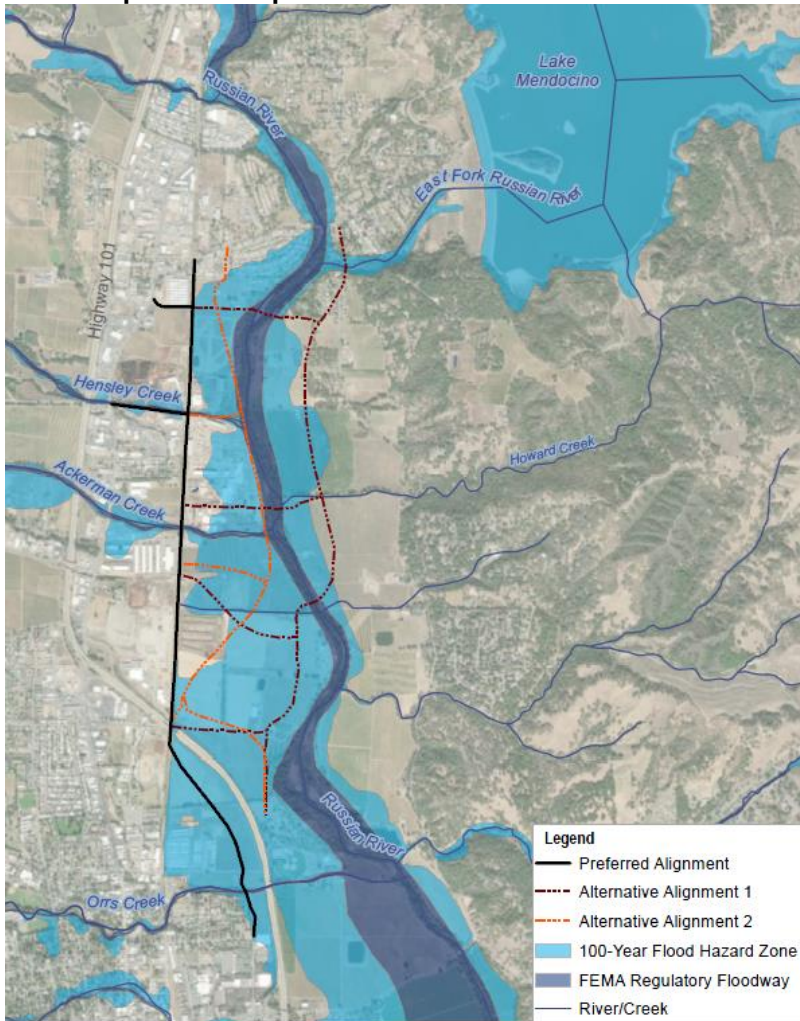


Study Alternatives

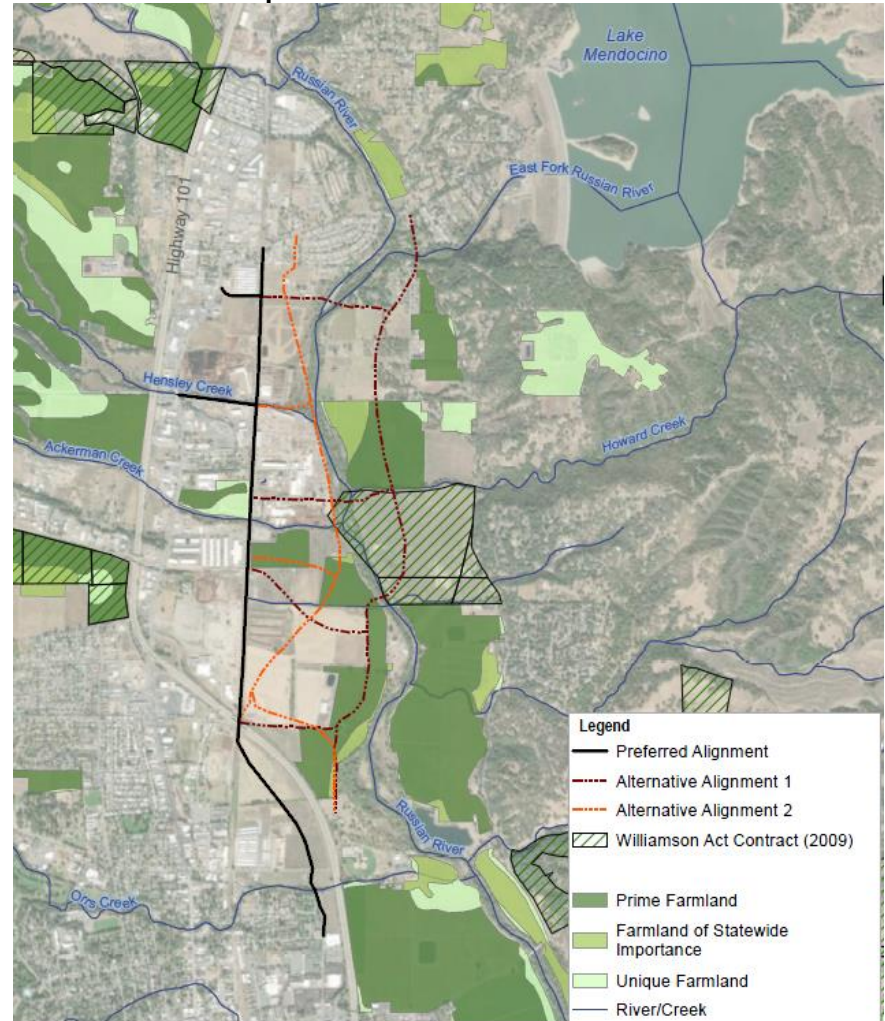


Environmental Impacts

Floodplain Impacts



Farmland Impacts



Other Considerations:

- Special Status Species
- Critical Habitat



- Cultural Resources
- Soil/Groundwater Contamination

Environmental

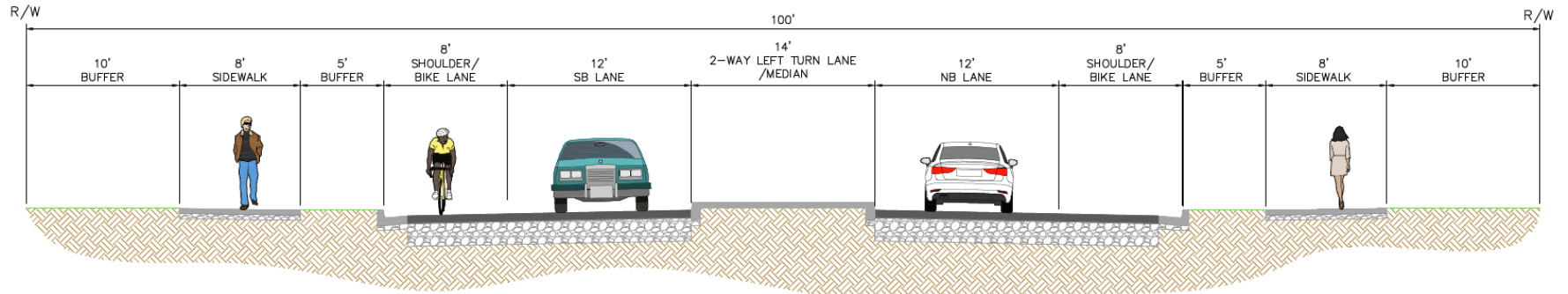
Environmental Alignment Comparison Table

	CEQA	USACE CWA Section 404 Permit	RWQCB CWA Section 401 WQC	CDFW LSAA	USFWS FESA Section 7	NMFS FESA Section 7	CDFW ITP	Cultural Resource Study
Preferred Alignment	IS/MND	Yes	Yes	Yes	Informal consultation recommended	No – No Russian River crossings	Unlikely – No Russian River crossings	Yes
Alternative Alignment 1	EIR	Yes	Yes	Yes	Probable	Probable	Probable	Yes
Alternative Alignment 2	IS/MND or EIR	Yes	Yes	Yes	Probable	Probable, but if needed informal consultation would likely suffice	Probable	Yes

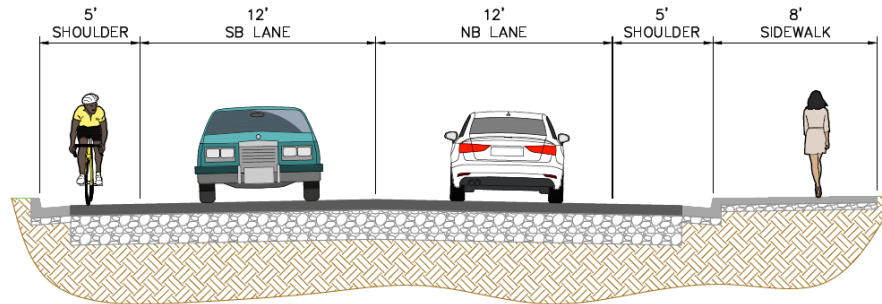
Preferred Alternative



Cross Sections

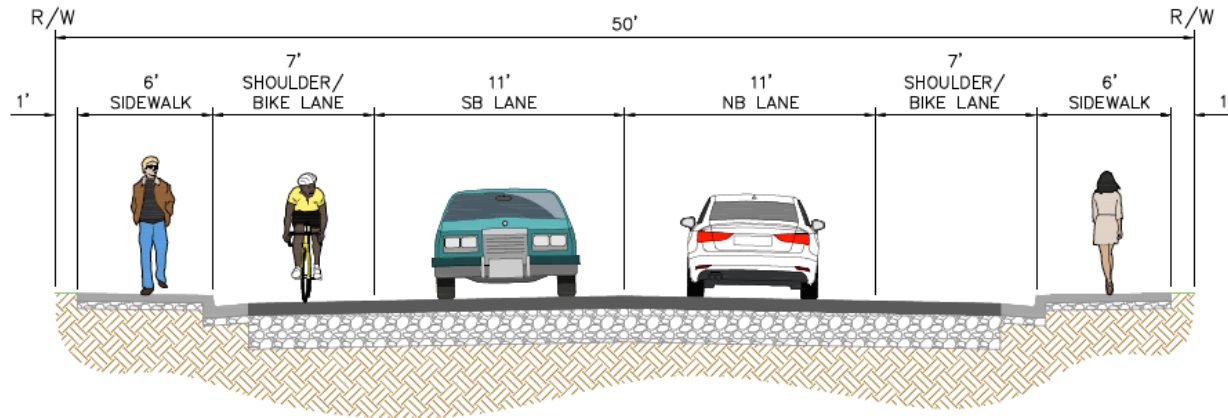


Typical Section



Reduced Section

Cross Sections



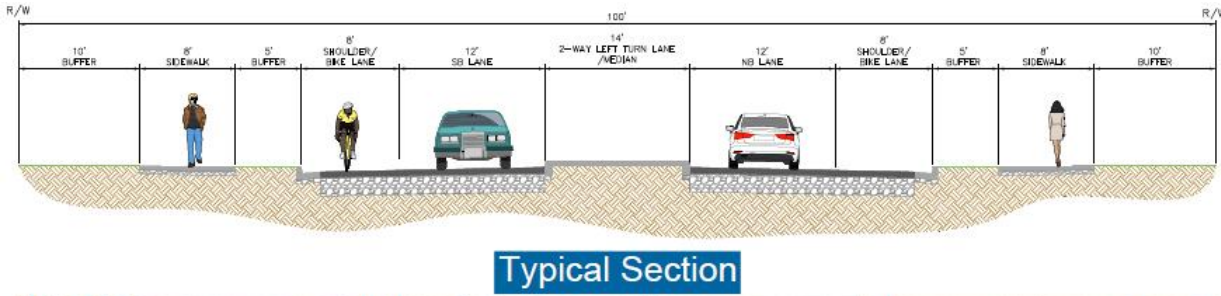
W Lake Mendocino Dr Section

Hensley Creek Rd Section

Preferred Alternative



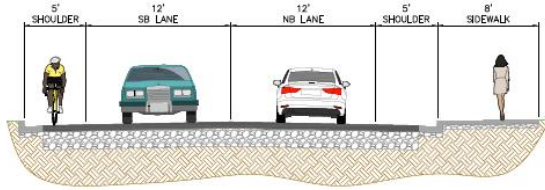
Preferred Alternative



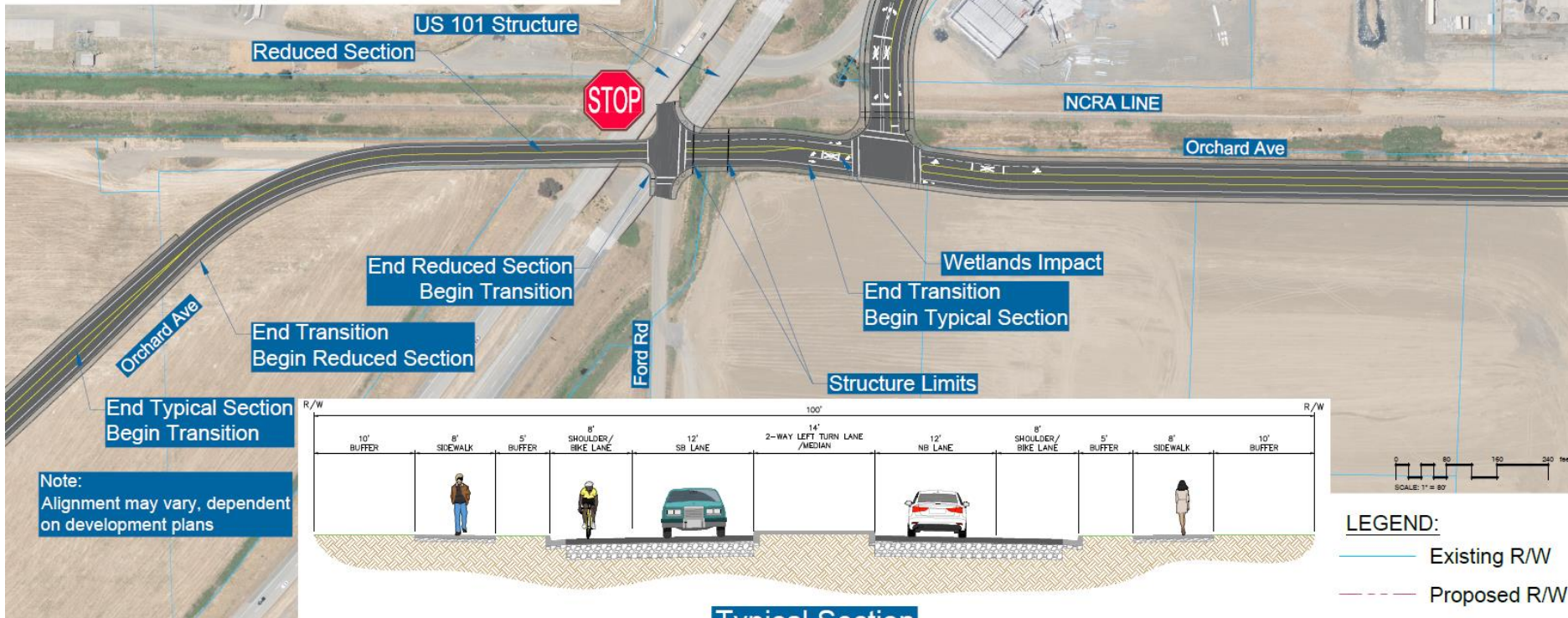
Note:
Alignment may vary, dependent
on development plans



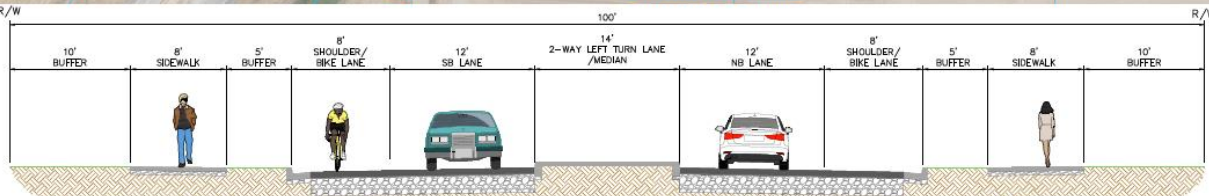
Preferred Alternative



Reduced Section



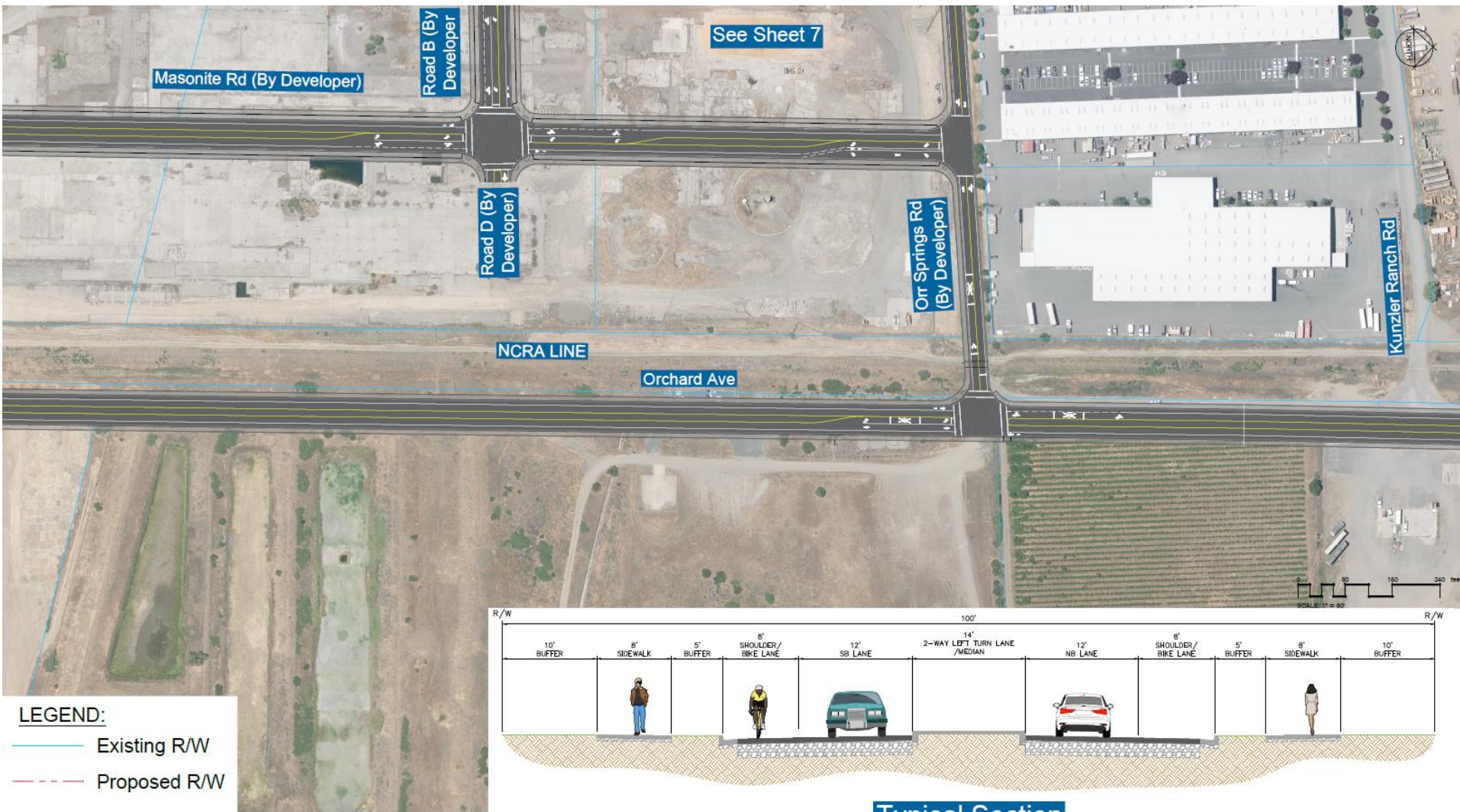
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Typical Section

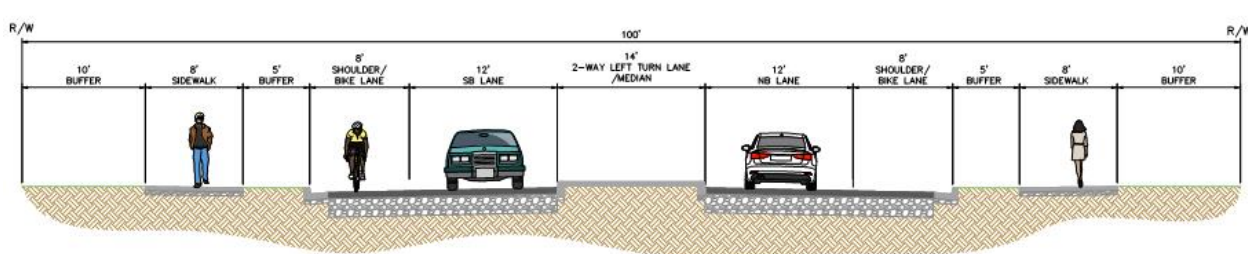
LEGEND:
 — Existing R/W
 - - - Proposed R/W

Preferred Alternative



Typical Section

Preferred Alternative



Typical Section



See Sheet 8

Hensley Creek Rd

NCRA LINE

Orchard Ave

Mendocino Redwood
Railroad Spur

Southern Structure Limit
See Detail on Sheet 5

LEGEND:

Existing R/W

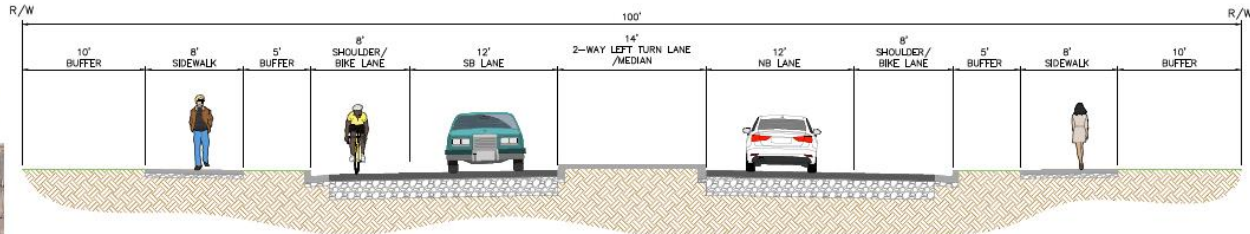
Proposed R/W



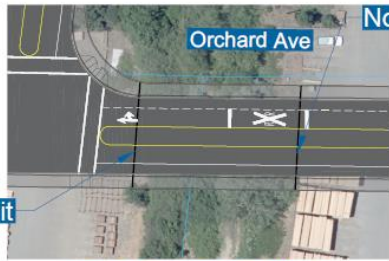
Preferred Alternative

LEGEND:

- Existing R/W
- Proposed R/W

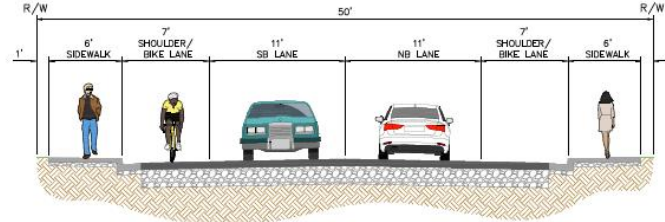


Typical Section



Bridge Detail

Northern Structure Limit



W Lake Mendocino Dr Section



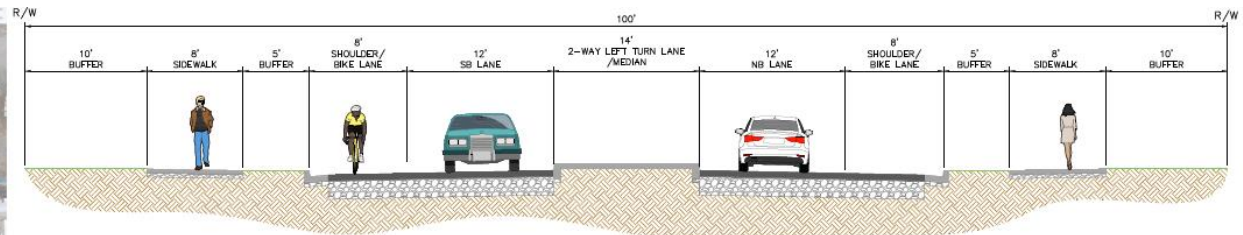
See Sheet 8

Southern Structure Limit

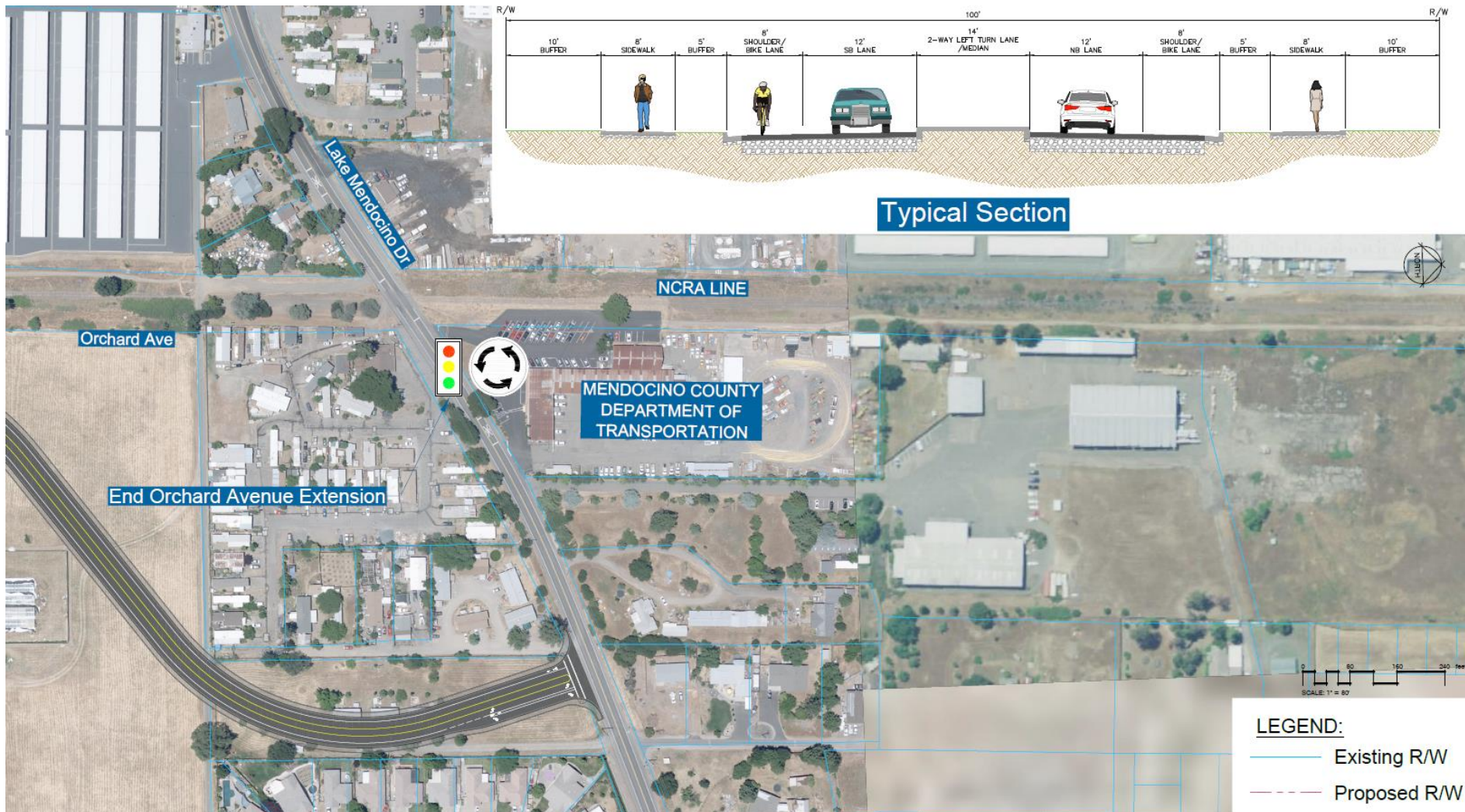
Northern Structure Limit
See Bridge Detail, this sheet



Preferred Alternative



Typical Section



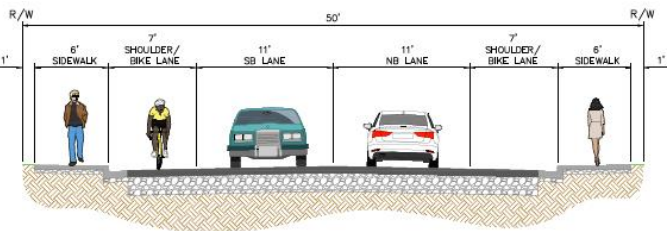
LEGEND:

- Existing R/W
- Proposed R/W

Preferred Alternative



Preferred Alternative



Hensley Creek Rd Section



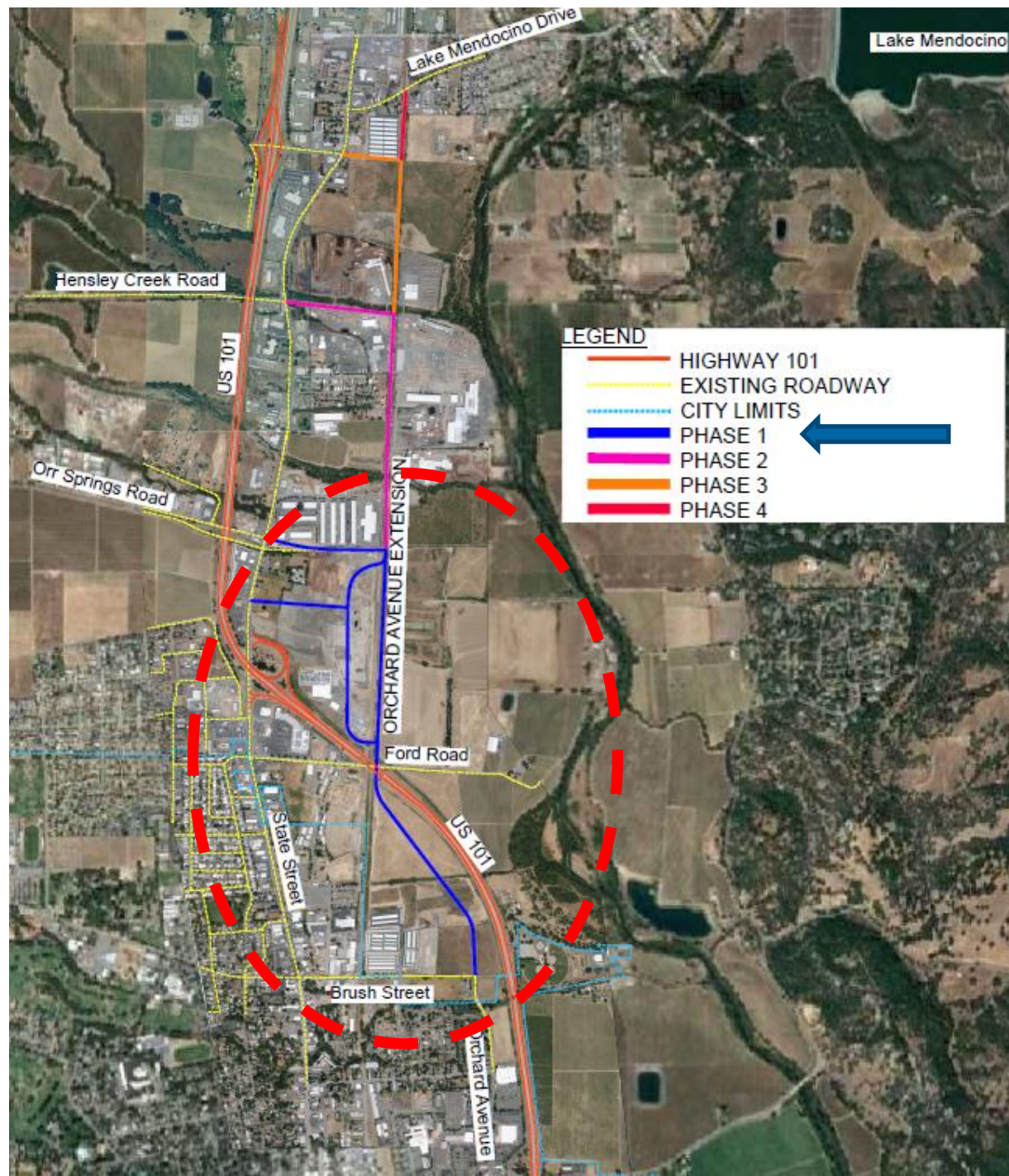
LEGEND:

- Existing R/W
- Proposed R/W

Project Phasing



Project Phasing



Next Steps



Next Steps



Cost Estimate (Preferred Alignment)

Cost Item	Phase 1	Entire Alignment (Current Costs)	Entire Alignment (2050 Escalated Costs) ¹
Total Roadway Cost	\$24,257,000	\$49,421,600	\$81,197,088
Total Structures Cost	\$4,545,000	\$10,089,000	\$16,575,696
Right of Way Cost	\$850,000	\$1,700,000	-
Total Capital Costs	\$29,652,000	\$61,211,000	\$97,773,000
PA/ED Support	\$5,930,400	\$12,242,200	\$19,554,557
PS&E Support	\$4,447,800	\$9,181,650	\$14,665,918
Right of Way Support	\$1,482,600	\$3,060,550	\$4,888,639
Construction Support	\$2,965,200	\$6,121,100	\$9,777,278
Total Support Costs	\$14,826,000	\$30,606,000	\$48,887,000
Total Project Cost	\$44,500,000	\$91,900,000	\$147,000,000



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